



AGENDA ITEM 8

OVERVIEW AND SCRUTINY BOARD

6 APRIL 2010

REPORT OF THE ENVIRONMENT SCRUTINY PANEL - ENERGY REDUCTION

PURPOSE OF THE REPORT

1. To present the Environment Scrutiny Panel's findings, conclusions and recommendations following its investigation of the topic of energy reduction.

INTRODUCTION AND BACKGROUND

2. The debate on climate change has shifted in recent years from whether we need to act, to how much we need to do, and how quickly. There is unequivocal evidence that global warming is taking place. The United Nations Intergovernmental Panel on climate change has concluded that there is more than a 90% certainty that climate change is caused by human activity. Atmospheric levels of carbon dioxide (CO₂), the main greenhouse gas, have already increased by 36% since the industrial revolution and the concentration is accelerating as global emissions increase. Storms, droughts, flooding and heat waves will become more intense and sea levels will rise significantly over the next 50 to 100 years. The extent to which these events are minimised is dependant on speedy interventions by both national governments and local communities.
3. The total energy and water cost for all Council buildings (including schools) in 2008/09 was £5.7m - with 23,695 tonnes of CO₂ produced. In this context, the scrutiny panel sought to ascertain what steps the Council is taking to reduce energy usage and contribute towards CO₂ reduction. The panel's investigation was undertaken as a short topic over the course of one meeting held on 12 February 2010.
4. A Scrutiny Support Officer from Legal and Democratic Services co-ordinated and arranged the submission of written and oral evidence and arranged witnesses for the review. Meetings administration, including preparation of agenda and minutes, was undertaken by a Governance Officer from Legal and Democratic Services. Copies of papers considered by the scrutiny panel, including agenda, minutes and reports, is available from the Council's Committee Management System (COMMIS), which can be accessed via the Council's website at www.middlesbrough.gov.uk.

5. Information was submitted to the panel by officers from the Council and from Mouchel, the Council's strategic partner responsible for buildings management. This report has been compiled on the basis of evidence gathered by the scrutiny panel.
6. The membership of the scrutiny panel was as follows: Councillors Kerr (Chair); Carter (Vice-Chair), Clark, Davison, C Hobson, Hubbard, Lancaster, McPartland and Michna.

THE SCRUTINY PANEL'S FINDINGS

7. The scrutiny panel's findings are set out below in respect of :
 - National background - including relevant policies and legislation.
 - Measures that the Council and Mouchel are taking to reduce energy use.

NATIONAL BACKGROUND

8. The UK government has progressively signed up to tighter controls on greenhouse gas emissions. Initially, the 1997 Kyoto protocol (which came into force in 2005) committed the government to reduce greenhouse gas emissions nationally by 12.5 % by 2010, using 1990 as the baseline. The UK Climate Change Programme published in 2000 set a new target to reduce such emissions by 20% by 2010, using the same 1990 baseline. By 2003, an Energy White Paper set a new goal to reduce emissions by 60% by 2050.
9. The Climate Change Act 2008 has set legally binding targets on the government to reduce greenhouse gas emissions. The original Climate Change Bill required a 60% reduction by 2050 using 1990 as the baseline, although this was later tightened to an 80% reduction by 2050. The legislation aims to achieve some of this reduction through a 'statutory emissions trading scheme' - the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme (formerly known as the Carbon Reduction Commitment). Further information on the CRC is shown from paragraph 12 below.
10. In 2007, the Local Government White Paper 'Strong and Prosperous Communities' recommended that Local Strategic Partnerships and Local Area Agreements were the best route to securing responsible action to promote a better response to climate change. As a result, three indicators were added to the new list of 200 national indicators. These are:
 - NI 185 - CO₂ reduction from local authority operations.
 - NI 186 - CO₂ reduction per capita in the Local Authority area.
 - NI 188 - Planning to adapt to climate change.
11. Also in 2007, a Royal Commission Report called for a more strategic approach to energy planning, low carbon technologies and renewable energy, and more incentives through innovation funding. The Local Government Association (LGA) has also produced a climate change report promoting green travel, energy efficiency, climate adaptation plans etc. This also promotes the significant role of local authorities in delivering national priorities.

12. A key element of Middlesbrough Council's carbon reduction agenda relates to the **CRC (Carbon Reduction Commitment) Energy Efficiency Scheme**, which is the UK's mandatory climate change and energy saving scheme. This is central to the national strategy for improving energy efficiency and reducing CO₂ emissions, as set out in the Climate Change Act 2008.
13. The CRC scheme has been designed to raise awareness of carbon reduction in large organisations and to encourage changes in behaviour and infrastructure. The scheme's amended title serves to better reflect the CRC's focus on increasing energy efficiency.
14. CRC is designed to improve energy efficiency in large organisations. It will operate as a 'cap and trade' mechanism, providing a financial incentive to reduce energy use by putting a price on carbon emissions from energy use. Large organisations - such as Middlesbrough Council - will be given a carbon emission cap in five-year cycles. Under the CRC, organisations will buy allowances equal to their annual emissions. If an organisation exceeds its carbon allocation it will have to buy credits at auction. Organisations that emit less than their carbon allowance will be able to sell spare credits at auction.
15. Within an organisation's overall limit, the organisation can determine the most cost-effective way to reduce its emissions. This could be through buying extra allowances, or by investing in ways to decrease the number of allowances that they need to buy.
16. All the money raised through the allowances will be recycled back to participants, according to how well they perform. The scheme features an annual performance league table that ranks participants on energy efficiency performance. Together with the financial and reputational considerations, the scheme encourages organisations to develop energy management strategies that promote a better understanding of energy usage. The scheme is designed to tackle CO₂ emissions not already covered by Climate Change Agreements and the EU Emissions Trading Scheme. The scheme will cover approximately 20,000 large public and private sector organisations, which are responsible for about 10% of the UK's total emissions.
17. Qualifying organisations, including Middlesbrough Council, will have to comply legally with the scheme, which is due to commence in April 2010, or face financial and other penalties. At the time of the report to the scrutiny panel (February 2010), the Council was participating in a 'mock carbon trading scheme,' which will simulate the impact of the carbon trading commitment. It is anticipated that Middlesbrough's participation in the Carbon Reduction commitment could cost approximately £354,000 per year based on a purchase cost of £12 per tonne of carbon.

COUNCIL AND MOUCHEL MEASURES TO REDUCE ENERGY USAGE:

18. Information was submitted to the scrutiny panel in respect of actions which have been taken, and also actions which are ongoing, within the Council and Mouchel in respect of energy reduction. These are highlighted as follows:

Climate Change Community Action Plan

19. Over time, national policies have become more focused on the need to plan for longer-term reductions in greenhouse gas emissions and to adapt to the inevitable change in climate that will occur over the coming decades. This, together with the statutory carbon allowances located to large organisations through the Climate Change Act, has raised the importance of Middlesbrough Council having a longer term planning framework for climate change.
20. Middlesbrough was one of the first local authorities to launch a Climate Change Community Action Plan. This Action Plan helped Middlesbrough to reduce its CO₂ emissions by 45,000 tonnes over the 3 years ending in December 2005, amounting to a 4.6% reduction.
21. The Plan is delivered through annual work programmes and commits the Middlesbrough community to reduce greenhouse gas emissions by at least 12.5% over the 2002 to 2012 period, or 1.25% a year on average. To date, Middlesbrough is on course to meet the target.

Carbon Reduction and Climate Adaptation Action (CRACA) Plan

22. Since production of the Climate change Community Action plan, work in this area has been ongoing and resulted in publication of the Carbon Reduction Climate Adaptation Action (CRACA) Plan in 2008. This plan provides a longer term planning framework to react to climate change. It gives equal importance to carbon savings and climate adaptation and is a key element of the Council's response to the climate change agenda.
23. The plan includes a target of 30% carbon reduction by 2020 resulting in a 3% annual energy saving from 2010. It aims to help Council managers to develop more effective medium term and long term actions to reduce carbon emissions and adapt to the inevitable consequences of climate change, so setting an example to the rest of the community. The CRACA Action Plan is reviewed at least annually. The CRACA Plan also provides a corporate framework to improve performance against the three national climate change indicators NI 185, 186 and 188.

One Planet Living

24. A guiding principle of the Council's Corporate Sustainability Policy (approved by the Executive in April 2008) is a commitment towards the 'One Planet Living' framework. One Planet Living is a global initiative which was developed to meet the challenges that face society to enjoy an acceptable quality of life within the carrying capacity of the Earth by calculating how many hectares of land are required by each person. If everyone on the planet took a fair share of its land, each of the planet's 6.7 billion people would require 1.7 hectares (of the 11.7 billion hectares available) to maintain their lifestyle. However, calculations show that a typical Middlesbrough resident has an ecological footprint of 5.1 hectares and that of a UK resident is 5.3 hectares. This means that UK residents are living a 'three planet' lifestyle.
25. The One Planet Living framework includes working towards zero carbon activities to tackle climate change and will therefore directly impact on the issue of energy reduction.
26. In addition to the above, a number of corporate initiatives aimed at energy and/or carbon reduction are ongoing within the authority. These include:

- a) Use of a £400k 'Salix Fund'¹ to support Council investment in energy efficiency schemes. The authority is also looking to tap into other sources of finance available from the Carbon Trust.
 - b) The development of energy efficiency schemes throughout the authority.
 - c) Exploring the feasibility of renewable energy use.
 - d) The Council's Building Improvement Programme - which will provide £30m of funding over 10 years to address building investment needs. Energy reduction measures will be included, such as upgrading wall/roof insulation, boilers, double glazing and heating/lighting controls.
27. The Council's strategic partner, Mouchel, is responsible a number of aspects of buildings management which impact directly on the issue of energy reduction. Mouchel's Energy Manager informed the scrutiny panel of a number of areas of work which are relevant to this topic, as follows:
- a) **Energy Management Database** - this is used to monitor and record all of the authority's energy and water bills centrally:
 - it facilitates a central reporting point for required for statutory reporting (e.g. NI185 and the Carbon Reduction Commitment (CRC) - see paragraph 12 onwards).
 - Bills are checked centrally, entered into the database and electronic payment generated.
 - Records of meter readings are sometimes provided by site managers and are used to validate billed readings.
 - Reports comparing yearly costs and consumption are sent to building managers twice per annum. Also, exception reports are produced to warn of unusual energy increases.
 - b) **Energy costs & targets** - As was indicated earlier, the total energy and water cost for all Council buildings in 2008/09 was £5.7m - with 23,695 tonnes of CO₂ produced. The target is to reduce CO₂ emissions by 3% per annum.
 - c) **Building management systems (BMS)** - These provide remote control of heating plant so that time schedules and temperature settings can be set/changed remotely. Around 68 of the Council's 170 buildings are currently on this system.
 - d) **Raising Energy awareness among employees** - Powerpoint presentations have been sent out by e-mail to all staff to raise awareness of the need to conserve the planet's natural energy resources (e.g. switch off lights and computers etc).
 - e) **Implementation of the European Energy Performance of Buildings Directive** - This aims to improve the energy efficiency of buildings and includes:
 - introducing 'display energy certificates' (DECs) in Council operated buildings and 'energy performance certificates' (EPCs) in commercially let properties. These provide A-G energy efficiency ratings and recommendations for improvement.
 - requiring public buildings to display energy performance certificates.
 - requiring inspections for air conditioning systems.

¹ Salix is an independent social enterprise/not for profit company funded by the Carbon Trust. It works with UK public sector bodies to provide loans and match-funded grants for schemes that are cost-effective in saving CO₂. Salix projects include insulation, improved glazing, lighting and heating upgrades, IT improvements, voltage reduction and better boilers. To date, 4,300 projects have been funded, saving energy valued at £85m.

- f) **Energy saving projects** - which include:
- Energy & water surveys (out to tender at February 2010).
 - The introduction of remote personal computer (PC) switch off - a survey had shown that around 300 PCs in the authority were left switched on for 24 hours a day, seven days a week.
 - Voltage optimisation - which reduces the voltage supplied to a building and, in turn, reduces power usage.
 - Lighting and lighting controls.
 - Installation of building management systems controls.
- g) **Energy policies and strategies** - These have been, or are to be, developed to include:
- Building operation policy - e.g. implementation of a maximum heating temperature, examination of reduced opening hours - such as assessing whether buildings can be cleaned during the day and closed earlier etc.
 - Building design standards - new builds are designed to the BREEAM (ie Building Research Establishment Environmental Assessment Model) 'very good' standard.
 - Building Improvement Programme repairs and refurbishments will use energy efficient materials.
 - Building rationalisation strategy - this will examine the closure of some buildings in the context of strategies such as Building Schools for the Future (BSF), Primary Strategy for Change and any other new builds or refurbishments.
 - Procurement of energy efficient products e.g. computer monitors.
 - Information technology issues - such as set up of energy saving modes on PCs and monitors and consolidation of servers.
 - Regular maintenance and checks of boilers and air-conditioning efficiency.
 - An examination of issues such as street lighting, which has been a growth area for energy use in recent years. This issue was highlighted as an example of where energy reduction needs to be balanced against other factors such as community protection and fear of crime.
 - Developing a breakdown of energy usage information on a building by building and department by department basis, with a view to the possible development of service plans to address the issue.

28. The scrutiny panel was advised that under current arrangements (up to 2011), any financial savings on energy relating to the majority of Council buildings would be made by Mouchel. For schools and some corporate buildings, energy savings would, however, be accrued by Middlesbrough Council.

CONCLUSIONS

29. Based on the evidence gathered throughout the scrutiny investigation the panel concluded that:
1. Almost £6m was spent on supplying energy and water to Council buildings in 2008/09. The scrutiny panel welcomes the work which has been done, and which is ongoing within the Council, in terms of energy reduction and the linked issue of climate change. The panel is pleased to see that wide-ranging action has been taken, or is planned. While recognising that more can be done, and that this work needs to be continued and built on, this approach is welcomed.

2. Using less energy is one of the most effective and economical environmental actions that individuals and organisations can take. It not only reduces the demand for fossil fuels, with consequent environmental benefits, but also results in financial savings, which is also important given current public sector spending constraints. Energy reduction can therefore be deemed a 'win win' situation.
3. The introduction of the Carbon Reduction Commitment for large organisations, as well as introducing financial incentives to reduce energy use, raises the importance of the Council having a longer term planning framework for the wider issue of climate change.
4. The Council took action in respect of climate change and energy reduction some years ago by developing its Climate Change Community Action Plan. The authority has since approved a Sustainability Policy, which includes adoption of the 'One Planet Living' model, and is now taking action in a number of areas to reduce energy use.

RECOMMENDATIONS

30. Following the submitted evidence, and based on the conclusions above, the scrutiny panel's recommendations for consideration by the Overview and Scrutiny board and the Executive are as follows:
 1. That the Council's approach to energy reduction and climate change is endorsed by the scrutiny panel.
 2. That further action is taken to publicise the importance of energy saving by all Council employees and to encourage the changes in behaviour and culture that are required. As well as environmental benefits, financial benefits should be stressed - for example by highlighting the financial cost of hundreds of PCs being left switched on in terms of how many jobs this could equate to; or, similarly, by highlighting the authority's huge energy costs.
 3. That work is undertaken to collate energy use figures on an individual Council building and departmental/service area basis. This can then be used to support action at Recommendation 2. above by encouraging individual departments to consider how energy costs can be reduced, such as by including energy reduction measures in departmental service plans. Steps should also be taken to ensure that meter readings and energy bills are validated for all Council buildings. This issue could be further supported by introducing an 'energy champion' in each service area, with responsibility for ensuring that, for example, lights and computers are switched off when not required.
 4. That an update on the issue of energy reduction is submitted to the Environment Scrutiny Panel at the beginning of the 2011/12 financial year, including an assessment of the impact of energy reduction measures to date.

ACKNOWLEDGEMENTS

5. The Panel is grateful to the following officers, who presented evidence during the course of this investigation:
 - M Shepherd - Corporate Assets Officer, Middlesbrough Council
 - M Knox - Energy Manager, Mouchel.

BACKGROUND AND REFERENCE MATERIAL

6. The following sources were consulted or referred to in preparing this report:

- Report to and minutes of the Environment Scrutiny Panel Meeting held on 12 February 2010.

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30 March 2010

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