

DERBYSHIRE COUNTY COUNCIL**CABINET****21 OCTOBER 2014****Report of the Strategic Director Corporate Resources****UPDATE ON THE SOLAR PV CAPITAL FUND AND OTHER
RENEWABLE ENERGY OPPORTUNITIES.****(Council Services)****1. Purpose of the Report**

This report provides an overview of renewable energy installation opportunities available to Derbyshire County Council owned properties and provides an update to Cabinet on the Solar Photovoltaics (PV) installation spend so far and seeks approval to use some of the allocated £500,000 for alternative renewable energy installation opportunities.

2. Information and Analysis

Derbyshire County Council has a commitment to improve its assets, helping to reduce energy consumption to reduce costs and carbon emissions. As part of this, the Council is currently exploring a range of opportunities to retro-fit renewable energy technologies at suitable council owned and occupied properties to help reduce costs and generate an income from either the Feed in Tariff (FiT) or the Renewable Heat Incentive (RHI).

At Cabinet on 12th July 2011, approval was given for the allocation of £500,000 from the 2011/12 Corporate Capital Programme to install solar PV on corporate and school buildings, with £300,000 to be invested in schools and £200,000 to be invested in corporate buildings. More recently, additional feasibility work has commenced looking at other renewable energy technologies that could be installed to utilise sustainable sources of heat, which will reduce the Council's reliance on fossil fuels and generate an income from the RHI. This initial feasibility work has identified that utilising a range of renewable energy technologies at Council buildings and not solely looking at solar PV will provide greater opportunities for

reducing fossil fuel usage, carbon emissions and cost as well as increasing income opportunities through the RHI.

The RHI is similar to the FiT in that it pays back a sum per kWh of generated energy, in this case heat rather than electricity. There are several technologies which are eligible for the RHI and there is a different tariff applicable to each one, these include biomass, combined heat and power (CHP), Ground and Air source heat pumps and solar collectors. As an example, an initial business case has been proposed to replace an oil fired boiler with a biomass boiler at a Council depot; the initial payback period using a discounted cashflow looks very promising at 6 years with a possible profit over 20 years of £0.66M, further feasibility work will be done on this and it is to proceed a further cabinet report which will be produced.

It is therefore proposed that the capital finance previously allocated for solar PV is made available to a range of renewable energy technologies. Since the capital programme funding was allocated for roof mounted solar PV, 4 installations have been completed at a total cost of £50,259. Structural constraints, predominantly at schools, have delayed progress on any further design and installations. In particular, pitched roof projects were originally identified as it was believed that these would be the most appropriate roof type. However when design feasibility had been completed by structural engineers it became clear that the timber rafters on UK roofs are not as wide as those in Europe, which the industry guidance is based on, therefore the Council would have to make structural alterations to pitched roofs in order for installations to comply with the guidance and the costs of this proved to be prohibitive. The feasibility of using flat roof installations was examined but unfortunately due to the amount of ballast needed to ensure an installation meets the wind lift requirements; many roofs have been deemed to have insufficient capacity to carry the added weight of the PV panels. So far approximately 20 feasibility studies have ended with this result. There is a possibility that 1-2 currently in the final stages of the design process may proceed.

As detailed in the update report to Cabinet on 16th April 2013, the solar PV FiT rate has been and continues to be reduced. Whilst this has not had a significant impact on the financial business case for any solar PV installed on corporate buildings, as the Council benefits from the FiT income and the reduced cost of electricity, it does have a greater impact on the business case for school solar PV installations as the school benefits from the free electricity with the Council benefitting only from the FiT income.

It is therefore proposed to remove the ring-fencing of the initial allocation, i.e £200,000 for corporate sites and £300,000 to schools; to identify additional corporate properties that will be suitable for solar PV installation; and to extend the scope of the remaining allocation so that other

renewable opportunities can be considered, particularly those which may be eligible for the Renewable Heat Incentive (RHI).

In addition to the proposal outlined above to expand the scope of the capital finance to enable investment in a range of renewable technologies on council properties, work is also currently being undertaken to identify council owned sites that may be suitable for larger renewable energy opportunities, particularly ground-mounted solar PV. Once more detail is available, local Members and Cabinet will be consulted.

3. Council's Commitment

A safer Derbyshire – sustainable and green communities.

This proposal demonstrates the Council's commitment to increasing energy efficiency and reducing carbon emissions from County Council buildings and developing the green technology sector, further developing its leadership role on mitigating climate change.

4. Financial Considerations

The previous Cabinet update on 16th April 2013 informed Cabinet that the FiT rates had changed significantly since the original money had been allocated. Since that update, rates have continued to fall slightly, which has increased projected payback periods further, as below;

- High rate- this has reduced from 15.44p/kWh to 14.38p/kWh
- Middle rate- reduced from 13.90p/kWh to 12.94p/kWh
- Low rate- reduced from 7.10p/kWh to 6.61p/kWh

As explained in the previous Cabinet update, the result of these reductions is that it has become increasingly unlikely that the income from the FiT will re-pay all costs and interest charges of any future installations.

Expanding the scope of the original allocation for the installation of solar PV on schools and corporate buildings to include any other renewable installations where the individual business case proves profitable will enable the Renewable Heat Incentive (RHI) to be capitalised upon.

The initial feasibility for replacing the current oil fired boiler with a biomass installation at a Council depot showed the following;

	£
Installation cost	172,420
Current oil cost	31,250
Biomass cost (per year)	23,148

Annual fuel saving	8,102
RHI payments	24,718
Cumulative savings	32,820
Profit after 20 years	665,956
Payback (DCF)	6 years
Annual CO ₂ savings	64 tonnes

5. Environmental Considerations

Within Derbyshire's Sustainable Community Strategy and Council Plan, there is a strong commitment to reduce the impact of climate change through reducing carbon emissions and supporting schools to become more energy efficient and exploring renewable energy technologies. This commitment was reinforced in October 2011 when Cabinet adopted an ambitious target to reduce carbon emissions by 25% by 31st March 2015 (based on 2010/11 baseline) from Council operations. The installation of a range of renewable energy technologies will help to meet this and any future targets.

6. Legal Considerations

As previously agreed, if any installations are undertaken at schools, an agreement will be required to ensure that the income (either FiT or RHI) is retained by Derbyshire County Council up until the point that the capital investment is recouped at which point the school will maintain the income.

7. Other Considerations

In preparing this report the relevance of the following factors has been considered; prevention of crime and disorder, equality and diversity, human resources, environmental, health and transport considerations.

8. Key Decision **NO**

9. Call-in

Is it required that call-in be waived for any decision on this report? **NO**

10. Background Papers

- Carbon Reduction, Provision of Solar Panels for Corporate and School Buildings – 12th July 2011 Cabinet Report.
- Update on the provision of solar PV for corporate and school buildings- 16th April 2013 Cabinet Report.

11. OFFICER RECOMMENDATION

That Cabinet:

- 11.1 Agrees to remove the ring-fenced allocation of £200,000 for corporate sites and £300,000 schools to allow for more flexibility and greater financial benefits.
- 11.2 Agrees to extend the scope of funding to enable alternative renewable opportunities to be considered.
- 11.3 Notes the potential of capitalising on the availability of the RHI through eligible schemes.
- 11.4 Notes that any future ground-mounted solar PV proposals will be subject to feasibility and business cases will be presented to Cabinet for consideration.

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