APPENDIX G

WAVERLEY BOROUGH COUNCIL

EXECUTIVE – 2 SEPTEMBER 2008

Title:

CENTRAL OFFICES BOILER REPLACEMENT – CALL IN BY CORPORATE OVERVIEW AND SCRUTINY COMMITTEE

[Portfolio Holder: Cllr Ms D Le Gal]
[Wards Affected: All]

Summary and purpose:

The report on the replacement of the Council's Central Offices gas boilers, which was approved by the Executive at its last meeting, was called-in by the Corporate Overview and Scrutiny Committee which met on 29th July 2008 to scrutinise the decision taken by the Executive. This report sets out the conclusions reached by the Overview and Scrutiny Committee and presents them for consideration by the Executive.

Environmental implications:

The replacement of the Council's existing gas boilers which are over 25 years old would provide an opportunity to significantly reduce the Central Offices CO2 emissions.

Social / community implications:

One of the aims of the scheme would be to provide a positive and visible statement to Waverley's communities of the Council's commitment to sustainability.

E-Government implications:

There are no E-Government implications.

Resource implications:

The capital programme for 2008/09 includes provision of £70,000 for replacement of the Council's central offices boilers. The 2008/09 Central Offices Accommodation revenue budget for gas was reduced by £2,000 in anticipation of the introduction of more energy system which would need to be installed before the winter of 2008/09.

Outcome of the scrutiny by the Corporate Overview and Scrutiny Committee

1. The Corporate Overview and Scrutiny Committee on 29th July 2008 met to scrutinise the decision taken by the Executive on the report to replace the Council's Central Offices gas boilers.

2. At the Overview and Scrutiny Committee meeting Officers reviewed the need to replace the existing Central Office gas boilers and the various alternatives considered. Officers had received advice from the Energy Centre for Sustainable Communities on the integration of renewable energy technologies. The Committee then toured the Central Offices building to see the existing boiler room and the locations considered for situating a biomass boiler and solar collector panels

3. In considering the case for the Biomass Boiler, the Committee accepted that there would be limited scope to site a boiler house complex other than on the grass area on the corner of The Burys and Bridge Street. The Committee noted officers' concerns regarding obtaining planning permission for the boiler house complex on such a prominent site, and also expressed some concerns regarding the robustness of the financial and environmental modelling of the benefits of a Biomass Boiler, e.g. how price and availability of biomass fuel would change in response to increased demand, and the cost and environmental impact of delivery of biomass using conventionally-fuelled vehicles. Therefore, despite the apparent significant savings in CO_2 that would arise from operating a Biomass Boiler, the Committee concluded that there were sufficient practical difficulties and other uncertainties to rule out this option.

4. Overall, the Committee was satisfied with the argument in favour of the condensing gas boiler and endorsed the Executive's original decision to replace the existing gas boilers with a three module multi-bank condensing boiler.

5. The Committee expressed some reservations regarding the incorporation of a five-panel solar collector for pre-heating water and the potential addition of a further five solar collector panels. It was felt that further information was needed about the savings an additional five panels might produce.

6. The Committee also expressed reservations regarding the benefits of the proposed installation of 14 photo voltaic (PV) panels to provide electricity and further reduce CO_2 emissions from the Central Offices. It was noted that these would make a minimal contribution to satisfying the electrical energy demands of the building.

7. The Committee was sympathetic to the argument that the Council should be seen to be taking steps to reduce CO_2 emissions, and noted that new developments were required to provide a minimum of 10% of energy demands from on-site renewable sources. However, there was concern that the full costs of doing so should be set out along with the tangible and intangible benefits. The Council had to have due regard to the principle of

Value For Money, and also had to take care that in 'setting an example' it did not misrepresent the basis on which decisions had been taken.

8. The Committee resolved that 'the Executive's original decision be endorsed, but that the Executive be asked to satisfy themselves that the benefits of installing the solar collector panels outweighed the financial uncertainties.'

Officer response

Background

9. The background to the proposal to introduce solar panels as part of the boiler replacement scheme arose primarily from the need to reduce carbon emissions from the Council's operations and was not viewed purely as a cost saving measure, although a pay back over the life of the installation is a factor.

Government and Audit Commission targets

10. The Government sees the public sector as being in a key position to lead on CO_2 emissions reduction by setting a behavioural and strategic example to the private sector and the communities they serve. Government's view is the manner in which local authorities delivers its functions can achieve CO_2 emissions reductions. A new national performance indicator measuring CO2 reductions by local authorities has been introduced (NI185) which will require local authorities to be more conscious of energy use and carbon emissions in the future. The aim of this indicator is to measure the progress of local authorities to reduce CO_2 emissions from the relevant buildings and transport used to deliver its functions and to encourage them to demonstrate leadership on tackling climate change.

11. In addition as part of the UK's response to the Energy Performance in Buildings Directive (EPBD), Display Energy Certificates (DECs) are required for all public buildings over 1,000 m^2 from 1st October 2008. The certificates will need to be displayed in all buildings that are frequently used by members of the public and they are a measure of the Operational Rating, based on historical energy consumptions and a benchmark comparison with other similar buildings.

Details of the proposal for solar panels

12. The original specification provided by the suppliers of the solar thermal collector panels indicated a requirement of 5 panels to assist with providing energy to heat the water for our domestic hot water services within the Central offices building.

13. It was estimate that each panel would yield energy equivalent to 1,000 kWh per annum (total 5,000 kWh), equating to a financial saving in gas costs of approximately £ 100 per annum and a resultant saving in CO2 emissions of 1.0 tonne per annum.

14. Having reviewed their calculations in respect of the estimated domestic hot water useage for the building, the suppliers have calculated that during the summer period (when the central heating services are not required) 2 solar collectors would be sufficient to satisfy this demand, with negligible use of the new condensing boilers to provide any backup heating for the stored hot water (there will however be a need to keep the stored water temperature above 60 degrees centigrade, overnight to protect against legionella).

15. The proposed panels would be arranged in parallel, with 2 collectors being brought on line during the summer to provide the buildings hot water requirement, with the other 3 collectors being brought into use during the autumn, winter and spring, as a resource to pre heat water for both the hot water services and the central heating system.

16. This arrangement is considered as the most cost effective and efficient use of the collectors and the energy that is estimated as being able to be produced from them. The energy being produced by these collectors will be closely monitored and if there is evidence to suggest that the installation of additional collectors (above the 5 proposed) could assist with achieving further savings towards the central heating energy costs, then consideration will be given to the installation of these. An energy monitoring facility is provided as part of the installation and it is proposed that using this information a further report be presented to the Executive after 12 months operation.

Solar Panels Payback Period

17. The technical advice received from the manufacturers indicates each solar thermal collector panel as being able to yield approximately 1,000 kWh of energy per annum. At present day gas costs (2.05p per kWh) this would result in a financial saving of approximately £100 per annum with a resultant reduction in CO2 emissions of approximately 1.0 tonne per annum.

18. At an estimated cost of installation for 5 panels being between £8,000 to £10,000, and assuming the following gas price increases, the following payback periods have been calculated;

    40% in Year 1 and 25% for each year thereafter – 12 years
    40% in Year 1 and 15% for each year thereafter – 16 years
    40% in Year 1 and 10% for each year thereafter – 19 years

    It is anticipated that the solar panels would have an operational life of 20 years. (These calculations do not include the cost of the electricity to run the 100 watt circulatory pump – the cost of which would be negligible).

Conclusions

Solar Panels

19. It remains officers view that the proposal to install five solar thermal collector panels to assist with providing energy to heat the water for the Council Offices domestic hot water services within the Central offices building is a worthwhile low risk scheme which will assist in meeting the Council's aims of reducing carbon emissions.

Photo-Voltiac Panels

20. The Overview and Scrutiny Committee's reservations regarding the benefits of the proposed installation of 14 photo voltaic (PV) panels to provide electricity and further reduce CO_2 emissions from the Central Offices is noted and it is intended that, subject to planning permission being obtained, the scheme be reported to the Executive for specific approval to proceed.

Recommendation

That the Executive consider the views of the Corporate Overview and Scrutiny Committee as set out in the above report.

Background Papers (SD(E))

There are no background papers (as defined by Section 100D(5) of the Local Government Act 1972) relating to this report.

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