



## CARBON MANAGEMENT IN THE HIGHER EDUCATION SECTOR

*A guide to good practice*

**BriteGreen**  
Sustainable Strategy

*September 2016*

## About Brite Green

Brite Green is a sustainability strategy consultancy. We help organisations identify the most important sustainability issues for them and provide an innovative outsourced service to deliver solutions. Through our four main services, Sustainability Strategy, Management Systems, Sustainability Reporting and Solution Implementation, we provide a comprehensive support package for sustainability in organisations.

We have extensive experience in the higher education sector including developing and revising carbon management plans, environmental management system support and audit, and supporting wider sustainability strategy development.

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## Introduction

Energy and carbon emissions are important for universities and bring both risk and opportunity for the sector. Universities have recognised the need to manage emissions effectively and have invested heavily in resources and technology to do so. The sector, however, is not on course to achieve the HEFCE target and in many cases institutions will not achieve the targets that they have set for themselves.

We have produced a range of reports and guides to support university teams to achieve their emissions reduction targets. This year's analysis shows some extraordinary work is being done, but it has also highlighted the large gap between the best and worst performers.

The purpose of this guide is to support practitioners. It draws on key principles from management systems standards together with examples of good practice and innovation from across the country. We are grateful to all those who have contributed to our research and provided us with such a rich range of comments and case studies.

As well as looking at current good practice, this guide also explores the future of carbon management and sustainability in universities. There is significant work being done to address the sustainability skills gap and many institutions are developing integrated sustainability strategies.

This guide covers a wide range of topics but is by no means exhaustive. We recognise that there is no one-size-fits-all solution and what works at one institution might not be right for another. We hope, however, that wherever you are in your carbon management journey you will find some useful insights and the examples from colleagues across the UK will encourage you to collaborate and share your experiences.



**Darren Chadwick**  
Managing Partner

## Contents

02	INTRODUCTION
04	SECTION 1: STRATEGIC CONTEXT FOR SUSTAINABILITY
12	SECTION 2: LEADERSHIP AND MANAGEMENT
16	SECTION 3: PLANNING
19	SECTION 4: IMPLEMENTATION
28	SECTION 5: DELIVERING IMPROVEMENT
29	WHAT NEXT?





## SECTION 1: THE STRATEGIC CONTEXT FOR CARBON AND SUSTAINABILITY



## SECTION 1: THE STRATEGIC CONTEXT FOR CARBON AND SUSTAINABILITY

Sustainability impacts and policy are important factors to consider for universities. They can pose physical and financial risks, shape decisions about estates strategy, as well as influence curriculum design and research focus. As a result, it's important to consider how these issues can affect your institution. In this section we look at:

- The drivers for carbon management
- The challenges universities are facing in carbon management
- The needs and expectations of stakeholders
- The future of sustainability management

### *DRIVERS FOR CARBON MANAGEMENT IN HIGHER EDUCATION*

UK universities are in a unique position when it comes to carbon emissions. On the one hand, their world-class research and teaching has played a leading role in developing both the climate science and the solutions to mitigate and adapt. On the other hand, universities are also significant energy consumers and carbon emitters. This is especially true for research-intensive institutions, with the 20 Russell Group universities in England contributing half of total emissions from English institutions. Growth in student numbers, income and estates (including overseas expansion) has increased energy demand year on year. Universities have made concerted efforts to reduce emissions particularly since carbon management plans were introduced in 2011. Our analysis has shown that despite this significant commercial growth the sector has managed to reduce total emissions by 10 per cent since 2005. Whilst this is good news, the sector lags behind the Higher Education Funding Council for England (HEFCE) target of 43 per cent and their own self-imposed targets that average 37 per cent.

Over the past few years there have been significant changes in sector and national policy which have altered the case for carbon management. Changes to university funding as well as the role and reach of HEFCE are particularly important. Despite this, the case for carbon management remains strong and includes the following areas.

#### *Cost and financial performance*

Cost savings still represent a strong driver for improved energy and carbon management. In our survey of estates managers and directors<sup>1</sup>, nearly 80 per cent of respondents identified cost as being of high importance.

In addition to direct cost savings, improved carbon management also provides a good hedge against future energy price uncertainty.

Alongside other environmental, social and governance factors, consideration of carbon policy and performance of endowment investments will help improve risk adjusted returns.

#### *Enhanced student experience*

Many carbon projects deliver additional benefits including more comfortable working and living environments, lower financial burden on students from utility bills and enhanced learning resources. 64 per cent of surveyed estates managers ranked attracting students as medium or high importance for their carbon management programmes.

#### *Risk*

Carbon emissions and climate change pose a range of risks for universities. These include physical risks to the estate (such as flooding), financial risks (including energy price uncertainty and investment returns), reputational risks (from stakeholder groups both within and outside the university), as well as policy and legislation uncertainty. Managing carbon should form part of a university's risk management process.

#### *Reputation*

Carbon performance can impact the university's reputation. Poor performance or missed targets can have negative consequences but good performance can positively differentiate an institution in an increasingly competitive marketplace. The newly introduced AUDE scorecard has made peer comparison on environmental performance more straightforward, building on initiatives such as the EAUC Green Gown awards, the People and Planet Green league and NUS Green Impact programme

<sup>1</sup> The 2016 Brite Green Sustainable Property Survey

*Innovation*

Climate change is widely considered one of the defining challenges of our time and, as such, provides rich opportunities for universities to innovate. New courses and delivery methods to meet the sustainability skills gap could revolutionise an institution's reputation, reach and commercial performance. Research into new technologies and thinking will unlock much needed abatement and adaptation solutions, as well as commercial opportunities.

*Policy and legislation*

Whilst the influence of HEFCE might have waned a little, policy and legislation remain important drivers. There is however significant uncertainty around future policy.

The Paris Accord and the future UK carbon budgets have the potential to impact universities significantly. The nature of EU derived legislation such as ESOS hangs in the balance following Brexit, and devolved legislation means different obligations across the UK. The Climate Change (Scotland) Act 2009 introduced mandatory climate change reporting for public bodies and the Future Generations Act 2015 sets out obligations for the

Higher Education Funding Council for Wales (HEFCW) to deliver a sustainable development plan.

As large energy users, ESOS and any carbon taxes that may supersede the CRC energy efficiency scheme will affect universities, as will changes to feed-in tariffs, the renewable heat incentives and enhanced capital allowances.

*"Though its role has diminished over time, HEFCE was a driver [for reducing emissions] because obligations were linked to finance"*

*Values*

Universities often see good environmental management as the right thing to do and in keeping with their core values. A strong commitment to these values can help attract and retain staff as well.

Many universities include global citizenship in their mission and support the development of values, skills and knowledge for students to be 21<sup>st</sup> century citizen.

*CHALLENGES FOR CARBON MANAGEMENT IN UNIVERSITIES*

As our analysis shows, many universities are currently off track to meet carbon reduction targets. However, significant improvements have been made which demonstrate the sector's commitment to a more sustainable future.

The unique characteristics of universities both support and confound energy efficiency efforts. For example, the permanent nature of university estates allows for longer term investment horizons but also regularly include challenging legacy buildings.

The higher education sector faces a range of challenges to achieving its carbon reduction targets:

*Tension between growth and emissions reductions*

The principal challenge is a tension between commercial growth and emissions reduction. Success of UK universities has meant considerable growth in revenue and student numbers. Significant campus expansion has also occurred in the UK and overseas. Universities have seen growth in energy intensive research activity. Increased competition has also seen investment in new student facilities including on-site accommodation.

*"Tensions between capital cost and whole life cost mean ambitious plans for new buildings are often compromised"*

*Cost and financing*

The cost of implementing carbon reduction programmes and technologies in higher education institutions has in some cases delayed further carbon reductions. Whilst reductions in running costs present a good case for investment in efficiency measures, access to capital can pose a challenge.

Furthermore, the recent changes in public funding and corresponding increased commercialisation of the sector has also reduced the influence of meeting the HEFCE carbon targets and raised uncertainty about the consequences of missing them.

*Location and legacy estates*

Many institutions have physical constraints that limit their opportunities to reduce energy and emissions. City-centre universities for example are unable to use biomass and many universities have old, inefficient, or listed buildings which pose challenges for retrofitting. There are also logistical issues with implementing projects without adversely affecting teaching and research which can slow or limit the ambition of projects.

*Policy uncertainty*

There is considerable uncertainty around energy and carbon policy, especially around UK and EU legislation. With changes to feed-in tariffs and regular changes to the CRC energy efficiency scheme for example, confidence in the long term investment case for projects has eroded in some cases.

The effects of Brexit are also still to be fully understood, but it is likely that there will be a loss of funding from EU projects including those from Horizon 2020 and ERDF.

*“When FITs changed, opportunities for solar energy at the university disappeared.”*

*Disconnect in decision making processes*

There are a number of disconnects in decision making processes that can adversely affect emissions performance.

Investment decisions are often made separately from operational decisions, and capital cost and non-energy considerations can drive investment decisions without full regard for whole life costs.

End users also often don't pay for energy directly, reducing the drivers to influence day to day energy use behaviours.

Siloed decision making at the team, project or department level can also lead to operational inefficiencies. For example, equipment might be purchased as part of grant-funded project whilst there is already spare capacity in the university's existing equipment.

*NEEDS AND EXPECTATIONS OF STAKEHOLDERS*

Given the importance of stakeholders for the sector, universities have been ahead of the curve in engaging with students and pressure groups such as *Fossil Free* and *People and Planet*. Best practice set

out in the new ISO 14001:2015 standard requires organisations to undertake a structured approach to identifying stakeholder groups and determining what their needs and expectations are. Universities should analyse these and decide which ones (if any) they should adopt as compliance obligations for their carbon management approach.

*LOOKING TO THE FUTURE: SUSTAINABILITY, NOT JUST CARBON*

The carbon and energy management practices in many universities are now reaching maturity and teams are looking at what to do next.

A number of universities have set out to integrate the various sustainability initiatives including:

- education for sustainable development;
- operational environmental management, including carbon;
- sustainable investment and supply chain;
- global citizenship.

This more strategic, integrated approach requires stakeholder engagement as part of a structured review to identify the most significant sustainability issues for each stakeholder and the university.

As sustainability becomes integrated into the different aspects of university operations, both greater leadership and university-wide collaboration are necessary. The case study of our work with Bath Spa gives a good introduction to how institutions can tackle this next step.

A great example of where these principles are being put into practice is in Living Labs.

*LIVING LABS*

Living Labs is an initiative to get students, academic staff and estates teams to work together to improve the sustainability performance on campus. The objectives are to complete research projects that identify opportunities to improve sustainability performance of an institution whilst also giving student invaluable practical and academic experience. There are currently living lab projects in place across the UK including **Manchester, Strathclyde, Cambridge, De Montford** and **Edinburgh**.

The EAUC are currently running a research project on Living Labs and plan to deliver a practical toolkit for institutions to use to implement them. Further information can be found on the **EAUC website**.

## BATH SPA UNIVERSITY

### *Setting the strategic vision for sustainability*

*Bath Spa University has excellent programmes in place for carbon and environmental management but wanted to take the next step and develop a sustainability strategy that aligned all of their academic and estates initiatives, targeted the largest areas of risk and opportunity for the university, and filled any gaps in their current approach.*

*Bath Spa commissioned Brite Green to help them to define this vision and engage with stakeholders from across the university.*

Bath Spa has a good structure for environmental management, a dedicated sustainability manager and a cross-departmental steering group. The university achieved ISO 14001 certification in 2010 and, through a Carbon Reduction Management Plan, reduced CO<sub>2</sub> emissions by 24% between 2010 and 2014, before undertaking phase of rapid expansion. In 2014, Bath Spa implemented a sector-leading waste and recycling strategy that has resulted in on-site recycling rates of over 75%, including food-waste. The university has also made good progress in incorporating sustainability into the curriculum and has developed a number of specialist courses including environmental humanities.

Our support had three stages: a review of existing management structures, structured interviews with stakeholders from across the university, and a workshop to prioritise the issues.

Our review identified lots of areas of good practice as well as opportunities to embed sustainability principles further in the university and to target the areas of greatest importance.

Key outcomes included the recognition and consensus that universities play a pivotal role in moulding their students into socially aware global citizens, and that a well-considered approach to sustainability is an important part of the university's commercial strategy. Stakeholders identified opportunities from sustainability-focused courses and unexploited opportunities in the sustainability skills agenda for professional, post-and undergraduate, and apprenticeship level courses.

*“Brite Green really helped our staff to explore their own aspirations and open their thought processes. The workshop was well managed, fun and engaging and the follow-up report was thoughtful and professionally constructed. It has given us a great basis upon which to build.”*

**Julian Greaves**

Sustainability Manager, Bath Spa University





## UNIVERSITY OF CAMBRIDGE

### *Living Labs*

*The Living Laboratory for Sustainability ('Living Lab') provides opportunities for Cambridge students to carry out research and projects across the University to improve its sustainability performance. The project is funded by Santander and is now entering its fifth year.*

With the objectives of reducing our environmental impact, fostering innovation, and providing enhanced education opportunities the Living Lab offers a variety of ways for students to be involved.

- **Academic research:** incorporating sustainability research in a student's course either by using the university as a case study or testing ground in a research project, dissertation or thesis. The university provides data, contacts and other information a student will need to carry out research and have a tangible impact.
- **Practical projects:** Students are also able to get involved outside of their academic courses either individually or through a university club or society.
- **Internships:** The university offers paid internships to work with the estates team on a particular sustainability project.
- **Awards:** An award is offered each year to challenge students to develop solutions to improve the environmental performance of the university estate.

Since starting in 2012 the programme has delivered 62 projects and worked with 123 students directly, with an additional 570 students having participated in the project in some way, such as by attending an event or course.

As well as a range of environmental improvement projects, the Living Labs programme has delivered a range of additional benefits. It has increased the profile of the sustainability team and provided additional resource to look at how we can improve sustainability performance at the university. It has also increased the links between the estates team and academic departments. The programme provides tangible opportunities for students too and in particular, the projects provide an opportunity for students to apply their knowledge and make a difference.

It is also worth noting that not all of the research that is undertaken has an immediate practical application for the estate. Whilst 30% - 40% of projects can be used to directly influence our operations, other projects might not have a sufficient sample size or could require additional research before it can be used. Measuring outcomes for projects can also sometimes be difficult too. This might be because the project has informed a particular decision but wasn't the only consideration. Alternatively, it could be that the outcomes are difficult to quantify, such as culture change or student experience.

Future plans include expanding the number of collaborations across the University, working with more Departments, engaging with new groups, and initiating a competition to generate ideas for carbon emissions reductions in buildings around the University.

#### **Emily Dunning**

Living Labs Coordinator, University of Cambridge.

*Find out more*



University of Cambridge, West Cambridge Campus

## INSIGHTS FROM THE EAUC

### *Interview with Iain Patton*

*We spoke with EAUC Chief Executive Iain Patton about his views on carbon management and the likely trends for the future.*

#### **How have drivers for carbon management changed?**

COP21 commitments and the EAUC Open Letter have helped to raise the profile of carbon emissions, but domestically little has changed in the past 12 months. The AUDE-led Green Scorecard which EAUC supported looks to maintain peer pressure but there remains a fundamental disconnect between carbon and campus development planning. But mandatory reporting in Scotland continues to lead the way with the impact of the new Future Generations Act in Wales unclear.

The launch and promotion of the Sustainable Development Goals (SDGs) has led to another push for climate action throughout society, including in a number of institutions looking to align action with them.

#### **How has the case for managing carbon issues changed?**

I believe the case for managing carbon remains strong. Operational costs are still strong drivers and it's widely recognised that carbon reduction programmes help to support the wider sustainability agenda at universities and colleges.

Managing carbon effectively now forms a part of an institution's future campus masterplan and helps to build resilience, mitigate risk, reduce costs and engage senior management.

Mandatory reporting has provided the stick for Scottish institutions to report and so take a step towards managing emissions. However, the current low oil price has led to a reduction in business case for now.

There is some evidence suggests that green credentials can be an appealing factor in students

choosing which university to attend and managing carbon issues is a key part of this.

#### **What are the key opportunities for universities around carbon and sustainability?**

District heating and CHP savings are important and there is still a wide range of funding available to support these projects. Research and innovation are also huge areas of opportunity, as well as the potential to embed sustainability into the curriculum and supporting employability through initiatives like the Living Labs.

#### **What are the key challenges and risks universities face?**

A key challenge is forgetting that students care about this. It's a competitive market out there and there is a risk of reputational damage from missing targets. Growth in student numbers is also likely to put pressure on achieving absolute reductions.

Universities also need to think about adapting to the growing physical risks from climate change. Floods like those that affected Lancaster University last winter are more likely each year.

#### **What do you think the key trends are for the coming 5-10 years?**

Good question. I think that universities will broadly have the estates they have today, though perhaps with even more new student enticing 'gateway' buildings but will we have the students? As fees rise and Brexit kicks in, that remains to be seen.

Universities will have to innovate on course delivery and I think online learning will certainly increase. There's also a huge sustainability skills gap and alternative education models including online, vocational training and apprenticeships will likely become more important.

It's likely that we'll see further carbon reduction of the grid in the next 10 years, and a steady rise of energy prices that will continue to drive efficiency and support the business cases for efficiency projects. It's also likely that we'll see a steep change in low carbon vehicles, both for owned fleets and staff/students.

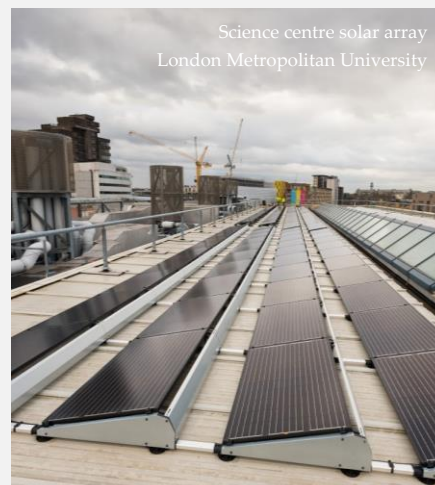
## LONDON METROPOLITAN UNIVERSITY

*“London Met’s success with sustainability is the result of hard work and determination from our outstanding sustainability team. At London Met, we are constantly building on these efforts, and have this year installed 221 solar panels on the roof of our Science Centre, and run schemes, such as Green Week, to engage with our students.*

*“The work is important to the London Met community, and we are exploring new curriculum innovations to complement our excellent sustainability work.”*

**Professor John Raftery**

Vice Chancellor, London Metropolitan University



## UNIVERSITY OF BRADFORD



*“It is extremely pleasing to see the University’s carbon achievements recognised by an independent body such as Brite Green. It has been huge team effort over the last decade that seen a massive fall in carbon emissions from University activity. However, the journey is far from complete and 2016 has us implement further initiatives that will see the University improve its carbon reduction, not least having one of one of the first micro smart grids operational by the end of the year as our journey continues into a new era.”*

**Russell Smith**

Head of Estates, University of Bradford

## UNIVERSITY OF SALFORD

*“In line with our University vision of providing real world experiences for students, the University of Salford is fully committed to the principles of sustainability, and to meeting the carbon management challenge. Our carbon emission reductions over the last 5 years have demonstrated how we have moved from principle to practice. However, we recognise the challenge required to maintain this and meet our ambitious reduction targets. We plan to draw further on the expertise within our community and research and practice in the built and human environment.”*

**Bec Bennet**

Environmental sustainability officer, University of Salford







UNIVERSITY OF LEEDS

MARJORIE AND ARNOLD ZIFF BUILDING

## SECTION 2: LEADERSHIP AND MANAGEMENT

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Strong leadership and management are critical for a successful carbon management plan and there are some key responsibilities that senior managers should adopt.

### SET POLICY

A clear energy and carbon policy is the cornerstone of a good carbon management approach and sets the direction and ambition level. The policy should reflect an institution's particular circumstances and as a minimum should include the following key principles:

- improving energy and carbon performance,
- compliance with applicable legislation,
- a framework to set targets,
- design for energy performance improvement, including key performance indicators,
- consideration of energy and carbon performance in procurement, and
- providing appropriate financial and human resources to achieve objectives

It should be signed by senior management, communicated across the institution, and should be reviewed on a regular basis to ensure it remains fit for purpose.

### ASSIGN RESPONSIBILITY AND GET THE RIGHT TEAM

An effective carbon management plan needs active and engaged top leadership, with a member of the senior management team assigned responsibility. He or she must also be supported by operational managers in the right part of the business with the right skills and knowledge. It's helpful to document roles, responsibilities and authorities and it's useful to recognise what skills you have within your team and where you might need external support.

Many carbon plans are led by the estates team but as sustainability initiatives expand across all university functions, leadership in other areas will be required.

### TAKE A STRUCTURED APPROACH AND ACTIVELY REVIEW PERFORMANCE

Structured carbon management processes provide a platform to deliver exceptional emissions performance. The key stages set out in the new ISO 14001:2015 standard provide a great framework to use, regardless of whether or not a university wishes to achieve certification.

A key component of an effective system is the management review. The operational and senior management teams meet to discuss performance and compliance, progress against targets and set new objectives.

*“Royal Agricultural University has joined up with Oxford Brookes to run a peer auditing programme. The environmental managers conduct the internal audit on each other's ISO 14001 environmental management systems to provide external, independent review and insight from other organisations”*

### BRUNEL UNIVERSITY LONDON

#### *Sustainability governance structure*

*“We have implemented a governance structure for environmental issues and carbon management that reports directly into the Infrastructure Strategy Committee. The Committee includes senior management and colleagues from both academic and professional service functions which means we are able to set strategy with input from across the university. This integrated approach is critical to the success of our environmental programme.”*

#### **Vincent King**

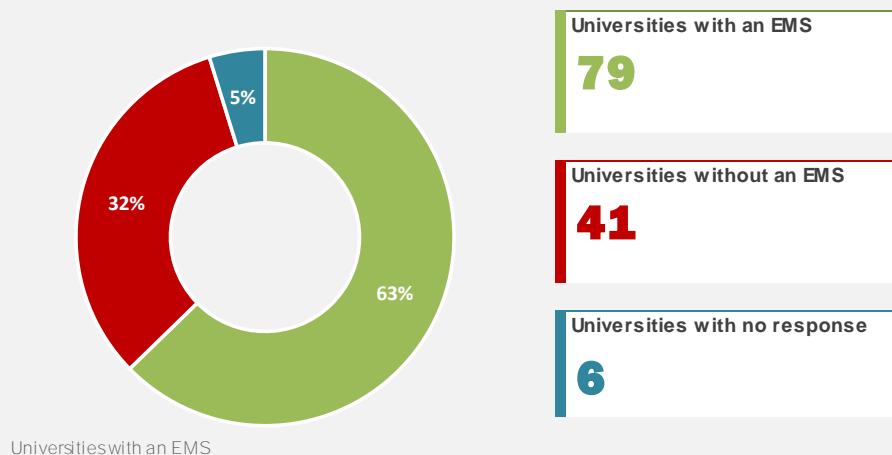
Head of Health, Safety and Environment. Brunel University London

## CERTIFIED ENVIRONMENTAL AND ENERGY MANAGEMENT SYSTEMS

*Over 60% of universities in England use an environmental management system*

Our analysis of 126 universities in the English Higher Education sector found that over 60% of universities use an Environmental Management System (EMS) to manage their emissions. The ISO 14001 standard is the most popular among universities with many universities looking to transition to the updated 2015 standard as part of their future emissions reduction strategy, demonstrating a commitment from energy managers to actively manage and reduce their emissions.

A comprehensive EMS serves as a good framework to implement effective environmental sustainability measures, track performance and processes and plan for continuous improvement.



## THE TRANSITION TO ISO 14001:2015

*What does it mean for you?*

ISO 14001 is the most widely used environmental management system standard worldwide. The standard was revised and republished in 2015 with four main areas of significant change:

### *Consideration of the context of the organisation*

The 2015 standard has introduced a requirement to formally consider and analyse the internal and external drivers for environmental management. This includes a specific requirement to understand and analyse the strategic context of the university as well as the needs and expectations of stakeholders.

### *Greater leadership from top management*

The 2015 standard has assigned greater leadership responsibilities to top management for environment issues. This includes more accountability for the EMS as well as explicit responsibility for providing the support and resources needed to manage environmental issues effectively.

### *The introduction of 'life cycle' considerations*

The 2015 standard expects organisations to take a life cycle approach and consider impacts that occur in the supply chain, during the use of products and service, and any end-of-life impacts as well.

### *Requirement to identify and manage both risks and opportunities*

The 2015 standard moves away from a sole focus on risks and now specifically includes a requirement to identify opportunities arising from better environmental management.

Many universities are beginning to transition to this updated standard as part of their carbon management strategy. As institutions implement the necessary measures to transition they will benefit in several ways:

- A clearer focus on opportunities
- More collaboration across departments
- Increased senior management involvement in carbon reduction efforts and opportunities, as well as more support and resources for improved performance
- Integrated approach into the supply chain
- Improved risk management



## LONDON SCHOOL OF ECONOMICS

### *Transitioning to the ISO14001:2015 standard*

*Brite Green offer a free gap analysis service for universities that want to transition to the new ISO 14001:2015 standard. We review your current management processes and set out the areas that need to be addressed to meet the new standard.*

*The London School of Economics asked Brite Green to review their system as they start their process to transition.*

Our review of the Environmental Management System (EMS) at the London School of Economics found a well-managed system with good management support. The EMS team had made good progress in addressing some of the new requirements and through a structured interview with the Acting Head of Sustainability, we identified the areas that needed still to be addressed.



## MANAGEMENT SYSTEMS: HOW WE CAN HELP

### *Brite Green are specialists in environmental and energy management systems*

*Brite Green offer universities a full suite of support to design, implement and maintain a certified management system. Whether you're just starting out or have a well-established system, we can help.*

**SYSTEM DESIGN:** We can work with you to design and implement a robust energy or environmental management system. Our team will help shape your documentation and processes, and will be on-hand up to the audit and beyond. [Learn more.](#)

**INTERNAL AUDIT AND COMPLIANCE CHECKS:** Leverage our extensive experience of internal and certification audit across the higher education sector to help improve your management system. [Learn more.](#)

**TRANSITION:** Get ready for the new 2015 system with our free transition gap analysis. [Learn more.](#)

*[Get in touch to learn more.](#)*





### SECTION 3: PLANNING

## SECTION 3: PLANNING

A good energy management planning process helps you to understand your energy usage and where to focus your carbon emissions reduction efforts. Time spent getting good data and analysing it carefully will reap dividends from improved investment returns and energy performance later.

### *KNOW WHAT YOU'RE GOING TO MANAGE*

Although this might sound obvious, defining the scope of the energy and emissions sources you are going to manage is important.

Metering in large university estates is often a challenge, especially where there are multiple buildings on a single supply or where the university provides heat or power to a third-party tenant.

The types of emissions that a university might want to manage also need careful consideration. Emissions from fuel use, business travel and purchased electricity/heat are considered to be Scope 1 and 2 in the Greenhouse Gas Protocol and are often the main focus of reduction initiatives. Other emissions such as those from grey fleet, water use, waste, or in the supply chain can also be significant.

A clearly defined scope for carbon management is needed to keep the carbon management programme focussed on the most important areas.

### *KNOW YOUR OBLIGATIONS*

There is a wide range of energy and carbon legislation that applies to universities, as well as other voluntary obligations. Whether part of a wider initiative to manage compliance with environmental issues or not, a legal register is a useful tool to document the legislation that applies to an institution and what your compliance obligations are. It also provides a good platform to document any other obligations that a university adopts. This might include stakeholder expectations, such as those from students or funding bodies.

## UNIVERSITY OF READING

### *Working with consultants to deliver improved environmental and financial performance*

*The University of Reading worked with specialist building management system (BMS) consultants to analyse opportunities for emissions reductions, which is now an annual process.*

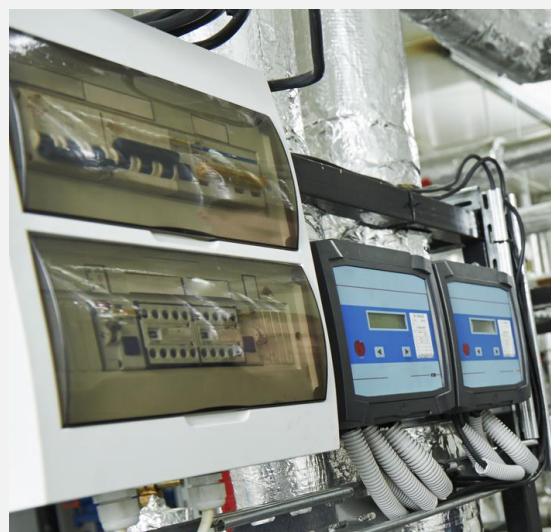
As part of a review of the 14 largest energy using buildings, the university engaged building control consultants to review the coverage and effectiveness of the control systems. In addition to the technical review, the team also used user surveys to find where was too hot and too cold and identify systems that weren't working properly.

The building controls have been expanded and systems optimised to improve both the carbon performance and user experience. This has included recommissioning existing optimiser controls and adding CO<sub>2</sub> sensors to replace simple timers for ventilation systems. The project is expected to deliver more than 1000 tonnes CO<sub>2</sub>e

*"We are proud of our performance in delivering significant and continued carbon reductions over the past few years and have a clear pathway set out for how we can continue this performance to 2020 and beyond."*

### **Dan Fernbank**

Energy and Sustainability Manager. University of Reading





**KNOW WHERE YOU'RE STARTING FROM**

Any good carbon management plan should have a starting point. All higher education institutions were required to provide a baseline for their carbon management plans, but many universities have seen significant changes including mergers and changes in their activities. Whilst the 2005 baseline provides a useful foundation for assessing the effectiveness of long-term performance, revised baselines may better reflect the current circumstances of some institutions.

It's also important to make sure your data is accurate and complete. Obtaining assurance to standards like AA1000 will give confidence that data collection and analysis processes are reliable.

**FIND YOUR KEY ENERGY USE AREAS**

Each university will have areas or periods of high-energy use or emissions, as well as systems with significant opportunities to improve performance.

Detailed energy audits of buildings, functions and activities can reveal the largest energy-using activities or periods in the university and help focus efficiency efforts. These audits might have already been completed for DEC's, EPC's or for ESOS, or you may need to design an audit programme from scratch. Information from the energy baseline will help to identify the best places to start.

It's also important to remember though that the large energy using areas are not the only opportunities for emissions reductions. Other opportunities could lie in finding under-utilised

space, identifying carbon intensive or inefficient plants that are installed, or where controls are missing or poorly configured.

**MEASURE YOUR PERFORMANCE**

Performance metrics reflect not just your overall performance but also progress of the key activities that deliver these outcomes. Some key metrics include total energy use and carbon emissions but you can also use intensity metrics based on internal area, income or student numbers. Progress metrics could include proportion of staff who have completed energy awareness training for example.

**CREATE ACHIEVABLE OBJECTIVES AND TARGETS**

Carbon management teams have finite resources available to them, whether it's time, money or political capital. A carbon management programme should be designed to achieve the largest impact within the constraints set. Key things to consider include:

- Prioritise projects based on whole life costs and financial returns, size of impact, technology risk, and ease of implementation.
- Document the costs, the expected outcomes, and where possible, include post-hoc monitoring to assess your progress towards targets and objectives.

Document the delivery timetable, the main project risks, and who has responsibility for each project.

**SCIENCE BASED TARGETS**

The science based targets initiative is a joint-venture between the Carbon Disclosure Project (CDP), the UN Global Compact, the World Resources Institute, and the World Wildlife Fund. It aims to help organisations set ambitious and meaningful emissions reduction targets.

For targets to be considered science-based, they have to be in line with the level of decarbonisation required to keep global temperature increase below 2 degrees Celsius compared to preindustrial levels. Companies can use one of seven methods, providing the flexibility that makes the whole process easy to match to the needs and mission of the specific organisation.

[Learn more](#)

**UPDATED SCOPE 2 EMISSIONS CALCULATION METHODOLOGY**

The World Resources Institute (WRI) have published updated guidance on calculating carbon emissions from purchased electricity.

In addition to the location-based emissions factors that are calculated on the average emissions of a national grid, a new market-based methodology has been introduced. This allows organisations to report their emissions based on the energy contracts they have in place, and can reflect their zero or low carbon tariffs.

[Learn more](#)





#### SECTION 4: IMPLEMENTATION



## SECTION 4: IMPLEMENTATION

The implementation of a successful carbon management programme extends beyond just delivering technology projects. It is important to also consider what competences and training are required for the team, how to deliver effective communications, as well as the appropriate operational controls and procurement practices.

To achieve its full potential, the carbon management programme will need input from teams across the university, not just the estates department. It is important to bring together finance, procurement, academic departments, students and senior management to develop an integrated approach.

### ENSURE YOUR TEAM HAVE THE RIGHT SKILLS AND KNOWLEDGE

There is a wide range of competencies required to manage energy and carbon across the university. Some roles might be driven by legal compliance whilst others might only need to know basic energy housekeeping information.

The key starting point is completing a skills need assessment that sets out the competences required for each task, role or group. By comparing existing competencies with those required, it is possible to deliver a targeted training and awareness plan to ensure all those with the ability to influence energy and emissions performance have the right skills and knowledge.

It helps to keep a record of any training, especially if it relates to a legal obligation.

*“Our carbon and maintenance projects are delivered by a single team which allows us to consider efficiency in all our estates projects”*

*University of Bradford*

### TARGETED COMMUNICATIONS

An effective and comprehensive communication campaign is key when delivering change in large, complex organisations. It will allow you to raise awareness of the programme, celebrate successes, and encourage behaviours or activities which support your energy and carbon management plan. When designing your communications, you should consider:

- Who is your target audience(s)?
- What do you want them to know/do/change?
- When and how is best to reach them to get your message across?

### FINANCING OPTIONS

There are a number of options to finance carbon projects. Many universities have introduced a dedicated energy or carbon reduction fund, but there are also options for third party finance. Salix

and HEFCE's revolving green fund have provided repayable loans to deliver both large and small infrastructure projects including combined heat and power, district heating and chilled water projects. Energy performance contracts and off balance-sheet lease/hire options offer useful additional options. Using supplement maintenance budgets for projects with carbon benefits has proved to be an effective option too.

### SALIX FUNDING

*Making the most of interest-free loan opportunities for energy-efficiency projects*

Salix Finance provides interest-free loans for low carbon technologies to improve energy-efficiency across the public sector.

Salix has been working with HEIs in the UK since 2006 across a variety of funding programmes, and providing over £130 million of this funding towards energy-efficiency projects. These are estimated to save more than £36 million and 185,000 tonnes of carbon each year. Salix has worked with over 70% of HEIs, and supported over 4,000 projects in the sector.

Over 120 technology types are supported by the funding programme which includes building management systems, insulation, CHP, evaporative cooling, LED lighting, virtualisation and variable speed drives.

Salix has a dedicated team available to meet with institutions to discuss opportunities to utilise Salix funding to help them deliver on carbon reduction strategies.

Those ready to make applications for funding are welcome to do so now, and organisations who are interested in using Salix in the future are encouraged to share their plans with Salix by submitting an **Expression of Interest**.

To learn more about Salix funding or to arrange a meeting, please contact **Charlie Reith Pert**.



**FORMALISE YOUR PROCEDURES**

Documented procedures help ensure consistent and effective delivery of carbon management projects. Procedures might cover data collection, operational controls, project appraisal and implementation processes.

**OPERATIONAL CONTROLS**

Universities should design their operations and maintenance activities in order to maximise energy efficiency and ensure legal compliance. A useful way to formalise the operating criteria for equipment or processes is to design formal operational controls.

Operational controls can be processes or technologies that ensure that energy is managed consistently. For example, operational controls for lighting might include a procurement policy that stipulates only buying energy efficient products, or installing motion and light sensors to automatically control lighting operation.

**PROCUREMENT**

Purchasing has an important role to play in energy management. Setting criteria on the energy performance of products or equipment that are bought will influence the university's emissions over the life of the asset. For best results, it is important then to consider whole life costs of purchases, not just initial cost.

**BUILDING AND SYSTEM DESIGN**

Potentially the largest area of influence on carbon performance is the design and specification of new buildings and refurbishments. This is particularly important for universities. Estates expansion is a key driver in emissions growth and both new build and refurbishment offer a valuable opportunity to influence energy performance of the estate in the short- and medium-term. Below, we look at some of the main areas for controlling energy use through building standards and system design.

**DELIVERING OUTSTANDING NEW BUILDINGS AND REFURBISHMENTS**

Schemes such as BREEAM and SKA have been used widely either as a guide or a target for construction projects. Universities have delivered some outstanding new buildings, recognised in the EAUC green gown built environment awards. The 2016 finalists include:



**Nottingham Trent University**  
*'The Pavilion'*



**Swansea University**  
*The Energy Safety Research Institute*



**University of Brighton**  
*Sustainable refurbishment of the Cockcroft Building*

**ROYAL AGRICULTURAL UNIVERSITY**

*Building standard for good carbon performance:*

*"We have started to use CIBSE lighting guides as a benchmark. We have reduced lighting levels in places to meet the guide level which has led to good savings. There are challenges managing contractors who often don't deliver the levels you have asked for, so it's important to actively manage any works that are completed"*

*We also use BREEAM and SKA as a guide but don't feel the need to achieve certification as it doesn't make the building any more sustainable."*

**Pearl Costello**

Environment Officer, Royal Agricultural University

## ENERGY EFFICIENCY IN UNIVERSITY LABORATORIES

University laboratories are one of the areas of greatest energy use in a university and as such potentially offer significant energy reduction opportunities.

### *Heating, ventilation and air conditioning (HVAC)*

Heating, ventilation and air conditioning (HVAC) normally makes up a significant proportion of energy use in a lab. To maintain a safe environment air change rates are much higher in laboratories than other areas; up to 12 air changes can occur per hour. The corresponding energy use to move the air and reheat or cool the fresh air can be considerable.

*“We have done well to achieve such good reductions at SOAS but very little of the estate is dedicated to research, so it’s been easier to reduce.*

*The other universities in the Bloomsbury estates are more research intensive making it harder to achieve efficiencies. This is not an excuse though as there will always be efficiencies that can be found”*

**Ola Bankole**

Sustainability manager, Bloomsbury Estates

Zoned and variable speed ventilation can make a sizeable reduction in energy use, as can the use of air quality monitoring to actively control air changes. Heat recovery from exhaust air provides additional efficiency opportunities and replacing older fan motors with modern low energy alternatives can also deliver significant reductions.

### *Fume cupboards*

Fume cupboards offer attractive opportunities for energy efficiency in laboratories. They often have only simple on/off controls and are interlinked, requiring extraction from all hoods when only one might be needed.

There are some simple solutions that can offer attractive efficiencies. Where possible, fume cupboard used to store volatile chemicals should be independent from those used intermittently and variable air volume extraction systems provide more efficiency. Older extraction motors should be replaced with modern, efficient ones and sized appropriately.

In addition, simple behaviour changes can also deliver large reductions. Closing fume cupboard sashes and not leaving the extraction system running when not needed should be introduced as part of good lab management.

## UNIVERSITY OF READING

### *Fume cupboard efficiency programme*

Since 2014, the University of Reading has carried out a complete review of all its 252 fume cupboard facilities. The project, which involved an investment of about £1m was partly funded through the Higher Education Funding Council’s (HEFCE) Revolving Green Fund.

The success of the programme was also attributed to the university bringing their Maintenance and Sustainability teams under one director, to ensure that project managers are responsible for both maintenance works and carbon reductions, ensuring the most effective solutions are implemented efficiently.

This project was one of the largest contributor to carbon reductions at the university cutting emissions by a third in the labs affected. Performance has also been recognised with shortlisting in 2 national sustainability awards.



The refurbished fume cupboard extraction system.  
University of Reading

### *Laboratory equipment*

There are a wide range of opportunities to reduce energy use from laboratory equipment from procurement, efficient utilisation and controlling set points. Teams or departments often purchase new equipment, such as fridges and freezers, when there may already be underutilised equipment on site. These local purchasing processes often mean that energy efficiency consideration that form part of the university's central procurement standards may be overlooked as well.

The use of energy intensive equipment such as ovens can be scheduled to maximise efficiency (e.g. waiting for a full load before running) and set points on ultra-low temperature freezers should be

optimised for efficiency (where this doesn't impact research activities).

Older, inefficient equipment can use significant amounts of energy and there is a strong case for replacing them with modern equipment.

*"The ovens in the soil lab are used at night to reduce peak energy demand and their use is coordinated to minimise the number of firings."*

**Royal Agricultural University**

## **LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE**

### *Laboratory equipment rationalisation*

*"A good opportunity to improve energy performance was in our labs. We completed a review of the equipment, in particular the ultra-low temperature freezers, and found we had significant spare capacity and a number of old, inefficient equipment. We worked to reduce the demand for freezer space and rationalised the number across the departments to reduce the spare capacity. We also replaced old equipment with more efficient models where they were needed"*

**Ola Bankole**

Sustainability Manager, Bloomsbury Campus





## RESIDENCES

Student accommodation is a notoriously difficult area for energy management. There are varied cultural expectations about room temperature, limited control over equipment brought onto site, and there is often limited energy data available to monitor and provide feedback on an individual basis. Energy is also rarely billed on a per room basis.

One way to address these challenges is to encourage student participation in energy savings measures. Effective measures for this include social media incentives and eco-visualisation displays.

*De Montfort's University have developed Greenview App which is designed to provide energy visualisation for the buildings on campus.*

University-wide competitions are a good way to incentivise student and staff participation and enhance awareness of energy saving campaigns. Individual billing, which requires sub-metering in each room, can also help reduce energy use.

A number of technologies offer efficiencies in buildings, including residencies, teaching and office spaces.

### *Presence sensors*

Presence or occupancy sensors control building services. They can operate heating, ventilation and cooling (HVAC), and even toilet flushing using infrared or CO<sub>2</sub> sensors.

*Lancaster University has introduced presence sensors for the heating in student rooms to reduce heating unoccupied rooms.*

### *Thermostatic radiator valves*

Thermostatic radiator valves (TRVs) are ideal to use in common areas where there no-one actively controls the temperature. Lancaster University has trialed an interesting new product that uses thermocouples to power radio-activated TRVs, allowing for easy integration with building control and room booking system.

### *LED Lighting*

LED lighting offers significant energy reductions and reduced maintenance costs due to their longer operating life.



## HEATING, CHP AND DISTRICT HEATING

Combined heat and power (CHP) generates electricity and high-grade heat, suitable for either single building or district heating systems.

The use of both heat and electricity means that CHP can reduce carbon emissions by up to 30%, typically achieving 80% efficiency.

CHP integrated into a district heating system has provided universities with a significant proportion of the reductions achieved to date.

The Royal Agricultural University use a biomass CHP unit, but gas powered units are more common in urban areas. Thermal stores including buffer tanks and swimming pools extend the operating window for the technology.

## ON-SITE GENERATION AND RENEWABLES

### *Solar Energy*

Solar power offers a reliable and easy to fit option for renewable, on-site generation of electricity and heat. Building mounted systems can have a small but useful impact on electricity demand but the reduction in feed-in-tariffs has weakened the current business case. However, panel costs continue to reduce and large, ground mounted systems are potentially attractive to universities looking to achieve significant absolute reductions. Lancaster University are considering a large off-site system with a private supply for the next phase of their carbon management plan.

### *Anaerobic Digestion*

Anaerobic digestion systems have the potential to

generate a sizeable proportion of a university's energy demand. Able to support a CHP system, the technology is particularly attractive for rural universities where a good supply of animal waste is available. The technology is not widely used and so may require support from external companies to implement and maintain the system.

Small scale systems and composting also offer a good disposal option for food waste and an excellent teaching resource.

### *Wind Energy*

Few universities are able to make use of large scale wind generation however those who are have benefited significantly. Lancaster University installed a 2.35MW turbine which produces 15 per cent of the university's electricity demand (around 5,000MWh per year). The turbine is owned by the university and operated by a third party.

## BUILDING MANAGEMENT SYSTEMS AND CONTROLS

Maximising the coverage and effectiveness of a BMS is a very cost effective option for universities to reduce energy use. Simple management of timings and set-points can deliver quick and sometimes dramatic energy reductions, and expanding a BMS to cover all buildings and systems will help reduce this further. Active management of the BMS is often needed to ensure that the estate continues to perform efficiently, and so making sure your team have the right skills and knowledge to manage the BMS is important.

## LONDON SOUTH BANK UNIVERSITY

### *Building management systems optimisation*

*"The Building Management System across the estate has been micro-managed to ensure plant start/stop timings and heating/cooling optimisation maximise energy reduction. The ongoing programme of lighting and boiler replacement with energy efficient equipment and the buy-in from staff and students to these initiatives have all lead to reductions which have exceeded our expectations."*

**Paul Crossley**

Sustainability Projects Lead, London South Bank University



London South Bank University

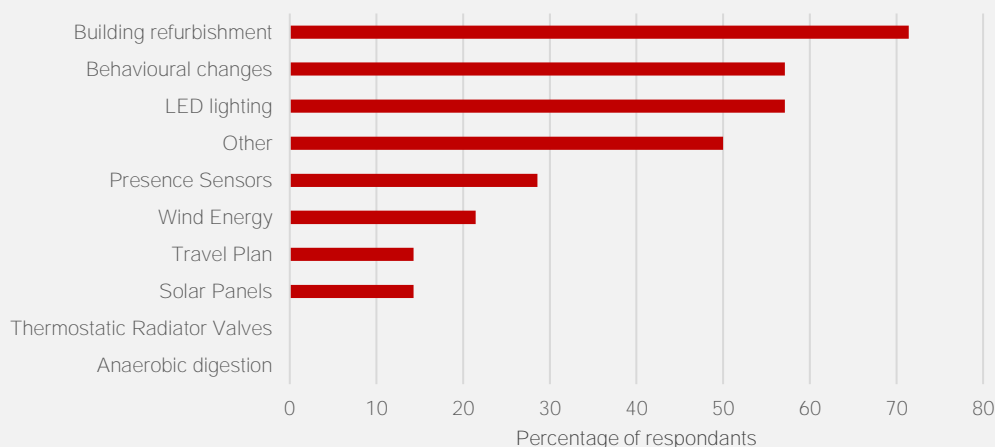


## THE BIGGEST REDUCTION OPPORTUNITIES

### *Opportunities for emissions reductions*

Our survey of universities sustainability managers found that 72% continue to view building refurbishment as one of the biggest opportunities to reducing carbon emissions.

Behavioural change and LED lighting were identified as key opportunities by 57% of energy managers demonstrating the need for behavioural as well as technological measures.



## BEHAVIOUR CHANGE

A key area for universities in the effective management of energy use and the resulting carbon emissions is behavioural change campaigns.

A number of institutions have effectively implemented programmes focusing on individual attitudes that lead to resource savings. Some

measures include encouraging cleaners to close windows throughout buildings for heat retention. Others centre around motivating students and faculty to turn off lights when rooms are not in use, encourage recycling and using sustainable transportation options or car sharing.

## THE DO NATION AND THE UNIVERSITY OF CHESTER

### *Do Nation: Small behaviour changes make a big difference*

*Our survey of sustainability managers identified behaviour change as an attractive opportunity to realise emissions reductions. The Do Nation is a platform that helps people commit to make small behaviour changes that add up to a better world.*

The platform is used by universities to engage and communicate their sustainability vision and efforts with different stakeholders. Staff and students are able to make pledges around reducing environmental impacts as well as improving health and wellbeing. Contributions from all participants are compiled to generate an online leader board that measures performance and encourages competition between different departments.

Over the last three years, the University of Chester have used their Do Nation campaign to raise over 1,500 pledges from staff and students. In total, these actions have resulted in savings of 145 tonnes of CO<sub>2</sub>e, 5.5 million litres of water, and 9.3 tonnes of waste.

The opportunity to engage with its stakeholders has resulted in 79 per cent of users saying they were proud of the university's sustainability credentials as a result of the programme. As a result of joining the campaign each user talked to about 12 people about sustainability, demonstrating a positive way to communicate and encourage participation in sustainability initiatives at universities.

*Learn more about the Do Nation*



**SOAS UNIVERSITY OF LONDON**

*There's no such thing as a silver bullet*

*SOAS, University of London topped this years' league table with absolute reductions of 55 per cent since 2005. The institution has achieved this by implementing a diverse range of technologies and practices.*

SOAS has implemented energy saving measures as part of the school's refurbishment programme. Since 2010, the university has had a financial saving of over £1.7 million from managing its energy consumption. Some of the key projects used to reach its targets include:

**Heating zone controls:** The controls in the Philips building halved energy consumption as they can now allow for solar gain and reduce overheating. The measure has halved the heat required from the district heating network.

**Waste heat recovery for hot water:** Low grade waste heat from the aftercoolers on the two CHP engines in the boiler house is captured to pre-heat water.

**Turbocor chiller:** An energy efficient chiller was installed in the Brunei gallery to replace the old plant.

**Adoption of chilled water in the library:** The introduction of a chilled water system over a VRF system enables more effective temperature control and significant energy reduction.

**LED lighting and lighting controls:** SOAS has introduced LED lighting and new controls across the estate.

**Double glazed windows:** Installed on a refurbishment business case, the new windows have reduced heat loss and improved the comfort in the Old building resulting in a 20 per cent saving on the heat.

**Building management system extension and enhancement:** The upgrade to our BMS has given us much better control of the university's systems and has delivered significant savings.

**New air handling plant with heat recovery and variable speed drives:** The new HVAC system in the library has reduced energy consumption and improved conditions for students.

**Active energy management:** We monitor our energy much more closely now and ensure optimum performance through the BMS. A data driven approach also allows us to look at new opportunities and technologies and have confidence that the business case will stack up.

**Students engagement and support:** With support from the sustainability team, students at SOAS instigated **UniSolar** which is a community energy initiative that aims to bring solar panels to the roofs of UK universities. This innovative student-led project has provided excellent experience and learning opportunities for students, and is a model which would work across any university campus. It will also help to engage and raise awareness of energy and sustainability to all users of the campus.







## SECTION 4: DELIVERING IMPROVEMENT

## SECTION 5: DELIVERING IMPROVEMENT

An effective carbon management plan should focus on continuous improvement, not just of emissions performance but management quality too.

### *MONITORING, MEASURING AND ANALYSIS*

A carbon management plan should monitor energy and carbon performance, as well as the key processes that determine performance.

Obtaining granular energy performance data is often a challenge for universities, with teams often relying on inaccurate billing data or spending significant time taking manual meter readings. The use of smart meters, sub-metering and energy software has improved this and provided institutions with a robust framework to collate and analyse data efficiently. This has allowed teams to not only identify areas and periods of high energy usage, but also find billing errors and failed meters.

Energy use will of course vary with time, so it is also important to monitor relevant variables that relate to energy use. This might include things like building occupancy, internal and external temperatures, or air quality.

Assessing expected energy use against actual use will help to identify possible opportunities for reductions.

Beyond energy and emissions performance, it is also important to monitor the progress and effectiveness of action plans. A regular project progress meeting with key stakeholders can be valuable in keeping programmes on track, and designing post-hoc monitoring into projects will help to ensure the full benefits of projects are achieved.

### *EVALUATION OF COMPLIANCE*

Compliance with legislation and any other obligations a university subscribes to is a core requirement. A legal register sets out your institution's obligations and the internal audit programme should review compliance on an appropriate schedule, at least once a year. Records of the objective evidence seen to test compliance and the compliance status for each obligation should be recorded.

### *INTERNAL AUDIT*

An internal audit reviews the function and performance of a carbon or energy management system and tests how effectively it is implemented and maintained. It allows you to test the extent to which you conform to the requirements of any standards you have adopted (ISO 50001 or ISO 14001 for example) and your own procedures. It

also tests how well you conform with the objectives and targets you've set.

It is good to plan audits ahead of time and ensure that the person completing the audit is competent (either by training or experience). The audit should cover all parts of your system but you might want to focus on the areas of greatest risk and opportunity and adapt your audit programme over time. Keep records and report the audit findings into the management review.

### *NON-CONFORMANCE AND CORRECTIVE ACTIONS*

Any non-conformance that is raised through ad hoc or planned audits should be investigated and corrected. The review should determine:

- The immediate actions required to address the non-conformance, and
- Determine the causes of the non-conformance and the actions needed to resolve the root cause(s).

The corrective action process should set an appropriate timeline and assign responsibility for carrying out the remedial work. Records of the non-conformance and agreed corrective actions should be kept, and a review should be completed to assess that the issues have been resolved.

### *TRANSPARENT REPORTING*

#### *Why report?*

Reporting is an integral part of a good carbon and sustainability management. It allows the university to communicate its objectives and strategy, and set out how it aims to achieve them. A report allows senior management to demonstrate their commitment to carbon performance and showcase the work that is done. Reporting on overall and year-on-year performance is also important, even if the results are not always favourable. Transparent and honest reporting builds trusts and encourages dialogue with stakeholders. In many cases the rigour of transparent reporting will also support continuous improvement.

#### *Reporting frameworks*

Reporting accurately is critical. For carbon emissions it is imperative to collect and report data using recognised methodologies. This includes emissions factors used for each emissions source



and a clear reporting framework, such as the Greenhouse Gas Protocol.

An assessment of materiality (or significance) is often missing from reports and frameworks such as the Global Reporting Initiative (GRI) G4 framework are rarely used.

Many universities produce environmental or sustainability reports which set out their

performance over a broader range of environmental, social and ethics topics. The quality of these reports vary widely and the sector as a whole lags behind commercial organisations in the quality and rigour of external reporting.

The scope of reporting matters and should be clearly communicated.

## WHAT NEXT?

1

### **Review your performance**

We would encourage all universities to review their carbon management processes and emissions performance against the best practice set out in this guide.

2

### **Benchmark your performance against your peers**

Brite Green publish a detailed benchmark report for each institution in England which can be ordered for free from our website with a valid university email address.

3

### **Identify areas for improvement**

Brite Green are happy to offer a free consultation for all UK institutions on current carbon management and sustainability practices and areas for improvement.

## ABOUT BRITE GREEN

### *Sustainability strategy specialists*

Brite Green is a sustainability strategy consultancy. We help organisations identify the most important sustainability issues for them and provide an innovative outsourced service to deliver solutions. Through our four main services, Sustainability Strategy, Management Systems, Sustainability Reporting and Solution implementation, we provide a comprehensive support package for sustainability in organisations.

We have extensive experience in the higher education sector including developing and revising carbon management plans, environmental management system support and audit, and supporting wider sustainability strategy development.



## **BriteGreen**

*Sustainable Strategy*

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Brite Green is an award winning sustainability strategy consultancy. We specialise in delivering enhanced commercial value through improved sustainability performance.

We have considerable experience in carbon and environmental management in universities, including carbon management plan design and implementation.

[www.brite-green.co.uk](http://www.brite-green.co.uk)