



Ryedale District Council

REPORT TO: Community Services & Licensing Committee

DATE: 25th September 2008

REPORTING OFFICER: David Summers
Property Services Manager

SUBJECT: Boiler replacement programme and energy efficiency improvements.

1.0 PURPOSE OF REPORT

1.1 To outline the preferred options for the boiler replacement programme as part of the Council's ongoing energy efficiency improvements; to seek approval for the preferred options for Ryedale House and Ryedale Pool; and to seek approval for the capital expenditure as part of the Council's agreed capital programme.

2.0 RECOMMENDATIONS

2.1 It is recommended that:

- a. Members agree to the boiler replacement options for Ryedale House and Ryedale Pool;
- b. Members authorise officers to tender for the two schemes;
- c. Delegated authority be given to the Property Manager, in consultation with the Chairman of Community Services and Licensing, to accept a suitable tender for the works subject to the provisions within the Council's financial standing orders.

3.0 REASONS SUPPORTING DECISION

3.1 The recommended options represent the best balance of capital and revenue costs while achieving local benefits alongside delivery of improvements on National Performance indicators.

4.0 BACKGROUND & INTRODUCTION

4.1 Heating boilers and associated systems at both Ryedale House and Ryedale Pool are in need of replacement. Given likely future energy price trends, the longevity of such systems and the Council's responsibility to reduce carbon emissions resulting from our operations, it is important that such a decision represents the best balance between these factors. Financial provision of £203k has been agreed in the Council's capital programme for schemes under the Energy Efficiency Improvements to Council Property workstream.

COMMUNITY SERVICES & LICENSING COMMITTEE
25th September 2008

5.0 REPORT

- 5.1 Boiler plant and associated systems at Ryedale Pool and Ryedale House are both ageing and in need of replacement, with the plant at the pool being of a particular concern. Current building regulations, building design and health and safety considerations present a number of difficulties. The present situation involves two boilers at each location, all served with mains natural gas.

Replacing these boilers offers the opportunity to invest in alternatives to natural gas. Currently the only feasible alternative is biomass (in this situation, wood chip or pellet).

5.2 **Non financial drivers for the provision of biomass boilers:**

Biomass systems can be classed as almost carbon neutral, therefore resulting in reduced carbon emissions, which is now assessed as part of the Local Area Agreement through National Performance Indicator 185. Officers have worked with Yorwoods, a charity focused on delivering biomass projects over the past two years, and there are local suppliers of biomass fuel available. Through buying fuel locally, the Council will be supporting local agricultural diversification and sustainable economic development, as part of good practice procurement.

5.3 **Financial drivers for the provision of biomass boilers:**

The financial case for biomass heating is based on the trade off between capital and revenue expenditure. Like-for-like gas boiler replacement represents a cheaper capital cost versus more expensive revenue cost, whereas biomass replacement is more expensive as a capital cost, but with ongoing revenue savings. In addition, biomass heating will avoid future exposure to carbon taxation. Currently this only affects larger authorities, however it seems very likely that in coming years this will be extended to all of the public sector.

Any plant replacement will involve efficiency savings as a result of improvements in technology. The level of additional savings that would accrue from a biomass system will depend on the price of both gas and biomass fuel. Clearly these are impossible to predict, however, the price of wood chips is currently approximately 30 – 35% less than the price of gas. The market for woodchip is restricted and fairly local, giving a certain degree of price stability. The market for natural gas is volatile and uncertain, and as such, it seems unlikely that future prices will be at or below general price inflation, especially given the fact that UK fossil fuel reserves are currently dwindling.

- 5.4 Halcrow Yolles were recently commissioned to report on the feasibility, risks and other issues involved with installing biomass heating in both buildings, as well as general energy related issues. The conclusions of this report, and officer recommendations, are summarised below.

(i) Ryedale Pool.

A biomass system with gas back-up is a recommended option for Ryedale Pool, and would result in significant carbon emission reductions and financial savings over natural gas. Overall, the building performs well, and recent building improvements have had a significant impact on energy use.

A number of alterations would be required to accommodate such a system, but cost savings could be achieved given that some electrical system replacement work is required in any case. External grant funding may be available through DEFRA.

(ii) Ryedale House.

Biomass installation at Ryedale House is problematic and expensive due to space constraints and additional problems associated with the positioning of the exhaust gas flue. Main recommendations concerned improvements to the fabric of the building, costings for which are currently being investigated.

With regard to the heating plant, new, high-efficiency gas fired boilers were recommended. This has the added advantage of delivering an improvement on National Performance Indicator 194 – Air Quality. In order to ensure that this is the best long-term option, officers have investigated costings for a possible biomass system, and have confirmed that currently, capital and revenue costs, and other considerations make the project unviable.

5.5 Estimated costs and savings:

The Council has invited a number of suppliers to provide initial estimates / costs for biomass systems at both Ryedale Pool and Ryedale House.

A number of options have been suggested, and on the basis of these, a provisional budget for the proposed work at Ryedale Pool is £120,000 to £150,000. This estimate includes work on a number of separate plant items that already need attention, which should be undertaken at the same time as boiler replacement in order to achieve economies of scale.

Grant funding of up to 40% of the difference between the biomass system and a conventional gas fired system is potentially available, subject to application to the DEFRA Bio-energy capital grants scheme. Dependant on precise costings, this could amount to £30,000 external funding.

Accurate estimates of future savings are impossible to calculate, as future energy prices cannot be known. However, based on current gas prices, initial annual savings of £6,000 – £8,000 are probable. In the short term, it seems likely that gas prices will increase at well above inflation before stabilising, potentially offering increased levels of revenue saving.

Given these estimates, revenue savings generated by a biomass boiler installation at Ryedale Pool will pay for the capital overcost within the predicted system lifetime. Additionally, biomass systems have a longer projected lifetime than equivalent gas systems, thereby delaying future capital expenditure.

5.6 Other considerations

(i) Maintenance - standard servicing and maintenance is required as with any boiler plant. However, there is a certain element of regular basic manual maintenance required due to the nature of the fuel, such as basic cleaning, and ash emptying. Responsibility for these regular tasks will lie with the centre operators, but cannot be considered onerous, especially since numerous similar installations exist in the leisure centre operating context.

(ii) Planning permission - this may be required depending upon the nature of alterations required to the access door at the rear of the building. This is currently being discussed with Officers from the Development Management Unit.

6.0 OPTIONS APPRAISAL

Ryedale Pool

6.1 Option One

Replace the two existing boilers at Ryedale Pool with one biomass boiler and one high efficiency gas boiler.

This is a low-risk option which provides for improved efficiency and environmental benefits with conventional back up system.

6.2 Option Two

Replace the two existing boilers at Ryedale Pool with high efficiency gas boilers.

This option is also low-risk however it does not deliver the equivalent environmental benefits of Option one.

Ryedale House

6.3 Option One

Replace the existing boilers at Ryedale House with a biomass based system.

This is not viable at Ryedale House due to the significant alterations required to the building to accommodate a biomass system. The extra costs also mean that investment would not be recouped within acceptable pay-back periods.

6.4 Option Two

Replace the existing boilers at Ryedale House with a high efficiency gas system.

6.5 **Preferred Options:**

Based on the information summarised above, the preferred options for both sites are therefore:

Ryedale Pool:

- (i) Proceed to tender for the installation of a suitable biomass installation at Ryedale Pool;
- (ii) Make an application to Defra for external grant funding; and
- (iii) Submit a planning application, if required, for the alterations to the pool access.

Ryedale House:

- (i) Proceed to tender for a high-efficiency gas replacement system.

7.0 FINANCIAL IMPLICATIONS

- 7.1 A budget for the proposed capital work is available under the heading "Energy efficiency improvements to Council property", within the Capital Programme, with £203,000 available in 2008/09 and £125,000 in 2009/10. See 5.3 and 5.5 for revenue implications.

8.0 LEGAL IMPLICATIONS

- 8.1 Under the present lease arrangements the tenant (Community Leisure Ltd) are responsible for the payment of all utility invoices, however the Council includes these facilities within it's own bulk purchasing of energy activities.

9.0 RISKS

- 9.1 Ordinarily, risks associated with this type of installation include security of supply, and value for money. Risk of supply is mitigated due to our location, given Ryedale's large biomass resource, along with the work that the Council has been involved with developing local fuel suppliers. Furthermore, the system would have a gas backup as standard, for maintenance and times of peak operation, enabling a choice of two fuels. This also mitigates against the financial risk associated with future fuel price uncertainties. Value for money is mitigated through tender evaluation and comparison with similar projects elsewhere.
- 9.2 The Council promotes the development of sustainable biomass resources through both planning and environmental policies and programmes. There is a risk of losing credibility with regard to this promotion if we do not utilise this huge local resource where possible in our own operations.

10.0 CONCLUSION

- 10.1 Biomass heating is a credible solution to the need for plant replacement at Ryedale Pool and should be pursued. This will provide future revenue savings for the Council, as well as reducing carbon emissions, supporting local businesses, and demonstrating the sustainable use of local resources. Currently, problems associated with a biomass installation at Ryedale House mean that new high-efficiency gas plant represents the best option, in conjunction with further energy efficiency improvements.

OFFICER CONTACT:

Please contact Nick Coakley, Environment & Energy Officer, if you require any further detail on the content of this report. The Officer can be contacted at Ryedale house, tel 01653 600 666 ext.292, or by email:
nick.coakley@ryedale.gov.uk