

ROTHERHAM BOROUGH COUNCIL – REPORT TO MEMBERS

1.	Meeting:	CABINET MEMBER FOR HOUSING AND ENVIRONMENTAL SERVICES
2.	Date:	11th OCTOBER 2004
3.	Title:	PROPOSAL TO PILOT THE INSTALLATION OF SOLAR POWERED HEATING IN COUNCIL PROPERTIES
4.	Programme Area:	HOUSING AND ENVIRONMENTAL SERVICES

5. Summary

This scheme will dovetail with other renewable energy schemes such as wind Farms, in line with other central government energy strategy. It is hoped to use solar power in other areas such as district heating and public buildings when the results of projects such as this are known.

6. Recommendations

IT IS RECOMMENDED THAT THE PROPOSAL BE ACCEPTED.

7. Proposals and Details:

7.1 Rotherham is committed to identifying new and sustainable sources of energy, and to better meet and understand our tenants future energy needs. In support of this, Housing Services propose to install solar heating to 10 properties, ie. two voids at Kiveton Park and eight tenanted properties at Woodsetts. The void installations will commence late September or early October 2004.

7.2 The voids were chosen because this is a new venture and there will be no inconvenience to tenants. These are capitalised voids so are excluded from the indicator for HES 68. The tenanted properties have been chosen for their suitability i.e. facing south, pitch of the roof and an easily adaptable heating system. Woodsetts was chosen as a small, self contained estate, rather than a large estate, as it was deemed to be easier to evaluate results.

7.3 Solar panel's known as collectors will be fitted to the buildings roof; these use the sun's heat to warm glycol which passes through the panel. The glycol is then fed to a hot water tank and helps provide heat and hot water for the building. Typically the installation should take 2 days. The panels work throughout daylight hours, even if the sky is overcast and there is no direct sunshine. The hot water bills for residents who benefit from solar power should be dramatically reduced by up to 50%.

7.4 Housing officers will visit the tenanted properties to discuss the details of the scheme with residents and get their views and permission before starting work. This project is being undertaken with the help of a company called Genersys PLC. Genersys manufacture, market and install solar thermal panels that provide hot water for domestic, industrial and other applications. The solar panels are manufactured to the highest specification out of the best and most durable materials. They are manufactured and assembled to ISO 9806 -1&2. The manufacturing unit at Barbot Hall would not undertake manufacture of small units but should a large district heating site be considered, would be able to make these. The Genersys solar panels have been tested at the University of Freiburg in Germany and awarded the European Community standard BS EN 12975 parts 1 & 2. This is the European standard for thermal solar products adopted by the European Committee for Standardisation. (See attached document for further details of Genersys). The panels are designed to have a life expectancy of at least 35 years and require no maintenance. The associated whole life cycle costs of a Genersys solar system are much lower than any other renewable energy technology.

7.5 Both the Gas Servicing section, and the PVCu manufacturing section at Barbot Hall will achieve Clearskies solar installer accreditation when the scheme is completed. They will then be able to carry out this work for other authorities and organisations. Once accreditation and demand is established, there is potential for the formation of a Solar Installation Section within the Neighbourhood Management Section. The service can become commercially viable through the South Yorkshire Energy Efficiency Advice Centre, Save N Warm discount scheme. This scheme provides a 50% discount for Cavity wall insulation and loft insulation. In October, the scheme will be expanded to take in the Kirklees Simply Solar scheme and when accreditation is achieved, Rotherham could join this scheme. Rotherham

would be well placed to provide solar technology because there are no big suppliers /fitters in the area. The units will be fitted with monitoring units so that over the year an evaluation can be undertaken. However, the average 3 bed mid terrace would expect to achieve a SAP rating of 80.

7.6 Clearskies accreditation is sought because the government has created it as a measure of quality and to give accreditation to suppliers and installers. It forms a guarantee that anyone who has a Clearskies accreditation is a reliable installer with good workmanship, customer relations, service background and after care service. We would evaluate the results of the installations after a period of 12 months which covers a whole heating season.

7.6 Solar thermal technology has also been taken up by other service providers. One of these ('North West' Housing Association) started some years ago with installation of insulation, double glazing and efficient heating systems and followed on by fitting solar heating. Northern Counties Housing Association identified Cherwell Court in Heywood as suitable for a retrofit solar thermal installation. This sheltered accommodation building was built in 1985 and is home to 40 elderly residents in 34 flats, plus communal areas, laundry facilities and kitchens. Khubsuret House run by St. Vincent's Housing Association in Deepdish was also nominated as a suitable building. Khubsuret was built in 1994 and contains 34 flats and communal areas for elderly Asian and English residents. Presently there is one wind turbine generator in South Yorkshire and this is at Thurnscoe, and one small wind farm on the Yorkshire-Derbyshire border. This would effectively make Rotherham a pathfinder authority in South Yorkshire. The average Solar Installation would save nearly a 1 ton of CO₂ being emitted into the atmosphere. Hot water accounts for 27% of the average household energy bill. Over 10% of electricity generated are lost in the transmission process. The United Kingdom has undertaken to reduce carbon emissions to 1990 levels by 2012.

7.7 A scheme to power a district heating site was completed recently in Denmark which is currently supplying heat and hot water to 700 dwellings and the scheme cost 4 million Euro's (approximately 2.8 million pounds). Rotherham's district heating sites are smaller than this, typically one to two hundred dwellings so the initial cost would be less.

8. Finance

Finance for the initial scheme will come from both the energy efficiency section for the purchase of materials, and Building and Renovations Unit for the installation of the systems. Grants of £400 per property are available through Clearskies and there may also be a possibility of European funding in addition to this. Housing Services can purchase the units using carbon trading monies through the energy efficiency section. The total cost of each installation will be in the region of £2500. The payback period for this is currently around 7 – 10 years with an expected lifespan of the project of 30 – 35 years. It is likely that this will be allowable as efficiency savings against the ODPM's efficiency review targets as identified in the Gershon report. Current energy models suggest that fossil fuel will significantly increase in price in real terms over the next decade, renewable energy will therefore become even more cost effective in the medium to long term.

9. Risks and Uncertainties

This is a new venture for Housing Services (and in future the ALMO) and will help us to achieve government targets in reduction of carbon dioxide emissions, when allied to other energy efficiency measures. Renewable energy is one of the most effective ways of reducing these emissions. To ignore the potential of solar heating would be to remove a means of achieving those targets. Tenants and other stakeholders will need to be educated in the potential benefits of renewable energy.

10. Policy and Performance Agenda Implications:

As stated previously it is likely that this will be allowable as efficiency savings against the ODPM's efficiency review targets as identified in the Gershon report. This scheme helps toward meeting local agenda 21 and fits in with Housing and Environmental Services mission statement and our programme area action plan - "To build sustainable neighbourhoods" and also the Council's mission to make "Rotherham a better place to live learn and work".

11. Background Papers and Consultation

Paul Maplethorpe Senior Energy Efficiency Officer Ext 3426

Ron Patrick Energy Efficiency Officer Ext 3393

Paul Ruston DSO Heating manager Ext 2260

Mark Johnson PVCu Manager 01709 820036

Contact Name : Billy Brooks Domestic Heating Programmes Budget Monitoring Officer Ext 2287 E mail billy.brooks@rotherham.gov.uk