

## **EXETER CITY COUNCIL**

### **SCRUTINY COMMITTEE – RESOURCES 19 MARCH 2014**

**EXECUTIVE  
1 APRIL 2014**

#### **AN ENERGY NEUTRAL COUNCIL A RENEWABLES AND ENERGY EFFICIENCY PROGRAMME**

#### **1. PURPOSE OF THE REPORT**

- 1.1 To support a programme of renewable and energy saving initiatives that will assist in the delivery of corporate priorities around improving the environment and maintaining the assets of the city as well as providing essential income and long term savings to the Council.

#### **2. BACKGROUND INFORMATION & PROGRESS TO DATE**

- 2.1 In 2012/13 the council spent £850,000 on gas, oil and electricity. This is a 13% increase on the previous year and not only reflects rising fuel prices but also increased consumption across the Council's estate.
- 2.2 Reducing unnecessary financial expenditure is essential if the Council is to continue to provide quality services and maintain its assets effectively. This pattern of energy consumption is not sustainable.
- 2.3 Rapidly changing energy markets and sustained increases in energy costs present a risk to the Council. Based on the current administration of the City Council estate, energy costs could exceed £1million by 2020.
- 2.4 The Council has an obligation to reduce carbon emissions, which can be significantly reduced by the use of renewable energy. Additionally, it is important to mitigate the impact of the Government's Carbon Reduction Commitment Scheme, designed to encourage organisations to reduce carbon emissions through energy efficiency. Currently the Council does not meet the consumption threshold for the scheme. However if this threshold were to be reduced, based on current emissions, the Council would incur an annual charge of £670,000 for carbon allowances.
- 2.5 The success of the investment to date in Solar PV demonstrates the value of renewable technology, with the four sites exceeding the Government's set performance data for PV by 32%. This project is predicted to break even within 5 years, and will provide an index linked income stream to the Council for 20 years.
- 2.6 Energy saving projects, such as LED lighting, demonstrate significant long term savings with additional benefits of reduced maintenance and improved lighting. The LED lighting pilot installed at the Civic Centre, Level One / Phase 2, has reduced electricity consumption for lighting by 60%.
- 2.7 A comprehensive programme of key energy saving projects is vital if the Council is to reduce operational costs, make long term financial savings and benefit from significant new income streams.

### **3. THE BUSINESS CASE**

- 3.1 The projects completed this year and those included in the Pilot Programme (Phase I) clearly demonstrate a business case for further investment. Proven renewable technology, together with other energy efficiency measures, will ensure sustained energy security and financial savings, whilst contributing to the Council's obligation to cut carbon emissions.
- 3.2 This report outlines how the installation of Solar PV, and other renewable technologies on a wide range of council owned assets, will deliver the following key benefits:
- Reduce consumption and energy costs
  - Provide a guaranteed 20 year index linked income stream for all PV projects
  - Improve the condition, performance and life of our property assets
  - Reduce carbon emissions and protect against carbon charges
  - Stimulate demand for renewables within this region
  - Demonstrate the benefits of energy efficiency to businesses and home owners alike
- 3.3 The two programmes set out in this report contain a range of projects. The projects seek to deliver efficient use of investment and derive maximum savings.
- 3.4 Development of the projects will include detailed feasibility surveys and financial modelling to ensure a suitable payback/return is attained. Many projects require additional structural/engineering, procurement, and legal support.
- 3.5 Wherever possible staff and member engagement will be sought to ensure change is embraced and new technologies supported.
- 3.6 It is worth noting many factors affect PV installation, these include:
- position of the roof (south facing and unshaded is best)
  - the structural condition of the building
  - District Operator restrictions. Electricity that can be fed into the grid is limited by the grid network, this can restrict the size of a PV array and if PV is installed by others near by, this too can reduce the size of a planned PV array.
  - The Feed-In-Tariff is set out in current legislation and is payable for twenty years. The Government is legally obliged to pay the level agreed on installation. However the tariff continues to be reduced and if cut substantially, this may require some projects to be re-assessed to ensure that they are financially viable.
- 3.7 The pilot programme, Phase I, pulls together projects that are achievable before the end of the current financial year. The Pilot allows for development work for larger PV schemes, including some of our high consumption buildings, such as Car Parks. This will bring innovation and significant savings.

#### 4. FINANCIAL SUMMARY

##### 4.1 The Pilot Renewables Programme, Phase I

Project	Investment	Annual Saving (£)	Annual borrowing cost (£) +	Annual Saving after Borrowing (£)
LED Lighting Pilot, Level 1 Phase II	23,950	3,669	3,473	196
LED Bulb replacement at: Mary Arches Car Park Cathedral & Quay Car Park Harlequins Car Park	82,874	32,777	12,017	20,760
Efficient Hand dryers/paper towel removal and push button taps at Civic Centre	20,000	10,415	2,900	7,515
<b>Total</b>	<b>126,824</b>	<b>46,861</b>	<b>18,390</b>	<b>28,471</b>
		Annual Saving & Income (£)	Annual borrowing cost (£)	Annual Saving after Borrowing (£)
PV Schemes at: RAMM Verney House Phoenix Art Centre	124,000	18,878*	11,780	7,098
Car Port PV system development work for: Mary Arches Car Park Cathedral & Quay Car Park John Lewis Car Park	20,000	-	-	
Heating Replacement development for Civic Centre	14,576	-	-	
<b>Total</b>	<b>158,576</b>	<b>18,878</b>	<b>11,780</b>	<b>7,098</b>

+ Borrowing costs are estimated by dividing the cost of the amount borrowed by the useful life of the equipment (i.e. 10 years for LED lighting and 20 years for PV panels). Interest on the amount borrowed is calculated at 4.5%, the current average value for borrowing over that period.

\* Includes Export Tariff and FIT payment

4.2 It should be noted that the above costs do not include for management and maintenance costs that will be required over the life time of the PV Array. Similarly it does not account for improved PV performance and rising energy costs. Improved performance is a recognised benefit of being located in the South West, providing increased generation, over and above the Government standard performance data used to forecast returns. Inevitable rising energy costs, will undoubtedly mean that savings made will be greater.

4.3 The Pilot programme is made up of projects which have a range of pay back periods but all repaying the investment well-within the anticipated lifetime of the product. The total savings derived over the two time periods, together with the income from PV over a twenty year period, support the business case.

4.4 Following the Pilot (Phase I), the second phase of the energy saving and renewables programme will commence in 2014/15. The table below highlights projects currently being developed for Phase II. This work is ongoing, and will adjust to fit the most financially viable outcome for each building.

4.5 Renewables Programme, Phase II

Project	Investment	Annual Saving (£)	Annual borrowing cost (£) +	Annual Saving after Borrowing (£)
LED Lighting, all floors Civic centre	199,500	31,690	28,928	2,762
Heating Replacement - Civic Centre	-	-	-	
<b>Total</b>	<b>199,500</b>	<b>31,690</b>	<b>28,928</b>	<b>2,762</b>
		Annual Saving & Income (£)	Annual borrowing cost (£)	Annual Saving after Borrowing (£)
Car Port PV Schemes at: Mary Arches Car Park Cathedral & Quay Car Park John Lewis Car Park	445,000	69,210*	42,275	26,935
PV leased Property Schemes	238,500	29,451*	22,658	6,793
PV Scheme Corn Exchange	80,000	14,195*	7,600	6,595
<b>Total</b>	<b>763,500</b>	<b>112,856</b>	<b>72,533</b>	<b>40,323</b>

4.6 Priority is given to our corporate buildings where the energy bill is paid for by the Council. This affords the greatest saving and reduces dependency on imported electricity. Nonetheless, many leased buildings are suitable for solar PV, including Leisure Centres. Some of those properties have unshaded roofs which make them ideally suited to large PV installation. This can provide an income from the FIT generation tariff, the export tariff (electricity transported back to the grid) and selling the electricity produced via a Power Purchase Agreement (PPA). The use of PPA is currently being investigated.

4.7 The Civic Centre Heating Replacement Project has yet to be sufficiently developed to include costs. However based on the current age and inefficiencies of the incumbent oil boilers, significant financial and carbon saving will be realised. The study will take into account the future heating options, and provisions needed for connection to District Heating.

4.8 A further consideration when assessing the viability of PV installation is the lifetime of the property asset. For properties such as the Corn Exchange, and the Livestock Centre, both would need structural repairs before PV could be installed, requiring a longer term asset review.

## **6. IMPLEMENTATION**

- 6.1 The implementation of the Pilot (Phase I) is underway. Any projects that are not completed before April 2014 will roll forward and be added to the programme for Phase II.
- 6.2 The procurement, legal and engineering elements of the programme are essential to the development of large scale PV projects, where income could be lost if feed-in-tariff payments are reduced.
- 6.3 The Corporate Manager Property will oversee the implementation and have direct input into all elements of the programmes developed by the Energy Team.

## **7. FINANCIAL & RESOURCE IMPLICATIONS**

- 7.1 Capital investment has been secured through borrowing to support the programme and will provide for significant long term savings and will bring an income to the Council. Any changes to the programme will be agreed with the Portfolio Holder Enabling Services, Corporate Manager Property, Assistant Director Finance and Deputy Chief Executive.
- 7.2 The team responsible for delivering this new business model, projects completed to date and development of the programme is an existing staff resource. The Energy Team is made up of two full time posts (one post has been increased from 21 to 37 hours). This level of staff resource will continue to be supported.

## **8. CONCLUSIONS**

- 8.1 It is recognised that the Council has an obligation to embrace renewables and improve the energy efficiency of its estate, to make savings, protect against rising energy costs, secure new revenue streams and reduce carbon emissions.
- 8.2 The projects set out in the Pilot (Phase I) and Phase II form the essential cornerstone of the Council's approach to achieving energy independence and to become an Energy Neutral Council.
- 8.3 Further projects not included in this report can provide the Council with a continued Programme of savings, providing for a sustainable authority, one with energy efficient property assets.

## **9. RECOMMENDED:**

- (1) That Scrutiny Committee – Resources notes the report; and
- (2) That Executive notes the views of Scrutiny Committee – Resources and:
  - (i) notes the progress made to date in delivering renewable and energy efficient initiatives;

- (ii) endorses the proposed new initiatives, included in Phase I and II set out in this report;
- (iii) authorises the Corporate Manager Property, in consultation with the Portfolio Holder Enabling Services, Deputy Chief Executive and Assistant Director Finance to approve delivery of further energy saving projects within the Capital Programme funding allocation; and
- (iv) resolves that progress and outcomes of the programme be reported to Scrutiny Resources on a regular basis.

MICHAEL CARSON  
CORPORATE MANAGER PROPERTY

**Local Government (Access to Information) Act 1972 (as amended)**

**Background papers used in compiling this report:- None**