REPORT TO CABINET
16 July 2013

Cabinet Member: Councillor Gareth Roberts

Subject: PV Panels Electricity Producing Scheme - Phase 2

Contact Officer: Dafydd Gibbard, Senior Manager - Corporate Property

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Decision sought

That the Council continues with its investment in the second phase of the PV panels electricity producing scheme following the pilot scheme's success.

Local member's opinion

Not a local matter

Introduction

1 The Council's Carbon Management Scheme was adopted by the Board at its meeting on 25th May 2010?

2 The main aim of the scheme was to prepare a strategy and work plan to reach our challenging target of reducing our carbon emissions by 30% by the year 2014 / 15.

3 To date we have succeeded in obtaining a reduction of 15%, creating an annual revenue saving of over £400,000.

4 The Scheme already includes some renewable energy plans e.g. biomass system in a primary school, biomass central heating system for the Ffordd Bethel, Caernarfon, site.

5 Despite this, it was acknowledged from the start that ensuring further reductions to reach our long term target of 60% by 2020, would depend to a large degree on more ambitious plans. The use of renewable energy is core to this.

6 It was on this basis that the Council Board decided, in its meeting on the 11th October 2011, to invest £683,228 in the PV Panels and Solar Panels Pilot Scheme.

7 PV Panels are panels which are placed on a building's rooftop. They convert energy from the sun into electricity which can then be used in the building.

This means that less electricity needs to be purchased from the National Grid and therefore that expenditure is saved.

8 In addition to saving the cost of electricity from the grid, Central Government makes a financial payment for each unit of electricity generated from these panels. These payments are called the *Feed in tariff (FIT)*. It is a type of grant payment wich is guaranteed through a legal contract for a period of 25 years. The panels have a similar lifespan.

9 Solar Panels are a similar technology but instead of creating electricity, they use the sun's energy to heat water used in the building.

10 This was the business case which formed the basis for the Board's decission to invest in the pilot:

	PV and Solar Panels Pilot Scheme				
	Number of suitable sites	Capital Cost	Revenue and FIT Savings	CO_2 Savings (T)	Repayment Period
Electricity producing PV panels	16	£ 490,728	£ 43,770	50	11
Solar panels (hot water)	3	£ 192,500	£ 12,580	22	15

Table 1:

Reasons for recommending the decision

11 Following the decision, more detailed technical work revealed persistent problems with the Solar Panels (hot water) and, due to lack of confidence in the technology, the investment in the hot water Solar Panels has been stopped for the time being.

12 The work of installing the electricity producing PV panels was completed in 16 locations by December 2012. It has been a complete success and well as a learning curve for the Council. The scheme's final results are outlined in table 2.

Table 2

	PV Panels Pilot Scheme				
	Number of suitable sites	Capital Cost	Revenue and FIT Savings	CO_2 Savings (T)	Repayment Period
PV Panels	16	£ 289,260	£ 27,782	62	10.4

13 Roughly therefore, the scheme has led to higher CO2 savings than estimated. The capital cost has fallen substantially which has reduced the repayment period.

14 Of the capital designated for this work originally, £393,968 still hasn't been committed.

Relevant considerations

15 Following the pilot scheme's success, an assessment has been completed on the potential to extend the work to other buildings. It appears that 32 sites are suitable for the second phase of the scheme with the outline business case as follows:

Table 3

	Second Phase of the PV Panels Scheme				
	Number of suitable sites	Capital Cost	Revenue and FIT Savings	CO_2 Savings (T)	Repayment Period
PV Panels	32	£ 537,080	£ 55,404	111	9.6

16 In implementing the Pilot Scheme, out of the £683,228 authorised by the Council's Board, £289,260 has been spent. This leaves a balance of £393,968.

17 In order to complete the second phase of the PV Scheme an additional £143,112 would have to be added to the balance.

18 It is possible to fund this by using the savings to repay the original outlay. Although table 3 above shows that payback could be achieved in 9.6 years, as the equipment has a life expectancy of over 20 years, it is possible to repay the outlay over 20 years thus enabling an annual contribution towards the Council's savings target.

Next steps and timetable

19 If the recommendation is accepted, it would be possible to complete the design work, tendering and installation on site before the end of the year.

Statutory officers' opinions

Chief Executive: The Council can take pride in the success of the investment to date which has created both carbon and financial savings. I am therefore very supportive in the further development of this work.

Monitoring Officer: Nothing to add regarding propriety.

Head of Finance:

In the first phase of the Pv Panels (electricity generating) approved by the Board on the 11th October 2011, it was decided to invest £683,228 from internal reserves (as an external loan was not received as hoped originally.

The actual total expenditure was £289,260, which therefore leaves £393,968 uncommitted. Included here is an application to proceed with the second phase at a cost of £537,080. As £393,968 remains from the first phase, this leaves £143,112 to be funded from internal reserves.

The author states that this will lead to annual savings of £55,504 which enables repaying the funding loan and make a contribution to the savings plan over a period of 20 years. Of course, it is dependant on the premise that the equipment has an useful life of 20 years.

Appendix