REPORT TO CORPORATE SERVICES SCRUTINY Date of Meeting: 22 June 2017 Report of: Corporate Manager Property Title: An Energy Neutral Council – A Renewables and Energy Efficiency Programme Update

Is this a Key Decision?

No

Is this an Executive or Council Function?

Executive

1. What is the report about?

The report provides an update on the third year of the Renewables and Energy Efficiency Programme, income generated and feasibility work for a new programme of projects to commence in 2017/18.

2. Recommendations:

- i) That Corporate Services Scrutiny note the progress made to date, income generated up to April 2017, and projects planned for year three of the Renewables and Energy Efficiency Programme; and
- ii) That the reporting regime for future progress be a six monthly update using the Scrutiny Bulletin and the annual report to Corporate Services Scrutiny Committee.

3. Reasons for the recommendation:

This is an update report to Corporate Services Scrutiny Committee.

4. What are the resource implications including non financial resources.

The programme is delivered by the Corporate Property Energy Team, made up of two full-time posts and this level of resource continues to be supported.

All key projects in 2015/16 were successfully delivered before reduction of the government subsidy (FIT tariff) and introduction of local grid restrictions. This was as a result of the team's commitment and focus to ensure the best possible outcome for the Council, delivering identified projects on time, as well as securing the greatest financial return.

Exeter's first standalone Energy Strategy was approved by Executive Council on 14th February 2017 and includes an action plan to accomplish key milestones laid out in the report. A new programme of energy saving projects seeks to develop those projects contained in the Action Plan and feasibility work is under way. In terms of the financial benefits of the programme, actual performance of previous PV schemes and energy saving projects carried out by the Energy Team, can be seen in table format at the end of this report. Income from energy savings, FIT payments, export to the grid, as well as a third income stream from the sale of renewable energy generated by the Council via a PPA agreement, to Good Energy or direct to leaseholders, make up a combined in total

income figure. As new schemes within the programme are rolled out, it is anticipated that they will continue to provide similar energy savings and deliver an income stream.

5. Section 151 Officer Comments:

The project continues to have a positive impact on the Council's budget position. The savings set out in the report have been included in the Council's budget and have reduced the need for savings that impact on frontline services.

6. What are the legal aspects?

None identified

7. Monitoring Officer Comments:

There are no issues to raise on the content of this report

8. Report details:

The report to Scrutiny Committee Resources on 16 March 2016 provided a summary of the full programme of work completed in year two of the Renewables and Energy Efficiency Programme. This report provides details of the last project to be completed at the Livestock Centre, further feasibility work planned for 2017/18 and Exeter's current position regarding consumption and emissions.

Year Three 2017/18 - Programme and Feasibility

The huge importance of the Solar PV projects in year two, and demand on what is a team of two, has inevitably delayed feasibility work. Nonetheless, initial business cases for work planned for year three of the programme are currently being prepared and below is a summary of projects identified for 2017/18:

Solar PV and Battery Storage_

Large Solar PV

An opportunity to develop a 3.5 MW ground mounted PV array will take the authority closer to achieving Energy Neutrality. Previously a formal grid connection offer could not be authorised by WPD, having announced the grid was overloaded and reinforcement work predicted to take 3 to 6 years. However, despite the network constraints involved an European Regional Development Fund bid was submitted in April to subside a Solar PV and Battery Storage project for this site. Grant funding if secured will support both costly grid network reinforcement work and also de-risk the battery storage element of the scheme, this being a developing technology.

Guildhall Car Park

The Renewables and Energy Efficiency Capital Programme includes two car park Solar PV Projects. However, grid constraints did not allow for a similar third scheme at the Guildhall Car Park in 2014/15. More recently, due to the Guildhall redevelopment, extensive electrical reinforcement work has served to improve the local supply and open up an opportunity to develop a Solar PV proposal.

An opportunity now exists to connect up to 200kW of Solar PV at the Guildhall Car Park site and a number of options are available, including a roof mounted PV system on the shopping centre roof, and/or a canopy PV system on the open deck of the Guildhall Car Park.

A Business Case has been prepared to identify all options, all of which are subject to structural assessment, planning permission, and agreement from the Guildhall owner.

Riverside Leisure Centre

The Riverside Leisure Centre is the highest energy consumer of all Council Leisure sites, and one where approval has been received to connect a sizeable 100kW array. The project would involve the sale of renewable energy generated to the building operator via a Power Purchase Agreement (PPA).

This is supported by a recent Energy Survey of the Leisure Centres, and an outline business case for this project is subject to the planned roof replacement and agreement with the Leisure Operator.

Exeter City Football Club

Feasibility work is being carried out to develop a small solar array at the Football Club which would involve the sale of renewable energy generated to the building operator via a Power Purchase Agreement (PPA).

Battery Storage

Battery storage will allow the Council to take control of solar energy use, providing many benefits, including reducing reliance on the grid at peak times and storage for use when needed outside of sunlight hours, additionally the sale of stored at times of demand can generate income. Power generated by existing PV can be optimised where excess energy is exported. For example at Mary Arches and John Lewis Car Park, the excess energy could be stored to power lighting at night, providing a further energy bill saving. New savings could also be achieved where energy is needed predominantly outside of sunlight hours (such as for communal lighting), using batteries to store renewable energy generated in the day.

The Livestock Centre array has the potential to store and supply excess energy generated direct to the grid at times of high demand, as well as utilising stored energy for its own use. A proposal for a battery project at the Livestock Centre has been received and is currently being evaluated.

LED Replacement Lighting

LED has the potential to make for a robust business case where electricity use is high, reducing consumption and carbon, maintenance costs and providing improved lighting. Further sites currently identified include car parks at the Guildhall and Princesshay 2 & 3. Work is ready to commence at the Guildhall car Park (subject to Business Case approval) and further projects will be actioned once the outcome of a full condition survey of the car parks is known.

Energy Monitoring – SMART Controls

Improved and new methods of energy and data monitoring will control energy usage through advanced scheduling and better control, optimising management of corporate buildings and in return lower energy bills. In addition monitoring is key to identifying where savings can be made and ensuring consumption information is made available so to feedback and work with the responsible building/service managers. Advances in technology and communications are providing a move away from traditional Building Management Systems using smart controls that will better engage building managers, reduce consumption and minimise costs. Evaluation of opportunities and systems available, and the role of building managers is has been investigated and the options available are being assessed.

9. How does the decision contribute to the Council's Corporate Plan?

The delivery of the programme is an essential part of the Council's capital programme over the coming years. The energy savings and income generated will assist us in our overall efficiency and income generating agenda, as well as contributing to the reduction of our carbon footprint, and making the city a more pleasant place to live and work.

10. What risks are there and how can they be reduced?

The programme has been approved and resourced in order to secure delivery of viable schemes. There will always be challenges to viability in this area as a result of changes in energy costs, the Feed in Tariff, structural building condition, etc. The mechanism we have put in place to approve business cases and their viability should ensure we do not embark on schemes that will not perform in accordance with our requirements.

Recent price changes in the energy market are noted, and to clarify what effect this may have on future and predicted savings of this work, an independent view from the Council's energy broker is sought. The following updated guidance is given:

"The present forward curve indicates an expectation of a flat development going forward. The markets for oil, gas and coal are all very flat so within the timeframe forward to 2020 this seems consistent with underlying fundamental price drivers.

Gas and electricity prices remain volatile, and while the wholesale energy component of bills would be expected to have fallen year-on-year, we expect this to be mitigated or more than offset by an increase in non-wholesale costs – particularly in the case of electricity."

11. What is the impact of the decision on equality and diversity; health and wellbeing; safeguarding children, young people and vulnerable adults, community safety and the environment?

No decision is sought, but it should be noted that the reduction in the City Council's carbon footprint does go some way to improving, or at least mitigating, the adverse impacts of energy use on the environment.

12. Are there any other options?

The nature of the programme appraisal and approval arrangements are that the Energy Team is constantly considering alternative approaches and other avenues of investment in this area.

Michael Carson City Surveyor

Corporate Property

Local Government (Access to Information) Act 1972 (as amended) Background papers used in compiling this report: None

Contact for enquires: Democratic Services (Committees) Room 2.3

Savings 2012 - 2017

2012/2013	Generation Income	Total Gross Saving
Water Saving Project		
2012/13 Savings		£23,025
TOTAL SAVING 2012/13		£23,025
2013/2014	Generation Income	Total Gross Saving
Water Saving Project		
2013/14 Savings		£20,420
PV Arrays (Civic, Ark, MRF, Oakwood, Belle Isle)		
Income & Savings	£24,512	£47,984
TOTAL SAVING 2013/14		£68,404
2014/2015	Generation Income	Total Gross Saving
Water Saving Project		
2014/15 Savings		£21,000

2014/2015	Generation	Total Gross
2014/2015 PV Arrays (Civic Ark MPE Oakwood Bollo Isla)	income	Saving
Income & Savings	£24 325	£50 728
Civic Centre LED Project	227,020	230,720
Civic Centre (part)		£7 684
Hand Drver Project		21,001
Installation of efficient hand dryers & removal of paper towels		£5,200
Car Park LED Project		
LED bulb replacement - Cathedral & Quay Car Park		£14,720
LED bulb replacement - Harlequins Car Park		£5,450
LED light replacement - Mary Arches Car Park		£14,940
Car Park Total		£35,110
TOTAL SAVING 2014/15		£119,722
2015/2016	Generation Income	Total Gross Saving
Water Saving Project		£21,000
PV Arrays (Civic, Ark, MRF, Oakwood, Belle Isle)	£18,851	£37,851
John Lewis and Mary Arches Car Park PV (part)	£5596	£14387
Livestock Centre PV (part)	£4,175	£4,175
RAMM PV (part)	£677	£1,505
Quay Climb Centre PPA (part)	£602	£1,197
Wat Tyler House PPA (part)	£444	£802
PV Total		
Civic Centre		
LED lighting Project		£25,335
Hand Dryer Project		£5,200
Boiler Replacement		£22,832
Car Park LED Project		
LED bulb replacement - Cathedral & Quay Car Park		£14,720
LED bulb replacement - Harlequins Car Park		£5,450
LED light replacement - Mary Arches Car Park		£14,940
Car Park Total		£35,110
TOTAL SAVING 2015/16		£169,394

Total Saving 2012 - 2016

	Total Gross Saving and income (FIT
Savings for 2016/2017	Export and PPA)*
Water Saving Project	£21,000
Solar PV	
Early PV Arrays (Civic, Ark, MRF, Oakwood, Belle Isle)	£41,013
John Lewis and Mary Arches Car Park PV	£54,209
Livestock Centre PV	£119,275
RAMM PV	£5,468
Quay Climb Centre PPA	£6,181
Wat Tyler House PPA	£3,773
PV Total	£229,919
Civic Centre	
LED lighting Project	£36,960
Hand Dryer Project	£5,200
Boiler Replacement	£23,609
Car Park LED Project	
LED bulb replacement - Cathedral & Quay Car Park	£14,720
LED bulb replacement - Harlequins Car Park	£5,450
LED light replacement - Mary Arches Car Park	£14,940
TOTAL SAVING 2016/17	£351,798

*FIT Government Feed in Tariff, Export to Grid, PPA Power Purchase Agreement

Total Saving 2012 - 2017

£732,343