



**Report to: Full Council**

**Subject: Potential for installation of Photovoltaic Panels on Council Owned Buildings**

**Date: 5th October 2011**

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**1. Purpose of Report**

This report seeks Council approval to allocate budget provision to enable the purchase and installation of photovoltaic panels on Council owned buildings. .

**2. Background**

Reducing the Council's carbon footprint is a top priority and one of the key actions associated with this is to maximise the use of Council owned premises for renewable generation

In August 2010 the law preventing Councils from selling renewable energy was repealed. Local Authorities can now benefit from selling electricity back to the National grid. Feed in Tariffs (FITS) came into effect from 1<sup>st</sup> April 2010. FITS are payments made by the Government, via electricity supply companies, to other producers of electricity who install equipment to produce electricity from renewable sources. This is to encourage the expansion of such installations FITS are currently paid over a 25 year period at a rate fixed when the installation begins to produce electricity into the grid. However, to encourage early participation in the scheme, the Government is reducing the fixed rate level of payment each year.

FITS are based on the certified outputs of approved Photovoltaic Panels, and are paid for the potential energy generated and based on an assumption of how much energy is put back into the National Grid. There is also the saving of less energy having to be purchased from the Grid. The environmental benefits are a reduced carbon footprint through the generation of free solar energy, as well as more efficient use of the energy being used at the point it is generated, as opposed to being transferred through the National Grid with its attendant loss of energy.

**IN ORDER TO ACHIEVE THE MAXIMUM FIT RATE, THE PANELS WILL NEED TO BE INSTALLED BY THE END OF MARCH 2012.**

**3. Proposals**

An initial survey of potential sites for photovoltaic technology within the Borough was undertaken by Rushcliffe Solar, commencing in late 2010. Rushcliffe Solar is a community project whose members have significant technical expertise in the subject. The survey included larger Council owned buildings but not Carlton Forum Leisure Centre as it is jointly owned. Rushcliffe Solar reported on the feasibility and potential for income and electricity generation at each of the sites shown below.

In summary, the estimated costs, income, payback period and impact on CO2 emissions for each site is as shown.

Location	Panels No (kW)	Generation kWh/pa	FIT pa	Sales back to grid income pa	Savings estimate pa	Total income pa	Likely cost
Civic North Wing	25 (5.88)	5870	£2 218	£88	£381	£2 687	£ 18 963
Civic atrium	30 (7.05)	6990	£2 642	£105	£454	£3 201	£ 22 736
Jubilee 1	41 (9.63)	9070	£3 428	£136	£589	£4 153	£31 057
Jubilee 2	20 (4.70)	4370	£1 652	£65	£284	£2 001	£15 157
Jubilee 3	90 (21.15)	18 100	£5 995	£271	£1 176	£7 442	£ 72 121
Richard Herrod A	162 (38.07)	32 600	£10 725	£489	£2119	£13 333	£ 117 256
Richard Herrod B	208 (49)	41 856	£13 770 (E)	£550 (E)	£3 100 (E)	£17 420	£ 150 384
Total			£40 430	£1 704	£8 103	£ 50 237	£427 674

Arnold Leisure Centre was not surveyed but is also likely to be suitable. There is also the possibility that some of the Depot roof structures may not be able to support the weight of the panels.

The initial purchase costs are Rushcliffe Solar's estimate of market costs and it is possible that the use of one of the framework procurement agreements available to the Council, through purchasing with other Councils, could significantly reduce these costs.

These figures are based on the panels being mounted in racks (as opposed to flush with the roof) as this is advised as the most efficient arrangement. However, there are other options which will be explored with the contractor, when appointed, to get the best result for each building. This has the potential to alter costs and income to some extent. In the unlikely event of such changes significantly altering the viability of the project a further report may be necessary. Some cost will also need to be incurred in relation to a survey of each building (to ensure the structure is capable of supporting the panels) and building control fees. There are also ongoing costs in terms of insuring the panels, replacing the electricity Inverters (once or twice in the 25 year lifespan of the panels) and general maintenance. As the FITs are fixed, the total return per annum (including the Feed in Tariffs payments, the estimated income

from sales to the grid and the estimated costs saved) would total £50,237 for each year of operation if the panels were installed in 2011/12. Using these estimated costs it would take the Council between 12 and 14 years to recoup the costs, and, at the end of 25 years accrue a net profit of £250,000.

The return on capital of installing photovoltaic panels is generally greater than the investment return (historically around 5% p.a. and much lower currently) and investment analysis over 25 years indicates that a good return is achieved, although this viability is heavily dependent on the receipt of FITS. There are the added advantages of achieving an overall revenue saving that is valuable in the current economic climate and also contributing to a reduction in the Council's CO2 emissions.

There is a potential risk to the Council that Feed in Tariffs may be removed in the future by the Government. However, the present Government have given assurances to date that there is no intention to do so. There is an additional risk to the Council that should a decision be taken in the future to decommission or dispose of the asset the Council would need to consider how to recoup the capital expenditure. As all work is subject to a full detailed survey, there is also a potential risk that the assets would not be structurally suitable for photovoltaic panels. In this case however, little or no capital would have been committed. Photovoltaic Panels are expected to have a guaranteed minimum life of 25 years.

The funding of the project can be financed through prudential borrowing, and it is deemed to be affordable by virtue of the long term savings.

### **Recommendation**

That Full Council **authorises** the increase of the capital programme by £430,000 to procure and install a programme of photovoltaic panels on Council owned buildings.