

Report of the Corporate Landlord

Carbon Management, Energy and Sustainability – funding mechanism

Summary

1. The purpose of this report is to:
 - a. Make Members aware of the inter-relationships between managing targets for
 - i. Carbon Emissions
 - ii. Energy and Water consumption and conservation, and
 - iii. Sustainability in design and construction
 - b. Suggest a funding mechanism for investment in all three of these areas

Background

2. The recently approved report 'Environmental Sustainability Strategy and Action Plan towards a Climate Change Strategy for the City' dated 11th September 2007 outlines the action plan and details the target '*The City of York Council will reduce its CO2 emissions by 25% on 2006/07 baseline by 2013*'.
3. The emerging policy for Energy and Water Management will have as its aim, '*City of York Council aims to effectively minimise the use of energy and water within its buildings and promote energy management and conservation*'
4. The emerging policy for Sustainability in Design and Construction will have as its aim, '*To deliver through a framework of guidance and good practice, buildings that contribute to the vision of York as an exemplary sustainable historic city*'.
5. Annex 1 provides the context of Environmental Sustainability and Carbon Management.

Consideration

6. The Government is expanding the range of Carbon Trading Schemes to include the Carbon Reduction Commitment (CRC). The Energy White Paper (May 2007) mandated the introduction of the CRC as the system by which to secure the stated carbon savings from large business and public sector organisations. The CRC is a mandatory auction based emissions trading system that targets building energy use. Government caps (i.e. the amount of allowances available) will coincide with national CO₂ emission reduction targets. City of York Council will potentially be taxed at £7 per tonne of carbon emission above the set cap.
7. The Carbon Management Group, Energy and Water Management Group (EWMG) and the Sustainability in Design Group all have cross directorate officer representation. The groups have been considering actions that can be implemented to achieve their respective aims. Many of those actions can meet more than one of those aims and contribute to the targets for each.
8. In the current financial climate limited resources are available to invest in terms of capital and manage in terms of revenue. The actions being brought forward will require varying degrees of capital and revenue investment. The outcome in some cases will be revenue savings and in others revenue increases. To achieve the objectives outlined above members need to understand the balance between achieving the goals and targets set and the capital and revenue costs of so doing.
9. Examples:
 - a. Bio-Mass boilers:
 - i. Will reduce carbon emissions significantly (40%)
 - ii. Use a sustainable fuel (wood pellet or wood chip)
 - iii. Installation costs will be more expensive than gas
 - iv. No revenue savings on fuel cost
 - v. Bio-mass boilers are expected to last three times longer than a comparative gas boiler.
 - b. Bio-Diesel boilers:
 - i. Will reduce carbon emissions significantly (40%)
 - ii. Use a sustainable fuel (bio-diesel derived from recycled cooking oils or virgin rape seed)

- iii. Installation marginally more expensive than gas, but cheaper than bio-mass (existing oil plant can be converted cheaply)
 - iv. 50% increase in fuel cost, at the moment, over oil
 - v. Bio-diesel boilers are expected to last three times longer than a comparative gas boiler
 - c. Ground Source Heat Pump (GSHP)
 - i. Will reduce carbon emissions (15%)
 - ii. Accesses free energy supplemented by electric for operation and extraction
 - iii. Four times the installation cost of a Bio-mass boiler
 - iv. 80% reduction in fuel cost
 - v. GSHP is expected to last three times longer than a comparative gas boiler.
 - d. Improved Energy Controls
 - i. Will reduce carbon emissions (10%)
 - ii. Reduction in fuel use
 - iii. 25% of the cost of a gas boiler
 - iv. 10% reduction in fuel costs
 - v. Subject to technological advances should last up to 20 years.
10. The attached Annex 2A and 2B gives a more detailed comparison of investment proposals and graphically compares each of them.
 11. In addition to the above examples of significant major investments there are savings to be made in energy use and subsequent revenue costs through good management and housekeeping. This would include, low energy equipment, switch off campaigns, lower heating levels, staff awareness and behaviour etc within all of the council's building stock. This could amount to 10 – 15% of the council's energy expenditure of c £3m per annum, a potential saving of £300 – 450k per annum. Some initiatives are already under way.
 12. Whilst it is understood that corporate revenue pressures would be eased by these annual savings they could also be used to invest in

further measures needed to meet other targets for carbon, energy and sustainability aims.

13. New build projects are expected to achieve a BREEAM rating of Very Good or Excellent, comply with or exceed Part L of the building regulations, to make a significant statement of sustainable design and construction and provide a building that sustainable in its whole life and use. The cost of achieving these targets has been estimated at between 5 –15% above the baseline construction cost. Where new buildings replace existing poor performing buildings a significant impact will be made upon the council's carbon footprint, energy use and the sustainability of our building portfolio.
14. Whilst all construction activity has an impact upon these three areas it is buildings that have the greatest impact and some of the council's biggest properties are schools. In promoting or implementing any programme of work to achieve our targets for carbon emissions, energy use and sustainability schools will play a significant part. The replacement of Manor and Joseph Rowntreee will make a major contribution. All future schemes will need to ensure that budgets are adequate to meet the challenge of contributing to the council's carbon, energy and sustainability targets as well as meeting the operational needs of the service. If funding from central government is inadequate for that purpose this council will need to consider the benefits of supplementing government funding from its own resources.
15. When dealing with the repair, maintenance and replacement of building components the council will be promoting the use of replacement components that help the council to achieve its aims and targets for carbon, energy and sustainability. Remembering that not all of the initiatives will result in revenue savings and in some cases increases in revenue costs. Careful consideration will need to be given to the potential impact of increased revenue costs upon schools.
16. Those schools or services wishing to contribute to the investment in our buildings in terms of carbon, energy and sustainability need to be encouraged. To do so may, for example, require agreement between council and school to share the financial benefits of such investment.

Funding Mechanism

17. The mechanism should include the following principles:
 - a. That all capital investment in buildings should give full consideration to the need to meet the council's targets for reducing carbon emissions, reducing the use of the energy resource and complying with best practice on all issues of design and environmental sustainability

- b. Consideration should be given to this need when making bids for financial resources to deliver projects
 - c. A financial and target business case should be prepared for all projects
 - d. A member/officer panel to be established to consider each business case and approve expenditure. The panel to include the member champions for sustainability and energy.
 - e. To establish a corporate funding stream for the investment needed to support and achieve the aims and targets outlined in this report
18. Sources for funding (capital and revenue)
- a. Central Government Grants for capital projects inclusive of investment required to meet carbon, energy and sustainability objectives.
 - b. Specific Grants external to the authority (eg Yorkshire Forward) specifically to support carbon, energy and sustainability initiatives
 - c. Specific Loans external to the authority (e.g. Salix) specifically to support carbon, energy and sustainability initiatives
 - d. Prudential borrowing based upon the ability to repay using annual savings
 - e. CRAM process to establish an annual level of capital investment
 - f. The building user (e.g. tenants or schools). This would require a benefit/savings share agreement with the user
 - g. Existing budgets
 - h. Savings resulting from investment.
19. Annex 3 – gives a graphical interpretation of how this mechanism could operate.

Consultation

- 20. The report has been prepared following a consultation workshop and subsequent meetings between Property Services, City Strategy and Strategic Finance
- 21. The principles of this approach have been discussed at the Capital Monitoring Group (CAPMOG) and as a consequence a bid has been made for funding through the CRAM (Capital Resource Allocation Model) process.

Options

22. Management of proposals to meet aims and targets for carbon emissions, energy use and sustainability:
 - a. Option A – continue to operate separately on each issue
 - b. Option B – a corporate and coordinated approach to management, funding and implementation
23. Funding proposals to meet aims and targets for carbon emissions, energy use and sustainability
 - a. Option 1 – to consider each proposal on its own target and financial merits
 - b. Option 2 – to establish a funding mechanism that supports a corporate and coordinated approach to the achievement and viable funding of targets

Analysis

24. Option A – would result in:
 - a. an uncoordinated approach leading to confusion amongst officers, members, partners and the public
 - b. lost opportunities, benefits and economies of scale that would emanate from a coordinated approach
25. Option B – would result in:
 - a. A coordinated approach leading to clarity and confidence amongst officers, members, partners and the public
 - b. Opportunities, benefits and economies of scale providing a whole council and whole building approach to meeting targets.
26. Option 1 - would result in:
 - a. Decisions not to pursue non viable proposals
 - b. Lost opportunity for achieving targets in all three areas
 - c. Lost opportunity to recycle financial benefits in other areas
 - d. No understanding of the bigger picture in terms of targets and finance
27. Option 2 – would result in:

- a. The pursuit of otherwise non-viable proposals by recycling savings from other schemes
- b. An opportunity for achieving targets in all three areas
- c. Decisions based upon the bigger picture
- d. Regular reporting of the corporate position relating to targets and finance

Corporate Priorities

- 28. Directional Statement – *We will seek to place environmental sustainability at the heart of everything we do*
- 29. Priority – *Reduce the greenhouse gas emissions from council activities and encourage, empower and promote others to do the same*
- 30. Values – *Encouraging Improvement in everything we do*

Implications

- 31. Financial– A majority of the carbon reduction schemes also result in energy savings. Therefore an element of the carbon reduction programme can be self financing. The Executive have two main options in the approach to funding a carbon reduction scheme.
- 32. Option A – Pump Priming Fund – establish a capital fund to finance a coordinated investment plan. The plan would initially target the quick pay back schemes, where both carbon and energy savings can be made. The resulting revenue savings would then be split 50:50 with the benefiting department. The 50% retained would then be set aside to invest in further carbon and energy saving projects. As the revenue fund increases longer payback schemes could be entered in to by either investing revenue direct or using it to finance prudential borrowing. The benefits of this approach would allow the Council to benefit from future energy savings through budget savings, and provide additional funding for continued investment.
- 33. Option B – Invest to Save Fund – apply to the venture fund to finance a coordinated investment scheme. The venture fund would be repaid from the savings with any surplus being reinvested in additional carbon and energy saving schemes. This scheme would work in a similar way to the pump priming fund, although the benefits to both the revenue budget and to the carbon reduction scheme would be reduced as funding would be diverted in to repayments and interest charges, meaning the number of schemes would be much reduced.

34. A proposal has been submitted to the CRAM process to establish a £500k fund for this purpose. The Executive will be considering this as part of the budget process. Annex 2 illustrates the typical projects that can be undertaken and shows their capital cost against carbon reduction and annual revenue savings. The projects that should be targeted initially should be the low cost, high revenue savings.
35. It is important that any fund is closely managed so the benefits can be ascertained and reported back on. A similar scheme is operated by the Borough of Woking who have been very successful in carbon reduction over the past few years.
36. From 2010/11 carbon trading will be introduced with a likely charge of £7 a tonne emitted. Based on current CYC building emissions this will cost £122.5k, although the move to Hungate is expected to reduce this to £101.5k. The Council has experienced a similar charging regime in waste in the form of the landfill tax, which started out at £7 per tonne in 1996, the current rate is £24 per tonne and is increasing at £8 per year until 2010/11. Proactive investment today in carbon reduction is therefore likely to benefit the Council in future years by more than the revenue savings currently anticipated.
37. Human Resources, Equalities, Legal, Crime and Disorder and IT.
There are no implications in these areas
38. Property – are contained within the body of the report

Risk Management

39. Failure to meet carbon emission targets may result in the council being financially penalised under the Carbon Trading Scheme (including the Carbon Reduction Commitment (CRC)).
40. Failure to achieve reductions in energy use could result in further financial pressures for the council in a volatile energy market
41. Failure to coordinate our approach to sustainability may result in a reduced level of performance in pursuit of the council's priorities
42. To the image and reputation of the council

Recommendations

43. That Members acknowledge the inter-relationships between managing targets for
 - i. Carbon Emissions
 - ii. Energy and Water consumption and conservation, and
 - iii. Sustainability in design and construction

44. Members are asked to consider:
- a. With regard to Management of proposals to meet aims and targets for carbon emissions, energy use and sustainability - approval of Option B - a corporate and coordinated approach to management, funding and implementation
 - b. With regard to funding proposals to meet aims and targets for carbon emissions, energy use and sustainability – approval of Option 2 – To establish a funding mechanism that supports a corporate and coordinated approach to the achievement and viable funding of targets
45. Reason: To ensure an improved and coordinated approach to the management of carbon emissions, energy usage and the sustainability of council buildings.

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Wards Affected: All

Report Approved



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For further information please contact the author of the report

Background Papers