

Subject: **Photovoltaic Solar Panel Implementation Plan for Non-Housing Properties - Update**

Date of Meeting: 19th January 2012

Report of: Strategic Director, Resources

Lead Member: Cabinet Member for Finance & Central Services

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Key Decision: No

Wards Affected: All

FOR GENERAL RELEASE**1. SUMMARY AND POLICY CONTEXT:**

- 1.1 The report provides an update on the installation of photovoltaic solar (PV) panels to non-housing council owned property.
- 1.2 Since the previous report to Cabinet on 9th June 2011, Property & Design have undertaken a procurement exercise for the installation of PV panels at 39 sites including 27 school sites (Lot 1) and 12 corporate civic buildings (Lot 2) listed in Appendix 1. The recently announced Government consultation on the changes to the solar PV feed-in tariff arrangements has had an adverse impact on the proposed business cases and payback periods making most of the proposed installations to these selected sites unviable. This report provides an update on the analysis of the resulting business cases for the two tendered Lots and recommends an alternative way forward.

2. RECOMMENDATIONS:

That Cabinet:

- 2.1 Delegates authority to the Strategic Director of Resources and Director of Finance to approve the purchase and installation of PV solar panels for the 3 main council corporate administration buildings (referred to in paragraph 3.11) to be refurbished in the Workstyles Phase 2 transformation project approved at Cabinet on 8th December 2011, after consultation with the Cabinet Member for Finance & Central Services.

- 2.2 Agrees that any approval given under paragraph 2.1 above shall apply only after (i) more detailed costs for the business case and a proposed funding model for such purchase and installation are provided by specialist PV solar sub contractors following a tendering exercise to be undertaken by the Strategic Construction Partnership contractor carrying out the building works contract for Workstyles Phase 2 and ; (ii) the publication of the Government's decision on the FiT payment consultation document
- 2.3 Agrees that with respect to schools sites, the Government FiT changes consultation feedback is needed before the council can discuss the revised business cases, pay back periods and possible funding mechanisms with the list of schools that have shown interest in the PV solar installations that the council have consulted with previously.

3. RELEVANT BACKGROUND INFORMATION:

- 3.1 Cabinet approved the installation of PV panels to 40 non-housing properties on the 9th June 2011 with a maximum funding of £2.6m subject to completion of a tendering exercise and the financial viability of each site. The initial 40 sites were selected through a desk-top exercise assessing their suitability in terms of building orientation and lack of over-shadowing, since then the list of sites has been reviewed in detail as set out at Appendix 1.
- 3.2 The June report set out the basis of the business case comprising three key elements:
- The cost of borrowing the estimated £2.6m capital installation costs on a straight line basis over a period of 15 years.
 - The PV panels would provide a source of free energy that could be used by the sites to offset their current electricity bills. Any energy produced in excess of their requirements would be sold and exported to the national grid. The business case assumed that such free energy would be available for the anticipated 25 year life of the panels.
 - The PV panels would provide a source of income through the Government's feed-in tariff (FiT) arrangements whereby the energy suppliers are required to pay a set amount per kWh of electricity produced by the panels whether or not the energy is exported or used by the sites themselves. The report alerted Cabinet to the expectation that the FiT payments would reduce substantially for any panels not installed and registered by the end of March 2012.

Due to the expected reductions in the FiT payments the specification of work required potential suppliers to guarantee completion and registration all of the sites by the end of March 2012.

- 3.3 Following further consultation and analysis this property list was amended to produce a tender list of suitable sites shown in Appendix 1 comprising 27 school sites in Lot 1 and 12 other corporate buildings in Lot 2.
- 3.4 The two lots were subsequently put out to tender in September 2011 through the existing Pro5 Micro-Generation Technologies Framework. Only one supplier submitted a tender by the return date which was evaluated and confirmed by the

evaluation panel as being bona fide. The main reason given by the other six suppliers for failing to submit a tender was their inability to meet the deadline of completion by the end of March 2012.

- 3.5 On the 1st November 2011 the Government announced a consultation exercise on changes to the FiT payments reducing these in some cases by more than 50% of the current levels. For example the FiT for a typical 50kWh installation was proposed to reduce from 32.9p to 15.2p per kWh and for the smaller domestic size installations of less than 4Kw the proposed reduction is from 43.3p per kilowatt hour to 21p. The consultation proposed that this reduction takes effect for any installations completed and registered by 12th December 2011 rather than the expected 31st March 2012. The consultation ended on 23rd December 2011 but it is uncertain when the final decision will be announced. In addition, as the stated implementation date in the government's consultation document was before the end of the consultation, this has led to an on-going legal challenge by various interested parties on the basis that the decision had already been made.
- 3.6 As none of our sites could be completed by the 12th December 2011 the business cases had to be revised to take account of this proposed decrease in FiT payments. The business cases were also adjusted to take account of additional information received from the procurement exercise submitted by the preferred bidder :
- That the panels are only guaranteed to maintain 80% of their initial output over their 25 year lifespan. Output is therefore anticipated to fall by approximately 1% per year reducing the amount of 'free' energy produced by the same amount.
 - A requirement for six monthly cleans (rather than originally stated annual cleans) and basic maintenance of the panels to maintain even these output levels. Due to access difficulties this will require the hire of scaffold or a cherry picker at some of the sites.
- 3.7 The proposed changes to the FiT tariffs and the adjustments above have had a dramatic effect on the business cases and in particular the pay-back periods. Other than the very largest sites, the business cases now show an annual financial loss in most cases for the first fifteen years until the borrowing is re-paid. The previous business cases showed a positive return pay back period of less than 5 years in most cases. Financial savings in subsequent years are also much diminished.

Appendix 2 indicates the Net Annual Cash Flows for both Lots which translate to the following Net Present Value (NPV) forecasts for the full 25 year period.

	Overall NPV (Original Business Case)	Overall NPV (Revised Business Case)
Lot 1	£ 4,314,000	£ 509,000
Lot 2	£ 921,000	- £ 101,000

The projected returns are dependent on assumptions regarding energy price rises, panel performance and efficiency as well as the revised FiT payments.

Lot 1 – Schools

- 3.8 The business case for the schools was originally based on the schools taking advantage of the free energy generated by the panels and the corporate centre absorbing the cost of the borrowing offset by receipt of the FiT payments. This would have resulted in reduced electricity bills for the schools and a source of additional income for the council through the FiT payments peaking in years 16 to 25 after the initial borrowing had been paid off.
- 3.9 However, the proposed reduction in the FiT payments makes this business case unsustainable for the council as the lower FiT payments would be unable to cover the cost of the borrowing in the early years. A revised business case was therefore devised so that the schools would benefit from both the FiT payments and the free energy and pick up all of the installation costs. The corporate centre would therefore facilitate and manage the installation works and arrange the finance but take no financial benefit.

An individual business case would need to be prepared for each school site and a legal agreement drafted and agreed between the school governing board and the council.

Lot 2 –Corporate Civic Sites

- 3.10 Many of these sites are much smaller in scope and the proposed reduction in the FiT payments make these business cases unsustainable with the borrowing costs and the on-going cost of maintenance not being covered by the FiT payments and the anticipated reduction in electricity bills. Therefore the council would suffer a loss over the life of the scheme.
- 3.11 Three large, main administration sites – Hove Town Hall, Bartholomew House and the Learning Development Centre – are scheduled for refurbishment under our Workstyles Phase 2 transformation project and have been identified as having reasonable break even business cases. These refurbishment works will be procured through Property & Design's Strategic Construction Partnership with Westridge Construction. It is possible for the PV panels to be included within these works programmes where Westridge tender these works to specialist domestic subcontractors giving an opportunity for local labour to be employed. It may also enable an installation cost to be negotiated to take advantage of Westridge's existing scaffolding and plant and the potential reduction in the PV panel prices as detailed in 3.13 below.

Procurement Options

- 3.12 The original tendering exercise explicitly required suppliers to guarantee completion of the installations by the end of March 2012. As a result of this requirement all but one of the suppliers invited to tender pulled out. As none of our installations will now be completed by this deadline the council is open to challenge if we proceed with the original supplier and corporate procurement advice is therefore that we terminate the original tender exercise.
- 3.13 In addition our tender exercise was undertaken at the peak of the PV panel market where the FiT payments were at their highest and we were competing with a large number of other buyers (including other councils as well as the domestic market) to secure the panels before the March 2012 deadline. It is anticipated that as the reduced FiT payments take effect the cost of the panels will reduce and if we had

been able to pursue our original tender exercise it would have resulted in us purchasing at the peak price while obtaining the proposed lower FiT payment.

Housing solar PV panel update

- 3.14 The council has been developing a project to install Photo-Voltaic solar panels (PV) on suitable houses and blocks within its housing stock. The project aims to support the council in achieving two of its key priorities; 'making Brighton & Hove a more sustainable city' (by reducing carbon emissions) and 'tackling inequalities' (by reducing tenants' energy bills). The options appraisal completed at the beginning of 2011 identified approximately 1,600 roofs as being suitable for solar PV. Approval was given at Cabinet on the 22nd September 2011 for borrowing of up to £15 million to procure the supply and install of solar PV via an approved framework agreement. The Government announced at the end of October 2011 that it will halve the current FIT rate to 21p for schemes registered after the 12 December 2011. In order to take advantage of higher rate FIT the council was able to initiate a 'quick win' project at short notice to link solar PV to roofing and other works currently being undertaken on council homes in order to deliver solar PV installations by the deadline of 12 December 2012. The council's Repair & Improvement Partner Mears Limited undertook these works and 17 installations were completed before the deadline. The full outcome of the government review will be announced in January 2012 and the longer term housing PV programme will be revised and developed in light of this, in conjunction with tenants to reflect the new rates and FIT scheme requirements. A report outlining the options and business case will be presented to Cabinet at the appropriate time.

4. CONSULTATION

4.1 Government Consultation

The Department of Energy & Climate Change (DECC) produced a consultation document on 1st November 2011 announcing a proposed change in the FiT arrangements for solar PV panels. The Council submitted a joint response to the consultation objecting to the speed and extent of the FiT reductions prior to the consultation end date of 23rd December 2011. There are on-going legal challenges to the government's proposed FiT reductions and until we know the outcome of the Government consultation it is difficult to predict the impact on our proposals and the overall business case. Further consultation will be undertaken when more details are known.

4.2 Lot 1 – Schools

All school sites on the tender list have been written to and visited during September 2011 by Property & Design to explain the PV panel proposals and seek their support for their installation. Schools are being written to again to advise of the impact the Government FiT proposals will have on the business cases and explain that further information will be available following the results of the government's consultation document and this report. The council will support and advise the schools on implementation if any of the revised business cases prove to be viable.

4.3 Lot 2 –Corporate Civic Sites

All building managers have been written to and advised of the proposal to install PV panels at their building. Managers will be further updated in due course.

5. FINANCIAL & OTHER IMPLICATIONS:

Financial Implications:

- 5.1 The report to Cabinet on 9 June 2011 approved £2.6m of borrowing to fund investment in Lot 1 and Lot 2 sites which included the 3 proposed sites above namely, Hove Town Hall, Bartholomew House and the Learning Development Centre. Individual business cases for the 3 sites will need to be revisited upon confirmation of the outcome of the consultation exercise and further tendering exercises to demonstrate that they are viable. Should the business cases prove viable the cost of installation will be met from borrowing with the financing costs being met from a combination of FiT and energy savings. Similarly revised individual business cases will need to be prepared for the schools sites that will also need to demonstrate that they are viable.

Costs of £6,600 have been incurred to date for professional fees and planning fees. Significant officer time has been incurred on this project the cost of which would have been met from existing budgets.

Finance Officer consulted: Rob Allen

Date: 9th January 2012

Legal Implications:

- 5.2.1 As the owner of the freehold in Hove Town Hall, Bartholomew House and the Learning Development Centre, the council can make alterations and improvements including the installation of solar PV panels, so long as these comply with the appropriate building regulations and fire safety requirements.
- 5.2.2 The council is entitled to terminate the recent procurement undertaken through the Pro5 framework agreement because the basis on which that procurement was undertaken has now materially changed. The procurement, purchase and installation of PV panels at the 3 main council corporate administration buildings as set out under this report can be accommodated under the council's existing Strategic Construction Partnership agreement.
- 5.2.3 The statutory framework for the Feed-in Tariff scheme is provided by sections 41-43 of the Energy Act 2008 and associated regulations.

Lawyer Consulted: Isabella Sidoli

Date: 9th January 2012

Equalities Implications:

- 5.3 We do not foresee significant equalities implications with the proposals recommended in this report.

Sustainability Implications:

- 5.4 The proposals outlined would ensure that the council benefits from renewable energy production and reduces its carbon footprint without compromising the financial viability of the scheme.

Crime & Disorder Implications:

- 5.5 There are no crime & disorder implications.

Risk & Opportunity Management Implications:

- 5.6 There are significant risks in proceeding with the original full solar panel PV programme in terms of the financial returns. The report recommendations mitigate these risks by proposing a reduced programme of sites.

- 5.7 Public Health implications:

There are none.

Corporate / Citywide Implications:

- 5.8 The proposals support the council's corporate plan priorities to tackle inequality and create a more sustainable city.

6. EVALUATION OF ANY ALTERNATIVE OPTION(S):

- 6.1 Proceeding with the project as originally proposed would have resulted in the following risks:
- As installation would occur after the originally envisaged 31st March 2012 deadline the council will be at risk of challenge from other suppliers who dropped out of the tender process due to the stipulated timescales.
 - The project is not financially viable leading to financial losses in each of the first fifteen years for most of the sites.
 - Tendering the project at the peak of market demand would have resulted in the council potentially purchasing panels at their highest price.

7. REASONS FOR REPORT RECOMMENDATIONS

- 7.1 The overall business case for the installation of the PV panels has changed dramatically since June Cabinet 2011 originally gave approval for the project. Based on the reductions in the FiT payments proposed in the recent government consultation the NPV of the installations are no longer financially viable with a positive return payback periods exceeding fifteen years for the majority of sites.
- 7.2 It is therefore recommended that the council take advantage of the Workstyles Phase 2 refurbishment project that has identified building locations suitable for significant investment to improve customer experience, service delivery and staff working choices and install the solar PV panels at these sites to help reduce the council's carbon footprint.

SUPPORTING DOCUMENTATION

Appendices:

Appendix 1: List of sites

Appendix 2: Net Annual Cash Flows

Documents in Members' Rooms:

None

Background Documents:

None

List of Sites Tendered for Solar PV Installations

Lot 1 – School Sites

Balfour Primary School
Dorothy Stringer High School
Downs Park Special School
Blatchington Mill High School
Patcham Infant School
Hove Park Lower School
Cedar Centre Primary
Saltdean Primary School
Varndean School
Rudyard Kipling Primary School
Bevendean Primary School
Carden Primary School
Longhill High School
Goldstone Primary School
Coldean Primary School
Hangleton Infant School
Westdene Primary School
Hillside Special School
Cedar Centre Secondary School
Peter Gladwin Primary School
Somerhill Junior School
Hertford Junior School
Patcham Junior School
St Paul's CP School
St John the Baptist Primary School
Stanford Infant School
St Mary Magdalen RC Primary School (School subsequently withdrew)

Lot 2 – Other Corporate Buildings

Withdean Leisure Centre
Prince Regent Leisure Complex
Hove Town Hall
Kings House
Stanley Deason Leisure Centre
Learning Development Centre
Bartholomew House
Hove Library
Acorn Nursery, Portslade
Turner Children's Centre
Oxford Street Housing Office
New England House (Subsequently withdrawn due to future potential redevelopment)

Net Annual Cash Flow Forecasts

LOT ONE – SCHOOL SITES

Net Annual Cashflow (x £1,000)																									
Year:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Cashflow:	(43)	(34)	(25)	(15)	(4)	(1)	1 *	4 *	7 *	9 *	(22)	(20)	(15)	(13)	(8)	214	219	221	226	228	230	232	233	235	237

The proposed finance arrangement with schools is that all the risks transfer to the schools, i.e. the cost of the borrowing and maintenance is borne by the schools who receive the benefit of the FiT payments and free energy to offset their electricity bills. For example in year 3 the schools will need to find an additional £25,000 from their budgets to service the cost of borrowing and maintenance even after the FiT and free energy is taken into account.
 * see note 4 below

LOT TWO – CORPORATE CIVIC SITES

Net Annual Cashflow (x £1,000)																										
Year:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Cashflow:	(26)	(24)	(22)	(20)	(18)	(17)	(17)	(17)	(16)	(16)	(24)	(24)	(23)	(23)	(22)	40	41	41	42	42	42	42	42	42	42	42

Note – figures in brackets are negative cashflows.

The cashflow forecasts include the following:

1. The cost of borrowing for years one to fifteen inclusive.
2. The value of the anticipated ‘free’ energy generated by the panels and used by each site to offset their energy bills. This model assumes that energy prices will increase at a rate of 10% for the first five years and in line with inflation (assumed at 2.5%) thereafter.

3. Receipt of the Feed in Tariff payment based on the rate proposed in the current Government consultation document rises in line with inflation (assumed at 2.5%).
4. Estimated cost of twice yearly cleaning to maintain energy generation output. Estimated cost of replacement inverters once during the lifetime of the installation during years 11 and 25 (at the end of the manufacturers warranty period). Such maintenance costs to increase in line with inflation (assumed at 2.5%).
5. A reduction in the efficiency and energy generation capabilities of the panels of approximately 1% per annum in line with manufacturer's warranties.

