July 2009/27
Policy development
Consultation

A joint consultation by HEFCE, Universities UK and GuildHE on developing a carbon reduction target and strategy for higher education in England.

Responses should be e-mailed to HEFCE by Friday 16 October 2009.

July 2009/**27**

Consultation on a carbon reduction target and strategy for higher education in England

Distinction and Diversity in Higher Education

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Foreword

Climate change is one of the greatest challenges facing society today. Evidence shows that the Earth is warming and that human activity is making a significant contribution to this.

Higher education needs to play its part in helping meet UK climate change targets and it is uniquely placed to lead the way. Collectively, the sector influences many thousands of minds through its students and graduates; undertakes world leading research which provides solutions to key challenges; controls a very large estate; and procures billions of pounds' worth of goods and services. Universities have the challenge of finding solutions that people can implement effectively.

The 2006 Stern Review showed that the benefits of strong and early action will far outweigh the economic costs of not acting. Tackling climate change now makes sense.

Although this is a consultation on carbon reductions alone, we know that this is just one aspect of sustainable development, albeit a very important one. That is why HEFCE, Universities UK and GuildHE are working together on this and other initiatives. HEFCE also has an overarching strategy for sustainable development.

We must not underestimate the size of this challenge, nor the financial cost. This will require commitment, creativity and innovation – natural qualities for the higher education sector. There are already many technologies and ways to reduce carbon emissions, but it is not possible to set out precisely how the sector will itself achieve the full reductions that will become possible, simply because some solutions don't yet exist. There is a place for ambition and aspiration – a long-term strategy is needed to sit alongside urgent and immediate action. This document aims to set out such a strategy.

We hope that all institutions will want to be part of this effort and take opportunities to transfer learning, develop innovative and creative solutions and do what universities have always done – change the way that we think and act.

Professor Patricia Broadfoot

Chair, Universities UK/GuildHE
Sustainable Development Task Group

Vice-Chancellor, University of Gloucestershire

Sir Alan Langlands

Chief Executive, HEFCE

Consultation on a carbon reduction target and strategy for higher education in England

To	Heads of HEFCE-funded higher education institutions
Of interest to those responsible for	Senior management, Estates, Finance
Reference	2009/**27**
Publication date	July 2009
Enquiries to	Joanna Simpson tel 0117 931 7411 e-mail j.simpson@hefce.ac.uk

Executive summary

Purpose

1. This is a joint consultation between HEFCE, UUK and GuildHE on developing a carbon[1] reduction target and strategy for higher education in England.

Key points

2. The consultation on HEFCE's 2008 sustainable development strategy and action plan ('Sustainable development in HE – consultation on 2008 update to strategic statement and action plan', HEFCE 2008/18[2]) demonstrated a high level of support (70 per cent) for a higher education carbon reduction strategy.

3. The Climate Change Act 2008 aims to improve carbon management and help the transition towards a low-carbon economy in the UK. It sets the world's first legally binding reduction targets for greenhouse gas emissions of at least 80 per cent by 2050 and at least 34 per cent by 2020, against a 1990 baseline.

4. Higher education needs to play its part in meeting national targets for carbon reduction. The grant letters from the Secretary of State for Innovation, Universities and Skills to HEFCE of 18 January 2008 and 21 January 2009 contained specific requirements that incorporated the requirements of the Climate Change Act.

[1] In this document 'carbon' is used as a shorthand for carbon dioxide equivalents (CO_2e).

[2] All HEFCE publications can be found at www.hefce.ac.uk under Publications.

5. Setting targets is essential to identify the size of the challenge, co-ordinate efforts nationally and internationally, and demonstrate commitment to meaningful change. However, targets alone do not achieve results. They need to be supported by a strategy so that the methods by which the targets are to be achieved can be agreed and the necessary actions and investment put in place. The intention of this strategy is to focus efforts in areas that offer the greatest carbon reduction return and identify issues that need further action. It sets out areas where we will work with institutions and other stakeholders to achieve carbon reductions. It will be for individual institutions to decide, within a national set of targets, how to reduce, measure, review and report progress on their own emissions.

6. HEFCE has already signalled to institutions a more demanding approach to carbon reduction and the need for carbon plans. Its 2008 grant letter from the Secretary of State asked us to establish a link between performance against carbon plans – in effect, carbon reduction – and future capital allocations. HEFCE will achieve this by adapting its Capital Investment Framework.

7. The objectives of this consultation are to:

- gain agreement to a sector target(s) to reduce carbon emissions to levels that at least meet government targets
- seek views on the proposed strategy for supporting carbon emission reductions
- receive comments on the proposed guidance on developing carbon management plans (see paragraph 85)
- seek views on HEFCE's initial thinking for linking capital funding to performance against carbon management plans
- raise the profile of the sector's role and increase commitment to developing a carbon reduction culture in higher education.

Action required

8. Comments are invited on the proposed carbon reduction target, strategy and guidance, using the response form at Annex A. Respondents should complete the electronic version of the form, which can be found on the HEFCE web-site, www.hefce.ac.uk alongside this document under Publications, and e-mail it to sustainabledevelopment@hefce.ac.uk by **Friday 16 October 2009.**

9. As part of the consultation exercise we are holding two consultation seminars. We hope that all institutions will be represented at a senior level at these events. Further details are given in paragraphs 23 and 24. Please register for these events using the online form at www.hefce.ac.uk under More events.

Introduction

10. This is a joint consultation with Universities UK (UUK) and GuildHE on developing a carbon reduction target and strategy for higher education (HE) in England.

11. In February 2009 HEFCE published an updated strategic statement and action plan on sustainable development (HEFCE 2009/03). This recognised how individual higher education institutions (HEIs) could play their part as centres of teaching and research, as campus managers, as employers and as major influencers and participants in their local communities. Graduates will occupy future management and leadership roles and will need the knowledge and skills to make informed decisions, taking account of complex social, economic and environmental issues. Our researchers can help society find social and technical solutions to these challenges and our campuses can lead by becoming more sustainable and efficient, for example reducing consumption of fossil fuels.

12. The UUK/GuildHE Sustainable Development Task Group was established to consider issues related to climate change and environmental sustainability, and their impact on HEIs. The group's priority areas include: benchmarking the sector's sustainable development performance; retrofitting (improving the environmental performance of existing buildings); providing leadership for sustainable development in the sector; and wider networking across sectors and internationally. As part of its work to provide leadership for sustainable development in the sector, UUK, through the Sustainable Development Task Group, is devising a positive declaration on sustainable development that will enable university leaders to demonstrate their commitment to tackling the challenges of sustainable development.

13. HEFCE's consultation on its sustainable development strategy and action plan (HEFCE 2008/18) demonstrated a high level of support for a carbon strategy, with almost 70 per cent of respondents agreeing that a strategy should be developed[3].

14. Tackling climate change is a challenging agenda and we need to move quickly to do it. Feedback to the HEFCE consultation in 2008 shows that there is now widespread agreement in the sector that sustainable development is important. It is a growing political priority both nationally and internationally. The United Nations' Intergovernmental Panel on Climate Change has concluded that warming of the climate system is unequivocal and that human activities make a substantial contribution[4]. Lord Stern's review of climate change[5] in 2006 concluded that the benefits of strong and early action will far outweigh the economic costs of not acting. In June 2008 Lord Stern said that the costs of stopping greenhouse gases rising to dangerous levels had already doubled since 2006 to 2 per cent of GDP. HE makes an important contribution to the UK's sustainable development strategy, updated in 2005[6].

15. The Climate Change Act 2008[7] aims to improve carbon management and help the transition towards a low-carbon economy in the UK. It sets the world's first legally binding targets for greenhouse gas emissions of at least 80 per cent by 2050 and at least 34 per cent by 2020[8], against a 1990 baseline. Major parts of the public sector such as the NHS[9] and schools[10] have developed carbon reduction strategies.

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3 A summary of written responses to the consultation is at www.hefce.ac.uk under Publications alongside HEFCE 2009/03.

4 'Climate change 2007: the physical science basis' available at www.ipcc.ch under IPCC Reports/Assessment reports.

5 'Stern Review on the Economics of Climate Change' available at www.hm-treasury.gov.uk under Independent reviews.

6 'Securing the future: the UK's sustainable development strategy' may be read at www.sustainable-development.gov.uk under Publications.

7 Further information is available at www.decc.gov.uk under Legislation/Climate Change Act 2008.

8 The 2009 Budget set the first carbon budgets, as required by the Climate Change Act. This increased the level of the 2020 target from 26 per cent to 34 per cent.

9 'Saving Carbon, Improving Health: NHS Carbon Reduction Strategy for England' may be read at www.sdu.nhs.uk under Carbon reduction strategy.

10 'Carbon Emissions from Schools: Where they arise and how to reduce them' may be read at www.sd commission.org.uk under Our work/Education, Young People and skills/Schools.

16. HE needs to play its part in meeting national targets for carbon reduction. The grant letter to HEFCE from the Secretary of State for Innovation, Universities and Skills of 21 January 2009[11] contained specific requirements relating to climate change as set out below.

> 'Last year, I set out our ambition that capital funding for institutions should be linked to performance in reducing emissions. Following your advice to me, I am now confirming that such links should be in place for 2011-12. In May 2008 I asked you to finalise during 2008-09 a strategy for sustainable development in HE, with a realistic target for carbon reductions that would reduce carbon emissions by 60 per cent against 1990 levels by 2050 and at least 26 per cent by 2020. This former target should now be upgraded to 80 per cent, in line with Parliament's decisions in passing the Climate Change Act 2008.'

17. In parallel with this, the 2009 update to the HEFCE strategic plan for 2006-2011 (HEFCE 2009/21) contains a revised key performance target (KPT) relating to sustainable development. Formed following discussion with the then Department of Innovation, Universities and Skills, the new KPT14 is: 'To develop during 2009-10 in consultation with stakeholders a realistic strategy and target for carbon reductions which are sufficient to ensure satisfactory progress towards the government targets of reducing carbon emissions by 80 per cent against 1990 levels by 2050 and at least 34 per cent by 2020.'

18. HEFCE's sustainable development strategy and action plan (HEFCE 2009/03) includes the following actions:

a. To publish guidance for institutions on developing carbon management plans in summer 2009. We will then ask institutions to produce plans that have clearance from a governing body or its relevant committee and to publish these plans and subsequent progress against them.

b. To explore how we can create a carbon reduction culture and act to help the sector play its part in meeting national climate change targets. The first stage of this is to consult and agree with the sector a carbon reduction target and strategy.

19. A consultation on carbon reduction alone does not imply that we believe that carbon reduction to be more important than the other aspects of sustainable development. These form part of our overarching strategy for sustainable development. But HEFCE has specific requirements to meet in relation to carbon reduction and this is why this document is only concerned with carbon reduction. The objectives of this consultation are to:

- gain agreement to a sector target(s) to reduce carbon emissions to levels that at least meet government targets
- seek views on the proposed strategy for supporting carbon emission reductions
- receive comments on the proposed guidance on developing carbon management plans
- seek views on HEFCE's initial thinking for linking capital funding to performance against carbon management plans
- raise the profile of the sector's role and increase commitment to developing a carbon reduction culture in higher education.

20. We are very grateful to HEFCE's steering group on sustainable development[12] and to the UUK/GuildHE Sustainable Development Task Group[13] for their valuable advice and support in developing this approach to carbon reduction. HEFCE's Sustainable Development Steering Group is chaired by Geoffrey Copland, formerly Vice-Chancellor of the University of Westminster, and the UUK/GuildHE Sustainable Development Task

11 The full letter and our report on our plans may be read at www.hefce.ac.uk under Finance & assurance/Finance and funding/Grant letter from Secretary of State.

12 For further information, see www.hefce.ac.uk under Leadership, governance and management/Sustainable development.

13 For further information, see www.universitiesuk.ac.uk under Policy and research/Policy areas/Sustainable Development Task Group.

Group is chaired by Professor Patricia Broadfoot, Vice-Chancellor of the University of Gloucestershire.

21. In October 2008 consultants SQW were commissioned to undertake work to develop a carbon reduction target and strategy for HE in England. This work was supported by UUK and GuildHE. The key deliverables were:

- to recommend an appropriate carbon reduction target(s) for the sector
- a scientifically based method for measuring carbon performance and specific recommendations for measuring progress
- a 1990 baseline established using scientifically based methods
- a recommended strategy for achieving the target(s)
- any necessary guidance for institutions in developing carbon plans. This will complement existing guidance and programmes, such as the Carbon Trust's HE Carbon Management programme.

22. Key aspects of the report are included in this consultation. The full report 'Research into a carbon reduction target and strategy for higher education in England' is available at www.hefce.ac.uk under Publications/Research and evaluation 2009.

Consultation seminars and responses

23. We want to hear views about the appropriateness of the proposed target, strategy and guidance. As part of the consultation we will be holding two seminars to help inform this process and to offer the sector the chance to discuss details further. These will be taking place on:

- Thursday 3 September 2009 in London
- Monday 7 September in Manchester.

24. We invite institutions to send several representatives to these events. We suggest that they include senior managers with responsibility for resources management, such as finance, estates and procurement. Governors with an interest in this area would also be welcome. Please register for these events using the online form at www.hefce.ac.uk under More events.

25. Comments are invited on the proposed target and strategy for carbon reductions using the response form at Annex A by **Friday 16 October 2009**. We would particularly welcome responses on the following:

Consultation question 1: What should the sector target be for 2020 and 2050 and should there be milestones? If yes, what should these milestones be?

Consultation question 2: What should be the key elements of a strategy to support the HE targets and what should the role of HEFCE, UUK and GuildHE be?

Consultation question 3: Do you think that the monitoring and reporting arrangements in relation to the sector-level target are appropriate? How can the measurement of the sector's total carbon emissions be improved?

Consultation question 4: Do you have any comments on the guidance on developing carbon management plans? Is there a need for further support and guidance? If so, what is this?

Consultation question 5: HEFCE is required to link capital funding to performance against carbon management plans. Do you have any comments on how we will use CIF2 (paragraph 82) to assess this and how it should affect capital allocations?

Baseline: the carbon footprint of HE in England

26. SQW was commissioned to measure the carbon footprint of the higher education sector in England to provide a better understanding of emissions and establish a baseline against which progress can be measured.

27. The World Resource Institute (WRI) developed a classification of emission sources around three 'scopes':

- **scope 1** is direct emissions that occur from sources that are owned or controlled by the organisation, for example emissions from combustion in owned or controlled boilers, furnaces, vehicles

- **scope 2** accounts for emissions from the generation of purchased electricity consumed by the organisation
- **scope 3** is all other indirect emissions which are a consequence of the activities of the company, but occur from sources not owned or controlled by the organisation – for example, commuting and procurement.

28. Chapter 2 of the SQW report presents baselines for two years, 1990 and 2006. The 1990 baseline aligns with the national requirements under the Kyoto protocol, although the 2006 baseline uses more accurate data and is recommended as the basis for looking forward[14]. The summary results (scopes 1, 2 and 3) are:

- in 1990, total sector carbon emissions were 2.445 million tonnes of carbon dioxide ($MtCO_2$)
- in 2006, total sector carbon emissions were 3.288 $MtCO_2$, a rise of 34 per cent since 1990.

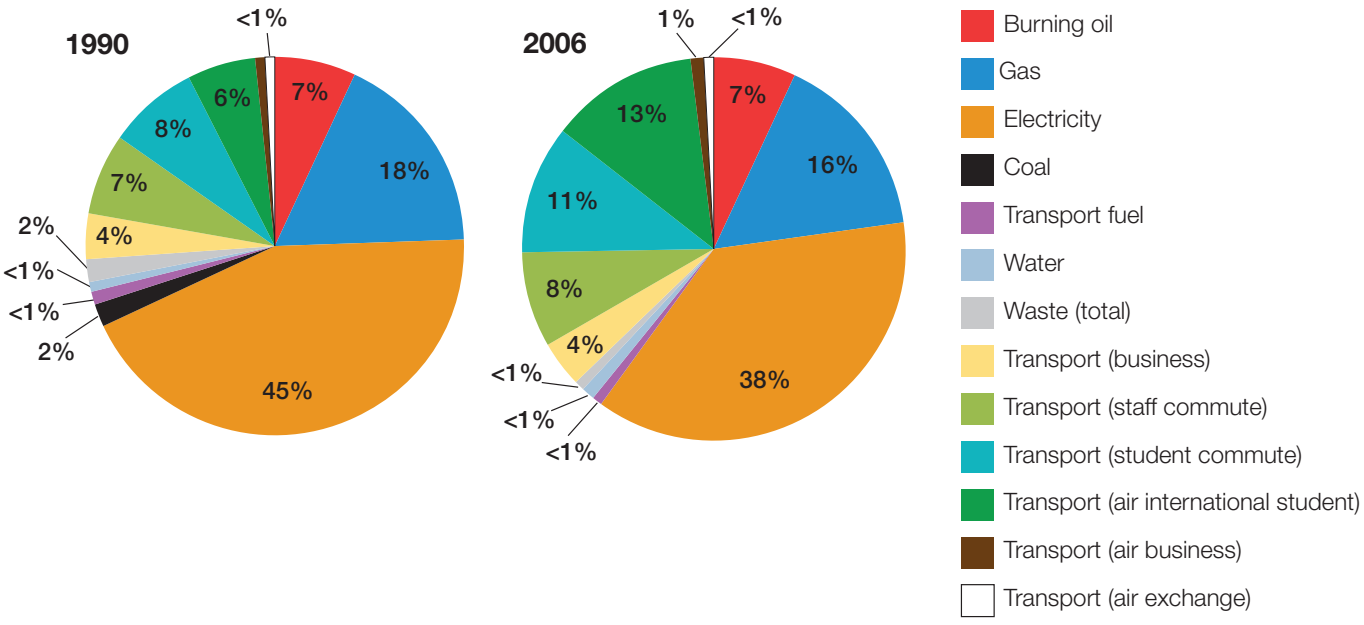
These figures include energy use within the estate (fossil fuel combustion – gas, coal, oil and electricity use); transport (institutions' own vehicle fleet, business travel and commuting); water; and waste (see Figure 1). These results exclude procurement, which has a considerable indirect carbon impact, but the data for estimating emissions are not readily available. The SQW report suggests that including procurement could double the sector's overall emissions figures.

29. For scopes 1 and 2, the HE sector baseline is:

- 1.779 $MtCO_2$ in 1990
- 2.079 $MtCO_2$ in 2006, which is a 17 per cent increase on 1990 figures (see Figure 2).

These figures include energy use from the estate (fossil fuel combustion (gas, coal, oil) and electricity use) and fuel used by institution's own vehicle fleet (Figure 3).

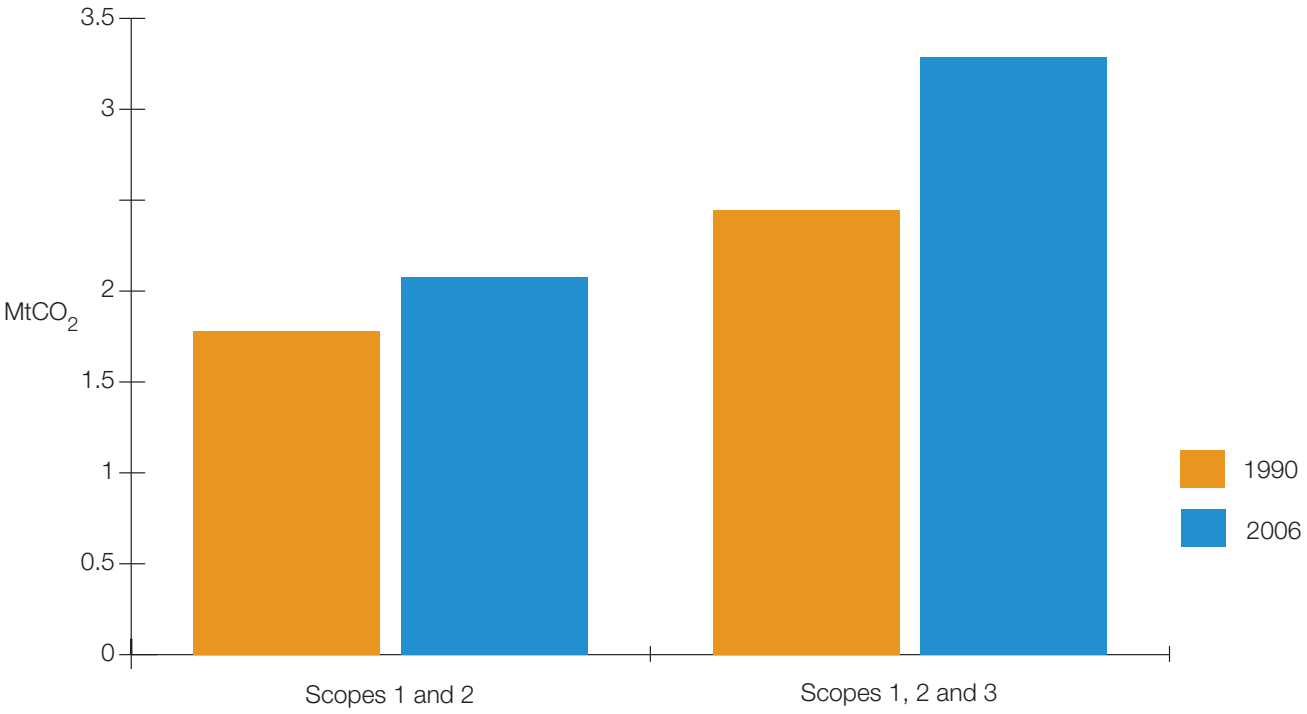
Figure 1 **HE sector carbon emissions baseline – breakdown in 1990 (left) and 2006 (right)**



Source: 'Carbon reduction research: a report to HEFCE by SQW' (July 2009).
Note: Baseline segments are presented clockwise in same order as legend.

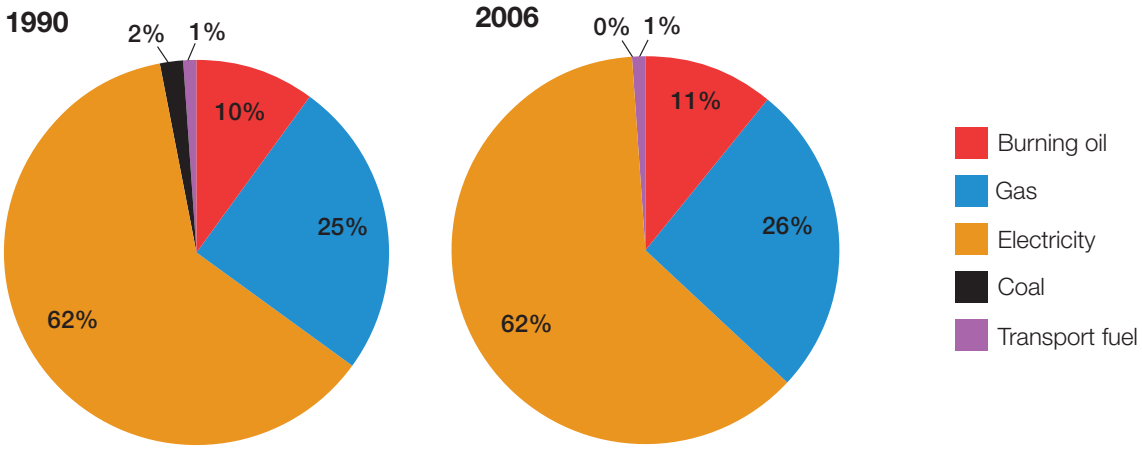
14 Scope 3 emissions included in the 1990 baseline have been estimated using inter- and extrapolations. Further information on these is available in the full SQW report.

Figure 2 **Baselines for 1990 and 2006 in the HE sector**



Source: Data from 'Carbon reduction research: a report to HEFCE by SQW' (July 2009).

Figure 3 **Scope 1 and 2 emissions in the HE sector 1990 (left) and 2006 (right)**



Source: 'Carbon reduction research: a report to HEFCE by SQW' (July 2009).
Note: Baseline segments are presented clockwise in same order as legend.

Targets

30. Through this consultation we wish to seek views on an appropriate sector-level target(s) for carbon reduction. Institutions will be expected to develop their own carbon reduction targets based on their particular circumstances and ambitions. The SQW report makes recommendations on sector-level targets as follows:

- the targets should be absolute against a base figure (in other words, not relative to sector growth)
- the sector-level target should apply to scope 1 and 2 emissions only
- for 2020: an HE sector target of 50 per cent carbon reductions from scope 1 and 2 emissions against 1990 levels
- for 2050: the HE sector should aspire to achieve carbon neutrality (100 per cent reduction), which in practice will be achieved with certain contributions from carbon trading and off-setting.

31. An absolute target means actual carbon emission reductions against the levels in a fixed past year. The UK national targets under different policies and legislation are absolute and set against a 1990 baseline year. The rationale for this approach is based on the fact that the capacity of the Earth to manage carbon emissions is itself finite. Targets are proposed for scope 1 and 2 emissions only as this baseline has been calculated with a reasonable degree of confidence. There is a degree of uncertainty for scope 3 emissions for 1990. We will work with the sector to improve measurement of scope 3 emissions, including procurement, with the intention of setting sector-level targets for these emissions in the future. Our plans for doing this are outlined in paragraphs 37-77 of this document.

32. The sector may wish to adopt targets which are aligned with UK targets or to lead the way and aim to exceed these targets. Arguably the sector is uniquely placed to lead the way on carbon reduction. As the SQW report states:

> 'The HE sector has traditionally been viewed as pioneering in many respects due to its unique culture of intellectual excellence, drive for innovation and its role as a key medium for socio-economic progress. This helps to make the case that the HE carbon target should be set at the very minimum at the national level but possibly aiming for higher levels, e.g. 40 per cent to 50 per cent by 2020…. The HE sector will have to deliver on the 80 per cent by 2050 target and, therefore, a more ambitious 2020 target of, for instance, 50 per cent reduction would both underpin its leadership role in society and accumulate "credit" in achieving the longer-term goal.'

33. HEFCE's 2009 grant letter from the Secretary of State makes it clear that the sector is expected to achieve reductions which are at least in line with UK government targets of emission reductions of at least 80 per cent by 2050 and at least 34 per cent by 2020, against a 1990 baseline. This is equivalent to a reduction of 0.604 $MtCO_2$ by 2020 and 1.422 $MtCO_2$ by 2050 against 1990 levels. Against 2006 levels, this is equivalent to a reduction of 0.905 $MtCO_2$ by 2020 and 1.723 $MtCO_2$ by 2050.

34. The SQW report suggests that the sector could aspire to achieve targets in excess of these, namely:

- a 50 per cent carbon reduction from scope 1 and 2 emissions against 1990 levels by 2020. In absolute terms this means a reduction of scope 1 and 2 emissions to a level of 0.889 $MtCO_2$, equivalent to a reduction of 1.190 $MtCO_2$ (57 per cent) against 2006 levels and 0.889 $MtCO_2$ against 1990 levels
- a 100 per cent reduction against 1990 levels by 2050, which in practice will be achieved with contributions from carbon trading and off-setting. This is equivalent to a reduction of 2.08 $MtCO_2$ against 2006 levels and 1.779 $MtCO_2$ against 1990 levels.

35. In line with the proposals in the SQW report we propose that the sector:

- commits to achieving a reduction in scope 1 and 2 emissions of 80 per cent by 2050 and at least 34 per cent by 2020, against a 1990 baseline
- aspires to achieve a carbon reduction target from scope 1 and 2 emissions of 50 per cent by 2020 and 100 per cent by 2050, against 1990 levels

- commits to making reductions in scope 3 emissions and to improving measurement of scope 3 emissions with the intention of setting targets for these emissions in the future.

36. Due to the medium- and long-term timescales of national targets we feel it would be beneficial to have milestones by which the sector can monitor its progress. This could be a single mid-term milestone in 2015, in which case the recommendation in the report is for a 25 per cent reduction against 1990 levels (or 30 per cent reduction against 2006 levels). Alternatively, two interim milestones in 2012 and 2017 could be set in line with the three five-year national carbon budgets. The recommendation for these milestones is 10 per cent by 2012 and 30 per cent by 2017 against 1990 levels.

Consultation question 1

What should the sector target be for 2020 and 2050 and should there be milestones? If yes, what should these milestones be?

Strategy

37. Setting targets is essential to identify the size of the challenge, co-ordinate efforts nationally and internationally, and demonstrate commitment to meaningful change. However, targets alone do not achieve results. They need to be supported by a strategy so that the methods by which the targets are to be achieved can be agreed and the necessary actions and investment put in place. The intention of this strategy is to focus efforts in areas that offer the greatest carbon reduction return and identify issues that need further action.

38. The SQW report makes recommendations to HEFCE in defining a strategy including technical, structural and behavioural solutions (chapter 4). It states:

> 'Our research suggests that there is growing awareness at all levels of the importance of carbon reduction in the overall sustainability (in the widest sense) of HEIs, indicating that there has been a significant attitudinal shift across the sector in recent years. But although there have been changes in attitude, there is still some nervousness (particularly around the need to protect the autonomy and independence of HEIs).... Any strategy produced should recognise that there is already a significant amount of work, guidance and best practice already targeted at the sector, and should seek to add value to what already exists.'

39. We agree with this and so this strategy sets out areas where we will work with institutions and other stakeholders to achieve carbon reductions. It will be for individual institutions to decide how to reduce, measure, review and report progress on their own emissions.

Key areas where carbon reductions could occur

40. We recognise the diversity of institutions and there are a wide range of areas for carbon reduction. These include: energy use within the estate from fossil fuel combustion (gas, coal, oil) and electricity use; transport (institutions' own vehicle fleet, business travel and commuting); water consumption; waste; and procurement. A number of 'big' and 'quick' wins are possible and these should be targeted as a priority. In addition, there will be external factors such as decarbonisation of the electricity supply and advances in technology which will help reduce the sector's carbon emissions.

41. As the SQW report identifies, the HE estate is the obvious area to target savings, across both the building portfolio and energy supply. While institutions will be required to have carbon management plans covering scopes 1 and 2 to access future capital funding, we expect that these plans will also cover aspects of scope 3. We will support institutions by providing guidance on developing carbon management plans which complements existing programmes and standards such as the Carbon Trust's HE carbon management programme. This is discussed further in paragraph 83.

42. Institutions have a valuable role to play in promoting carbon reductions through their other activities including teaching, research and public communications. While we recognise that it will not be possible to measure the results of these activities, they could feature in institutions' carbon management plans.

43. According to the SQW report the six most viable interventions in terms of scale of impact and cost-effectiveness for the sector are:

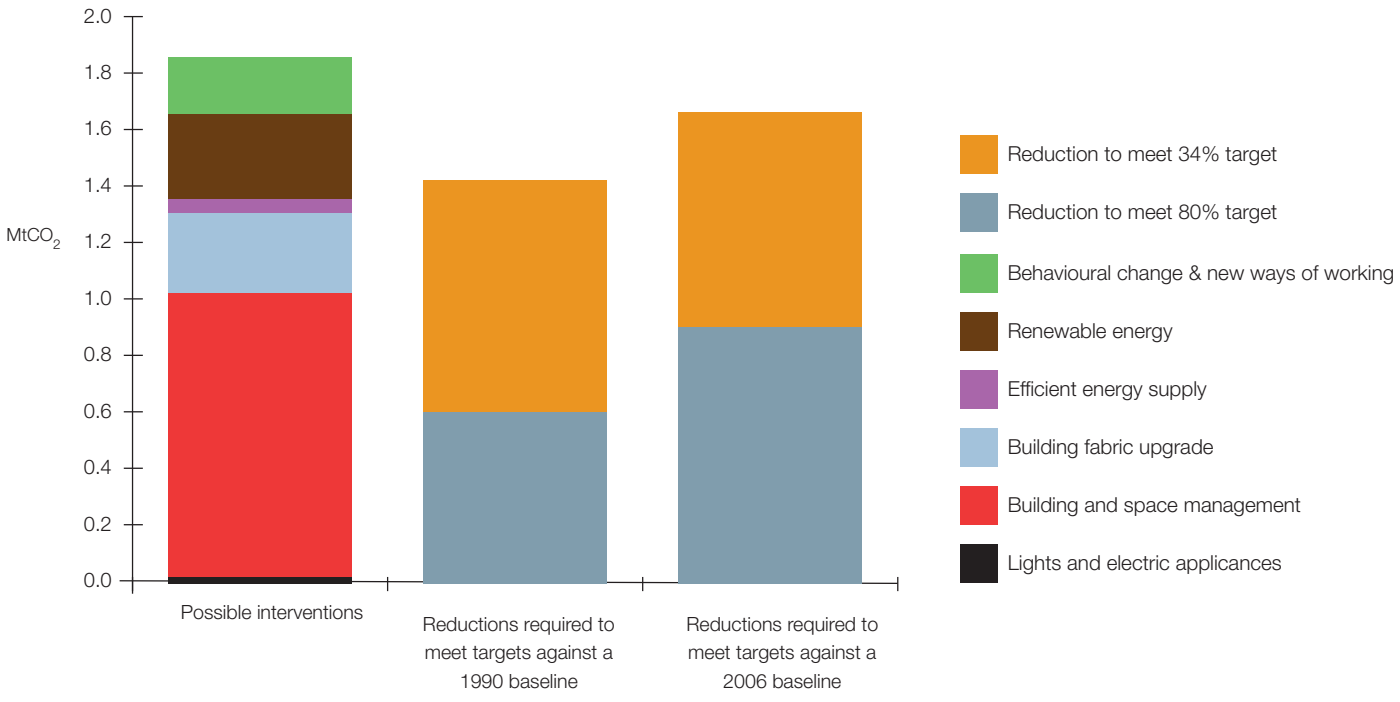
- lights and electric appliances (including information and communication technologies (ICT))
- building energy and space management
- building fabric upgrade
- efficient energy supply (combined heat and power (CHP)/tri-generation, district heating)
- renewable energy
- behavioural change and new ways of working.

44. The full abatement potential of these interventions is estimated at between 1.854 $MtCO_2$ (conservative) and 2.476 $MtCO_2$. These exceed the level of reduction that would be required for the sector to meet targets of 80 per cent by 2050 and 34 per cent by 2020 (see Figure 4). Table 1 provides information on the costs and benefits of these six interventions. Theoretically, these savings are possible but in practice they may not be realised due to barriers, including a lack of finance and structural issues such as planning constraints. However, this is a long-term strategy, and innovation and creativity are needed to develop and implement new technologies and ways of working together to meet the large-scale reductions required to help tackle climate change.

Barriers

45. We would like to support the sector in overcoming any barriers to carbon reductions. Through this consultation we would like views on the barriers to carbon reduction. We will then consider ways in which we can help overcome the main barriers. This may include facilitating focus groups to discuss particular barriers.

Figure 4 **Abatement potential of interventions for the HE sector to reduce scope 1 and 2 emissions**



Source: Data from 'Carbon reduction research: a report to HEFCE by SQW' (July 2009).

Table 1 **Costs and benefits of the six most viable interventions to reduce carbon emissions in HE**

	Cost-effectiveness (lifecycle)* (£/tCO_2)	**Estimated abatement potential for the sector ($MtCO_2$)**	**Investment (£ million)**	**Net benefits by 2020 (£ million)**
Behavioural change and new ways of working	-300 to -400	0.2	Minimal: interventions often only require human resources or integration into existing budgets and initiatives, such as staff/student induction, training and internal marketing activities.	50-70
Lights and electric appliances (including ICT)	-100 to -200	0.02-0.35	0.3-5.0	3-50
Building energy and space management	average of -150	1	30-50	150
Building fabric upgrade	-50 to -100	0.28	3-5	15
Efficient energy supply (CHP/tri-generation, district heating)	Average can be taken as neutral (£0/tCO_2). Most standard on-site CHP options are cost-effective, but depending on the circumstances (for example location, demand density) these, as well as district heating could be non-cost-effective	0.05	Tens of millions	Marginal, yet positive
Renewable energy	200 to 300. There is a sub-set of technologies that are more cost-effective, such as biomass boilers, solar water heating and ground-source heat pumps.	0.3-0.6	100-130	These should be increasingly cost-effective closer to 2020 due to falling capital costs.

* These figures are based on Marginal Abatement Cost Curves. These are an assessment and decision-making tool regarding carbon-reduction interventions. The absolute cost-effectiveness is the cost (£) of saving a tonne of carbon (tCO_2) calculated on a lifecycle basis, capturing all costs and revenues and factoring in inflation and amortisation. A negative figure indicates that the intervention will generate net cost savings/revenues over its life.

Legislative drivers

46. Financial instruments are being used to reduce carbon emissions. Some HEIs are required to participate in the EU Emissions Trading Scheme[15], enabling them to sell surplus tonnes of CO_2 if they do not need all of their allowance. The Carbon Reduction Commitment[16] is a mandatory emissions trading scheme starting in April 2010 which aims to promote energy efficiency and help reduce carbon emissions. It is UK-wide, covering large businesses and public-sector organisations, and around 80 universities and colleges are likely to be within its scope. There may be large financial implications for these institutions. Organisations participating in this scheme must monitor energy use, report on their equivalent CO_2 emissions and then purchase allowances, sold by Government, to cover these emissions each year. One estimate suggests that institutions may need to spend approximately 7 per cent of their energy bill on allowances. Participants will receive a revenue recycling payment from Government, based on relative performance in the scheme as published in a performance league table.

47. Universities and colleges also need to comply with increasingly stringent Building Regulations, which are now requiring energy efficiency improvements to buildings that are being extended or having changes made to building services. Since 1 October 2008, all public buildings have also been required to have Display Energy Certificates showing their actual energy usage, as recorded by gas, electricity and other meters, so that the public can see the building's energy efficiency in use.

Governance

48. The Committee of University Chairs' 'Guide for Members of Higher Education Governing Bodies in the UK' (HEFCE 2009/14) states that: 'The governing body is responsible for oversight of the strategic management of the institution's land and buildings with the aim of providing an environment that will facilitate high-quality teaching and learning and research.' Carbon management is a key estates issue, so it is a crucial area for governors, which is why we will be asking for carbon management plans to be signed off by the governing body (paragraph 88).

Funding for carbon reduction projects

49. The Revolving Green Fund (RGF) is a partnership between HEFCE and Salix Finance Ltd[17]. Thirty million pounds has been made available from 2008 to 2011 to provide recoverable grants to higher education institutions for projects that reduce their greenhouse gas emissions. Institutions are required to contribute a minimum of 25 per cent of the value of their fund and will repay the grant through the savings they make. The fund has two strands:

- an institutional small projects (ISP) fund
- a transformational fund.

50. The ISP fund uses Salix's traditional model where institutions receive ring-fenced money from the fund to be spent on carbon-saving projects. A key principle is that financial savings from funded projects are repaid into the ring-fenced fund held by the institution for re-investment in further projects. Once the original project investment is repaid to the fund, the institution is free to keep ongoing savings. The institution does not have to repay the money loaned while it continues to re-invest savings in eligible projects. To date, 41 institutions have received a share of the ISP fund[18].

51. The transformational fund is for HEIs to tackle larger projects which will transform the institution's approach to managing its energy consumption and reducing its emissions. Three HEIs have been

15 For more information on the EU Emissions Trading Scheme, see www.defra.gov.uk under Environmental Protection/Climate Change and Energy/Emissions trading.

16 For more information on the Carbon Reduction Commitment, see www.decc.gov.uk under What we do/A low-carbon UK/Carbon reduction commitment.

17 Salix Finance is an independent, publicly funded company, set up in 2004 to accelerate public sector investment in energy saving technologies through invest-to-save schemes. Salix has public funding from the Carbon Trust and the Learning and Skills Council and is working across the public sector with local authorities, NHS Foundation Trusts, higher and further education institutions and Government.

18 For more information see www.salixfinance co.uk under Higher Education/England/Current participants.

allocated £10 million between them for the following projects:

- the University of East Anglia will establish a biomass energy centre at its Norwich campus; it is set to be the first biomass gasification combined heat and power plant in England
- Harper Adams University College will develop anaerobic digestion to generate renewable power, using farm waste and food waste diverted from landfill
- Lancaster University aims to install two wind turbines to significantly reduce CO_2 emissions from electricity consumption and reduce reliance on imported electricity.

52. Also the 2009 Budget announced £50 million in interest-free loans for the public sector to invest in energy-saving projects. This programme is also being managed by Salix, and all HEIs are eligible to apply[19]. The draft guidance on developing carbon management (Annex B) includes information on other sources of funding.

Building and sharing good practice

53. There is much good practice already evident in the HE sector and in other sectors but we are keen that the higher education sector continues to develop new ideas and learn from the experience of others. So we will promote the take-up of good practice and facilitate the development of effective practice where none exists.

54. We are funding several sustainable development projects through special funding initiatives, such as the Leadership, Governance and Management (LGM) Fund[20], the Strategic Development Fund (SDF)[21], Centres for Excellence in Teaching and Learning[22] and the Higher Education Innovation Fund[23]. Many of these promote the management of carbon emissions, such as: EcoCampus[24], an environmental management system for the higher education sector; and Universities that Count[25], which is encouraging institutions to measure and report on their performance through a sector-specific version of the Business in the Community (BiTC) Environment and Corporate Responsibility indices. Around 50 institutions are currently participating in this project and the results will be published by BiTC and the Environmental Association for Universities and Colleges (EAUC) in summer 2009.

55. The sustainable development resource guide[26] on the HEFCE web-site is a directory of resources and examples of good practice. This covers all aspects of sustainable development, including carbon management.

56. It will be valuable to capture the learning from the process of institutions taking action to reduce their carbon emissions. One option we are considering is providing small levels of funding for a number of institutions to undertake action-research projects on their own practice in carbon management. This would enable institutions to understand more fully how they are effective in reducing carbon emissions and provide insights which are useful to the HE sector and other sectors.

57. HE sector bodies are playing a key role in supporting institutions in reducing carbon emissions. For example, the UUK publication 'Greening Spires'[27] showcases the contribution of higher education to sustainable development, and the Association of University Directors of Estates (AUDE) included sustainability criteria in AUDESAT, a self-assessment toolkit for developing the good practice of estate management[28].

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19 For more information see www.salixfinance.co.uk under Loans.

20 For more information see www.hefce.ac.uk under Leadership, governance & management/LGM Fund.

21 For more information see www.hefce.ac.uk under Finance & assurance/Finance and funding/Strategic Development Fund.

22 For more information see www.hefce.ac.uk under Learning & Teaching/Teaching initiatives.

23 For more information see www.hefce.ac.uk under Economy and society/Business & community.

24 For more information see www.ecocampus.co.uk.

25 For more information see www.eauc.org.uk under Projects/Universities that Count.

26 The guide is available at www.hefce.ac.uk under Leadership, governance and management/Sustainable development/Resource guide.

27 'Greening Spires' is available at www.universitiesuk.ac.uk under Publications.

28 For more information on AUDESAT see www.aude.ac.uk under Info Centre/AUDESAT.

58. We will continue to work with HE sector bodies and other stakeholders to facilitate the building and dissemination of good practice. HEFCE welcomes further applications to the LGM Fund and SDF for projects that promote good practice in carbon management.

59. Award schemes help recognise and celebrate exceptional practice. There are several sector schemes that include awards for carbon reductions, including the Green Gown Award for Carbon Reduction[29] and the Times Higher Education Award for Outstanding Contribution to Sustainable Development. The Sound Environmental Impact Awards scheme[30], organised by the National Union of Students Services Ltd (NUSSL), has been successful in reducing the environmental impact of student unions. The scheme facilitates new, collaborative relations between student unions and their institutions, which can play an important role in wider environmental initiatives.

60. Feedback to the consultation on HEFCE's sustainable development strategy suggested a central repository for advice and good practice on sustainable development would be useful. The reasons for this were:

- a need to focus on joined-up and integrated thinking within HE
- a need to publicise and widely circulate institutional success stories
- sharing good practice can help collaboration between institutions
- a need for learning and sharing of good practice from other countries and sectors.

61. This repository could be a separate inter-institutional body or a programme of activity managed by an existing sector body. Its role would include identifying examples of good practice and areas where guidance is needed; disseminating these good practices through activities such as publications, events and online resources; facilitating the sharing of good practice between institutions; and promoting partnership working. Such a repository would be concerned with all aspects of sustainable development, not just carbon management, and would need to work with a range of stakeholders. As part of this consultation we would like your views on this idea.

Construction and refurbishment

62. Research shows that sustainable methods of construction and refurbishment make sense on both environmental and financial grounds[31]. Considering whole-life impacts of buildings can help reduce embodied carbon through construction and carbon emissions during operation.

63. The Building Research Establishment Environmental Assessment Method (BREEAM) can be used to assess the environmental performance of any type of building. Using this methodology, a building can be rated based on its environmental impacts, including management, health and wellbeing, energy, transport, water, waste, land–use, ecology and pollution. Together with AUDE and the other funding councils, HEFCE is funding the development of a BREEAM template specific to higher education. This is part of the 'GreenBuild' project[32], which is also investigating ways to encourage energy-efficient laboratories. This template will be appropriate for the majority of university buildings and reduce the financial implications of assessment under a bespoke template.

64. Some organisations already attach BREEAM conditions to public funding. For example, the Scottish Funding Council and Higher Education Funding Council for Wales as well as central Government require BREEAM 'excellent' ratings on new builds and 'very good' is commonly required for refurbishments. Once the higher education BREEAM scheme is available in summer 2009, HEFCE will consider requiring specific levels of performance for capital projects, both new builds and refurbishments, which are supported with HEFCE funding.

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29 For more information see www.eauc.org.uk under Green Gown Awards.

30 For more information on the Sound Environmental Impact Awards see www.nussl.co.uk under Ethical & Environmental.

31 High Performance Buildings Reports, available at www.heepi.org.uk.

32 For further information see www.hefce.ac.uk under Leadership, governance & management/LGM Fund/Projects funded to date/HE Estates.

65. An LGM Fund project, 'The legacy of the 1960s university estate', led by AUDE, considers how to deal with the large proportion of the property portfolio that was built in the 1960s. Using case studies and research into how other sectors address similar issues, this project provides a toolkit and advice to assist institutions in making the 'replace or refurbish?' decision[33]. Four key points emerged:

- academic buildings can often be refurbished more successfully than residential ones
- although the financial case for refurbishment might look poor, with costs in some cases as high as 80 per cent of new build, there are often significant other benefits from the refurbishment route, particularly environmental ones
- high standards of environmental performance can be achieved on refurbishment projects, provided that this objective is at the core of the design from the outset
- architectural excellence can still be achieved in refurbishment projects.

Space management

66. Good space management not only reduces carbon emissions, it also frees up resources that can be used for teaching and research. The Estates Management Statistics provide benchmarks that institutions can use – in 2006-07 the median institution had 7.6 m^2 of non-residential space per full-time student[34], a level that has declined steadily from 8.9 m^2 in 2001-02. There are reasons for the considerable variation which exists in the sector, notably building age and the needs of particular subjects. It is clear that there is potential for space to be used more efficiently.

67. Between 2004 and 2008, the HEFCE-funded UK HE Space Management Group (SMG)[35] produced tools and reports whose overriding purpose is to promote better utilisation of space in HE. Included in the suite of good practice guidance is a report on the role of design in space efficiency[36]. Among the findings were the importance of designing spaces capable of being used for different activities and making active use of common areas. This work is being continued through projects led by Loughborough University[37] and the University of Lincoln[38] supported by HEFCE's LGM Fund. HEFCE will seek to understand better how institutions are performing and to maintain focus on space management through the Capital Investment Framework. HEFCE's 2008 sustainable development action plan includes an action to communicate the link between efficient use of space and environmental sustainability, promote understanding of how institutions are performing and disseminate good practice. A review of the work of the SMG, to be commissioned in 2009, will form the basis for this.

On-site renewable energy

68. Institutions may have the potential to install effective energy generation on-site to reduce their reliance on fossil fuels and their vulnerability to large fluctuations in energy prices. Although renewable energy technologies are still being developed, some applications are already cost-effective. Partnerships for Renewables[39] is a Carbon Trust Enterprise that works with public sector organisations to develop, manage and finance on-site renewable energy projects.

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33 The full report is available at www.aude.ac.uk under Info centre/1960s estate project.

34 Figures from 'Performance in higher education estates: EMS annual report 2008' (HEFCE 2009/28).

35 For more information see www.smg.ac.uk.

36 'Promoting space efficiency in building design' (March 2006) can be read at www.smg.ac.uk under Reports/tools.

37 'Innovative, effective, enjoyable? Creating the evidence base to deliver productive academic workplaces.' Available at www.academicworkspace.com.

38 'Learning landscapes: clearing pathways and making space – involving academics in leadership, governance and management of estates in higher education.' Available at http://learninglandscapes.lincoln.ac.uk.

39 Further information is available at www.pfr.co.uk. Carbon Trust Enterprises Ltd is a wholly owned subsidiary of the Carbon Trust, and, through the development of low carbon businesses, supports the Carbon Trust's objective of making the business case for climate change.

Partnership working

69. Universities and colleges do not exist in isolation. They are increasingly engaged with their communities and employers, and with their towns, cities and regions. Institutions should seek opportunities to work effectively in partnership to enable solutions that share learning and would not have been possible if working alone. For example, projects such as CHP and district heating may only be financially viable if implemented in partnership with other local organisations. Similarly, carbon management plans could be developed in consultation with staff and students, and include ways of working with them to achieve reductions.

Students

70. The student body is a valuable partner, able to play an important role in promoting sustainable development and encouraging behavioural change. There are numerous case studies of students successfully delivering change, many of which revolve around environmental campaigns led by students through their student union. The Sound Environmental Impact Awards scheme helps facilitate new, collaborative relations between student unions and their institutions which can help reduce carbon emissions and make wider environmental improvements[40].

71. The National Union of Students (NUS) and NUSSL run a range of innovative environmental programmes. For example, the 'Aiming Higher' project will use behavioural change projects to promote pro-environmental behaviours of over 90,000 students and staff across 20 universities in England. Due to start in summer 2009, it is a partnership between the NUS, EAUC, People and Planet, and the Student Switch Off and is funded by the Department for Environment, Food and Rural Affairs. The Carbon Academy[41] is a project funded by the Carbon Trust that seeks to reduce the collective carbon footprint of student unions by 5,800 tonnes of CO_2 per year through training and best practice in energy management.

Behavioural change

72. 'Softer' methods can play a significant role in highlighting changing institutional priorities and in encouraging behavioural and cultural change. Studies suggest that carbon reductions of 5-10 per cent are realistically possible through behaviour change alone (see paragraph 4.43 of the SQW report). One example of such a behaviour-change programme is the University of Bristol's Green Impact Awards[42]. This aims to empower individuals and departments to reduce their environmental impact by encouraging, rewarding and celebrating environmental improvements. Participating departments are challenged to implement a number of practical actions; they score points for each action, leading to a bronze, silver or gold award. We expect institutions to consider including behavioural change activities in their carbon management plans.

Procurement

73. Procurement decisions affect the rate of consumption and productivity of resources, and institutions are able to influence the social and environmental impact of companies in the supply chain. It has not yet been possible to include emissions from the usage of third party-generated goods and services procured by the sector in the sector baseline, but according to the SQW report (paragraph 2.48) it is likely that these form a significant proportion, possibly half, of the sector's total carbon emissions. Therefore, this is an area where significant carbon reductions may be possible. In the main these reductions will be achieved by influencing suppliers to deliver against more exacting CO_2 specifications.

74. To support the sector in realising these reductions HEFCE is providing funding for a sustainable procurement centre of excellence. Led by

40 The Sound Environmental Impact Awards are organised by NUSSL. For more information see www.nussl.co.uk under Ethical & Environmental.

41 For more information on the Carbon Academy, see www.nussl.co.uk under Ethical & Environmental.

42 For more information on the Green Impact Awards, see www.bristol.ac.uk under S/Sustainability.

the North Eastern Universities Purchasing Consortium in partnership with the Association of University Procurement Officers (AUPO), this project intends to make demonstrable changes to the way HEIs embed sustainable procurement into their standard procedures, practices and policies. The centre will: build capacity in sustainable procurement; develop capability in influencing supply chains; address process issues; develop measurement and monitoring tools; and communicate a full understanding of CO_2 emissions, and other environmental impacts, in the specification, production, delivery, utilisation and disposal of goods and services purchased by the HE sector.

75. The UUK Strategic Procurement Group (SPG) also has sustainable development as part of its work. The SPG operates by influencing sector-representative bodies and institutional senior management to develop their procurement activities. In this area the SPG is working with its partner AUPO to develop the adoption of the Sustainable Procurement Task Force Report Flexible Framework in institutions. This will support and enhance the activities of the sustainable procurement centre of excellence.

Shared services

76. The development of shared services in the higher education sector has the potential to be wide-ranging, with significant impacts on how institutions function and operate. At the heart of many developments is the increased use of technology which will facilitate these changes. But increasingly relying on technology means that carbon emissions could rise rather than fall. Therefore, integral to every project is the consideration of sustainable development and the impact of any changes. These considerations influence how projects are shaped. For example, the potential to consolidate computer infrastructure into fewer, but larger, data centres could significantly increase carbon emissions, not least because of the resources required to 'pipe' data around the country. To counteract this, the projects looking at data centres are considering migration to the latest, more environmentally friendly, hardware; and the data centre provision itself complies with TIA-942 standards (Telecommunications Industry Association standard for data centres).

Sustainable information and communication technology

77. Environmental sustainability will be a key priority in the Joint Information Systems Committee's (JISC's) new strategy for 2010-12[43]. ICT has a large carbon footprint in UK higher education[44] and JISC has already started to help institutions consider environmentally sustainable ICT practices in a number of ways[45]. JISC's developing programme will help institutions reduce their energy expenditure and carbon emissions directly related to ICT use, and also seek to explore ways that ICT can enable changes in ways of working and campus management that result in reduced energy usage. JISC is also exploring, with the help of its partners and key stakeholders, how the sector's research and innovation agendas can be harnessed to provide solutions across a range of environmental sustainability issues that will benefit not just the higher and further education sectors, but the UK economy as a whole.

Consultation question 2

What should be the key elements of a strategy to support the HE targets and what should be the role of HEFCE, UUK and GuildHE?

Monitoring and reporting

78. We propose that progress monitoring against a sector-level target will be through the Estates Management Statistics, which will be collected by the Higher Education Statistics Agency (HESA) from 2010. Alongside the move to HESA, provision of data on carbon emissions will be mandatory to enable progress to be measured and to inform assessments under the capital investment framework. We will publish progress against the sector-level target annually.

43 For more information, see www.jisc.ac.uk.

44 Source: 'Sustainable ICT in further and higher education', which is available at www.susteit.org.uk under Publications.

45 For more information, see www.jisc.ac.uk under What We Do/Green ICT.

79. With others, HEFCE will continue to develop the Estates Management Statistics and improve guidance where appropriate to ensure that parameters are being measured on a consistent basis. We will ensure that these are aligned with specific current and forthcoming carbon accounting requirements for institutions, such as the EU Emissions Trading Scheme and the Carbon Reduction Commitment. We will also develop new metrics as appropriate, for example, carbon emissions from direct transport emissions for HEIs' own vehicle fleet and transport fuel use, which fall within scope 1.

80. A comprehensive assessment of the sector's carbon footprint would include embedded carbon in, for example, construction and procurement. The SQW report identifies that the baseline is not comprehensive for scope 3 emissions because data were not readily available, in particular procurement. Given that this is an area that is broadly estimated to contribute up to half of all sector emissions, we consider it important to seek opportunities to improve data collection and analysis of this activity so that carbon emissions from procurement can be measured in the future. The Centre of Excellence in Sustainable Procurement (see paragraph 74) will have a role in achieving this. We wish to seek your views on how carbon emissions from procurement could be measured.

Consultation question 3

Do you think that the monitoring and reporting arrangements in relation to the sector-level target are appropriate? How can the measurement of the sector's total carbon emissions be improved?

Carbon management plans

81. This section outlines HEFCE's plans for linking capital funding to performance against carbon management plans, and includes guidance for institutions in developing these plans.

82. HEFCE has already signalled to institutions a more demanding approach to carbon reduction and the need for carbon plans. HEFCE's 2009 grant letter from the Secretary of State asked the Council to establish a link between performance against carbon plans – in effect carbon reduction – and future capital allocations (paragraph 16). This will be achieved by adapting the Capital Investment Framework (CIF). Developed in 2007 to assess the extent to which institutions had a strategic approach to infrastructure planning and investment, CIF lends itself to assessing institutions' processes and performance in reducing carbon emissions. The revised CIF is referred to as CIF2.

Guidance on developing carbon management plans

83. The Carbon Trust's Higher Education Carbon Management Programme[46] helps universities to develop, embed and implement carbon management plans. Sixty-eight UK universities participated in the first four phases of the programme and there are a further 17 institutions participating in phase five. Participants receive consultant support to help analyse their carbon footprint and identify ways of managing carbon emissions, with a particular focus on reducing building and transport-related emissions. Institutions that do not already have a comprehensive approach to managing carbon emissions are advised to consider participating in this programme.

84. Universities are also working towards the Carbon Trust Standard[47], which certifies that an organisation has reduced its carbon footprint and is committed to making further reductions year on year.

85. HEFCE has commissioned good practice guidance on developing carbon management plans. This complements existing guidance and sets out what HEFCE's requirements may be in this area. The draft guidance is at Annex B. We would appreciate your views on the usefulness of this document and any areas where additional guidance is needed. The final

46 For more information see www.carbontrust.co.uk under Solutions/Public Sector Carbon Management.

47 For more information see www.carbontruststandard.com.

guidance will be published by the end of 2009 and institutions that have not yet started to develop carbon management plans are advised to do so.

Consultation question 4

Do you have any comments on the guidance on developing carbon management plans? Is there a need for further support and guidance? If so, what is this?

Linking capital funding to carbon performance

86. The CIF relies on a mix of metrics, information submitted by institutions and our knowledge in order to make a holistic and balanced assessment. The 84 institutions that satisfied the requirements of CIF are now benefiting from a streamlined process for capital funding. In advance of the Government's next Spending Review we will remodel the process with a greater focus on carbon. HEFCE will consult with the sector later in 2009 on the questions we will ask in CIF2. However, we wish to use this consultation to test thinking on requirements in relation to carbon management plans as part of CIF2.

87. Our thinking is that CIF will be adapted as follows:

- the metrics will be expanded to include a further metric on carbon emissions, probably relative to income
- the strategic questions will be amended to include a more specific and demanding requirement in relation to carbon
- institutions will be required to report on progress in implementing the carbon plans, and on the results achieved.

88. HEFCE will not specify how carbon plans should be developed or what they should contain. However, there are a number of key elements that HEFCE will expect to be present in an institution's carbon management plan to satisfy the requirements of CIF2. These are:

a. A carbon management policy or strategy – this could be part of a wider environmental/sustainability policy.

b. A carbon baseline for 2005 which covers all scope 1 and 2 emissions. Institutions are encouraged to measure a baseline for scope 3 emissions and in the longer term we would expect these to be included.

c. Carbon reduction targets. These must:
   - cover scope 1 and 2 emissions, but institutions may choose to set additional targets for wider aspects
   - be SMART (specific, measurable, achievable, realistic and time-bound)
   - be set to 2020, because this is the timescale for interim government targets. Institutions should also set interim targets. The dates for these will be determined by this consultation and consistency across the sector will enable sector-level analysis
   - be publicly available.

d. An implementation plan to achieve carbon emission reductions including timescales and resources. These should cover capital projects and actions to embed carbon management within the institution, for example, through corporate strategy, communication and training.

e. Clear responsibilities for carbon management.

f. A commitment to monitor progress towards targets regularly and to report publicly annually.

g. The carbon management plan, including targets, must be signed off by the governing body.

89. A range of financial and process options would be possible to achieve the required link between performance on carbon and future capital allocations:

Financial options

Option a. **Reduce funding for those who do not satisfy the requirements of CIF.** The level of reduction could in principle vary from, say, 10 per cent to withholding all capital funding. A banded approach, depending on performance, would place greater demands on the CIF process but could be possible.

Option b. **Reduce funding for those who do not satisfy the environmental performance element of CIF.** The CIF process is broader than carbon and

some institutions who are doing good work on carbon reduction may find it difficult to meet the overall requirements of CIF. A pragmatic response to this would be to reduce funding only for those who do not satisfy the environmental requirements of CIF. The level of reduction could vary, as in option a.

Option c. **Increase funding for those who have good or outstanding environmental performance.** The displacement effect would be at the expense of those who do not satisfy environmental standards but a supplement for outstanding performance would encourage and reward leaders and help drive good practice. This may satisfy the grant letter requirement in a manner that is more motivating for institutions.

Option d. **Withhold funding until institutions can demonstrate that they meet the requirements of CIF.** This would not provide sufficient certainty in terms of capital expenditure and may lead to poor value for money from expenditure released later in the funding period. It might also lead institutions to a superficial response.

Process options

Option e. **Require specific and detailed justification for any projects that lead to net increases in floor space from HEIs that appear to have sufficient floor space.** This has been done in the past and can be time-consuming, but in view of the link between floor space, carbon and business viability it may be justified.

Option f. **Require BREEAM attainment to specified levels.** Other funding councils, local authorities and regional development agencies are increasingly making BREEAM standards a requirement. Requiring a specific level of performance could be a helpful catalyst to wider improvement and differential required levels could be used to encourage refurbishment rather than new build, which would in turn have advantages in terms of space efficiency and from the lower levels of embodied energy in refurbishment schemes.

Consultation question 5

HEFCE is required to link capital funding to performance against carbon management plans. Do you have any comments on how we will use CIF2 to assess this and how it should affect capital allocations?

Finalising the strategy

90. We will use feedback to this consultation to agree a strategy for carbon reductions in the higher education sector. This strategy, to be published by the end of 2009, is planned to comprise:

- a sector-level target for carbon reductions that is at least in line with UK targets
- a requirement for institutions to set their own targets against a 2005 baseline. This year is being used as a baseline because it is used for reporting against UK targets, and the SQW report demonstrated that robust data for scope 1 and 2 is available for that year at institutional level. This will provide consistency across the sector against which progress can be monitored and reported
- a commitment from institutions to achieve actual improvements through actions that are appropriate for their institution, recognising the diversity of the sector
- support from HEFCE, UUK and GuildHE for institutions to achieve carbon reductions
- funding incentives – in particular we will link capital funding to performance against carbon management plans
- plans for annual monitoring and reporting on progress against the sector-level target
- a method of regularly evaluating the approach and taking action to learn from progress to date.

Annex A

Issues for consultation and response form: carbon reduction target and strategy

1. Respondents should complete the electronic version of this form, which can be downloaded from the HEFCE web-site, www.hefce.ac.uk, alongside this document under Publications. Text boxes may be expanded to the required length.

2. Completed forms should be e-mailed to sustainabledevelopment@hefce.ac.uk by **Friday 16 October 2009.**

3. We will publish an analysis of responses to the consultation. Additionally, all responses may be disclosed on request, under the terms of the Freedom of Information Act. The Act gives a public right of access to any information held by a public authority, in this case HEFCE. This includes information provided in response to a consultation. We have a responsibility to decide whether any responses, including information about your identity, should be made public or treated as confidential. We can refuse to disclose information only in exceptional circumstances. This means responses to this consultation are unlikely to be treated as confidential except in very particular circumstances. Further information about the Act is available at www.informationcommissioner.gov.uk.

Respondent's details

Are you responding: (Delete one) On behalf of an organisation

As an individual

Name of responding organisation/individual .....

Contact name .....

Position within organisation (if applicable) .....

Contact telephone number .....

Contact e-mail address .....

Consultation questions

Consultation question 1: What should the sector target be for 2020 and 2050 and should there be milestones? If yes, what should these milestones be?

Consultation question 2: What should be the key elements of a strategy to support the HE targets and what should the role of HEFCE, UUK and GuildHE be?

Consultation question 3: Do you think that the monitoring and reporting arrangements in relation to the sector-level target are appropriate? How can the measurement of the sector's total carbon emissions be improved?

Consultation question 4: Do you have any comments on the guidance on developing carbon management plans? Is there a need for further support and guidance? If so, what is this?

Consultation question 5: HEFCE is required to link capital funding to performance against carbon management plans. Do you have any comments on how we will use CIF2 to assess this and how it should affect capital allocations?

Consultation question 6: Do you have any other comments?

List of abbreviations

AUDE	Association of University Directors of Estates
AUPO	Association of University Procurement Officers
BiTC	Business in the Community
BREEAM	Building Research Establishment Environmental Assessment Method
CAPEX	Total capital outlay required
CARES	Campus and Residential Services (Leeds Metropolitan University)
CCA	Climate Change Act 2008
CCC	Committee on Climate Change
CHP	Combined heat and power
CIF	Capital Investment Framework
CO_2	Carbon dioxide
CRC	Carbon Reduction Commitment
CSR	Corporate social responsibility
CUC	Committee of University Chairs
DEFRA	Department for the Environment, Food and Rural Affairs
DECC	Department of Energy and Climate Change
EAUC	Environmental Association for Universities and Colleges
EMS	Estates Management Statistics
EU ETS	European Union Emissions Trading Scheme
HE	Higher education
HECM	Higher Education Carbon Management programme
HEEPI	Higher Education Environmental Performance Improvement project
HEFCE	Higher Education Funding Council for England
HEI	Higher education institution
HESA	Higher Education Statistics Agency
ICT	Information and communications technology
IPCC	Intergovernmental Panel on Climate Change
ISP	Institutional small projects
JISC	Joint Information Systems Committee
KPI	Key performance indicator

KPT	Key performance target
kWh	Kilowatt-hours
LEC	Levy Exemption Certificate
LGM Fund	Leadership, Governance and Management Fund
LPG	Liquefied petroleum gas
MACC	Marginal abatement cost curve
$MtCO_2$	Million tonnes of CO_2
MW	Megawatts
MWh	Megawatt-hours
NUS	National Union of Students
NUSSL	NUS Services Ltd
OPEX	Ongoing operating cost
PV	Photovoltaic
RGF	Revolving Green Fund
RO	Renewables Obligation
SDF	Strategic Development Fund
SMG	Space Management Group
SPG	Strategic Procurement Group
tCO_2	Tonnes of CO_2
UEA	University of East Anglia
UUK	Universities UK
WRI	World Resources Institute

Higher Education Funding Council for England
Northavon House
Coldharbour Lane
BRISTOL
BS16 1QD

tel 0117 931 7317
fax 0117 931 7203
www.hefce.ac.uk