

Report of:	Head of Housing
Contact Officer:	Ian Tennant/ Rick Pepper
Telephone No:	01543 464210/ 01543 466803
Portfolio Leader:	Housing
Key Decision:	No
Report Track:	HPDC 21/1/13

**HOUSING POLICY DEVELOPMENT COMMITTEE
21 JANUARY 2013
NORTON CANES PHOTOVOLTAIC PANEL PILOT SCHEME – INITIAL
EVALUATION**

1 Purpose of Report

- 1.1 To present a preliminary evaluation of the Norton Canes Photovoltaic (PV) Panel Pilot Scheme.

2 Recommendations

- 2.1 That the preliminary evaluation of the Norton Canes Photovoltaic (PV) Panel Pilot Scheme is noted.
- 2.2 That the pilot scheme is subject to further evaluation including:-
- (i) Monitoring of the potential electricity cost savings in respect of the three sample pilot scheme properties for a full 12 month period.
 - (ii) A survey of all tenants whose homes are included within the pilot scheme.
- 2.3 That following further evaluation of the pilot scheme Cabinet are recommended to evaluate the potential provision of PV panels to further dwellings within the Council's housing as part of the 2013-14 "Place" Priority Delivery Plan.

3 Key Issues and Reasons for Recommendation

- 3.1 A Photovoltaic (PV) Panel Pilot Scheme has been undertaken by Strategic Energy Limited in respect of 39 Council owned bungalows in the Jerome Road/ Jerome Drive/Yew Tree Close and High Street areas of Norton Canes.
- 3.2 The pilot scheme was completed in April 2012 and initial monitoring information is available for a preliminary evaluation of the scheme.

- 3.3 Electric usage has been monitored in respect of three sample properties and compared with previous usage prior to the PV panel installation. The initial results suggest annual electricity cost savings of £62.40, £212.94 and £311.74.
- 3.4 Whilst these suggest that substantial savings are being made, the monitoring information relates primarily to the summer and autumn when most electricity is generated (from the PV panels) and electricity usage is lower. It is therefore considered that actual usage needs to be monitored for a 12 month period before a full evaluation can be made.
- 3.5 No problems have been encountered with the “fixing” of PV panel installations, although problems have been reported in the south-east of England regarding tiles beneath the PV panels “lifting” in high winds. As a result the stability of the PV panels will continue to be monitored and the problems that occurred in the south-east will be further researched.
- 3.6 Whilst it is considered there are potential benefits to extend the provision of PV panels to further Council dwellings, a number of factors require further consideration as detailed in the report. It is therefore suggested that following further evaluation of the pilot scheme, Cabinet evaluate the potential provision of PV panels to further dwellings within the Council’s housing stock as part of the 2013-14 “Place” Priority Delivery Plan.

4 Relationship to Corporate Priorities

- 4.1 It is suggested that Cabinet evaluate the potential provision of PV panels to further dwellings within the Council’s housing stock as part of the 2013-14 “Place” Priority Delivery Plan.

5 Report Detail

- 5.1 Cabinet on 2 February 2012 agreed that a Photovoltaic (PV) Panel Pilot Scheme would be undertaken by Strategic Energy Limited in relation to 39 Council owned bungalows in the Jerome Road/Jerome Drive/Yew Tree Close and High Street areas of Norton Canes.
- 5.2 The installation of the PV panels was completed in April 2012 and initial information is now available for a preliminary evaluation of the scheme.
- 5.3 The scheme is based on Strategic Energy leasing the external roof space of the bungalows for a 25 year period and installing PV panels “at their own cost”. The cost of providing the panels is then met through the sale of electricity to the National Grid and a “Feed in Tariff” from the Department for Energy and Climate Change.
- 5.4 Whilst the Council does not receive any “roof rent” the bungalow tenants receive some free electricity, which was estimated (at the time of the February 2012 Cabinet report) to be up to £90 per annum. The pilot scheme will also enable the Council to evaluate the potential benefits and risks regarding any further provision of PV panels to other dwellings within the housing stock.

Preliminary Evaluation of the Scheme

5.5 No problems were encountered during the installation of the PV panels on the 39 bungalows. The standard of workmanship was good, with no damage to the existing roof tiles as a result of “fixing” the PV panels. Residents were also complementary about the liaison from the contractors who undertook the work.

5.6 Electricity use in respect of three sample properties has been monitored for a 7 month period since June 2012. This information has then been extrapolated to provide a 12 month estimate which has then been compared with actual usage during the previous 12 month period. The results of this initial evaluation are set out below:-

(i) Property One

Before PV Panels	1767 kWh
After PV Panels	1287 kWh
Difference	480 kWh

Based on 13 p/kWh (British Gas average price per kWh in the Cannock area), an annual saving of £62.40 (27.2%) in electricity costs is estimated.

(ii) Property Two

Before PV Panels	2019 kWh
After PV Panels	381 kWh
Difference	1638 kWh

Based on 13 p/kWh (British Gas average price per kWh in the Cannock area), an annual saving of £212.94 (81.1%) in electricity costs is estimated.

(iii) Property Three

Before PV Panels	3952 kWh
After PV Panels	1554 kWh
Difference	2398 kWh

Based on 13 p/kWh (British Gas average price per kWh in the Cannock area), an annual saving of £311.74 (60.7%) in electricity costs is estimated.

5.7 Whilst these initial results suggest that substantial savings in electricity costs are being made, they do relate primarily to the summer and autumn when the most electricity will be generated (from the PV panels) and electricity usage from the tenants is lower. It is therefore considered that actual usage (following the installation of the PV panels) needs to be monitored for a full 12 month period before a full evaluation can be made.

5.8 No problems have been encountered with the “fixing” of the PV panels since their installation. However, problems have been reported in the south-east of

England regarding the tiles beneath PV panels “lifting” in high winds. As a result stability of the PV panels will continue to be monitored.

- 5.9 A problem with an erroneous electricity bill has also occurred. This has been investigated and resulted from the electric meter “running backwards” due to the amount of electricity being generated from the PV panels exceeding electricity usage. The tenant’s electricity supplier has arranged for a new meter to be fitted and is ascertaining the correct amount of electric usage since June 2012.

The potential installation of PV panels to other dwellings within the Housing Stock

- 5.10 Information from the 2009 stock condition survey suggests that PV panels could potentially be installed on some further 1,350 Council properties (25% of the housing stock). Not all properties are suitable as one side of the roof needs to be south facing to generate an economic return.
- 5.11 The estimated installation cost is £8,000 per property and whilst the cost of PV panels is reducing it is estimated that some £10.8 million would be required if PV panels were provided by the Council to all suitable properties. There is insufficient capacity within the HRA Business Plan to undertake this work for at least 10 years, if other investment priorities are to be met.
- 5.12 The Norton Canes Pilot Scheme was undertaken and funded by renewable energy company (Strategic Energy) under what is commonly termed a “rent a roof” scheme. This type of scheme has the advantage that the cost of installation and ongoing maintenance is met by the energy company, whilst the tenant of the property receives some free electricity.
- 5.13 The income generated from the sale of “the surplus” electricity to the national grid is insufficient to meet the capital cost of installing PV panels and as a result subsidy is required. This is provided in the form of “feed in tariffs” from the Department for Energy and Climate Change.
- 5.14 Prior to December 2011, the “feed in tariff” for social housing was 43.3 pence per kilowatt hour. At this level of subsidy there was considerable competition within the “PV energy provider market”, which resulted in providers offering an “annual rent” for leasing an external Council roof space. However, this market contracted substantially following the reduction in social housing “feed in tariffs” to 16.8 pence per kilowatt hour, with the limited number of providers who remained in the market no longer offering an annual roof rent.
- 5.15 Although the cost of providing PV panels is reducing, the “PV energy market” has not recovered and may contract further when “feed in tariffs” are further reduced to 7.1 pence per kilowatt hour on 1 April 2013.
- 5.16 Whilst there seems (from the preliminary evaluation) to be advantages in extending the provision of PV panels through further rent a roof schemes, in order to reduce tenants’ electricity costs a number of other factors require consideration.

- 5.17 In particular, the “rent a roof” schemes are subject to 25 year agreements and if an appropriate provider can be found, further participation necessitates long-term commitment. In addition, as the PV panels are installed “on top” of the existing roof covering, their appearance is not considered to be particularly attractive, although this is a matter of personal taste. Furthermore, as a result of unfavourable orientation, it is uneconomic to install PV panels to some 75% of the Council’s housing stock. There would therefore be a situation of “haves” and “have nots” with regard to further PV panel installations on every estate.
- 5.18 As a result of these factors, it is considered premature at this stage to decide whether or not to provide PV panels to further dwellings within the Council’s housing stock. It is therefore suggested that:-
- (i) Potential electricity cost savings in respect of the three sample pilot scheme properties are monitored for a full 12 month period.
 - (ii) All the tenants within the pilot scheme are surveyed regarding the benefits (and any disadvantages) of PV panels.
 - (iii) Further information is sought regarding the problems which have occurred in south-east England with regard to PV panels “lifting” in high winds.
 - (iv) An assessment is undertaken of the “PV energy provider market”, following the further reduction of “feed in tariffs” to 7.1 pence per kilowatt hour.
- 5.19 Following the receipt of this information it is further suggested that Cabinet evaluate the potential provision of PV panels to further dwellings within the Council’s housing stock as part of the 2013-14 “Place” Priority Delivery Plan.

6 Implications

6.1 Financial

The cost of installing and maintaining the PV panels in relation to the Norton Canes Pilot Scheme is met by Strategic Energy Limited.

6.2 Legal

None

6.3 Human Resources

None

6.4 Section 17 (Crime Prevention)

None

6.5 Human Rights Act

None

6.6 Data Protection

None

6.7 Risk Management

A risk assessment will form part of the evaluation regarding the potential provision of PV panels to further dwellings within the Council's housing stock.

6.8 Equality & Diversity

An Equality Impact Assessment will form part of the evaluation regarding the potential provision of PV panels to further dwellings within the Council's housing stock.

6.9 Best Value

None

7 Appendices to the Report

None

Previous Consideration

Photovoltaic (Solar) Panels	Cabinet	21 July 2011
Norton Canes Photovoltaic (Solar) Panel Pilot Scheme	Cabinet	2 February 2012

Background Papers