

Project Appraisal and Scrutiny Committee Recommendation

Project Name	Installation of solar thermal technology on City Council properties
Committee	Strategy & Resources
Portfolio	Strategy
Committee Date	20 March 2012
Executive Councillor	The Leader, Councilor Sian Reid
Lead Officer	Clare Palferman and Ian Ross

Recommendation/s

Financial recommendations –

- The Executive Councillor is asked to approve commencement of the Solar Thermal Project, included in the Council’s Capital Plan - C2966, Installation of solar thermal panels and/or energy efficiency measures on non-housing Council properties (General Fund). The total capital cost of the project is £140,000.
- The revenue savings from the project are estimated at £15,000 per annum (savings proposal S2967) and these have been included in the revenue budget from 2013/14 onwards.

Procurement recommendations:

- The Executive Councillor is asked to approve the procurement and installation of solar thermal panels and other necessary equipment under the Planned Maintenance Framework.
- If the quotation or tender sum exceeds the estimated contract value by more than 15% the permission of the Executive Councillor and Director of Finance will be sought prior to proceeding.

1 Summary

1.1 The project

The supply and installation of solar thermal panels on selected Council properties to secure a guaranteed income through energy bill savings and heat tariff as part of the Government's national Renewable Heat Incentive (RHI).

Target Start date	25 May 2012
Target completion date	30 September 2012

1.2 The Cost

Total Capital Cost	£140,000
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Capital Cost Funded from:

Funding:	Amount:	Details:
Reserves	£140,000	C2966
HRA Reserves	£	
Section 106	£	
Other	£	

Revenue Cost

Year 1	£0
Ongoing	£(15,000)

1.3 The Procurement

The supply and installation of solar thermal panels and other equipment essential for the project can be procured under the Council's Planned Maintenance Framework.

2 Capital Project Appraisal & Procurement Report

2.1 What is the project?

In March 2011, the UK Government announced details of their Renewable Heat Incentive (RHI). RHI is designed to provide financial support that encourages individuals, communities and organisations to switch from using fossil fuel for heating, to renewables such as wood fuel.

Under the RHI, several different renewable heat technologies are eligible to claim a tariff. A tariff is a set rate paid for every kW of heat generated through renewable heat technologies. An assessment of their deployment potential in City Council owned buildings was carried out and the technology with the highest deployment potential is solar thermal.

Solar thermal technologies gather heat from the sun into collectors which transfer heat energy to a working liquid. This liquid can then be used directly to provide hot water within a building, or an exchanger can transfer the heat from the working liquid to the water.

In order to provide an estimate of the potential for renewable energy generation via solar thermal, an assessment of heat demand and the availability of roof area were required. The Climate Change Officer, together with the Home Energy Officer, carried out a desk based assessment of the viability of installing 200kWth¹ solar thermal systems on 51 Council properties and identified 6 as potentially viable: 1 communal housing property and 5 non-housing properties. Discussions with relevant officers concluded that officers do not have the capacity to install on all 6 sites, so the best sites were chosen and these informed the budget bid.

A budget bid of £200,000 (£60K HRA and £140K General Fund) has been made to purchase and install solar thermal on the following properties (subject to site assessment):

- Pools & Leisure - Abbey Pool

¹ KWth stands for Kilowatt Thermal and 200kWth is the maximum size of system under the RHI.

- Pools & Leisure - Kings Hedges Learner
- Pool Pools & Leisure - Parkside
- Sheltered Housing - Ditchburn Place

Important note: This appraisal is asking for approval for the non-housing properties only. Approval will be asked for Ditchburn Place at a later date once a date for its refurbishment has been established.

In addition to availability of roof space and sufficient hot water demand, these properties must meet a number of other requirements in order to be technically and financially viable for solar thermal installations, such as:

- panels need to be well-orientated and be able to received direct sun light as long as possible;
- panels need to be free from overshadowing trees or buildings (over shading can significantly impair performance);
- roof strength needs to be sufficient to take the weight of panels;
- there needs to be loft space to fit a larger water tank if needed;
- there must be a backup water heating source onsite (e.g. gas/electric/oil);
- panels must be positioned to avoid vandalism wherever possible;
- sites should be easily accessible to limit the cost of installation;
- other site-specific factors should be considered e.g. is the roof under guarantee.

Kier Energy Innovations will carry out the onsite assessments and the above criteria will be assessed at this stage.

2.2 Estimated savings

The estimated financial and CO₂ savings for the three non housing properties are shown in the table below:

Project Total	
Installed capacity	60 kWth
Capital investment	£140,000
Annual revenue	£15,000
Payback	9.3 years
Total 20 year income	£300,000
Annual CO2 saving	29 tonnes
Total 20 year CO2 saving	580 tonnes

The savings have been estimated on the basis of the desk study and are anticipated for the full 20-year lifetime of the scheme. The savings do not take account of predicted energy price increases or the fact that the tariffs are RPI linked. The savings for the Council are therefore likely to be greater than stipulated. The savings will be confirmed at the onsite assessment stage.

The onsite assessments might reveal that it is more cost effective to install a large solar thermal system on one site rather than install three smaller systems on three sites. If this is the case, we will choose the scenario that maximises financial savings for the Council.

2.3 Lessons learned from the solar PV project

In July 2011 Strategy and Resources Committee agreed to invest £432,000 in installing solar PV on seven Council properties (two general fund and five HRA properties). Officers had gone through the processes of getting Asset Management Group (AMG), Housing Management Board (HMB) and committee approval, as well as carrying out onsite assessments and getting planning permission. In November 2011 the Government announced they were radically reducing the tariff for solar PV because uptake had been so high and that the new rate would come into effect on the 12 December 2012.

Originally we were due to install the solar PV before the 31st of March 2012. Therefore, bringing the deadline forward by more than three months meant that we were not going to install the solar PV in time to get the best Feed-In Tariff (FIT) rate. This reduction in subsidy meant that the project became financially less viable and would have taken twenty years for the project to payback the sum invested under the reduced FIT rate.

The lesson we must take from this is that we must work towards installing the solar thermal panels as quickly as possible.

As set out in the RHI guidelines:

“The scheme will remain open until at least 2020 with payments to non-domestic installations guaranteed for 20 years from entry to the scheme.

....Once an installation is accredited under the scheme they will receive a fixed level of support which will be adjusted annually in line with inflation. However, to ensure the scheme is cost effective the tariffs are likely to change over time and the new tariffs will be applied to anyone joining the scheme.

*..... Degression is where trigger levels are built into the RHI scheme which allows tariff levels to reduce automatically once a certain point is reached – for example, a certain level of installed capacity. Degression is a measure to maintain the cost effectiveness of the scheme and we **intend to introduce it in 2012 as part of Phase 2**” (which is due to start in October 2012).*

These guidelines *imply* that the Department for Energy and Climate Change (DECC) will look at reducing the tariff for solar thermal in October 2012. However, as with the solar PV, DECC could look to reduce the tariff for solar thermal even sooner and with little warning.

2.4 Timeframe for delivery

The greatest risk to the project is DECC reducing the tariff before we have installed and registered the panels. If this happens we will not only have lost the opportunity to make substantial financial savings, but we will also have wasted officer time and incurred project costs from carrying out the onsite assessments and submitting planning applications.

Installing the panels as soon as possible can reduce these risks. Usually, we would carry out the site assessments first to confirm site suitability, capital costs and savings and then take the project to Asset Management Group (AMG) and committee. However, this would mean approval would not take place until 9th July committee meeting by which time we will only have three months to deliver the project or the tariff rate may have already been reduced. This is why we are seeking an 'out of cycle' approval so we can start installing the panels in May rather than July as shown in the timetable below.

Timetable for delivery of the solar thermal project	
Task	Deadline
Budget confirmation at full Council	23 February
Kier Energy Innovations to carry out site assessments and confirm site suitability.	Underway. Site assessments should be completed by mid March so we can start planning applications.
Strategy & Resources Scrutiny Committee	20 March
Start Planning applications on relevant sites.	Planning applications can take 8 weeks to get processed so applications should be in no later than Mid March to ensure we are ready to deliver in Mid May.
Asset Management Group (AMG)	22 May
Start delivery on non housing properties	22 May onwards
Registration of Panels	June/July

Strategy and Resources are therefore being asked to approve the installation of solar thermal technology on non housing council properties and delegate further decisions regarding implementation to officers.

2.5 What are the aims & objectives of the project?

The main objective of the project is to secure and maximise guaranteed income for the Council over a 20-year period.

Whilst the project is focussed less on carbon reduction, this project will reduce the Council's carbon footprint and the project contributes to the Council's vision of:

‘A city in the forefront of low carbon living and minimising its impact on the environment from waste and pollution.’

2.6 Summarise the major issues for stakeholders & other departments?

The Recreation Services Manager has been consulted to ensure there is officer capacity to deliver this project and to ensure if the intended sites do need to be closed for installation that it would be timely to do so during May/June 2012.

If sites need to be closed during installation, the public will be informed about the reasons for carrying out this work and the Council will work with service users to minimise disruption during this time.

2.7 Summarise key risks associated with the project

Risk	Actions to mitigate risk
DECC may review the RHI scheme and reduce the tariff rate before the systems are registered.	<p>Officers are seeking early project approval so that installation can start as soon as possible.</p> <p>Contracts for supply and installation will be flexible with a ‘call off’ system so that systems will not be installed if the tariff is reduced.</p>
Success of the project relies on the installation of the equipment within the required timescales by approved contractors.	Kier Energy Innovations are aware of the timeframes and are accredited by the Microgeneration Certification Scheme (MCS).

Intended sites found not suitable	If one or more intended sites are found unsuitable, the number of panels can be increased on the remaining sites.
Applicable planning permission not granted	This is unlikely, but if planning permission was denied on all three sites, we would look to install solar thermal on other sites.
Contractor does not install as agreed or equipment not installed correctly	Contracts will be flexible with a 'call off' system so that systems will not be installed if contractor is not working to agreed timeframes. Energy production can be monitored and the installation programme stopped if the equipment is not sufficiently effective.
Vandalism	The panels will be positioned so they are difficult (ideally impossible) to access by the public.

2.8 Financial implications

- a. Appraisal prepared on the following price base: 2011/12
- b. Specific Government incentive conditions are:
 - Systems under 45KWth must be accredited by the Microgeneration Certification Scheme (MCS).

Other comments

- c.
 - The tariff will be linked to the Retail Price Index (RPI) that ensures that each year they follow the rate of inflation.
 - There is potential for greater savings if the cost of gas increases above inflation.

2.9 Capital & Revenue costs

(a) Capital	£	Comments
Building contractor / works		
Purchase of vehicles, plant & equipment	140,000	
Professional / Consultants fees		
IT Hardware/Software		
Other capital expenditure		
Total Capital Cost	140,000	

(b) Revenue	£	Comments
Revenue from energy bill savings and tariff.	-15,000	Based on guaranteed tariff and current energy prices.
Total Revenue Cost	-15,000	

2.10 VAT implications

There appears to be no apparent VAT implications at this time on the basis of the supplied information.

2.11 Other implications

Planning approval will be required for all of the sites and planning applications may take up to eight weeks to be approved. Applications will therefore be written as soon as sites are confirmed.

2.12 Estimate of staffing resource required to deliver the project

Name	Work
Andrew Limb	Champion
Clare Palferman	Co-ordination and project management
Bob Hadfield	Procurement
David Kidston	Budget Management
Ian Ross	Project and contract management and delivery
Sam Griggs	Installation and monitoring advice
Planning	Planning permission and advice

2.13 Identify any dependencies upon other work or projects

Installation on these three sites is not dependent on any other Council work or projects.

2.14 Background Papers

- 15-02-12 Report for ESG on the Solar Thermal Project.

2.15 Inspection of papers

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