WARWICK DISTRICT COUNCIL	**Executive** **11th January 2012**	**Agenda Item No.** **8**

Title:	Proposal to install photovoltaic systems to suitable WDC housing and corporate properties after unexpected Feed-in-Tariff changes.
For further information about this report please contact	Jameel Malik, Head of Housing and Property Services
Service Area	Housing and Property Services
Wards of the District directly affected	All.
Is the report private and confidential and not for publication by virtue of a paragraph of schedule 12A of the Local Government Act 1972, following the Local Government (Access to Information) (Variation) Order 2006	No
Date and meeting when issue was last considered and relevant minute number	*"Proposal to install photovoltaic systems to suitable WDC housing and corporate properties"* –Minute 53 – Executive –14th September 2011
Background Papers	*"HRA Self Financing"* –Executive – 8th June 2010 *"A feasibility study into the applicability of PV installations and to identify, implement of delivery vehicle to facilitate a programme of installation on Council homes and corporate properties within the district."* – Tender document return – February 2011 *"Feasibility Study"* - PlaceFirst – April 2011 *"Financial Analysis – PV Installation programme"* – PlaceFirst – June 2011 *"Corporate property, eligibility for PV installation"*- PlaceFirst – July 2011

Contrary to the policy framework:	No
Contrary to the budgetary framework:	No
Key Decision?	Yes
Included within the Forward Plan? (If yes include reference number)	Yes (365)
Equality & Sustainability Impact Assessment Undertaken	No

Officer/Councillor Approval

Officer Approval

Officer Approval	**Date**	**Name**
Chief Executive	15.12.11	Chris Elliot
Deputy Chief Executive	15.12.11	Bill Hunt
Deputy Chief Executive and	15.12.11	Andrew Jones

Monitoring Officer		
Head of Service	13.12.11	Jameel Malik
Section 151 Officer	15.12.11	Mike Snow
Portfolio Holder(s)	15.12.11	Councillor Norman Vincett
Consultation Undertaken		
At the Tenant Panel meeting on 16th August 2011 the Panel was consulted about the proposed PV project and more recently the tenants directly affected/benefiting from the photovoltaic systems were consulted who support the proposed recommendations.		
Final Decision?		Yes
Suggested next steps (if not final decision please set out below)		

1 SUMMARY

1.1 In September the Executive considered the report *"Proposal to install photovoltaic systems to suitable WDC housing and corporate properties"* and approved the installation of up to 511 Photovoltaic (PV) systems on Housing Revenue Account (HRA) assets and up to 6 corporate properties by 31st March 2012.

1.2 Subsequently the Department of Environment and Climate change (DECC) unexpectedly reduced the Feed-in-Tariffs (FiT) rates, with effect from 12th December 2011.

1.3 This early review of the FiT rates has resulted in the reappraisal of the business case and thus a requirement to seek additional Executive approval. However, the reduced FiT income is partly offset by lower costs of procurement for the systems.

1.4 In addition, the delays caused by this change and the results of surveys undertaken so far have reduced the size of the achievable programme for HRA properties.

1.5 This report seeks Executive approval to deliver a revised district-wide programme to install up to 170 PV systems on HRA assets by 31st March 2012, with no installations on corporate properties.

2 RECOMMENDATION

2.1 That Executive approve the direct procurement by the council of a programme to procure and install up to 170 PV systems, on HRA assets by 31st March 2012. The actual number installed will depend upon structural surveys on proposed properties, tenant agreement, and the volume that can be completed by 31st March 2012.

2.2 The Executive agree to reduce expenditure in the Housing Investment Programme for the installation of PV systems on Housing Revenue Account properties from £3,380,000 to £850,000. This will be further reduced in proportion to the number of installations not completed by 31 March 2012.

2.3 The Executive agree to remove the £375,000 programme for the installation of PV systems on corporate properties from the Other Capital Programme.

2.4 That Executive notes that the Head of Housing and Property Services will review and present for approval (if required) a business case for installation of PV systems on corporate properties where the NPV is more than £0 after 25 years (not including energy savings).

2.5 The Executive note that the financing of this project will be funded throughout its life from internal resources and/or prudential borrowing as appropriate as part of the Council's overall treasury management/funding strategy, the precise funding to be determined when the Capital Programme funding is next reviewed.

2.6 Executive notes a future report will be presented providing a post completion review and to explain further changes to FiT post April 2012.

3 REASONS FOR THE RECOMMENDATION

3.1 On 22nd September 2011 full Council agreed to procure and install up to 517 PV systems on up to 511 HRA assets and up to 6 corporate properties by the 31st March 2012.

3.2 This preferred business case estimated capital expenditure to deliver the proposed PV systems on HRA properties (Houses and Blocks of Flats) at £3.4m. The scheme was expected to generate in cash terms a surplus of £8.1m over 25 years, repaying the investment after 11 years. This surplus equated to a Net Present Value (NPV) of £2.8m at today's prices.

3.3 In terms of the corporate properties the capital expenditure to deliver PV panels under the General Fund was estimated at £375,000. The scheme was expected to generate in cash terms a return of £428,000 over 25 years, repaying the investment in year 15. This equated to a Net Present Value of £75,000 at today's prices. This surplus was purely from the FiT income, notwithstanding additional savings on electricity costs from using the electricity generated in buildings owned and operated by WDC. The summary of the previous business case is shown in the table below:

	Capital Expend. £ '000	25 year Net Cash Surplus £ '000	Net Present Value 'NPV' of Surplus £ '000	Payback Period
HRA Houses (304)	1,894	4,793	1,679	10 years
HRA Flats communal areas (207)	1,486	3,264	1,081	11 years
HRA Total	**3,380**	**8,057**	**2,760**	
GF Corporate Properties (6)	375	428	75	15 years
General Fund Total	**375**	**428**	**75**	

3.4 The average unit cost and income for HRA Houses and Blocks of Flats for the previous business case was estimated as:

	Capital Expend. £ '000	25 year Net Cash Surplus £ '000	Net Present Value 'NPV' of Surplus £ '000
HRA Houses	6.2	15.8	5.5
HRA Blocks of Flats (communal areas)	7.2	15.8	5.2

3.5 Amongst other things the HRA business case assumed an average Feed in Generation tariff rate at 43.3p and Export tariff rate of 3p.

3.6 Following Executive decision, the Housing and Property Service appointed G. Purchase Construction Ltd through the OJEU (Official Journal of the European Union) compliant Birmingham City Council Procurement Framework. G. Purchase Construction Ltd undertook surveys of properties, agreed for tenants to sign variations to their Tenancy Agreement and assisted with the procurement of materials. The total cost of work completed thus far has been estimated at up to £83,909.80. Agreement to the recommended options would result in the Council not forgoing / incurring a significant proportion of this one off cost as part of the proposed/new PV scheme.

3.7 Following Executive decision in September 2011, the Department of Environment and Climate Change announced the first phase of PV tariff and eligibility review with a consultation response date of 23rd December 2011. The review proposed to:

- Significantly reduce the FiT tariff rate from 12th December 2011.
- Reduce the FiT rate by a further 20% for organisations who install PV systems at multiple sites from 1st April 2012.

3.8 The announcement confirmed that schemes installed and commissioned before the 12th December 2011 would receive the existing FiT rates for the scheme's duration, 25 years. Schemes installed and commissioned after 12th December but before 1st April 2012 would receive the new FiT generation rate. For the smaller PV systems suitable for installation on HRA houses and block of flats this would be a reduction in the FiT rate from 43.3p per kWp to 21.0p per kWh.

3.9 However Friends of the Earth and solar companies Solarcentury and HomeSun challenged the cut-off point (of 12th December 2011) - which came two weeks before the Department of Energy and Climate Change (DECC) consultation on changes to the scheme was due to end - was unlawful. On 21st December 2011, the High Court ruled that a decision to bring that move forward to December was legally flawed. In response the Government has said it would defend a challenge at judicial review. We are awaiting the final outcome of this decision and the results of the consultation.

3.10 As a result of reductions in the number of properties in the planned programme and lower installation and equipment costs obtained in the procurement exercise, the capital expenditure to deliver the proposed PV systems on HRA properties

(Houses and Blocks of Flats) has reduced to £849k. The scheme is now forecast to generate a cash surplus of £688k over 25 years, repaying the investment after 16.5 years. This surplus equates to a Net Present Value of £58k at today's prices.

3.11 The capital expenditure to deliver PV panels on General Fund corporate properties is estimated to be £257k. Due to reduced costs this is lower than the £375k approved in September 2011, despite including one additional site, the former Kenilworth Police Station. Overall, the corporate property systems would generate in cash terms a return of £70k over 25 years, repaying the investment in year 22. This is a NPV of -£38k, indicating a loss in real terms.

3.12 Even estimating potential energy savings in WDC operated corporate buildings, the financial case for installing PV panels on corporate properties is marginal at best, an NPV of £0 after 25 years, i.e. breaking even in real terms. In fact all corporate properties are projected to make an NPV loss except The Royal Spa Centre which could make a £16k NPV surplus, assuming all assumptions are correct and the building continues in its current usage for at least 25 years.

3.13 In light of the impending General Fund deficit it would be unsustainable to invest in PV systems with such a small return on investment. For HRA properties self financing provides financial stability, and the HRA Business Plan demonstrates flexibility to better mitigate against variations in costs and income.

3.14 The summary of the revised business case is shown in the table below:

	Capital Expend. £ '000	25 year Net Cash Surplus £ '000	Net Present Value 'NPV' of Surplus £ '000	Cash Payback Period
HRA Houses (101)	491	409	41	16 years
HRA Blocks of Flats (69)	358	279	17	16.5 years
HRA TOTAL (170)	**849**	**688**	**58**	**16.5 years**
GF Corporate Properties (7)	257	73	(38)	22 years
General Fund Total (7)	**257**	**73**	**(38)**	**22 years**

3.15 The average unit cost and income for HRA Houses and Blocks of Flats is:

	Capital Expend. £ '000	25 year Net Cash Surplus £ '000	Net Present Value 'NPV' of Surplus £ '000
HRA Houses	4.9	4.0	0.3
HRA Blocks of Flats (communal areas)	5.2	4.0	0.3

3.16 The detailed projections for Corporate Properties:

Property	Capital Expend. £ '000	25 year Net Cash Surplus /(Deficit) £ '000	Net Present Value 'NPV' of Surplus /(Deficit) £ '000	Cash Payback Period
Royal Spa Centre (50 kWp)	115	53	(8)	20 years
Victoria Bowls Complex (24 kWp)	55	8	(12)	24 years
Warwick Gates (19.2 kWp)	44	(1)	(12)	never
Abbey Fields SP (10.0 kWp)	23	5	(4)	23 years
Old Kenilworth Police Station (4.0 kWp)	9	5	(0)	19 years
St Nicholas Park LC Sports Hall (2.8 kWp)	6	1	(1)	23 years
North Lodge, Brunswick St Cem. (2.2 kWp)	5	3	(0)	19 years
CORPORATE PROPERTIES TOTAL	**257**	**73**	**(38)**	22 years

3.17 The key changes from the earlier business case can be summarised as follows:

- FiT generation tariff rates have changed as follows;

kWh Bands	FiT Generation rate before 12th December 2011 (p/kWh)	FiT Generation rate after 12th December 2011 (p/kWh)
4kW	43.3	21.0
>4-10kW	37.8	16.8
>10-50	32.9	15.2
>50-100	19.0	12.9

- Costs for the HRA project have reduced from £3,380k to £849k.
- Costs for the General Fund project have reduced from £375k to £257k.
- Numbers of proposed PV installations have reduced from 517 to 170
- Payback period for General Fund buildings has increased from 15 to 22 years
- Payback period for HRA buildings has increased from 11 to 16.5 years
- The PV system install cost for a 2kWp system has reduced in cost from £5,670 to £4,400, from the procurement exercise on materials carried out before the announcement of FiT cuts. It is believed that a second procurement exercise will secure additional savings, though to be prudent the existing certain prices have been used as the base case in this report.

3.18 Financial projections are summarised in **Section 5** Budgetary Framework for the recommended option, and the projections for alternative options considered are included in **Section 6**. Details on the assumptions and financial models are contained in **Appendix 2**.

4 POLICY FRAMEWORK

4.1 Although the Feed in Tariff has been reduced, our tenants will still benefit from the following:

- Lower electrical bills for our tenants.

- Helping to alleviate fuel poverty due to the increasing cost of electricity and low incomes. All contributing to the Council's corporate and Warwick Partnership priorities.
- Improve health outcomes for our tenants.
- Reduce our carbon footprint, and giving a better Energy Performance Certificate for our Housing Stock.
- Creating local employment and training opportunities.
- To enable the Council to demonstrate effective community leadership in reducing the impact on the environment from non-renewable energy sources, and fuel poverty for our tenants.

4.2 A typical PV system could save over one tonne of CO_2 per year, that's 130,000 tonnes over the lifetime of the proposed scheme (source: Energy Saving Trust).

4.3 An average a three bedroom house uses 3,300 kWh of electricity per year. A typical domestic PV system can produce around 50% of the electricity a household uses in a year. This could potentially halve the annual cost of electricity for a household (source: Energy Saving Trust).

5 BUDGETARY FRAMEWORK

5.1 The prices obtained from the current procurement exercise were lower than those estimated in the report to the Executive in September 2011, which partly offsets the reduction in the FiT tariff payments. The number of properties in the likely installation programme has also been reduced giving a significantly reduced capital cost, but reducing projected financial returns.

5.2 The following table summarises the financial forecasts based upon current prices:

	Capital Expend. £ '000	25 year Net Cash Surplus £ '000	Net Present Value 'NPV' of Surplus £ '000	Cash Payback Period
HRA Houses (101)	491	409	41	16 years
HRA Blocks of Flats (69)	358	279	17	16.5 years
HRA TOTAL (170)	**849**	**688**	**58**	**16.5 years**
GF Corporate Properties (7)	257	73	(38)	22 years
General Fund Total (7)	**257**	**73**	**(38)**	**22 years**

5.3 The detailed projections for corporate properties are:

Property	Capital Expend. £ '000	25 year Net Cash Surplus /(Deficit) £ '000	Net Present Value 'NPV' of Surplus /(Deficit) £ '000	Cash Payback Period
Royal Spa Centre (50 kWp)	115	53	(8)	20 years
Victoria Bowls Complex (24 kWp)	55	8	(12)	24 years
Warwick Gates (19.2 kWp)	44	(1)	(12)	never

Abbey Fields SP (10.0 kWp)	23	5	(4)	23 years
Old Kenilworth Police Station (4.0 kWp)	9	5	(0)	19 years
St Nicholas Park LC Sports Hall (2.8 kWp)	6	1	(1)	23 years
North Lodge, Brunswick St Cem. (2.2 kWp)	5	3	(0)	19 years
CORPORATE PROPERTIES TOTAL	**257**	**73**	**(38)**	22 years

5.4 Estimated energy savings in corporate properties operated by WDC give slightly more optimistic projections, as shown below. Note, these assume the buildings will continue in their current usage for the full 25 years:

Property	**Capital Expend. £ '000**	**25 year Net Cash Surplus /(Deficit) £ '000**	**Net Present Value 'NPV' of Surplus /(Deficit) £ '000**	**Cash Payback Period**
Royal Spa Centre (50kWp)	115	99	16	17 years
Victoria Bowls Complex (24 kWp)	55	25	(4)	20 years
Warwick Gates (19.2 kWp)	44	(1)	(12)	never
Abbey Fields SP (10.0kWp)	23	14	0	18 years
Old Kenilworth Police Station (4.0 kWp)	9	5	(0)	19 years
St Nicholas Park LC Sports Hall (2.8kWp)	6	4	(0)	19 years
North Lodge, Brunswick St Cem. (2.2kWp)	5	3	(0)	19 years
CORPORATE PROPERTIES TOTAL	**257**	**149**	**(0)**	19 years

5.5 The payback periods and NPV's show that PV installations are significantly less attractive than before the FiT changes when viewed from a financial investment perspective, particularly for corporate properties. Considering the possible financial returns (as illustrated by the Payback periods and the Net Present Value calculations), it is not possible to support the investment on solely financial grounds. For any scheme with a long payback period, or marginal NPV, there should be relative certainty over the long term figures and minimal risk, neither of which applies in this case. In addition, there will be increased expenditure in the early years as the capital investment costs are repaid.

5.6 It is possible that the later start to the installation programme and the effect of the FiT rate changes nationally could enable us to obtain even lower prices in a second procurement exercise, the cost of which is already covered in our existing expenditure. Based upon estimates of prices likely to arise from this exercise, an updated forecast (excluding the projected energy savings) is set out in the table below :

	Capital Expend. £ '000	**25 year Net Cash Surplus £ '000**	**Net Present Value 'NPV' of Surplus £ '000**	**Cash Payback Period**
HRA Houses (101)	424	511	102	14 years
HRA Blocks of Flats (69)	309	352	69	14.5 years
HRA TOTAL (170)	**733**	**863**	**171**	**14.5 years**
GF Corporate Properties (7)	223	117	(9)	19 years
General Fund Total (7)	**223**	**117**	**(9)**	**19 years**

5.7 Detailed projections for corporate properties with the lower projected prices (excluding the projected energy savings):

Property	Capital Expend. £ '000	25 year Net Cash Surplus /(Deficit) £ '000	Net Present Value 'NPV' of Surplus /(Deficit) £ '000	Cash Payback Period
Royal Spa Centre (50kWp)	100	72	5	18 years
Victoria Bowls Complex (24 kWp)	48	17	(6)	21 years
Warwick Gates (19.2kWp)	38	7	(8)	23 years
Abbey Fields SP (10.0kWp)	20	9	(1)	20 years
Old Kenilworth Police Station (4.0 kWp)	8	7	1	17 years
St Nicholas Park LC Sports Hall (2.8kWp)	6	2	(1)	21 years
North Lodge, Brunswick St Cem. (2.2kWp)	4	3	0	19 years
CORPORATE PROPERTIES TOTAL	**223**	**117**	**(9)**	19 years

6 ALTERNATIVE OPTIONS CONSIDERED

6.1 The initial business case and report to Executive evaluated all the viable alternative options. The preferred option which was approved by Council in September 2011 remains the most viable and hence the recommendation in this report is consistent with the earlier decision, albeit with a reduction in the PV installation programme from 517 to 170.

Appendix 1

Preferred Delivery Option - Warwick DC Self Delivery:

Option	In this option WDC would directly buy the panels, arrange installation and maintain the solar panels. In return WDC receive all of the Feed in Tariff (FiT) income.
Assumed Funding Costs	For prudence, the installation programme has been modelled as being financed by WDC using prudential borrowing to draw down debt under the following terms: § Debt is drawn down to cover the purchase and installation of the PV units and associated kit. § The debt is repaid evenly over 10 years § The interest rate is 3.5%. In reality this project will be funded throughout its life from internal resources and/or prudential borrowing as appropriate as part of the councils overall treasury management/funding strategy.
Tax	§ VAT on costs fully recoverable § No Corporation tax or capital allowance
Overheads	As the programme of installations is delivered directly by the council using existing resources and expertise we have assumed only minimal levels of overheads. These include: § Tenant Liaison § Accounts / audit fees § Tax & legal advice § Bank charges and project contingency

Appendix 2

Annual Income & Expenditure Projections

HRA: 101 Houses & 69 Blocks of Flats

Year	Capital Expend. £'000	Annual Maintenance & Other Costs £'000	FiT Tariff Income £'000	Loan/ Repay £'000	Loan Interest £'000	Annual Cash Surplus/ (Deficit) £'000
2011/12	(849.1)	(18.8)	2.7	847.6	(7.1)	**(24.6)**
2012/13	0.0	(10.8)	76.2	(84.8)	(49.4)	**(68.8)**
2013/14	0.0	(11.1)	79.3	(84.8)	(45.1)	**(61.7)**
2014/15	0.0	(11.4)	80.6	(84.8)	(40.1)	**(55.5)**
2015/16	0.0	(13.0)	82.0	(84.8)	(35.0)	**(50.8)**
2016/17	0.0	(20.4)	83.3	(84.8)	(29.9)	**(51.7)**
2017/18	0.0	(20.7)	84.6	(84.8)	(24.8)	**(45.6)**
2018/19	0.0	(21.0)	86.0	(84.8)	(19.2)	**(38.9)**
2019/20	0.0	(21.3)	87.4	(84.8)	(14.2)	**(32.9)**
2020/21	0.0	(21.6)	88.8	(84.8)	(9.3)	**(26.9)**
2021/22	0.0	(21.9)	90.2	(84.8)	(4.3)	**(20.8)**
2022/23	0.0	(22.3)	91.6	0.0	(0.1)	**69.3**
2023/24	0.0	(22.6)	93.0	0.0	0.0	**70.4**
2024/25	0.0	(22.9)	94.5	0.0	0.0	**71.5**
2025/26	0.0	(23.3)	95.9	0.0	0.0	**72.6**
2026/27	0.0	(23.7)	97.4	0.0	0.0	**73.7**
2027/28	0.0	(24.1)	98.9	0.0	0.0	**74.9**
2028/29	0.0	(24.5)	100.4	0.0	0.0	**76.0**
2029/30	0.0	(24.9)	101.9	0.0	0.0	**77.1**
2030/31	0.0	(25.3)	103.5	0.0	0.0	**78.2**
2031/32	0.0	(25.7)	105.0	0.0	0.0	**79.3**
2032/33	0.0	(26.1)	106.6	0.0	0.0	**80.5**
2033/34	0.0	(26.6)	108.2	0.0	0.0	**81.6**
2034/35	0.0	(27.0)	109.7	0.0	0.0	**82.7**
2035/36	0.0	(27.8)	112.7	0.0	0.0	**84.9**
2036/37	0.0	(19.4)	112.6	0.0	0.0	**93.1**
TOTAL	**(849.1)**	**(557.9)**	**2,373.2**	**0.0**	**(278.4)**	**687.8**