REPORT TO:	**Housing and Community Services Committee**	**AGENDA ITEM: 12**
DATE OF MEETING:	**13th October 2011**	**CATEGORY: RECOMMENDED**
REPORT FROM:	**Mark Alflat – Director of Operations**	**OPEN**
MEMBERS' CONTACT POINT:	**Lee Carter Repairs and Improvement Manager Ext. 5957**	**DOC:**
SUBJECT:	**Proposal to Install Electrical Generating Photovoltaic Panels (PV) on Viable Council Housing Roofs**	**REF:**
WARD(S) AFFECTED:	**ALL**	**TERMS OF REFERENCE: HCSO1, FMO1**

1. Recommendations

1.1 Approve the installation of Photovoltaic Panels (PV) on viable Council Properties, as identified in this report, subject to procurement, finance and legal details which are currently progressing.

1.2 Approve the investment of £1m into the project funded from HRA borrowing.

1.3 Recommend to Finance and Management Committee that they consider and approve the proposal including the associated financing under the National Prudential Borrowing Framework and include the borrowing requirement in the Council's Treasury Management Strategy.

2. Purpose of Report

2.1 To inform members of the potential benefits to the Council and the wider community of installing PV panels on a selection of Council house roofs. The project would contribute to the objectives of the Corporate Plan and Sustainable Community Strategy, by reducing the Council's reliance on traditional forms of energy production and, in part, assisting with the security of energy supplies to a selection of viable Council's properties. There is also the financial benefit that can be achieved via the Government's Feed in Tariff (FIT) initiative.

2.2 To inform Members of the potential opportunities available under the Government's Feed in Tariff (FIT) initiative relating to the installation of photovoltaic panels (PV), and to seek Members approval to proceed as expediently as possible to ensure the maximum number of installations, that the budget allows, are complete and registered with The Office of the Gas and Electricity Markets (OFGEM) prior to 31 March 2012. The income generated from the FIT will be significant, as detailed at section 5 of the report. This will offer the opportunity for the Council to reinvest this income in other green technologies or other worthwhile schemes within the district.

2.3 The scheme involves a significant initial capital outlay in the region of £1m in return for an annual revenue income of around 10 to 14%. This rate of return is currently not available to the Council from any other source. After 31st March 2012 the FIT rate will be reduced and make this proposal less financially attractive.

2.4 To fully appraise Members of the financial and ecological advantages of the scheme and the associated risks with a project of this nature.

3. Detail

3.1 Financially this project is geared towards a large capital outlay, in the order of £1m, for an annual return on that investment of around 10 to 14%. It represents a relatively unique arrangement in that it's government backed and the income will be more than double our initial capital outlay in real terms. These returns are taken in the form of an annual revenue payment in the order of £100,000 to £140,000.

3.2 Central Government as well as Local Government are under increasing pressure to provide security of energy supplies for this and future generations. Solar Photovoltaic (PV) is one small part of the jigsaw; it's relatively simple to install, robust, and provides income to further underpin the Council's ability to reinvest in similar 'green' technologies in the future or invest in other equally important local facilities that would otherwise come from capital resources that are becoming increasingly scarce.

3.3 Green technologies are becoming increasingly more common, and it remains the Council's responsibility to ensure its benefits are understood and communicated to the wider public. One of the Council's corporate aims relates to 'lifestyle choices' in particular assisting the community to reduce its carbon footprint. The proposed project directly links to the Council priority of installing renewable technologies throughout the district, and would put the Council at the forefront of installing green technologies.

3.4 The FIT became available in Great Britain on 1st April 2010, and the options available have been researched by this authority for some time including the so-called 'rent a roof' schemes. The rent a roof scheme is offered by most of the large utility providers or other commercial enterprises. Essentially what happens is that most of the risk is attributed to the rent a roof company, the tenant/residents use the electricity generated during sun light hours but the company benefits from the FIT, not the resident or the Council. The advantage of such schemes is that little risk is attributed to the Council. We would receive income for renting the roof; somewhere in the region of £60 per annum per roof. This income is significantly below the return that could be achieved if the Council fitted it's own PV installations on its viable Council house properties.

3.5 There are other issues with rent a roof schemes, particularly those promoted by finance companies, that relate to future ownership of the panels if they are sold on as an investment and whether it's in the interests of the investors to buy the most efficient equipment rather than the cheapest.

3.6 The Council has therefore been investigating the potential to fund such a scheme itself and benefit from the FIT direct. On the 17 May 2011 The Association of Public Service Excellence (APSE) launched a paper "The Virtuous Green Circle". Attending the launch was the Housing Services' Repairs and Improvement manager, who has since progressed a feasibility study looking closer at the potential benefits of the Council installing its own PV system.

3.7 The installation of PV systems on viable Council properties would significantly benefit the Council and it's tenants both financially and ecologically. The tenants would receive a reduced electricity bill and the Council would benefit from the FIT. See section 5 for more detail of the full financial situation. The main stumbling block is finding the initial capital outlay.

3.8 The FITs are government backed and designed to incentivise the installation of localised renewable energy generating technologies and run for 25 years offering the opportunity to finance the capital costs of an installation, normally within 8 to 12 years as well as the continued return on investment over the remainder of the term.

3.9 The FIT is also protected against inflation, being linked with RPI. The scheme guarantees a payment for all electricity generated by the system, as well as a separate payment for the electricity exported to the grid i.e. that which is not used by the resident. The current situation is that whatever the system generates, 50% will be 'deemed' to go back to the grid and therefore create an additional income and 50% will be deemed to be consumed by the tenant. This ratio or deeming as it is referred too, will change when smart meters are introduced across the Country and the exporting will be paid based on actual units rather than the current deeming scenario. These export payments are in addition to the bill savings made by using the electricity generated on-site, and this benefit would be paid direct to the Council together with the FIT.

3.10 In summary therefore, the Feed in Tariff scheme offers three main financial benefits, in addition to CO2 reductions:

1. Generation tariff - a set rate paid by the energy supplier for each unit of electricity produced currently 43.3p/KWh of electricity generated. This rate will change each year for new entrants to the scheme, but once in the scheme it will continue on the same tariff (originally signed up to) for 25 years, subject to RPI.

2. Export tariff - a receipt of a further 3.3p/KWh from the energy supplier for each unit exported back to the electricity grid which is not used by the resident will be paid direct to the Council (currently deemed to be 50% of the total electricity generation from the PV installation)

3. Energy bill savings - savings on electricity bills, because generating electricity to power appliances means the tenant does not have to buy as much electricity from the energy supplier. The amount saved will vary depending on how much of the electricity is used on site but would likely be in a range of approximately £80 to £150 saving each year per installation (at current energy tariffs).

1 & 2 – would be paid direct to the Council, as landlord
3 – Tenant receives benefit direct through lower energy consumption from the national supply network.

3.11 The Council has been undertaking a feasibility study since the end of May and has employed the services of a number of specialists in the renewable energy industry. This has assisted the Council in producing this committee report for members to be fully briefed on the potential benefits that could be achieved with PV Installations.

3.12 Through working with Efficiency East Midlands (EEM) (a buying consortium based in the East Midlands, on behalf of Local Authorities and Registered Social Landlords (RSLs)) the Council has been able to benefit from significantly reduced fees associated with compiling the data for this report.

3.13 The capital costs required for the installation of PV panels for individual properties are high, a typical 2.5 KW individual domestic installation costing around £7,000 - £10,000 each. However utilising EEM's already agreed framework and economy of scale these costs can be brought down to around £6,000 to £7,000. Subject to undertaking a procurement exercise these figures may come down further, and make the project more financially attractive.

3.14 The Council has identified the specific properties that would be most viable for PV installations i.e. the actual addresses of those with south facing roofs maximising exposure to the sun and therefore generating a greater amount of electricity than a north facing roof. Being able to identify the most advantageous properties was paramount and through EEM the Council employed the services of Hestia Services Ltd who also work very closely with the Energy Saving Trust. Hestia Services were able to provide a full appraisal of the Council's stock and clearly identify which properties would be the most suited/viable to have PV installed.

3.15 The data produced shows that 1,276 properties would be best suited. This data was then analysed and incorporated into a financial model by SCS Ltd a commercial arm of Swindon Borough Council. The financial model produces a very clear and concise measure of what the likely returns are from the installations of PV on the Council housing stock.

- The proposed budget of £1m would allow in the region of 150 properties to receive a PV installation.
- The 150 properties are proposed to be allocated to willing sheltered housing tenants that have the best suited roofs. These total 183. If we are over subscribed with requests then installs would be undertaken on a first come – first served basis or if under prescribed the installs would be offered to the other most suited sheltered properties.
- In summary this sizeable capital investment could return a surplus of somewhere in the region of £1.5 to £2.5m over 25 years (net of inflation).

3.16 The strategy behind focussing on sheltered properties is to support those in our elderly community who may be suffering an element of 'fuel poverty'.

3.17 To ensure the success of this proposed project it would be vitally important asap to communicate the benefits clearly and decisively to the tenants and wider community. The Repairs and Improvement Manager has already attended two South Derbyshire District Council Tenants' Forum (SDTF) meetings to give an overview of a project of this nature (29th June 2011 and 3rd August 2011). It was clearly explained that PV will not suit every property e.g. one tenant's home may be ideal for PV and receive a reduced electricity bill, whereas a neighbouring property may not be suited to PV. However, it was explained that for the greater good that if the PV project progressed the financial rewards for the Council and therefore community as a whole could be very generous over 25 years. This substantial sum would be able to be used to finance other green technologies or other worthy causes to be decided separately.

3.18 The proposal was seen very favourably by the SDTF. They understood that some tenants would receive a reduced electricity bill and some wouldn't, however, they believed that the greater good would be served if the project went ahead.

3.19 The major risk associated with the project is the 'guarantee' of the future FIT payment itself. The system is government backed and said to be guaranteed for 25 years as encompassed in the Energy Act 2008. All current advice is that this should be the case. However, if the FIT was withdrawn or reduced at any stage once our capital investment had been made then this could substantially undermine the financial return. Given that the projects that have progressed to date are a mix of public and private schemes it is thought that the probability of the FIT being reduced is low given that the government would face across the board opposition. However the 'guarantee' does carry some, albeit small, element of risk.

4 Other issues

Rent a roof alternative

4.1 SDDC have been approached by a number of providers of free PV installations (rent a roof scheme) of which two have submitted preliminary proposals.

- One of the providers are a dedicated Solar Panel finance company who are interested in providing PV installations to commercial and domestic buildings and have offered upto £100 per domestic roof per annum i.e. £2,500 over the 25 year during of the FIT. The FIT would be paid direct to them and not the Council.
- The other was national organisation specialising in the housing sector work but unfortunately recently went into administration.

4.2 In addition we aware that some of the large utility companies such as Eon are also promoting rent a roof schemes.

4.3 The choice of a potential partner organisation under the rent a roof option is a trade off between status/standing of the organisation and the return finance they are offering. Therefore the dedicated solar finance company as a relatively unknown company are offering the best financial return of upto £100 a property that we have come across in researching the project. The large well known utility companies operating in this arena offer more surety that they will be around for the foreseeable future but offer only £60 per property return per annum.

Right to Buy

4.4 There are potential issues if a property benefiting from a Council funded installation is subsequently purchased by the sitting tenant under the Right to Buy scheme.

4.5 With any project there is a risk element, but this should be seen in the context of the potential gains i.e. balancing the risk against the benefits. However, there are several options relating to this risk and they include the following:

- The RTB purchaser buys the system from the Council. That person then registers with OFGEM and gets the FIT at the current rate at that time.
- The purchaser does not buy the system and the same pre-purchase FIT arrangement just continues, subject to an appropriate legal agreement.
- The system is removed and fitted to another property.

4.6 It is worthy of note that the risk of the RTB being exercised is historically low. In recent years this has been around 0.2% of the whole stock per annum and in the sheltered stock the numbers of properties sold in the last 10 years is less than 5.

Returning electricity generated to the national grid

4.7 This form of technology produces electricity at a local level which, in the main cannot be stopped or reduced, and in some circumstances present a problem for the District Network Operator (DNO). The reason is that our national electricity network is set up to flow one way i.e. to the property for consumption; with PV the reverse is necessary for the units of electricity that are not used by the tenant. The DNO has therefore been contacted and a reply is awaited to ascertain if the number and location of proposed PV installations may cause an issue for the electricity supply network. The central geographical location of South Derbyshire though means that this is not anticipated to be a problem.

5. Financial Implications

5.1 There are numerous financial implications involved depending on the option ultimately taken by the Council which include:

- The highest return on investment would be if the Council finance and invest in the installation of PV and therefore maximise the FIT return over the 25 years period, and it is this option being recommended in this report.
- SDDC could also take a hybrid approach and invest alongside a third party investor into a "funded" scheme which would allow some above-market financial returns to be shared between the partners and the associated risks are shared.
- Rent a Roof scheme where the council receives a fee for effectively renting the roof to a third party. The Council would not benefit from the FIT with this option but would receive an annual payment per roof of around £60.

5.2 The cost of an individual system utilising EEM's already agreed framework and economy of scale the costs could be around £6,000 to £7,000. Subject to undertaking a procurement exercise these figures may come down further, and make the project more financially attractive. The cost of maintaining the systems and inverter replacements during their 25 year FIT period have all been accounted for and are more than self financing with the annual returns from the FIT.

5.3 To make the maximum financial return from the project, whichever of the delivery options above is chosen, all systems would have to be installed, generating electricity and registered with OFGEM by an MCS accredited installer by the 31 March 2012. This is a very tight deadline for the contractors to complete works, but one which is achievable if a start on site date could be made in November 2011. The capital investment required to install in the region of 150 system would be approximately £1 million.

5.4 Following the works undertaken with SCS Ltd the Council has a clear and robust financial model that identifies the most advantageous properties to have PV fitted to i.e. the best financially rewarding to the Council. The 150 identified properties would return to the Council approximately £2 to 2.5 Million, over a 25-year period i.e. more than double its capital outlay net of inflation.

5.4.1 After the 31 March 2012 installations can still be completed but the financial returns to the Council will be significantly lowered. The revised FIT is not planned to be released until at least December 2011, but it is known that the FIT will not be as financially rewarding. Indications are that the FIT may go down by as much as 30%, which would mean that if all systems were delayed until 1 April 2012 the return over the 25 years period could be reduced by as much as £1m.

5.5 The project works financially offering a significant and real return on investment. It is also clearly in the best interests of the specific tenants benefiting from reduced electricity bills and the wider community as it generates a return that can be invested in other projects. The only stumbling block is from where to source the £1m initial capital outlay. This money would be needed between now and April 2012.

5.6 The Council approved the new HRA Business Plan at the June 2011 cycle of Committees. Although subject to further detailed reporting the plan agreed to utilise approximately half of the available additional borrowing facility (the Headroom) to fund the backlog of property repairs and improvements to maintain the Decent Homes standard i.e. of our borrowing facility of £9.6m, (less a £2.1m underlying borrowing requirement) £4.8m would be utilised. The remainder would not be utilised in order to ensure the Housing Revenue Account's (HRA) ability to fund all borrowing and to payback the overall debt, including the buyout payment to government, of around £60m. Not borrowing up to that full capacity also gives a safeguard facility in case there is an emergent and urgent need to invest in the properties at a later date.

5.7 Therefore although there is a borrowing facility remaining of £2.7m in the HRA (£9.6m less £2.1m less £4.8m) it is recommended that it is only partially utilised to help fund the PV project and that £1m is made available for this purpose.

5.8 Funding £1m capital investment could therefore be funded through HRA borrowing. Although this transaction would be classed as affordable under the National Prudential Borrowing Framework, consultation with other authorities, professional organisations and indeed the CLG, suggests that this will not be added to the Headroom on self-financing. This would leave £1.7m available as Headroom to act as a contingency.

5.9 Effectively, it will be added to the underlying borrowing requirement of £2.1m already existing in the HRA. This amount alone will not trigger any of the Council's Prudential Borrowing Indicators but will need to be reflected in the Council's future Treasury Management Strategy.

5.10 Subject to the annual revenue income returns flowing over the 25 year period, the loan would be repaid within 12 years with the surplus of income over the debt financing benefiting the HRA.

6. Corporate Implications

6.1 The Corporate implications if the proposed PV installation programme is approved will have direct relevancy on three of the Council's corporate themes and specifically a number of priorities contained within each theme.

6.2 Firstly the programme of installing PV will help towards attaining 'Sustainable growth and opportunity' in that the project would create jobs and help move towards a clean environment, as a direct result of properties generating a proportion of their own electricity requirements thereby reducing demand on the national grid and therefore lowering the District's carbon footprint. The project would significantly help towards reducing the number of vulnerable households experiencing fuel poverty as utility prices continue to rise. Whilst the PV installation will not produce all the electricity needs of the recipients it will significantly contribute towards lowering bills.

6.3 The Council's third theme relates to 'lifestyle choices' and the proposed project directly links to the Council priority of installing renewable technologies throughout the district.

6.4 Finally in these economically challenging times value for money has never been so important, and this proposed project can achieve some of the aims and priorities contained within theme 4 'value for money' and in particular generating cash to undertake further improvements within the district.

6.5 There are a number of legal concerns which still remain which are currently being finalised. However it is anticipated that these issues will not present anything significant or 'show stopping' as there are some Councils, although not many, that have progressed such large scale projects.

7. Community Implications

7.1 The Council's Sustainable Community Strategy specifies a target of reducing carbon emissions per person under the broad heading of Vibrant Communities. The wider community will also see the installations and this will help raise the profile of PV and hopefully have a positive impact on the public to investigate and possibly install this new green technology on their own dwellings and/or businesses.

7.2 A standard 2kW system can save around 1 tonne of Co2 per annum whilst generating approximately 20 to 30% of the property's electricity requirements. This information has been produced by the National Solar Energy Advisory Service. To put this Co2 saving into context it would take 850 tumble dryer cycles to produce 1 tonne of Co2 or the equivalent to 35 office computers being left on standby over night for a whole year.

8. Conclusions

8.1 In conclusion whilst this form of technology is relative new in terms of installations in this Country the technology has been around for several decades. The success on the continent is clear to see particularly in Germany where the Government there has run similar schemes to the FIT and take-up has been widespread.

8.2 Installing PV on the viable Council properties will provide the opportunity for this Council not only to achieve some of it's aims contained within the Corporate Plan but also the Sustainable Community Strategy.

8.3 The initial capital investment required for 150 properties will be in the region of £1m, this being funded via HRA borrowing. However, this level of investment should return to the Council each year for 25 years somewhere in the region of £100,000 to £140,000 annually. This equates to a 10–14% return on the original capital investment, which currently is not matched by any other form of investment available to the Council.

9. Background Papers

9.1 Virtuous Green Circle – Association of Public Sector Excellence - 17 May 2011

9.2 Advice for South Derbyshire District Council – Stephen Cirell Associated Ltd - 15 June 2011