report

meeting	**CABINET**	
date	**10 January 2007**	agenda item number

JOINT REPORT OF THE CABINET MEMBERS FOR FINANCE & PROPERTY, ENVIRONMENT AND PEOPLE & PERFORMANCE

BIO - ENERGY CAPITAL GRANT

PURPOSE OF THE REPORT

To seek approval of the Cabinet to accept the offer of a £500,000 Bio-Energy Capital Grant for investing in expansion of the woodheat boiler programme.

BACKGROUND

On the 15th January 2003 Cabinet approved the development of the Woodheat Project and that the Cabinet Member for People & Performance be the Council's nominated Director for Renewable Nottinghamshire Utilities Ltd (ReNU Ltd). Since then the Cabinet Member has received regular briefings and reports regarding the continued development of this initiative.

The Council made a commitment in the 2001-2005 Strategic Plan "Building a Future" to reduce CO_2 emissions from buildings by 25% by 2003. This target was delivered, primarily by the purchase of green electricity and replacing some old coal-fired boilers with gas. However, in 2003 the County Council entered into a Public Service Agreement (PSA) under which the CO_2 reduction target would be stretched to 27% by 2006, and for the last three years we have been installing or converting boilers in buildings to burn wood rather than fossil fuels.

On the 19th September 2005 a report was presented to the Environment & Sustainability Standing Select Committee updating them on the progress of the Woodheat Boiler Programme. At this time five schools were operating on woodheat and a further nine were being converted to wood pellets. The successful implementation of this programme has enabled the PSA CO_2 reduction target to be achieved.

The successful implementation of the woodheat initiative also contributed towards the Council being awarded Beacon Status for Sustainable Energy in 2005.

In order to stimulate the take up of woodheat boiler projects, the Government recently announced the Bio-Energy Capital Grant Scheme with Big Lottery Funding. The scheme is aimed at meeting the capital cost differential between fossil fuels and sustainable bio-

energy installations. A bid was submitted for the maximum funding and the bid has been successful with a £500,000 grant being offered.
Further reports to be presented to the Cabinet Members for Finance & Property, Environment and People & Performance relating to the progress of this initiative.

EXISTING INSTALLATIONS

Summary

We have 15 boiler plants of varying sizes amounting to 6.5 MegaWatts (MW) burning in the order of 900 tonnes of Wood fuel and producing an annual reduction of 2,900 tonnes of CO_2.

In addition to these completed installations, we are also taking part in a best practice demonstration programme funded by the Department of Trade and industry (DTI). Under this programme, one of the 5 large coal-fired boilers at Meden School and Technology College has been converted to operate on all types of wood fuel i.e. chips, pellets and Short Rotational Coppice (Willow). The successful conversion of this boiler has achieved further savings of 180 tonnes CO_2 per annum, bringing the total for woodheat to over 3,000 tonnes.

PROPOSAL

The Council has 70 remaining coal fired boiler sites which are in need of replacement or conversion. UK coal have indicated that the production of the type of coal they burn will be ceased in 3-4 years, whereupon we will have to import the coal from abroad and with the diminishing quantities required the cost of the coal is expected to rise significantly. Surveys have indicated that up 60 sites would be suitable for conversion to woodheat fuel some of which could proceed immediately if the grant funding is accepted. Corporate Property and Children & Young Persons Department have established budget provision for the replacement of these boilers and are keen to see a continuation of the woodheat programme. Now that the bid has been successful there is more likelihood that schools will choose the option to convert to woodheat.

The proposal for this grant funding is to replace or convert coal fired plant in around 27 schools for woodheat boilers. The replacements would be for boilers that are near the end of their design life and may otherwise be replaced by gas or oil. The capital cost of installing a woodheat boiler is still currently higher than to replace with a gas boiler, but the grant money will cover this difference so that woodheat is comparable in cost. Boiler conversions cost significantly less than a replacement boiler but achieve the same carbon savings. This is a viable option for boilers with 5 to 10 year life remaining. Wood is a less aggressive fuel than coal and the conversion to wood pellets will extend the life of the existing boiler plant, reduce maintenance costs and increase efficiency.

If approved over the next two years this project will more than double the existing woodheat installations and deliver 27 new woodheat sites increasing pellet consumption by a further 1,000 tonnes a year. This will enable annual savings of a further 3,000 tonnes of carbon dioxide emissions to be achieved. It will also reduce smoke and pollutants and eliminate disposal of the waste coal ash, and as most schools already use ‘green electricity’ the woodheat programme forms an important step towards attaining ‘carbon neutral’ schools.

The proposal is to individually assess each site for both gas and wood firing, whereupon a feasibility study with life cycle costings will be carried out. Attached is an example feasibility study for information which includes installation costs, maintenance, fuel consumption costs, and attendance costs for the life of the plant. **See Appendix 1**

SUMMARY OF APPENDIX

From the appendix it can be seen that whilst the initial installation costs are higher for wood than gas by £4,378, the wood installation would attract a contribution from the Bio-energy Capital Grant (expected minimum of 20%) this combined with the reduction in maintenance, attendance expected increase in fuel costs gives an overall life cycle (25 years) cost saving against gas of £39,704

WIDER BENEFITS

The successful development of the woodheat initiative has seen a significant transformation of the woodheat market in Nottinghamshire.

- Grant funding of over £1 million has been secured by ReNU to establish a robust infrastructure for wood fuel supply including local pellet mills and installations of woodheat boilers
- Local boiler manufacturers, have supplied woodheat boilers and local installers have modified existing coal boilers to operate on wood pellets
- Other organisations, including 3 District Councils, have now committed to woodheat installations

A report was presented to the Cabinet Member for People and Performance on the 11th October 2006 relating to the success of the programme, to approve the procedure for tender of the wood fuel contract and to inform of the successful outcome of the Bio-Energy Capital Grant Bid. A further report on that agenda referred to the significant escalation of gas prices. During the past at 3 years wholesale prices have risen by almost 300% which now makes the consideration of woodheat more economically viable than gas.

FUTURE PROPOSALS

The boiler replacement programme will need to continue beyond the two years for which this grant funding applies and it is proposed that further funding be sought to assist with the continuation of the programme.

RECOMMENDATION

To seek approval of the Cabinet to accept the offer of a £500,000 Bio-Energy Capital Grant for investing in expansion of the woodheat boiler programme.

STATUTORY AND POLICY IMPLICATIONS

This report has been compiled after consideration of implications in respect of finance, equal opportunities, personnel, crime and disorder, human rights and those using the service. Where such implications are material, they have been described in the text of the report.

Councillor Chris Baron
Cabinet Member for Finance and Property

Councillor Stella Smedley
Cabinet Member for Environment

Councillor John Stocks
Cabinet Member for People and Performance

LEGAL COMMENTS (SSR 5-Dec-2006)

The decision falls within the delegation to Cabinet.

STRATEGIC DIRECTOR OF RESOURCES' FINANCIAL COMMENTS (MB – 21-12-06)

The financial implications are outlined in the report, each time a site is identified a life-cycle costing exercise will be carried out to ensure the woodheat boiler is viable. If accepted this grant will lead to a variation in the capital programme of more than £250,000, this will require cabinet approval prior to any of the grant being spent. This is in accordance with Finance Standing Order 3.4 which states that 'The approval of the Cabinet is required for additional expenditure by Chief Officers, in consultation with the relevant Cabinet Member, greater than £50,000 (even though additional income may be available to finance the additional expenditure). This Standing Order shall apply both to a reduction in income and an increase in expenditure.'

BACKGROUND PAPERS AVAILABLE FOR INSPECTION

Nil.

ELECTORAL DIVISIONS

All Divisions

APPENDIX 1

Example Based On A Special School

Capital costs	£
Wood pellet boiler	61443
Estimated Grant availability min 20%	-12289
Revised Cost	49154
Schools Contribution 1/3rd	16385
Replacement gas boiler	45065
Gas supply	12000
Gas TOTAL	57065
Schools contribution 1/3rd	19022
Replacement oil boiler	n/a

CO2 emissions	tonnes/annum
Current coal	85
Wood pellets	0
Gas	36
Oil	47

Potential Bio. Cap. Grant contribution	£	
Wood 20% - 40%	12289	Allow min 20%
Gas	n/a	
Oil	n/a	

Annual operating costs	£pa
Coal (2006 cost)	3213
Coal maintenance & attendance	**12450**
Coal Total	**15663**
Wood pellets	5377
Wood maintenance & attendance	3420
Wood TOTAL	**8797**
Gas	5305
Gas maintenance & attendance	1760
Gas TOTAL	**7065**
Oil	4523
Oil maintenance & attendance	1960
Oil Total	**6483**

	Heat Demand	Fuel Cost	School contribution		Capital Cost									
	kWh	£	£		£									
Gas	158,211	5,305	19,022		57,065									
Wood	158,211	5,377	16,385		61,443									
	Annual Running Costs - (2006 - 2030) FUEL ONLY													
Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Gas	5,305	5,411	5,519	5,629	5,742	5,857	5,974	6,093	6,215	6,340	6,466	6,596	6,728	6,862
Wood	5,377	5,431	5,485	5,540	5,595	5,651	5,708	5,765	5,823	5,881	5,940	5,999	6,059	6,120
Difference W v G	72	20	-34	-89	-147	-205	-266	-328	-393	-459	-527	-597	-669	-743
	Capital Cost Repayment (Loan based on 120 equal monthly payments at 8%)													
Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Gas	1,902	1,902	1,902	1,902	1,902	1,902	1,902	1,902	1,902	1,902	0	0	0	0
Wood	1,639	1,639	1,639	1,639	1,639	1,639	1,639	1,639	1,639	1,639	0	0	0	0
	Future Cost Predictions - Delivered Heat (p/kWh)													
	Predicted Annual Gas Cost Increases (2% p.a.)					Predicted Annual Wood Cost Increase (1% p.a.)								
Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Gas	3.35	3.42	3.49	3.56	3.63	3.70	3.78	3.85	3.93	4.01	4.09	4.17	4.25	4.34
Wood	3.40	3.43	3.47	3.50	3.54	3.57	3.61	3.64	3.68	3.72	3.75	3.79	3.83	3.87
	Net effect on Schools - Annual costs and Capital Repayment													
Gas	7,207	7,313	7,421	7,532	7,644	7,759	7,876	7,996	8,118	8,242	6,466	6,596	6,728	6,862
Wood	7,016	7,069	7,124	7,179	7,234	7,290	7,346	7,404	7,461	7,519	5,940	5,999	6,059	6,120
Difference W v G	-191	-244	-298	-353	-410	-469	-530	-592	-656	-722	-527	-597	-669	-743

2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	**Total**
15	16	17	18	19	20	21	22	23	24	25	
6,999	7,139	7,282	7,428	7,576	7,728	7,883	8,040	8,201	8,365	8,532	**169,912**
6,181	6,243	6,305	6,368	6,432	6,496	6,561	6,627	6,693	6,760	6,828	**151,867**
-819	-897	-977	-1,060	-1,145	-1,232	-1,321	-1,413	-1,508	-1,605	-1,705	**-18,045**
2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	**Total**
15	16	17	18	19	20	21	22	23	24	25	
0	1,902	1,902	1,902	1,902	1,902	1,902	1,902	1,902	1,902	1,902	**38,044**
0	0	0	0	0	0	0	0	0	0	0	**16,385**
2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	**Total**
15	16	17	18	19	20	21	22	23	24	25	
4.42	4.51	4.60	4.69	4.79	4.88	4.98	5.08	5.18	5.29	5.39	**107**
3.91	3.95	3.99	4.03	4.07	4.11	4.15	4.19	4.23	4.27	4.32	**96**
6,999	9,042	9,184	9,330	9,479	9,630	9,785	9,942	10,103	10,267	10,435	**207,956**
6,181	6,243	6,305	6,368	6,432	6,496	6,561	6,627	6,693	6,760	6,828	**168,252**
-819	-2,799	-2,879	-2,962	-3,047	-3,134	-3,224	-3,316	-3,410	-3,507	-3,607	**-39,704**