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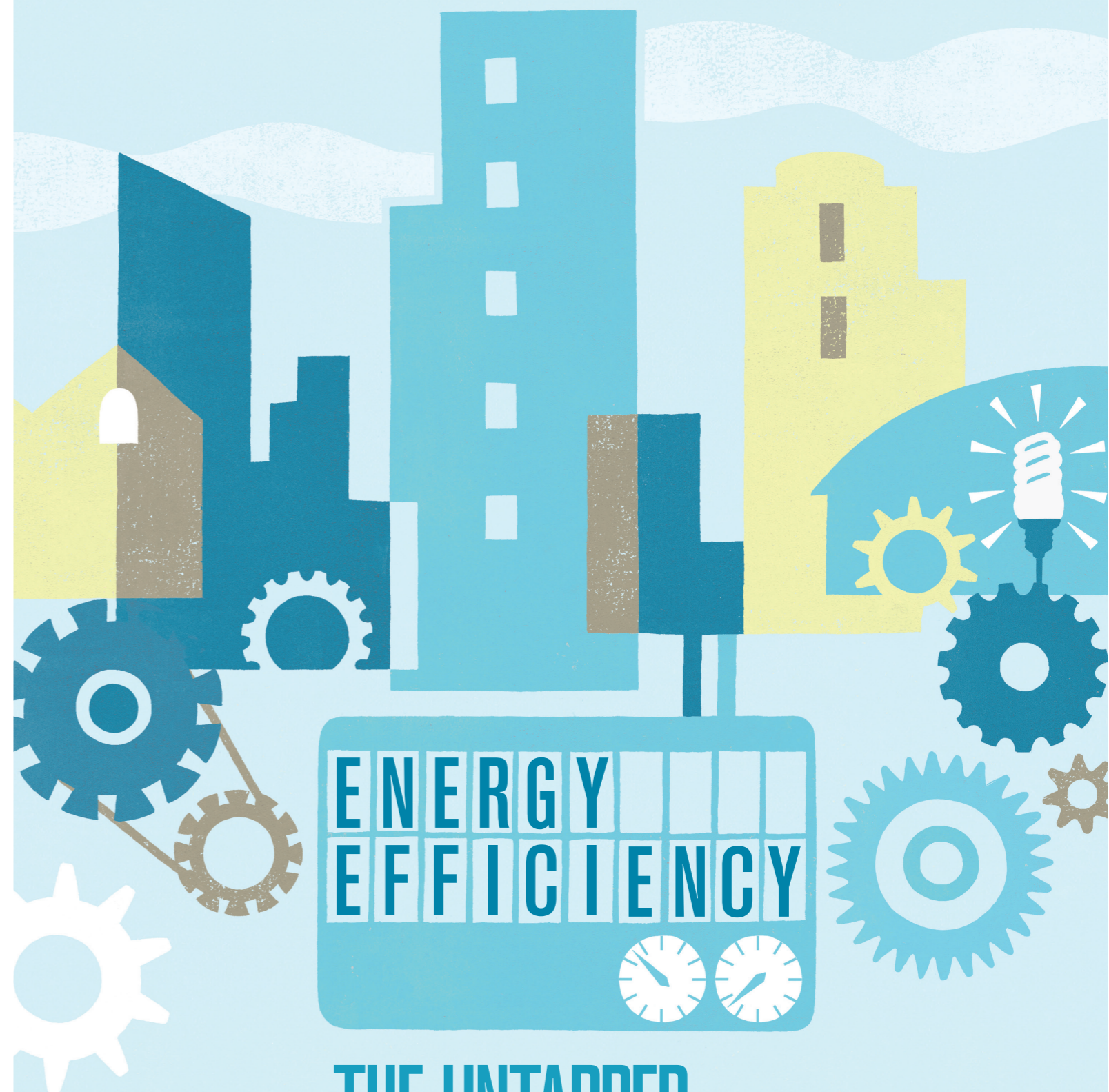
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**THE UNTAPPED
BUSINESS
OPPORTUNITY**

“Energy management is ultimately about behaviour change. We have not yet reached a cultural environment where throwing away energy is considered to be unacceptable”

Steve Wallace, Head of Climate Change and Environment, National Grid

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FOREWORD

The UK is facing a challenging future as many existing power stations are shortly due to close, while the national grid will soon need to adapt to the changing nature of energy supply. Until now, the recession's effect on energy consumption has largely masked the inefficiencies of this system. But if the situation does not improve, future power cuts and energy cost increases will be the inevitable result.

Given this challenge, we undertook a six month inquiry to examine how government and the private sector can work together to secure the UK's power supply, establish an attractive market for investments in energy efficiency and develop a framework to reduce carbon emissions.

Our findings established that poor energy efficiency, currently costing UK business more than £6 billion a year, needs to be tackled immediately. Despite the huge cash and carbon savings available, the private sector has yet to realise the benefits of adopting energy efficient measures. Business now needs the incentive to act and government needs to be ready to help.

To achieve these goals the report supports the introduction of mandatory greenhouse gas reporting for large companies, alongside the development of specific energy management guidance for business. To help make the business case for energy efficiency, the report examines different options to unlock capital and make sure the benefits of improved energy efficiency are understood at board level. In addition, we outline some of the top energy efficiency solutions available on the market and the attractive payback periods that these offer.

Government's role is to develop policy that attracts investment in energy efficiency. At the moment, the majority of incentives are currently focused on renewable energy generation which, although important for the future, ignores the huge role that energy efficiency and reducing energy demand has to play in the UK solution. To kick-start investment in this sector and provide a clear pathway for government and industry to follow, we propose the introduction of an 'Energy Management Hierarchy'.

The findings of this report affect both the public and private interest and we ask that they are carefully considered by government and business alike.

We would like to extend our thanks to Consensus Business Group and Siemens plc for sponsoring this inquiry, and to all the people who generously gave their time and expertise during its course. We would also like to thank the members of the steering group for their valuable input and support. Finally, we would like to extend a special thanks to Tommy Moody for compiling this report.



Lord Teverson
Inquiry Co-Chair



Julius Brinkworth
Inquiry Co-Chair



EXECUTIVE SUMMARY

The Climate Change Act 2008 established a guiding framework for the UK's transition to a low carbon economy, setting legally binding targets to cut emissions by 34% by 2020, and by at least 80% by 2050. Improving the energy efficiency of UK businesses will play a critical role in achieving these targets, reducing overall energy demand and improving the UK's resilience to future energy price rises. The introduction of the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme and forthcoming Green Deal has signaled the Government's intention to establish a comprehensive framework to tackle energy efficiency. But despite this progress, recent data suggests that poor energy efficiency is currently costing UK businesses upwards of £6 billion each year¹.

Despite the attractive payback periods offered by energy efficiency investments, present government incentives are largely focused on the generation of renewable energy supply. Competing core business objectives and a lack of government support has meant that UK businesses are yet to realise the significant cost and energy savings available from improved energy efficiency. As a result, this report proposes the introduction of an Energy Management Hierarchy to inform government energy policy and clearly explain to business the relative importance of taking immediate action to avoid and reduce emissions at source. Various financing options that can make energy efficiency projects easier to capitalise are discussed, alongside the skill sets and energy management frameworks necessary to realise emission reductions. In addition, the report addresses guidance and support frameworks to ensure that energy efficiency is addressed by the UK's 4.8 million small businesses and within the non-domestic building stock. Taken together, these measures should ensure the development of a thriving market for investments in energy efficiency that would greatly enhance the UK's security of energy supply and resilience to energy price shocks.

A Hierarchy for Energy Management

Government should focus on aligning current and future policy with the priorities outlined in an Energy Management Hierarchy. Such focus would ensure a coherent approach to investment in both energy efficiency and clean energy technologies such as renewables. This should provide market certainty to industry of future government policy and support, catalysing the private sector investment required for the successful transition to a low carbon economy. The hierarchy would also provide a recognised framework to inform the energy management decisions and opportunities faced by UK businesses.

Recommendation 1

Government should deliver energy policy in line with the priorities outlined in an Energy Management Hierarchy.

¹ Environment Agency (2010) 'Greener Business' report

Greenhouse Gas Reporting and Management

Greenhouse gas (GHG) reporting and management is a crucial component of emission reduction strategies, enabling businesses to identify opportunities for improvements and demonstrate environmental performance to consumers and shareholders. The introduction of a mandatory reporting requirement for large companies from 2012 will be an essential step if the UK is to develop a comprehensive framework for emissions data and successfully decarbonise its economy. This mandatory reporting requirement should be coupled with the shift to a common framework for businesses to use when reporting their GHG emissions, reducing the complexity of current reporting standards and enabling effective comparisons to be made between organisations. Finally, voluntary agreements should be developed in conjunction with trade associations and bodies such as the Technology Strategy Board to enable sector-by-sector comparison of GHG emissions and the development of targeted advice and guidance.

Recommendation 2

Government should introduce a mandatory greenhouse gas reporting requirement for large companies from 2012. Any extension to this mandatory requirement should be proportionate and consistent with existing reporting requirements.

Recommendation 3

Government should develop a single framework for UK businesses to use to report their greenhouse gas emissions. This could be based on the 2009 Defra/DECC 'Guidance on how to measure and report your greenhouse gas emissions'.

Recommendation 4

Voluntary agreements should be developed in conjunction with trade associations and the Technology Strategy Board to enable sector-by-sector comparisons of greenhouse gas emissions.

Skills and Frameworks for Energy Management

An Environmental Management System (EMS) is a structured framework increasingly used by businesses to address and manage their impact on the environment. Various EMS elements can be used to support energy and GHG management and identify potential improvements. The inquiry heard that there is significant potential for government to better support and endorse these standards through the procurement process.

Making the business case for energy efficiency investments is also contingent on enabling the individuals responsible for energy management to be represented at senior management level. To achieve this, a non-executive director should take responsibility for raising energy saving opportunities at board level. This would raise awareness of the attractive returns offered by energy efficiency investments amongst business leaders and increase the uptake of related projects.

To achieve the organisational behaviour change needed to realise energy savings, easily digestible information and guidance on energy efficiency needs to be made available and disseminated throughout UK business. Targeted energy management guidance should be developed by government to support the introduction of an Energy Management Hierarchy and promote wider business awareness of related regulation and investment opportunities.

Recommendation 5

Businesses should ensure that a non-executive director takes responsibility for raising energy saving opportunities at board level.

Recommendation 6

Government should develop guidance for businesses specifically focused on energy management priorities. This could accompany the transition of environmental guidance from NetRegs to centralised business websites.

Financing Energy Efficiency Projects

Energy performance contracting can make energy efficiency projects easier to capitalise by providing access to upfront capital. These projects can deliver significant savings on energy consumption and improved system performance. To combat the lack of large-scale demonstration projects in the UK, government should pilot a new-build energy performance contract to highlight the considerable savings that can be achieved through this model. Government could further reduce the risk to potential investors in energy efficiency projects by working with the insurance industry to develop suitable low cost insurance policies.

The inquiry identified a current gap in the market for funding low-to-medium value energy projects to the value of £250,000. Expanding the Carbon Trust 0% business loan scheme to capture projects of this size should help to close out this gap. This scheme should be made available to all companies.

In addition to these financing mechanisms, the inquiry identified financial incentives that could be implemented to further the case for investments in energy efficiency projects. For example, a tax break on business rates could be applied to organisations that achieve significant energy efficiency savings. The Department for Communities and Local Government should be consulted on the potential to offer such tax rebates.

Recommendation 7

Government should pilot a new-build energy performance contract to demonstrate the energy savings achievable through this model.

Recommendation 8

Government should work with the insurance industry to develop suitable low cost insurance policies for energy efficiency projects.

Recommendation 9

Government should expand the Carbon Trust 0% business loan scheme to capture energy efficiency projects of up to £250,000 and make this scheme available to all companies.

Recommendation 10

The Department for Communities and Local Government should be consulted on the potential to offer local tax rebates to businesses that improve their energy efficiency.

Engaging SMEs

Support to tackle the energy efficiency of the UK's 4.8 million small businesses is currently largely confined to the Carbon Trust 0% business loan scheme and voluntary contributions from energy suppliers. The forthcoming Green Deal will provide a significant opportunity to implement energy efficiency packages in many of these small businesses, in addition to domestic properties. It is imperative that government develops a robust system for targeting small and medium-sized enterprises (SMEs) under the scheme, through collaboration with trade associations, banks and the Office of Government Commerce.

The stimulus to the Carbon Trust interest free loan scheme should also be expanded to ensure the continued uptake of energy saving measures by SMEs over the coming decade. This could be achieved by increasing government funding for the scheme, or introducing private sector capital.

Recommendation 11

Government should ensure that a robust system is developed for targeting SMEs under the Green Deal. This could include collaboration with trade associations, banks, and the Office of Government Commerce.

Recommendation 12

Government should increase the stimulus to the Carbon Trust interest free loan scheme for SMEs. This could be achieved by increasing government funding or introducing private sector capital.

A Greener Building Stock for Business

A lack of incentives to implement energy efficiency improvements is currently stifling investment in the UK's non-domestic building stock. To overcome this deficit the Enhanced Capital Allowance scheme should be reformed to allow tax allowances to be transferable between landlords and tenants. This would encourage investment in energy saving measures by tax-exempt property funds which own significant commercial property holdings but are presently excluded from the scheme.

The Government's Feed-in Tariff (FiT) scheme for low carbon electricity generation has provided a further opportunity to green the UK's building stock through the development of renewable energy projects such as solar photovoltaics (PV). The development and publication of a standard contract for these projects should serve to drive investor confidence and alleviate concerns regarding commercial lease structures in the UK. Government should also work to establish comprehensive insurance packages for these projects that cover equipment, support infrastructure and building damage.

Recommendation 13

Government should amend the Enhanced Capital Allowance scheme to make tax allowances formally transferable between landlords and tenants.

Recommendation 14

Government should work with industry bodies such as the British Property Federation and UK Green Building Council to develop a standard form contract for renewable generation projects in the commercial property sector.

Recommendation 15

Government should work with the insurance industry to establish insurance packages for renewable generation projects in the commercial property sector. These should cover project equipment, support infrastructure and maintenance.

METHODOLOGY AND STEERING GROUP

Carbon Connect carried out this inquiry between September 2010 and February 2011. Three inquiry sessions were held in parliament, bringing together a wide range of industry representatives, policy makers and other key stakeholders. Chaired by Lord Teverson and Julius Brinkworth, these inquiry sessions were complemented by follow-up interviews with key stakeholders, the submission of written evidence, and desk-based research. A steering group of senior industry representatives supported the inquiry and helped inform its direction.

The findings and policy recommendations in this report are based on the witness statements heard in the inquiry sessions, in-depth interviews and written submissions, but do not necessarily reflect the opinions of individual witnesses, participants or steering group members.

Please see below for details of the inquiry sessions held, members of the steering group, and the inquiry witnesses and contributors.

Inquiry Sessions

Session I: 6 October 2010	Energy Efficiency
Session II: 13 October 2010	Energy Supply: New Opportunities for Business
Session III: 3 November 2010	Finance and Implementation

Steering Group

Stephen Barker	Head of Energy Efficiency and Environmental Care, Siemens plc, Industry Sector UK
John Cox CBE	Chairman, UK CEED
Steve Evans	Professor of Lifecycle Engineering, Cranfield University
Richard Haycocks	Director, Corporate Finance, Consensus Business Group
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Phil Kirby OBE	Director, Policy Connect
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Steven Fawkes	Head of New Energy and Clean Tech Research, Matrix Group Ltd.
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Mark Fraser	Global Portfolio Manager, Sustainability, BSI
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Tom Leveridge	Policy Adviser, Confederation of British Industries
Chris Naish	Principal Consultant, AEA Technology
Jeff Nash	Head of Programme Management, BT Property
Stuart Pocock	Technical Director, Renewable Energy Association
Taco de Vries	Senior Manager, Accenture
Steve Wallace	Head of Climate Change and Environment, National Grid

1 INTRODUCTION

Greenhouse gas (GHG) emissions will need to be substantially reduced over the next decade, in order to set the UK on a low carbon trajectory and meet national carbon budget targets². Central to this will be improving the energy efficiency of UK businesses, which could save the private sector substantial sums while closing the gap between UK energy supply and demand. At present, this opportunity is not being seized.

Until now, the low price of carbon and energy has meant that the issue of energy efficiency has largely remained off the radar for many businesses. But cost increases are fast-approaching. The introduction of carbon taxation schemes such as the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme, and the pressing need to upgrade UK power stations and grid capabilities, means that the cost of poor energy efficiency is set to escalate over the coming decade. According to recent findings by the Environment Agency, poor energy efficiency is currently costing UK businesses more than £6 billion a year. This figure is only set to rise, as Ofgem estimates that energy prices could climb by over 40% in real terms over the coming decade³. Such substantial sums represent lost profit, hitting the bottom line of the UK private sector. Given that improving energy efficiency not only makes financial sense, but is also crucial to ensuring security of energy supply, a substantial opportunity is currently being missed.

Recent policy drivers suggest that the issue of improving energy efficiency is starting to be recognised as a key component of national climate change policy. For example, the introduction of the CRC Energy Efficiency Scheme (a mandatory energy saving scheme) has been designed to improve energy efficiency and reduce the emissions from large public and private sector organisations. In addition, the Coalition Government's Green Deal, set to be launched in 2012, will provide an opportunity to roll out energy efficiency packages to small and medium-sized businesses alongside domestic properties. The government's response to the current consultation on electricity market reform (EMR) will provide further scope to catalyse this momentum.

However, to successfully build upon such progress and transform energy efficiency into an attractive investment, government needs to establish a coherent support framework. This report proposes the introduction of an Energy Management Hierarchy to inform carbon and GHG strategies and to provide a clear message to industry of the relative importance of avoiding and reducing emissions at source. The streamlining of policy in line with the priorities outlined in this hierarchy should provide greater certainty of future government support, helping to catalyse short-term investment from the private sector.

Despite the attractive rate of return for investments in energy efficiency projects, the present balance of government subsidies is heavily skewed in favour of renewable energy generation. Addressing the balance of these incentives to stimulate investment in energy efficiency would result in greater monetary and carbon savings for business.

² The Climate Change Act 2008 set a legally binding target to cut emissions by 34% by 2020, and by at least 80% by 2050
³ Ofgem (2009) 'Project Discovery'

A thriving market for energy efficiency investments will also be needed to help balance the frequency of the national grid and reduce exposure to unforeseen spikes in demand and generation unavailability. Incentives should therefore be put in place for companies to address not only *how much* energy they use, but also *when* this energy is used⁴. Such incentives could build on new load management contracts that are being offered to business by the National Grid to help balance variations in system demand⁵. The development and expansion of incentives for efficient and flexible energy demand should therefore form a key component of government policy.

It is imperative that government recognises the huge potential for energy efficiency to improve security of national energy supply. This value should be accurately reflected in both policy and public procurement contracts. By addressing this imbalance between energy supply and energy demand, government has the opportunity to create a stronger, large-scale energy efficiency industry.

⁴ The potential to offer capacity payments to large energy consumers for each 'negawatt' of capacity they turn off during periods of peak demand is contained in the DECC (Dec 2010) Consultation Document on 'Electricity Market Reform'.

⁵ Further information on load management contracts is available at:
<http://www.nationalgrid.com/uk/Electricity/Balancing/services/frequencyresponse/>

2 A HIERARCHY FOR ENERGY MANAGEMENT

“Electricity market reform represents a once in a generation opportunity to ensure energy demand is put on a level playing field with energy supply. Doing so will unlock the largest, least costly, most environmentally friendly resource for meeting energy services we have – energy efficiency.”

Steven Fawkes, Head of New Energy & Clean Tech Research, Matrix Group

A significant opportunity exists to streamline the delivery of government energy policy. At present, UK businesses face a complex web of regulation and incentives targeting both energy demand and energy supply. To combat this, the Department of Energy and Climate Change (DECC) should introduce an Energy Management Hierarchy⁶. This would provide a clear pathway of sequential steps that business can take to develop a rigorous system for energy management. In the same way that the waste hierarchy framework has become a cornerstone of sustainable resource policy (by ranking waste management options in order of environmental impact) an Energy Management Hierarchy should be used to inform opportunities for tackling energy demand and GHG emissions.

By delivering current and future energy policy in line with the priorities outlined in this hierarchy, government could also provide a more equitable distribution of incentives for investment in energy efficiency and renewable energy generation. Indeed, at present, few incentives are in place to support business to reduce their carbon emissions and improve energy efficiency beyond low cost loan schemes. The introduction of an Energy Management Hierarchy should ensure a balanced approach to energy management, whereby the UK maximises its chances of successfully meeting challenging national carbon budget targets.

2.1 The Energy Management Hierarchy

Avoid	Eliminate GHG emissions when organisations change business model, rationalise or move premises.
	Adopt new business models and products or services.
Reduce	Reduce total energy usage and improve energy efficiency.
	Reduce energy usage at peak times.
Substitute	Adopt renewable and low carbon technologies.
	Target suppliers, goods and services with lower embodied emissions.
Compensate	Investigate carbon offsets and compensate for unavoidable emissions.

The Energy Management Hierarchy provides a framework for government and industry to tackle carbon and GHG emissions through four sequential steps: avoidance, reduction, substitution and compensation. As organisations may be faced with numerous opportunities to tackle carbon and GHG emissions at any one time, there is a need to better support efforts at the top of this hierarchy. Indeed, in most instances, strategies to ‘avoid’ and ‘reduce’ represent the most cost effective way with which to tackle carbon and GHG emissions.

Avoid

Action at this level of the hierarchy entails taking measures to ‘avoid’ greenhouse gas emissions at source through the adoption of new business models and services that seek to eliminate unnecessary energy consumption. For example, a business may choose to avoid emissions by using video conferencing facilities instead of travelling.

Reduce

Following avoidance measures, businesses should identify opportunities to ‘reduce’ their energy usage through improved energy efficiency. Low cost energy efficiency solutions such as energy efficient lighting are explored in greater detail in section five of this report. Such investments typically offer attractive payback periods and can deliver significant energy and cost savings, alongside improved corporate reputation.

⁶ The Energy Management Hierarchy developed in this report builds on ‘The Greenhouse Gas Management Hierarchy’ developed in a recent report by the Institute of Environmental Management and Assessment: IEMA (2010) ‘Special Report – GHG Management and Reporting’

Moreover, the increase of renewable energy production and the need to replace much of the current UK generation infrastructure means that *when* electricity is used is also becoming increasingly important. This is due to the fact that at certain times of the day National Grid needs access to extra sources of power to deal with circumstances of unforeseen demand and generation unavailability. The National Grid is therefore encouraging business to help balance these requirements and reduce exposure to energy demand fluctuations by offering load management contracts. These include load shedding, stand-by generation and frequency response contracts, which help to balance the overall frequency of the national grid. Such contracts provide a new revenue opportunity for business and require only minor adjustments to existing building management controls.

Substitute

Having taken steps to 'avoid' and 'reduce' GHG emissions, businesses may also choose to 'substitute' emissions through investment in renewable or low carbon technologies. In addition to providing an alternative to carbon intensive fossil fuels, renewable energy generation can also provide new revenue streams for business. As discussed in the final chapter of this report, attractive business opportunities have been stimulated in this sector through the introduction of the Feed-in Tariff (FiT) scheme for low carbon electricity generation.

Compensate

Finally, attempts to 'compensate' for unavoidable emissions should be explored, such as the purchasing of credits from a verifiable emissions reduction project⁷. However, action at this level should not be taken in isolation of those measures outlined higher up the Energy Management Hierarchy.

Recommendation 1

Government should deliver energy policy in line with the priorities outlined in an Energy Management Hierarchy.

⁷ Further information on purchasing carbon offsets is available at: <http://www.businesslink.gov.uk/bdotg/action/detail?itemId=1080454525&type=RESOURCES>

3 GREENHOUSE GAS REPORTING AND MANAGEMENT

“You cannot manage energy if you don't measure it first.”

Malcolm Fergusson, Head of Climate Change, Environment Agency

3.1 A Framework for Greenhouse Gas Reporting

As highlighted in a recent report by the Department for Environment, Food and Rural Affairs (Defra), emissions reporting is a key part of a wider jigsaw that enables organisations to successfully tackle GHG emissions and make the business case for energy efficiency investments⁸. This process is crucial to identifying opportunities to avoid and reduce GHG emissions, as outlined in the Energy Management Hierarchy (see page 17). Accurate emissions reporting can also improve the corporate reputation of an organisation, by allowing both shareholders and consumers to accurately assess environmental performance. Thirdly, emissions reporting and management can act as a key driver of organisational behaviour change, focusing senior management on identifying opportunities for efficiency improvements and developing the skill sets necessary to deliver these.

The inquiry identified that various drivers currently exist to initiate GHG reporting and energy management within UK businesses. For those not yet active in energy management, regulation is usually the greatest driver of action. In particular, the CRC Energy Efficiency Scheme (a mandatory scheme for large non energy-intensive organisations) was noted as having raised the corporate profile of energy management.

For larger, external facing organisations that are already active in GHG reporting, astute energy management offers a means to differentiate a business from its competitors and provide a clear signal to external stakeholders that the issue of climate change is being taken seriously. This can also reduce an organisation's exposure to risks such as future energy price fluctuations. Corporate reputation is therefore a prominent driver amongst organisations where reporting and management have become embedded within business practice.

However, despite these drivers, a recent study by Deloitte found that only 9% of 100 listed companies disclosed data in line with current government guidance for emissions reporting⁹. In recent years, voluntary reporting initiatives such as the Carbon Disclosure Project have made significant strides in encouraging businesses to measure

⁸ Defra (Nov 2010) 'The contribution that reporting of greenhouse gas emissions can make to the UK meeting its climate change objectives – A review of the current evidence'

⁹ Deloitte (2010) 'Carbon reporting to date: seeing the wood from the trees'

and disclose their GHG emissions and climate change strategies. Nevertheless, the shift to a common framework for reporting GHG emissions data amongst UK businesses now requires a step-change in current GHG reporting and management practices.

To achieve this, the inquiry heard that GHG reporting should become a mandatory requirement for large companies from 2012. Many of these organisations already have experience in measuring and disclosing their GHG emissions under schemes such as the CRC and EU Emissions Trading System (EU ETS), and as such represent the logical first step for a mandatory reporting requirement. Any extension to this mandatory requirement should be proportionate and consistent with existing reporting requirements, to avoid creating yet another layer of complexity for businesses. Indeed, for many small and medium-sized enterprises (SMEs), support may be better directed through voluntary reporting, loans and guidance schemes, as discussed later in the report.

Recommendation 2

Government should introduce a mandatory greenhouse gas reporting requirement for large companies from 2012. Any extension to this mandatory requirement should be proportionate and consistent with existing reporting requirements.

In the long term, the roll-out of a mandatory reporting requirement should be coupled with the shift to a single framework for UK businesses to use to report their GHG emissions. At present, numerous sets of guidance, schemes and standards exist to support organisations in implementing GHG reporting and energy management systems¹⁰. These include the 2009 Defra/DECC 'Guidance on how to measure and report your greenhouse gas emissions', alongside reporting requirements under regulated schemes such as the CRC and EU ETS. It was acknowledged that the wide range of these reporting practices can lead to difficulties in evaluating the relative performance of businesses in reducing their carbon footprints.

Due to its significant uptake within industry, it was noted that a mandatory reporting requirement could be based on the 2009 Defra/DECC reporting guidance. A comprehensive survey of members of the Institute of Environmental Management and Assessment (IEMA), carried out by 1,674 practitioners in the field, revealed that 70.8% had utilised this guidance to inform their GHG footprinting and reporting. As such, this could provide the basis on which a future mandatory reporting standard is based. Taken together, these steps should serve to facilitate a level playing field for businesses and increase the corporate appetite for investment in energy saving programmes.

¹⁰ A full list of guidance, standards and schemes to support GHG management and reporting can be found in the IEMA (2010) 'Special Report – GHG Management and Reporting', p20.

Recommendation 3

Government should develop a single framework for UK businesses to use to report their greenhouse gas emissions. This could be based on the 2009 Defra/DECC 'Guidance on how to measure and report your greenhouse gas emissions'.

In tandem with a mandatory requirement for GHG emissions reporting and shift to a single framework for reporting, government should also take steps to enable effective emissions comparisons to be made between businesses on a sector-by-sector basis. The inquiry heard that this could be achieved by developing voluntary agreements with trade associations to facilitate comparisons through metrics specific to each industry. It was identified that the Technology Strategy Board is also in a position to help disseminate sector-specific guidance and best practice through the use of Knowledge Transfer Networks (KTNs). KTNS are charged with the objective of increasing the breadth and depth of knowledge transfer throughout UK based businesses, and as such represent an appropriate forum for developing sector-specific guidance.

An example where a sector-specific approach to energy efficiency targets has already been successful is that of the Master Bakers Climate Change Levy Discount scheme. Under the scheme, bakers that meet energy reduction targets for the sector are eligible for an 80% discount on the Climate Change Levy; an energy tax that typically adds 15% to energy bills. By setting an overall energy efficiency target for craft bakeries and retail bakery shops, an industry benchmark has been created that has served to drive energy efficiency improvements throughout the sector. This sector target was agreed by Defra in conjunction with the National Association of Master Bakers and the Scottish Association of Master Bakers.

Recommendation 4

Voluntary agreements should be developed in conjunction with trade associations and the Technology Strategy Board to enable sector-by-sector comparisons of greenhouse gas emissions.

4 SKILLS AND FRAMEWORKS FOR ENERGY MANAGEMENT

“Energy management requires professional roles. The CRC was great for Sony because it brought our organisation together. We now share information and have two energy managers who are subject matter experts.”

Dave Kelly, Engineering & Projects Manager, Facilities, Sony Europe

4.1 Environmental Management Systems

Effective GHG reporting and management is contingent on the development of specific frameworks and skill sets within businesses, as well as the coordination of relevant stakeholders. To this end, the inquiry identified that an Environmental Management System (EMS) can provide a robust framework for monitoring environmental impacts, setting targets and reporting on performance. This can improve an organisation’s engagement with employees, customers and clients, whilst enhancing corporate reputation by demonstrating conformity with supply chain requirements. In addition, various EMS elements can be used to actively support energy and GHG management including:

- Establishing energy or GHG commitments within environmental policy
- Identifying energy and emissions as significant ‘environmental aspects’
- Energy or GHG reduction targets or objectives
- Monitoring and measurement against performance
- Training, awareness and communication with staff
- Audit process and annual management review

EMS certification schemes emerged in the 1990s and have seen widespread use and continued growth in recent years. Recent research confirms this trend, with the uptake of EMS certificates increasing by 28% over the last two years¹¹.

In particular, it was heard that ISO 14001, an internationally recognised standard that sets out a framework for putting in place an effective EMS, has seen significant uptake from industry in recent years. This is supported by data compiled by IEMA, which shows that between 2008 and 2010, ISO 14001 certificates in the UK increased by nearly 30% to over 8,500. This growth in ISO 14001 certificates demonstrates the potential for utilising an EMS as the basis for an effective GHG management strategy across a number of large businesses.

11 In September 2010 IEMA collected data from UKAS accredited certification bodies and compared to an earlier 2008 survey. From data received the figure for ISO14001 certificates issued in the UK stood at 8648 at the end of June, an increase of 28% - <http://www.iema.net/news/envnews?aid=19818>

In addition the inquiry discussed the development of standards specific to energy management such as the European Energy Management Standard BS EN 16001. This provides a specific framework for the management of an organisation’s energy, targeting enhanced energy efficiency and a reduction in GHG emissions. Adoption of the standard has been shown to help companies improve their energy measurement and to identify new opportunities for reducing energy consumption and saving money. This can be an important step for businesses in meeting the legislative requirements of schemes such as the CRC and in demonstrating energy management best practice to external stakeholders.

For small or medium-sized enterprises it was heard that the BS 8555 Acorn Scheme represents a flexible standard with which to evaluate and improve environmental performance. This is a phase-based approach for organisations to achieve either ISO 14001 or certification under the Eco-Management and Audit Scheme (EMAS)¹².

Given the energy savings that can be realised through a successful environmental or energy management system, the inquiry noted the potential for government to better support and endorse these standards through the procurement process. With an annual public sector spend in excess of £220 billion, procurement is a powerful lever that can sit alongside more traditional fiscal measures to reduce emissions and drive innovation. This represents a significant opportunity to encourage government to recognise the long term value of using less energy. As with management systems for quality (ISO 9001) and environment (ISO 14001), government departmental procurement advice that scores certified suppliers higher, has been shown to be a strong additional incentive to improving firms’ performance.

12 Further EMS information is available from the Institute of Environmental Management and Assessment – www.iema.net/ems

ROLLS-ROYCE

CASE STUDY

An Environmental Strategy

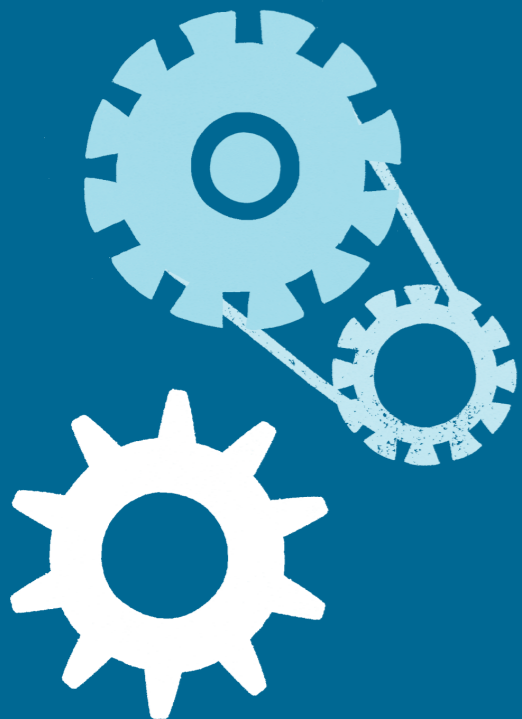
Rolls-Royce has certification to ISO 14001 across all its businesses and first achieved ISO 14001 in 1999. The Group has now developed an overarching environmental strategy:

- 1) maintaining the drive to reduce the environmental impact of its business activities
- 2) further reducing the environmental impact of its products
- 3) developing entirely new low emission and renewable energy products

Through a combination of energy efficiency measures, process emissions reduction and the use of lower-carbon electricity where available, the Group reduced GHG emissions from its business activities by around 36% on an absolute basis between 1998 and 2009 (during which time turnover increased by 132 percent).

Having successfully reduced the greenhouse gas intensity of its business activities by nearly two-thirds over the past decade, Rolls-Royce is increasingly pursuing an environmental strategy focussing on business activities, current product lines and future product concepts.

Further information can be found on the company's website:
www.rolls-royce.com/sustainability/reporting



4.2 Skills for Energy Management

The inquiry found that effective energy management requires a wide range of skills to be developed by sustainability professionals. These include GHG reporting, setting targets for improvements and identifying opportunities for energy saving. However, these skill sets can be difficult to coordinate when responsibilities for energy management are split between various internal roles. As not all organisations have the resources to appoint a dedicated energy manager, different people with different skill sets will often pick up this position at different times. Further, energy managers may not have the skills, or confidence, to successfully put forward energy efficiency proposals to senior management.

Energy management is therefore a broad responsibility that needs to be integrated throughout a business, with guidance and education scalable to different levels. Where upfront investment in these skills can be supported, energy management roles may be professionalised and serve to drive wider understanding of energy-saving activities.

The inquiry heard that enabling individuals responsible for energy management to be represented at board level is crucial to making the business case for energy saving projects. However, at present, these views are often not adequately represented. A recent survey by IEMA confirmed that 42% of practitioners active in GHG management and reporting felt that a 'lack of board level or senior management support' was limiting progress in reducing carbon and GHG emissions¹³.

To combat this, the inquiry heard that a non-executive director (NED) should take responsibility for raising energy saving opportunities at board level. This would allow energy efficiency to be better integrated into the development of business strategies and assessed as a key performance characteristic in financial reporting. A NED could also seek to ensure that opportunities for addressing energy efficiency are examined during key decision-making processes such as planning and asset renewal. This will be essential given that with the growth of carbon taxation and emissions trading schemes, it is likely that companies will increasingly be required to disclose environmental risk as a key component in the narrative section of their financial statements. For those businesses without non-executive directors it was noted that a main board director could assume this role.

Recommendation 5

Businesses should ensure that a non-executive director takes responsibility for raising energy saving opportunities at board level.

4.3 Information and Guidance

In addition to difficulties in raising the importance of energy efficiency at board level, the inquiry found that wider information regarding the need to tackle poor energy efficiency in businesses is currently lacking. Currently, the majority of information and guidance on energy efficiency is created by legal professionals for the purpose of regulatory compliance.

Often this advice is not easy to digest and may not paint a clear picture of the full range of incentives and regulation currently facing UK businesses. It was therefore identified, that in tandem with the introduction of a hierarchy for energy management, the dissemination of information highlighting the importance of energy efficiency should be a priority for government.

NetRegs is a partnership between the UK environmental regulators, comprising the Environment Agency (EA) in England and Wales, the Scottish Environment Protection Agency (SEPA), and the Northern Ireland Environment Agency (NIEA). NetRegs provides free guidance on environmental regulatory compliance for small and medium-sized businesses throughout the UK. This information is currently being transferred to centralised business websites in order to create a more comprehensive source of environmental guidance for businesses¹⁴. As part of this transfer of information, it was identified that these centralised websites should develop focused guidance to support the introduction of an Energy Management Hierarchy. This should clearly outline current government regulation and incentives, detailing how these relate to the energy management decisions faced by businesses.

Whilst NetRegs currently provides information for businesses relating to laws on energy efficiency and consumption, there is a need for this to be clearly structured in relation to an Energy Management Hierarchy.

Recommendation 6

Government should develop guidance for businesses specifically focused on energy management priorities. This could accompany the transition of environmental guidance from NetRegs to centralised business websites.

14 NetRegs environmental guidance will move into the Environment and Efficiency sections of the following business websites:

1. www.businesslink.gov.uk – England
2. www.nibusinessinfo.co.uk – Northern Ireland
3. www.bgateway.com – Scotland
4. www.business.wales.gov.uk – Wales

5 FINANCING ENERGY EFFICIENCY PROJECTS

Investment in energy efficiency represents a good financial opportunity for most businesses. Recent analysis by Carbon Trust Advisory Services confirms that many energy efficiency projects offer attractive payoffs, with an average internal rate of return (IRR) of 48% per annum and payback within three years¹⁵. However, these projects compete for finance with other core business initiatives and are not currently targeted by sufficient government incentives and support programmes. As a result, energy efficiency has not gained sufficient momentum as a viable business investment, despite the fact that an average IRR of 48% per annum is likely to outperform many other business investments.

Establishing a clear return on investment for energy efficiency projects is therefore crucial to delivering finance at board level. Whilst energy costs may not represent the highest costs faced by an organisation, embracing energy saving opportunities can bring a number of ancillary benefits. These include reducing the risk of energy price shocks, improving corporate reputation, changing user behaviour and increasing staff productivity.

5.1 Energy Efficiency Solutions

The inquiry identified that low cost energy efficiency solutions such as automatic monitoring and targeting equipment, lighting controls, variable speed drives and voltage optimisation units can lead to significant energy and cost savings for businesses. Furthermore, many of these energy efficiency solutions have payback periods of less than one year, and require relatively small capital expenditure.

According to the Carbon Trust, a typical large organisation can save an average of 15% on its annual energy bill through the use of these energy efficiency solutions¹⁶. In many cases these savings may be significantly higher. For example, Premier Decorations (see the case study on page 28), were able to achieve a 74% energy saving through the use of a specialist lighting scheme in their warehouse in Wrexham.

So far, however, the uptake of such energy efficiency solutions by business is lacking. For example, less than 40% of the 15,000 organisations working with the Carbon Trust have implemented these cost-effective measures in their existing buildings¹⁷. The uptake of guidance and practical support for such energy saving solutions therefore needs to be drastically scaled up.

15 Carbon Trust Advisory Services (2010) 'The Business of Energy Efficiency'

16 Ibid. p2

17 Carbon Trust (2009) 'Building the future today: Transforming the economic and carbon performance of the buildings we work in'

PREMIER DECORATIONS

CASE STUDY

Specialist Lighting Scheme

Luxonic Lighting recently provided a specialist lighting scheme for Premier Decorations' warehouse in Wrexham utilising OSRAM's highly efficient fluorescent tubes and control gear. As a result, the warehouse now saves £67,000 on annual energy expenditure and has reduced its CO2 emissions by 271 tonnes.

Premier Decorations is the country's leading importer of Christmas Decorations as well as Summer and Halloween products. Its 262,000 square foot warehouse in Wrexham requires a significant number of light fittings, but recently it recognised that the cost of running the lighting scheme was one of the largest overhead costs. Consequently, Premier Decorations turned to Luxonic Lighting for a more efficient solution. The brief was straightforward:

- 1.Reduce electricity consumption
- 2.Reduce CO2 emissions
- 3.Improve the quality of the working environment

Luxonic was able to dramatically reduce the energy consumption of the lighting scheme by utilising the latest lighting solutions. Based on a conservative occupancy level of 58%, running costs are reduced to £23,000 instead of £90,000 and the power consumption is now 212 KWh compared to 830KWh previously.

In addition to the improvements in efficiency, the new fittings provide an improved light colour that has enhanced the quality of the working environment.

Overall, Luxonic achieved a 74% energy saving for Premier Decorations by using OSRAM's highly efficient tubes and control gear with an expected payback period of only 1.49 years. The £67,000 annual cost reduction and 271 tonnes annual CO2 saving prove that a small investment in a new lighting scheme can reap significant benefits over the long-term.

Key Features:

- Annual cost savings: £67,000
- Annual CO2 savings: 271 tonnes
- Payback period: 1.49 years



5.2 Energy Performance Contracting

The inquiry identified various financing models that can make energy efficiency projects easier to capitalise by providing access to upfront capital. In particular, the UK market for energy performance contracting was discussed. Under such a contract the investment for capital improvements is paid for through the savings created over a set period, with an Energy Service Company (ESCO) delivering savings on energy consumption and improved system performance. This model can provide a good premise on which to build a wider investment case for energy efficiency improvements. This approach has seen particular success in the United States of America, where numerous public sector buildings have been successfully retrofitted to substantially reduce operating costs.

However, the lack of large-scale demonstration projects in the UK has led to a mixed understanding of both energy performance contracts and the potential cost savings to be realised through these models. As a result, building services consultants and contractors in the UK will tend to utilise standard solutions that deliver a lower, but tested revenue stream. Greater clarity regarding the definition of an energy performance contract and the financing models available for these projects is therefore needed. To achieve this, the inquiry heard that government should pilot a new-build energy performance contract to demonstrate the energy savings that can be achieved through this model. By defining a robust set of metrics for these projects, this pilot should serve to increase the corporate appetite for performance contracting and drive the standardisation of contracts within the UK market.

Recommendation 7

Government should pilot a new-build energy performance contract to demonstrate the energy savings achievable through this model.

The inquiry heard how energy usage is a further variable in energy efficiency projects that can create substantial risk to investors. The energy usage of facilities is based on assumptions of predicted energy demand. However, in many instances, these values may not be static. It was therefore agreed that government should work with the insurance industry to develop suitable low cost insurance policies for energy efficiency projects. This would reduce the potential risk faced by investors in cases where demand for heat, power and energy may vary unfavourably.

Recommendation 8

Government should work with the insurance industry to develop suitable low cost insurance policies for energy efficiency projects.

5.3 Energy Efficiency Loans

The inquiry identified that there is a current gap in the market for financing low-to-medium value energy efficiency projects to the value of £25,000 - £250,000. As energy saving projects tend to be relatively small-scale and numerous in nature, few private sector funders are prepared to incur the transaction costs associated with these projects. As a result, institutional investors are largely focused on securing iconic investments in large-scale energy efficiency contracts.

The inquiry heard that the Carbon Trust 0% business loan scheme should be expanded to make loans of up to £250,000 available to all companies. At present, the Carbon Trust's loan scheme is only available to SMEs, which by EU definition excludes organisations with an annual turnover exceeding approximately £42.5 million. Making an expanded loan scheme available to all companies should serve to help close the present gap in the market for funding low-to-medium value energy efficiency projects. This expanded scheme could also include longer-term loans, repaid over a period of more than four years, or allow a proportion of loans to be 'recycled' i.e. allow the money that is paid back to be used to finance new loans. This should enable businesses to carry out more substantial energy efficiency upgrades over time and would provide a substantial additional stimulus to the scheme.

Recommendation 9

Government should expand the Carbon Trust 0% business loan scheme to capture energy efficiency projects of up to £250,000 and make this scheme available to all companies.

5.4 Financial Incentives

In addition to the financing mechanisms discussed in this report, the inquiry identified further financial incentives that could be implemented to help make the business case for energy efficiency projects. It was heard that the Department for Communities and Local Government (DCLG) should be consulted on the potential to offer local taxation offsets to businesses that achieve energy efficiency savings. This would provide an additional financial driver for organisations to take energy saving actions and would help raise the corporate profile of energy efficiency within the boardrooms of UK businesses. For example, a discount on business rates could be linked to achieving improved energy efficiency under a recognised standard for environmental management, or to a building performance metric such as a Display Energy Certificate (DEC).

Given the current diversity of standards, guidance and schemes for tackling GHG emissions it was acknowledged that a system linking business rates to energy efficiency improvements should be flexible in application and scalable to different organisational sizes. In the long term such an incentive should be aligned with the shift to a common framework for GHG reporting and management.

For a system linked to a building performance metric such as a DEC, a reduction in business rates could be linked to A-rated buildings, with a sliding scale of discounts applied to lower ratings. This should serve to transparently increase the value to property owners of investing in more energy efficient buildings.

Recommendation 10

The Department for Communities and Local Government should be consulted on the potential to offer local tax rebates to businesses that improve their energy efficiency.

6 ENGAGING SMEs

Around 4.8 million small businesses currently operate in the UK, accounting for approximately 45% of total business energy consumption and employing nearly 60% of the private sector workforce¹⁸. However, at present, these organisations are not driven to save energy through any comprehensive system of regulation or incentives. A lack of capital, awareness and resources, means that taking energy saving actions and changing user behaviour can be extremely difficult for SMEs. At present, support in this sector is heavily reliant on voluntary contributions from energy suppliers, with further assistance offered by the Carbon Trust. Encouraging small companies and single building owners to invest in energy efficiency can also be very difficult, given that energy costs may represent a small element of business overheads. Energy saving programmes in this sector should therefore be targeted through a combination of financial support, advice, and practical steps to implementation.

6.1 SMEs and the Green Deal

The inquiry heard that government should seek to establish a robust system for targeting SMEs under the Green Deal scheme. The Green Deal represents the Coalition Government's new initiative to support the implementation of energy efficiency packages in households and small businesses. Under the scheme energy suppliers will be required to help deliver energy efficiency improvements in UK households, and small businesses, with the cost of upgrades paid for through the expected savings generated on energy bills.

The low interest loans awarded through the scheme should allow small businesses to boost their energy efficiency without harming balance sheets. To maximise the effectiveness of the scheme it was heard that such organisations should be targeted through a sector-based strategy involving collaboration with trade associations, to provide more focused implementation support and advice. Grouping and targeting these organisations by variables such as sector, business type and company size should allow energy suppliers to maximise energy saving opportunities.

The inquiry also heard that there is potential for banks and the Office of Government Commerce to communicate the benefits and details of the Green Deal by engaging with SMEs. For example, Lloyds Banking Group has recently announced its intention to work with its one million SME customers, many of whom are keen to take out loans to invest in energy efficient products and services. In addition, it was acknowledged that the Office of Government Commerce has significant potential to help disseminate information regarding the Green Deal through the support it provides to SMEs on their engagement with the procurement process.

Recommendation 11

Government should ensure that a robust system is developed for targeting SMEs under the Green Deal. This could include collaboration with trade associations, banks, and the Office of Government Commerce.

6.2 Low Cost Loans

The inquiry noted that the Carbon Trust 0% loan scheme had been successful in providing business loans, currently between £3,000 and £100,000, to SMEs to implement energy saving projects. Anticipated energy savings offset repayments on these loans so that new equipment should pay for itself and continue to deliver savings in the future. These loans are government funded and unsecured, with repayments taking place over a period of up to four years.

Crucial to this loan scheme has been the confidence small businesses have shown in the Carbon Trust, owing to the organisation's image as an independent consultant. The administrative assistance provided by the Trust in implementing projects has reduced the organisational burden traditionally placed on small organisations. The success of the scheme is demonstrated by National Audit Office data that suggests 94% of businesses involved would not have purchased energy saving equipment without the funding provided by the Carbon Trust¹⁹. Given the success of these loans, the inquiry noted the urgency to extend the stimulus of the scheme. This could be achieved by increasing government funding for the scheme or introducing private sector capital.

Recommendation 12

Government should increase the stimulus to the Carbon Trust interest free loan scheme for SMEs. This could be achieved by increasing government funding or introducing private sector capital.

18 Department for Business, Enterprise & Regulatory Reform Enterprise Directorate (January 2009) 'SMEs in a Low Carbon Economy'

19 Carbon Trust (2009) 'Building the future today: Transforming the economic and carbon performance of the buildings we work in', p105

THE CAVAN BAKERY

CASE STUDY

The Business Case

At 80 years old, The Cavan Bakery in Hampton Hill, Middlesex, which employs 33 people, contains a lot of history. Until 2008, that included its two gas ovens, installed in 1946 and 1948. The ovens were “massively inefficient”, according to the bakery’s managing director Jeff Greenall – they lost a large amount of heat, and relied on two electric steam water boilers, which required frequent and expensive maintenance. Replacing the ovens, though necessary, was a big decision. Having the originals removed was an expensive proposition in itself, both in terms of labour and lost income.

Having read about the Carbon Trust in the monthly bulletin of the National Association of Master Bakers, Jeff applied for an interest-free Energy Efficiency loan, and received the £31,000 needed to buy a new steam oven.

The Technology

Having recognised that it needed either a dramatic refurbishment or new premises, The Cavan Bakery was aware that improving efficiency would require a serious revamp of the premises. The bakery was closed for two months while the ovens were removed and a new one, with a larger capacity than both its predecessors combined, was installed. The new oven creates its own steam, allowing the bakery to get rid of the water boilers, creating far more working space and removing the need for new premises. It also guarantees significant electricity and gas savings. As the new oven loses far less heat, and there are no electric boilers powering it, the bakery is saving 1,000 units of gas and 500 units of electricity each month. In total, the business has cut its gas consumption by 75% – enabling it to counter rising energy costs, and therefore helping it ride out the current financial difficulties. The bakery’s next focus is on finding an affordable, energy efficient alternative to its delivery vans.

Key Features

- Size of loan: £31,000
- Annual energy savings: 12,000 units of gas and 6,000 units of electricity
- Annual CO2 savings: 81.2 tonnes
- Loan payback: 36 months

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7 A GREENER BUILDING STOCK FOR BUSINESS

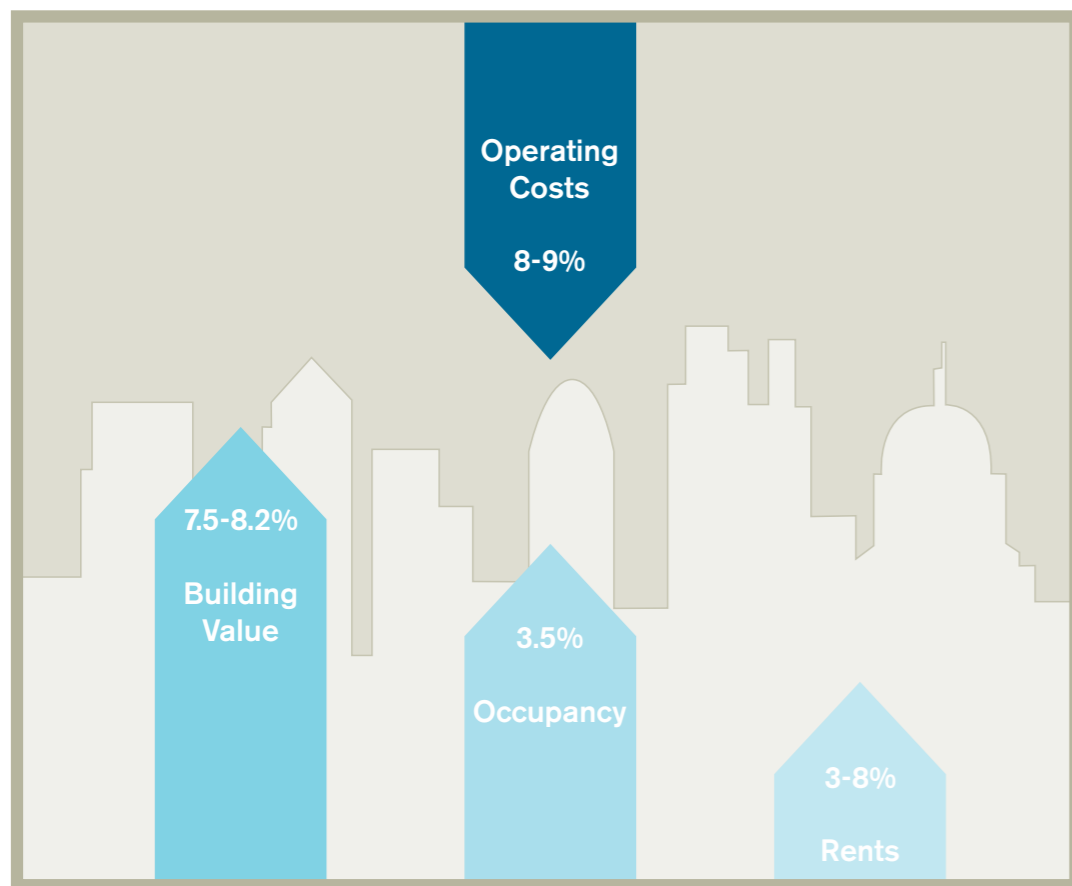
7.1 The Benefits of Sustainable Buildings

The carbon emissions from non-domestic buildings are responsible for approximately 18% of the UK’s total. If national CO2 emissions are to be successfully cut by 80% by 2050, all new and existing buildings will need to become zero carbon within the next 40 years. Given that a significant proportion of businesses occupy rented premises, this will require significant investment on the part of property developers and institutional investors.

Property values over the next decade are expected to soon reflect the energy and carbon intensity of buildings. As highlighted in figure 7.1.1 (see page 36), research suggests that investing in green building improvements, such as energy efficiency and on-site renewable energy generation, can raise the value of a property by 7.5% - 8.2%. Furthermore, institutional investors are starting to view buildings certified by a recognised performance certificate as having a lower long term risk of void occupancy periods. The benefits of investment in sustainable real estate also extend to include wellbeing factors such as improved productivity and employee sickness reduction.

Nevertheless, to date, it has been difficult to translate these findings into a hard business case for investment. Investment has been further restricted as a result of many UK landlords being tax-exempt property funds which do not qualify for use of Enhanced Capital Allowances (ECAs) for energy saving improvements. In addition, the trend towards shorter leases in the commercial property sector has made it difficult for tenants to recover investments in energy efficiency through reduced energy bills. Consequently, many property developers, investors and occupiers are not currently incentivised to address energy efficiency within their property holdings.

7.1.1 The Value of Sustainable Buildings



Source: EC Harris/BRE 'Red to Green Conference,' Paris, April 2009

7.2 Investing in Energy Efficiency

To kick-start investment in this sector, the inquiry examined Enhanced Capital Allowances; highly advantageous tax allowances that are available in relation to two specific categories of environmental improvements to properties:

1. New unused energy-saving plant or machinery (from an approved list of items)
2. New unused environmentally beneficial plant or machinery (from an approved list of items).

ECAs permit the person bearing the cost of the plant and machinery (whether landlord or tenant) to off-set 100% of qualifying expenditure against their taxable profits. Alternatively, if that person is a company which is loss-making, they may elect to receive a payment of 19% of the expenditure made (up to a maximum of £250,000 per year, or the payroll tax bill of the company; whichever is lower). These payable allowances are expensive to HMRC and therefore their application is currently restricted and not claimable by property funds with tax-exempt status. Given that these property funds have significant commercial property holdings this restriction has resulted in low uptake of the scheme.

It was heard that one practical suggestion for any tax-exempt property funds wishing to have let properties upgraded to a more energy efficient status would be for them to offer a contribution to tenant's costs by way of a temporary reduction in rent. This would enable the tax allowances to be fully claimed by the tenant.

However, in order to maximise the uptake of energy efficiency investments by property owners, these tax allowances could be made formally transferable between tenants and landlords, including tax-exempt property funds. This would allow for situations where offering a rent reduction to a tenant may not be practical, such as during a rent free period at the beginning of a lease or where a regular rental stream from the property is required by the landlord's own lenders. By bringing tax-exempt property funds into the scheme, investment in energy efficiency improvements in commercial property holdings could be dramatically increased, resulting in substantial CO2 emission reductions in the UK's non-domestic building stock.

Recommendation 13

Government should amend the Enhanced Capital Allowance scheme to make tax allowances formally transferable between landlords and tenants.

7.3 Coupled Investment in Renewable Energy

In order to meet medium to long-term emission reduction targets, energy efficiency solutions will need to be coupled with the generation of low carbon and renewable energy supply. Accordingly, the inquiry examined the opportunities for investment in renewable energy stimulated by the introduction of Feed-in Tariffs. The FiT scheme, which became active on 1 April 2010, has provided a financial incentive to invest in low carbon electricity generation technologies of less than 5MW. In particular, attractive opportunities have been created for investment in solar photovoltaics (PV) and small-scale wind projects.

The inquiry heard how the introduction of FiTs has served to drive interest around the potential for rooftop installation of renewable generation projects in the commercial property sector. These projects are being considered as a long term investment by an increasing number of property owners, with roof space being leased to an accredited installer of renewable generation technologies. There are different formats that such a project may take but property owners will typically receive the benefit of either rental payments, FiT revenue or subsidised energy supply. The scheme therefore provides an additional incentive for landlords and tenants to engage in a constructive dialogue to examine how they might mutually benefit from such projects. At present, however, barriers such as commercial lease structures and the insurance of renewable generation kit are preventing the widespread development of these projects.

Commercial property can broadly be divided into owner occupied property and property subject to a lease. Whilst owner occupiers have flexibility to deal with their property as they choose, current market forms of lease will typically require the agreement of both a landlord and tenant in order to install renewable generation technologies. Furthermore, a 20-25 year project life for FiT projects may not be easily accommodated by these lease structures. As a result, the installation of renewable generation technologies will be far easier with new-build properties or buildings due to undergo major refurbishment.

To address this, the inquiry found that the development and publication of a standard form contract for renewable generation projects in the commercial property sector would serve to drive investor confidence by developing a market norm for rented premises. This could be developed by government with appropriate industry bodies such as the British Property Federation and the UK Green Building Council. The renting of commercial roof space to develop solar PV projects is a common practice in much of Europe and this experience should be built upon whilst taking into account issues specific to the UK market.

Recommendation 14

Government should work with industry bodies such as the British Property Federation and UK Green Building Council to develop a standard form contract for renewable generation projects in the commercial property sector.

A further concern highlighted by the inquiry was that renewable generation technologies may be developed without adequate insurance provision to cover installed kit, support infrastructure and structural damage caused to the buildings on which these projects are developed. It is not yet fully understood how any structural damage caused to a property by a FiT project might impact on agreements such as pre-existing building insurance.

One agreement that may simplify such insurance issues for commercial premises is utilising a form of Consumer Credit Agreement for FiT schemes. Under this scheme, the ownership of project kit such as a PV array would be transferred to a property owner outright or, alternatively, leased to the owner. The property owner would then be entitled to receive FiT payments. The cost of kit and installation (plus an appropriate margin) would be recouped by the provider through debt re-payments funded out of the FiT revenue. The key to this agreement is that ownership of the kit by the property owner means that existing building insurance is more likely to cover the project and potential damage to support infrastructure. This has the advantage of simplicity in denoting responsibility for project insurance and provides a clear incentive to property owners through receipt of FiT payments.

Recommendation 15

Government should work with the insurance industry to establish insurance packages for renewable generation projects in the commercial property sector. These should cover project equipment, support infrastructure and maintenance.

GLOSSARY OF TERMS

This glossary of terms defines what we mean by some of the phrases used in the report:

BS EN 16001

A standard specifying the requirements for an energy management system, with a specific focus on improving energy efficiency and identifying significant areas of energy consumption.

BS8555 Acorn Scheme

A standard for the phased implementation of an environmental management system, ideal for small and medium-sized businesses.

Carbon dioxide equivalent (CO₂e)

A universal unit of measurement used to indicate the global warming potential of a greenhouse gas. This is expressed in terms of the global warming potential of one unit of carbon dioxide.

Carbon Reduction Commitment (CRC) Energy Efficiency Scheme

A mandatory scheme to improve energy efficiency and cut CO₂ emissions in large public and private sector organisations in the UK.

Eco-Management and Audit Scheme (EMAS)

A voluntary initiative designed to improve an organisation's environmental performance.

Energy Management Hierarchy

A framework developed to guide government policy and the energy management strategies of business, in line with four sequential measures: avoidance, reduction, substitution and compensation.

Environmental Management System (EMS)

A structured framework for managing an organisation's impacts on the environment. This will typically include business waste, emissions, energy use, transport and consumption of materials.

Energy Service Company (ESCO)

A business that develops, installs and finances projects designed to improve energy efficiency, often featuring renewable and low carbon energy sources.

EU Emissions Trading System (EU ETS)

A European cap and trade scheme to help the EU meet its greenhouse gas emission targets under the Kyoto Protocol.

Greenhouse gases (GHGs)

GHGs in this report refer to the gases covered by the Kyoto Protocol: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆).

Internal Rate of Return (IRR)

A rate of return used to measure and compare the profitability of investments.

ISO 14001

An international standard specifying the requirements for an organisation to establish, implement and improve an environmental management system, including compliance with related legal requirements.

NetRegs

A source of free environmental guidance for small and medium-sized businesses in the UK. The information provided by NetRegs is currently being transferred to centralised business websites²⁰.

Non-Executive Director (NED)

A member of the board of directors of a company, who does not form part of the executive management team.

Private Sector

The private sector is defined in this report as businesses that are not owned or operated by the government. Domestic households are not contained within this definition.

Small and medium-sized enterprise (SME)

An enterprise that employs fewer than 250 full-time equivalent employees and has an annual turnover not exceeding £42.5 million and an annual balance sheet total not exceeding £36.5 million.

²⁰ Further information on this transition is available at:
<http://www.netregs.gov.uk/netregs/help/124894.aspx>

CARBON CONNECT

Carbon Connect is an independent not-for-profit coalition, which seeks to examine the key challenges and opportunities resulting from the UK's transition to a low carbon economy. By facilitating a creative dialogue between policy makers and industry we aim to enable progressive policy-making and the exchange of ideas across industry sectors.

With special thanks to Anna Carter and Peter Janoska.