



Promoting and Improving Energy Efficiency in the Public Sector

Project Brief, December 2007

Audit Scotland is undertaking this study on behalf of the Accounts Commission (based on the provisions in section 97A of the Local Government (Scotland) Act 1973, 'The Commission shall undertake or promote comparative or other studies designed to enable it to make recommendations for improving economy efficiency or effectiveness in the provision of services by local authorities or by other bodies...') and the Auditor General for Scotland (under the Public Finance and Accountability (Scotland) Act 2000 Section 23, Economy, efficiency and effectiveness examination).

Audit Scotland is a statutory body set up in April 2000. It provides services to the Accounts Commission and the Auditor General for Scotland. All of Audit Scotland's work in connection with the 32 councils, fire and police services is carried out for the Accounts Commission. All of Audit Scotland's other work is undertaken for the Auditor General who reports to the Scottish Parliament.

Introduction

1. Demand for energy¹ is increasing rapidly. Most energy is currently sourced from the burning of fossil fuels which releases carbon dioxide (CO₂) and other greenhouse gas emissions into the earth's atmosphere. Evidence indicates that this process strengthens the greenhouse effect and causes the earth's climate to change unnaturally. It is widely recognised that improving energy efficiency is the easiest and most cost-effective way to reduce CO₂ emissions.² There are also other benefits to improving energy efficiency: public services are delivered at lower cost; industry and society can achieve more with less energy; and fuel poverty is reduced.
2. The public sector is expected to play an exemplar role in reducing greenhouse gas emissions through the implementation of various actions, including energy efficiency measures.³ This study will examine how well local authorities, NHSScotland and central government bodies are promoting and improving energy efficiency across their own estates.

Current legislative and policy background

3. There have been a number of international and domestic actions undertaken to improve energy efficiency (Exhibit 1).

Exhibit 1: International and Domestic Energy Policies

Year	Energy policy	Summary
2007	EC Energy Policy	Proposes a common European energy policy which will set two targets: reducing greenhouse gas emissions by 30%; and improving energy efficiency by 20% by 2020.
2007	UK Energy White Paper	Sets out the measures to improve energy efficiency through better information, incentives and legislation.
2007	Energy Efficiency and Microgeneration Strategy for Scotland (draft for consultation)	Sets out the Scottish Executive's ⁴ aims for improving energy efficiency and encouraging greater uptake of microgeneration within the public, business and domestic

¹ Sources of energy are coal, oil, gas, nuclear and renewables. Natural gas, oil and electricity are the predominant forms of energy delivered to end-users (Scottish Energy Study Volume I)

² Source: Energy Efficiency and Microgeneration Strategy (draft for consultation) Scottish Executive, March 2007

³ Source: Scotland's Climate Change Programme, Scottish Executive, March 2006

⁴ Prior to September 2007 the Scottish Administration was generally referred to as the Scottish Executive. It is now called the Scottish Government. When dealing with the earlier period this brief refers to the Scottish Executive but in all other instances it refers to the Scottish Government.

		sectors. This strategy was developed by the previous administration.
2006	Scotland's Climate Change Programme	Sets out the policies that will reduce greenhouse gases and help to deliver the Kyoto commitment and help to achieve the UK domestic goal of reducing CO ₂ emissions. There is clear acknowledgement in the Programme that energy efficiency can play a significant role in providing for Scotland's future energy needs and reducing carbon emissions.
2005	Scotland's Sustainable Development Strategy	Within the context of building a sustainable future, the strategy acknowledges the link between climate change and the way energy is generated and used. In particular, it highlights that energy efficiency is a priority for Scotland due to its expected contribution to meeting climate change targets.

4. In addition to these overarching policies, there is more specific legislation which directly impacts the public sector and its promotion of energy efficiency (Appendix 1).

Why Audit Scotland is undertaking this study

Energy related emissions are a major source of greenhouse gases which contribute to climate change

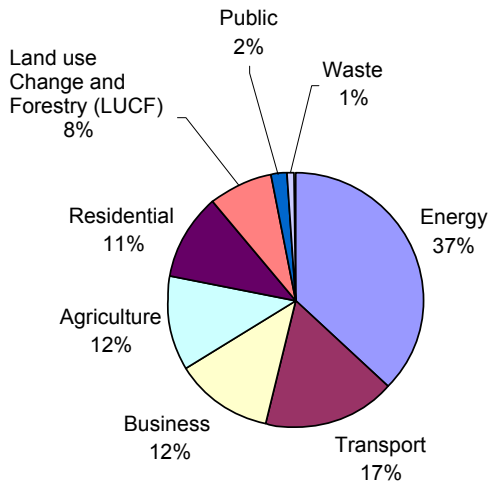
5. It is now recognised that climate change is one of the most serious threats facing the world today. It poses major risks to existing physical, biological and socio-economic systems. The publication of the Stern Review⁵ in October 2006 confirmed the seriousness of the threat of climate change to the global economy. A key conclusion of the Review was that in the long-term, the cost of inaction would be far higher than the cost of tackling climate change now.
6. The UK is currently responsible for about 2% of global emissions, with Scotland accounting for around 0.2% of global greenhouse gases. While this may be viewed as a small proportion of overall emissions, the major developed economies are responsible, collectively, for approximately three quarters of the increase in greenhouse gas

⁵Source: Stern Review on the Economics of Climate Change, October 2006.

concentrations following industrialisation.⁶ The UK has a legally binding target to reduce emissions by 12.5% below 1990 levels between 2008 to 2012 under the Kyoto Protocol agreement (which came into force in 2005). As part of Scotland's Climate Change Programme, a new approach was developed to quantify the contribution required to match the carbon savings from all devolved policies in the UK Climate Change Programme on a per capita basis. This is known as the Scottish Share and has been calculated at around 1.7 million tonnes of carbon (MtC) in annual savings by 2010. A Scottish Target has been set to exceed the Scottish Share by 1 MtC in 2010.

7. Carbon dioxide is the most important of the greenhouse gases in terms of its contribution to climate change. Around 7 billion tonnes of CO₂ is emitted globally each year through fossil fuel use. Scotland's contribution of total net emissions of CO₂ accounted for 7.9% of the UK total (554.2 Mt CO₂) in 2005. CO₂ emissions in Scotland fell 12.5% (from 49.95 Mt CO₂ to 43.70 Mt CO₂) between 1990 and 2005⁷.
8. The energy supply sector (which includes power generation and refineries etc) continues to be the greatest source of emissions (Exhibit 2), mainly due to electricity generation and oil refining.

Exhibit 2: Sources of all emissions in 2003⁸



Source: Scotland's Climate Change Programme

⁶ Source: UK Government Draft Climate Change Bill Consultation Document, March 2007

⁷ Source: Greenhouse Gas Inventories for England, Scotland, Wales and Northern Ireland: 1990 - 2005

⁸ Takes no account of emissions removed from the atmosphere by forests and soils

The public sector is expected to lead by example in promoting and improving energy efficiency

9. There is currently no robust national data available on public sector energy consumption and expenditure. However, it is estimated that the annual spend is at least £160 million, resulting in emissions of over 1 Mt CO₂ each year⁹. The Scottish Government has stated that it is vital that the public sector leads by example in promoting and improving energy efficiency. In addition to delivering more cost-effective services, the public sector can influence the behaviour of individuals and organisations through various approaches including, sustainable procurement strategies, sharing good practice, and training and education. All of these activities will contribute to the achievement of the UK target established under the Kyoto Agreement and the underlying domestic targets.

A range of initiatives have been introduced to promote and improve energy efficiency in the public sector but progress is unclear

10. A number of initiatives and measures have been put in place to encourage energy efficiency within the public sector:
 - The Central Energy Efficiency Fund
 - o This fund of £20million¹⁰, provided over 2004-2005 and 2005-2006, is expected to help local authorities, NHSScotland and Scottish Water reduce CO₂ emissions through the implementation of energy efficiency measures across their own estates.
 - Environmental Performance of Public Bodies Initiative
 - o In 2004, Scottish Executive Non-Departmental Public Bodies (NDPBs) and agencies were required to undertake audits with a view to developing environmental management policies which include specific environmental targets. These targets address areas such as energy use, waste minimisation, use of recycled materials, travel, water use, procurement and biodiversity.
 - Local Authority Climate Change Programme

⁹ Estimates collated from various Health Facilities Scotland and Scottish Government sources (does not include figures for central government bodies and FE/HE sectors)

¹⁰ In 2007, an additional £4 million was made available to support energy efficiency measures in the further and higher education sectors.

- In 2007, all 32 local authorities signed up to Scotland's climate change declaration, demonstrating their commitment to undertake actions to mitigate and adapt to climate change.
11. In addition to the above initiatives, there is a range of advice and support¹¹ which is available to the public sector including: energy management guidance; carbon management programmes; and greener travel guidance.
 12. Robust energy efficiency targets have not been consistently identified for all areas of the public sector. There is also variation in relation to the mandatory requirement to report both internally and centrally on performance, and the maturity of performance monitoring procedures (where these are in place).
 13. The Central Energy Efficiency Fund (CEEF) is the main mechanism through which the majority of public sector organisations have implemented energy efficiency projects. A review of the Fund was recently undertaken within the local authority sector, and it was concluded that it has been effective in terms of carbon and financial savings. However, it was noted that a number of local authorities had not yet applied for CEEF funding which suggests a variation in the level of energy efficiency activity. Anecdotal evidence suggests that this is also the case within NHSScotland.

There is great public interest in tackling climate change and an Audit Scotland study can contribute to the public debate

14. There is currently great media and public interest in tackling climate change, and the UK and Scottish Governments are focusing much attention on the development of policies and targets to mitigate and adapt to our changing climate. It is well documented that energy efficiency can make a critical contribution to address both the issues of climate change and security of the energy supply.
15. The Scottish Government acknowledges the important role that the public sector should play in not only contributing to the achievement of national targets, but also, due to its scope and size, in influencing the behaviour of others and setting an example to which other sectors, communities and individuals can follow.

¹¹ The Carbon Trust and Energy Saving Trust are the main sources of advice and support.

16. This is the first study that Audit Scotland has undertaken in this area, providing a timely review of progress made by the public sector, examining how individual organisations have developed these principles into action, what progress has been achieved and identifying areas of good practice. A number of mechanisms have been put in place to support the public sector in meeting these challenges. This study will look at how effectively this support has been used to make progress.

17. The Scottish Government recently announced its intention to develop a Scottish Climate Change Bill which will set new demanding targets to reduce CO₂ emissions and introduce a robust accountability framework. Consultation on the Bill is not expected until January 2008 (at the earliest).

Aims and objectives

18. The overall aim of the project is to assess the performance of public sector bodies in improving their energy efficiency. By gathering and analysing key information, the study will review the performance of local authorities, NHSScotland and central government (including agencies and NDPBs) in promoting and improving energy efficiency, and identify ways in which further improvements can be made.

19. The key objectives of the study are:
 - To assess whether public bodies demonstrate sufficient commitment to, and set an example in, improving energy efficiency
 - To examine whether public bodies are performing well against their objectives, plans and targets for improving their energy efficiency
 - To identify whether public sector bodies exhibit best value and deliver continuous improvement in their efforts to improve energy efficiency

Project scope, methodology and potential impact

Scope

20. This study will look at the performance of local authorities, NHSScotland and central government bodies in promoting and improving energy efficiency within their own estates. We will examine the approaches taken to achieving energy savings, looking at various aspects including: the presence of strategies, key targets and action plans; accountability

for, and commitment to, improving energy efficiency; and inclusion of energy efficiency appraisal processes during project development.

21. Performance against energy efficiency objectives and targets will also be reviewed to identify progress made within and across the various public sector organisations. We will also analyse the use of funding and advice to determine the contribution made by these initiatives towards improving energy efficiency performance across the public sector.
22. This study will also assess to what extent the public sector demonstrates continuous improvement in relation to energy efficiency. This will involve: evaluating the use of benchmarking and sharing of good practice; assessing the mechanisms for performance management; and examining approaches to best value review.

What the study won't review

23. The project will not consider:
 - the effectiveness of bodies such as the Carbon Trust and the Energy Saving Trust in promoting energy efficiency. The Scottish Government is currently undertaking a review of the impact and effectiveness of energy efficiency and microgeneration support provided to the domestic, private and public sectors. This work will help inform the future direction of energy efficiency policy in Scotland. We will, however, take the findings of the review into account in looking at how public bodies have utilised external support to help implement their own energy efficiency measures.
 - the success of local authorities in improving energy efficiency across all tenures of housing stock, as required under the Home Energy Conservation Act (HECA). The Scottish Government is planning to undertake its own review of what has been achieved through implementation of HECA.
 - schemes such as Warm Deal and Scottish Community and Householder Renewables Initiative (SCHRI). While these schemes have an indirect impact on energy efficiency within domestic and community settings, they are primarily intended to tackle fuel poverty.
 - energy efficiency in the higher and further education sectors. CEEF funding has only recently been extended to include these sectors. We have also just published a report on higher education estates management¹² and a financial overview of further education colleges is currently underway. However, it is

¹² Estate Management in Higher Education, Audit Scotland, September 2007

anticipated that the lessons learned from this study and the resulting recommendations will be transferable to these sectors.

Diversity and equalities issues

24. As this study is focusing on the public sector estates specifically, there are no diversity and equality issues included in the study.

Methodology

25. There will be a number of sources of information for this study. A high level survey will be conducted across all local authorities, NHSScotland and central government bodies to provide a baseline view of energy efficiency activity. A sample of 15-20 organisations from across these three sectors will also be identified to carry out further detailed analysis.
26. Detailed analysis will consist of visits to the sample sites to follow-up on the information provided in the survey returns. A range of interviews will be held with operational and management staff, supplemented by a review of core documented evidence. This will allow a more comprehensive analysis of performance, identifying areas of good practice and potential barriers to improving performance.
27. We will also draw on external reports which make specific reference to energy consumption (and energy emissions) within the public sector.

Potential impact

28. It is anticipated that the findings of the study will:
- Provide a comprehensive review (the first of its kind) of the progress made by the public sector in promoting and improving energy efficiency. The study will compare sectors, highlighting any variation in progress and identifying the reasons for this.
 - Highlight examples of good practice that can be shared and used across the public sector to aid progress.
 - Raise the profile of energy efficiency, highlighting the benefits, including the environmental impact and the potential financial savings that can be achieved through adopting good practice.
 - Highlight any potential barriers to future progress in energy efficiency activity across the public sector.

Links to other work

29. The study has links with other Audit Scotland activities and other organisations:

- In September 2007, Audit Scotland published a report on waste management, which had a particular focus on the sustainable use of resources and a reduction in CO₂ emissions.
- Audit Scotland is planning to publish a review of major capital projects, and a report on improving the Scottish school estate, in spring 2008. Both of these reports will include consideration of environmental sustainability issues. In addition, an environment overview report is scheduled to be published in winter 2008/2009. There are also asset management studies planned in the NHS and local government sectors. These two studies currently do not intend to address energy efficiency, but they are still subject to scoping.
- The study will refer to the work of other scrutiny bodies, including: the National Audit Office which has recently conducted studies to look at the value for money of the Carbon Trust and DEFRA's promotion of household energy efficiency; and the Wales Audit Office which published a report in March 2007 on the management of energy and water in Welsh local government.
- The study will also take into account the work of the Sustainable Development Commission, which now undertakes an annual assessment of progress against the objectives set out in Choosing Our Future: Scotland's Sustainable Development Strategy. The study will also make reference to the first annual report on progress against Scotland's Climate Change Programme (published March 2007) and the work currently being conducted on behalf of the Scottish Government to review the energy efficiency and microgeneration support and advice available in Scotland.

Project staffing and resources

30. The project will be managed by Susan Lovatt, Project Manager (Central Government) with support from: a Performance Auditor to assist primarily during the fieldwork stage; and a Project Officer to assist in the analysis of survey returns. External Consultants will be commissioned to provide support to the project team, particularly in relation to the

review of strategic documents. The project will be carried out under the general direction of Graeme Greenhill, Portfolio Manager (Central Government).

Project outputs and target timescales

31. We plan to publish a report and present it to the Scottish Parliament Audit Committee in the autumn of 2008. Additional outputs will be considered as the study progresses. The draft timetable for the project is as follows:

- Project brief: December 2007
- Developing the methodology (including piloting): December 2007 - January 2008
- Data collection and analysis: January – May 2008
- Report drafting and clearance: June - October 2008
- Report published: Autumn 2008.

32. The timetable will be kept under review as the scope and audit approach are finalised in consultation with the project advisory group.

Project Advisory Group

33. A project advisory group will be set up which will meet at key intervals during the project and will include individuals from a cross-section of stakeholders (see below). The role of the advisory group is to provide independent advice and feedback to the project team to help them ensure the work is relevant and meets the needs of stakeholders. Advisory group members sit in a personal capacity and do not formally represent their organisations.

Stakeholders

34. The study will have a number of stakeholders:

- Scottish Parliament
- Scottish Government

- Executive Agencies / NDPBs
- COSLA
- Local authorities
- NHS boards
- Health Facilities Scotland
- Sustainable Development Commission
- Carbon Trust
- Energy Saving Trust
- Sustainable Scotland Network

Further information

35. If you have any questions about this project brief please contact Susan Lovatt at slovatt@audit-scotland.gov.uk on 0131 625 1853, by fax on 0845 146 1009 or in writing at the address below:

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Appendix 1 - Energy Legislation Applicable to the Public Sector

- **EU Directive on the Energy Performance of Buildings**

This Directive was created to promote the improvement of the energy performance of buildings. Member states implemented the directive into their national law by January 2006, and it was up to each individual member state to set the performance requirements in the national building regulations. The Building (Scotland) Amendment Regulations 2006 came into force in May 2007. The regulations currently apply to new homes, with a roll out date for private homes scheduled for autumn 2008 and rental and public buildings from early 2009.

- **EC Directive on Energy End Use Efficiency and Energy Services**

This directive aims to enhance the cost effective improvement of energy end use efficiency. Member states have until May 2008 to fully implement the Directive, and are required to submit annual energy efficiency action plans to the European Commission. It requires more accurate metering and billing to allow customers to make better informed choices about their energy use. The public sector is expected to play an exemplary role for energy suppliers and distributors to promote energy efficiency.

- **Climate Change Levy**

The public and business sector is subject to a levy tax on their energy use to encourage reduction in demand for energy and improve energy efficiency.

- **The Carbon Reduction Commitment**

The Carbon Reduction Commitment (CRC) is a new scheme, announced in the Energy White Paper 2007, which will apply mandatory emissions trading to cut carbon emissions from large commercial and public sector organisations (including supermarkets, hotel chains, government departments, large local authority buildings) by 1.1 MtC / year by 2020.

- **Climate Change Bill (Scotland)**

The Scottish Government has announced that it will begin consulting on the Bill which has a target of cutting emissions by 80% by 2050. It is expected that the Bill will also propose a mandatory reporting requirement to ensure Ministers are held to account for progress and action.

- **Environmental Assessment (Scotland) Act 2005**

This Act is a key component of sustainable development which provides a systematic method for early consideration of environmental effects of public sector plans and programmes, and for meaningful public consultation.

- **Energy Efficiency and Microgeneration Bill (Proposed)**

This Bill was lodged in June 2007 to promote energy efficiency by requiring the support of small scale renewables and low carbon technologies.

- **Various MELs and HDLs**

These policy documents direct the environmental performance of NHSScotland and the most recent revision - HDL (2006)21 - charged NHSScotland with a number of new duties, including the requirement to identify a target for the continuing reduction of energy consumption.