

An Action Plan for an Energy Neutral Council 2017-2022

The Action Plan

This Energy Action Plan sets out opportunities for delivering Exeter City Council's Energy Strategy. It spans a five year period starting in 2017 and will be reviewed annually to take into account progress made, as well as legislative, financial, technical and operational changes.

Document Framework

The three priorities outlined in the strategy are attributed to each action and objective listed below.

- Priority 1 A Sustainable Corporate Estate.** To reduce energy consumption, deliver efficiencies, drive down costs and carbon emissions.
- Priority 2 An Energy Neutral Council.** To develop innovation and embrace emerging technologies to provide local renewable, low carbon energy at an affordable price.
- Priority 3 A Low Carbon City.** To promote energy efficiency and renewable opportunities for the community, business and stakeholders.

Governance and Monitoring

Delivery of the Action Plan will contain:

1. A rolling annual programme of projects through the Renewables and Energy Efficiency Programme.
2. Progress will be monitored and reported on a six monthly basis to Scrutiny Committee.
3. Annual monitoring of energy reduction, renewable energy generated, income streams and carbon savings will be reported to Scrutiny Committee.

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Strategic Priorities:

Priority 1 Sustainable Corporate Estate

Priority 2 Energy Neutrality

Priority 3 Low carbon City

Priority	Objective	Benefits	Position	Actions
P1 Sustainable Corporate Estate	<ul style="list-style-type: none"> To continue to evaluate the potential for Solar PV on all Council buildings and land 	<ul style="list-style-type: none"> Energy generation Reduced energy bills Service efficiencies Reduced costs New income streams Carbon reduction Higher building efficiency ratings To promote green technologies 	<ul style="list-style-type: none"> Grid connection opportunities improving, however recent connection offers for key buildings are restricted Withdrawal of FIT tariff reduces financial viability PPA's and private wire offer additional income streams <p>Two major PV opportunities include Leisure Centres and Ground Mounted Solar:</p> <ul style="list-style-type: none"> grid offer received for field site but additional income stream needed to support the business case awaiting Leisure Centre Condition Sites/details of new operator contract 	<ul style="list-style-type: none"> Site visits to meet with WPD Evaluate commercial opportunities Establish potential for private wire, PPA or battery storage Investigate Partnership opportunities with energy providers
P1 Sustainable Corporate Estate P2 Energy Neutrality	<ul style="list-style-type: none"> To embrace benefits of energy storage 	<ul style="list-style-type: none"> Carbon Saving Energy neutrality Energy security reduce reliance on imported energy Maximise use of renewable energy 	<ul style="list-style-type: none"> Demand management technologies are developing quickly Battery storage is soon to be commercially viable To assist in off-loading, providing additional supply during peak periods Smart metering can target key users 	<ul style="list-style-type: none"> Working with various installers to find options that will work at existing Solar PV sites Exploring

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P1 Sustainable Corporate Estate P2 Energy Neutrality	<ul style="list-style-type: none"> To embrace benefits of energy storage 	<ul style="list-style-type: none"> Remove grid constraints Electricity price savings Income generation /more value for sale at peak times Reduce own usage at peak times and use renewable energy stored to reduce grid charges Charge from and to Electric Vehicles Promote green technologies 	<ul style="list-style-type: none"> Can be combined with air/heat source pump technology 	battery storage solutions to make new solar PV projects viable <ul style="list-style-type: none"> Combined heat pump and battery solutions being investigated
P1 Sustainable Corporate Estate	Utilise Hydro Power	<ul style="list-style-type: none"> Renewable energy generation Service efficiencies Reduced costs New income streams Carbon reduction Higher building efficiency ratings Reduced energy bills To utilise and promote green technologies 	<ul style="list-style-type: none"> grid connection restricted storage or private wire solution needed Could be integrated into Municipal energy supply 	<ul style="list-style-type: none"> To investigate opportunities on River Exe weir

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P1 Sustainable Corporate Estate	Utilise Solar outdoor lighting	<ul style="list-style-type: none"> • To reduce consumption and costs • Reduce carbon emissions • less maintenance/costs 	To install where feasible <ul style="list-style-type: none"> • Car Parks • Quay area • Cycle path/canal path • Muga sites 	To investigate opportunities on Public Realm Sites
P1 Sustainable Corporate Estate	To install Air and Ground source heat pumps where heating can be supported	<ul style="list-style-type: none"> • Low Carbon heating source • Reduced heating costs • Potential savings/ income from Renewable Heat Incentive (RHI) • To utilise and promote green technologies 	<ul style="list-style-type: none"> • To install where feasible • Potential to work alongside battery storage 	To investigate appropriate sites, leaseholder lets, housing
P1 Sustainable Corporate Estate	Solar Thermal	<ul style="list-style-type: none"> • Low Carbon • Reduced hot water costs • Potential savings/ income from Renewable Heat Incentive (RHI) • To utilise and promote green technologies 	<ul style="list-style-type: none"> • To install where feasible • Potential to work alongside battery storage • Can be incorporated in to EPC project 	To investigate appropriate sites, leaseholder lets, housing

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P2 Energy Neutrality	Local Authority Municipal Energy Company	<ul style="list-style-type: none"> • Energy neutrality • ECC are a trusted organisation • Reasonably priced energy for local people • Can produce and use locally • Low carbon • Greater value for ECC renewable generation • Reduces fuel poverty 	Partnerships available to provide a not-for profit company using renewables and battery storage providing local green energy for local people Smart metering able to target key users Changes to Energy Market Regulations and charges may support	Investigate other models such as Bristol/ Nottingham Develop opportunities with Exeter City Futures, Energy providers and Community Energy groups where appropriate
P1 Sustainable Corporate Estate	Water efficiency measures	<ul style="list-style-type: none"> • Reduced water consumption • Cost savings • Increases sustainability and water dependence • Reduces environmental damage (use of cleaning products/chemicals). • Measurement and better understanding of usage 	Opportunities available include : <ul style="list-style-type: none"> • Rainwater harvesting is applicable • Water saving toilet equipment where able, urinal sleeves and flow monitors • Meter loggers offer accurate consumption data and leak detection • Sensor taps to control water flow and prevent them being left on. 	<ul style="list-style-type: none"> • To Review feasibility of rainwater harvesting for various sites • Civic toilet refurb to include water saving features • Await review of Public Toilets • MRF/ vehicle washdown • Review high use sites

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P1 Sustainable Corporate Estate	To raise levels of energy efficiency and EPC rating as per new legislation requirement by 2018 for all commercial property lets that fall below an EPC rating of E.	Improve performance of the building fabric, to ensure high standards of energy efficiency are achieved. <ul style="list-style-type: none"> • Energy savings • Reduce carbon • Better quality of letting • Fuel savings for leaseholders/supports SME's • Meets legislative requirements 	Available solutions include : <ul style="list-style-type: none"> • To utilise partnership and funding opportunities such as an Energy Performance Company. • Develop own retrofit scheme for poorly insulated and inefficient builds to set a new rental standard - more attractive for rental /reduced voids / higher rents possible increased income 	<ul style="list-style-type: none"> • Investigating: EPC with other Devon authorities. • Potential for own commercial retrofit project • Liaising with Estates team
P1 Sustainable Corporate Estate	Improve comfort of Civic Centre to reduce heating imbalance due to increased patricians and poor office layouts preventing cross flow ventilation through better control and ability to visibly communicate room temperatures using digital thermostats	<ul style="list-style-type: none"> • To make for a healthy and comfortable working environment. • Cost savings through efficiency • Improved communication /staff awareness • Greatly improved heating control resulting from accurate thermostat data 	<ul style="list-style-type: none"> • Use of Space planning to plan office layouts that suit building temperature and take advantage of the solar gain on the southern side of the building, placing offices south to north to create even office temperatures. 	<ul style="list-style-type: none"> • Programme to replace thermostats with modern digital ones • Improved BMS will provide for higher standard of control and ease of use

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P1 Sustainable Corporate Estate	Individual Energy Efficiency Audits for all operational Buildings	<ul style="list-style-type: none"> • Energy saved is the cheapest unit of energy • Reduced costs • Reduce carbon • Operational efficiency 	<ul style="list-style-type: none"> • To ensure maximum efficiencies are gained and energy saving practices and technologies are installed where benefit can be derived 	<ul style="list-style-type: none"> • To visit service managers and operational buildings over 2017
P1 Sustainable Corporate Estate	Staff Engagement Project	<ul style="list-style-type: none"> • Energy saved is the cheapest unit of energy • Reduced costs • Reduce carbon • Operational efficiency 	<ul style="list-style-type: none"> • Studies carried out demonstrate reduced running costs • Devolve energy budgets and responsibility for lighting - coordinate with BMS upgrade so to hand over responsibility/controls 	To filter down through service managers.
P1 Sustainable Corporate Estate	Ensure sustainable procurement and use of Energy efficient goods and services	<ul style="list-style-type: none"> • Energy saved is the cheapest unit of energy • Reduced costs • Reduce carbon • Operational efficiency 	<ul style="list-style-type: none"> • To use a checklist to be signed off for all works to ensure energy efficiency is always considered in relation to any building works/ repairs and replacement of equipment, where economically feasible 	To design checklist to be incorporated for all procurement and Housing and Corporate estate works
P1 Sustainable Corporate Estate	LED lighting schemes	<ul style="list-style-type: none"> • Electricity savings of 50% or more • Reduced maintenance costs • Better quality lighting/improved services/working conditions • Carbon savings 	<ul style="list-style-type: none"> • Proven technology with continuous improvement of products • Greater retrofit opportunities • Condition of electrical wiring in some properties requires additional repair work before lighting replacement 	Car Park sites ready to go once building condition survey is complete include : <ul style="list-style-type: none"> • Guildhall Car Park • Princesshay Car Park I & II RAMM to be surveyed

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P1 Sustainable Corporate Estate	Upgrade Building Management System (BMS) to use latest technologies and most advanced software	<ul style="list-style-type: none"> • Better control of all consumption and power down circuits • Energy and cost savings from better control and therefore reduced consumption. • Ability to understand building energy profile so to identify opportunities to change processes and when consumption rises or falls. • Opportunity to manage consumption around the higher priced DUOS and TRIAD time bands providing cost savings • Decentralise controls and on site management of services where appropriate. Staff involvement to encourage ownership, increase communication, and improve morale. 	<p>Efficient use of all building electric sources and total waste avoidance. Potential for substantial financial and carbon savings</p> <p>Combat impact of P272 legislation. Further reduce costs</p> <p>Better facilities provide for social benefit, fosters creativity and innovation of workforce. Energy saving from centralised and efficient kitchen equipment. Storeroom assessment will facilitate better building use.</p>	<ul style="list-style-type: none"> • Investigating most future proof options, having met with various BMS providers. To write business case/ specification • Additional staff resource needed

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P1 Sustainable Corporate Estate P2 Energy Neutrality	Lower hot water return on all heating systems to improve deltaT Reduces heat waste and improves efficiency	<ul style="list-style-type: none"> • Reduces heat waste and improves efficiency • Energy and cost savings • Reduced carbon 	New technologies emerging including a control system developed locally and supported by DECC funding	Building surveys to be carried out by Mini BEMS
P1 Sustainable Corporate Estate	Passive solutions, such as screening windows and ventilation through recycling of air flow, through remote opening of windows - sky lights and doors - to incorporate with space planning.	<ul style="list-style-type: none"> • To make for a comfortable working environment in warm weather • Reduced energy consumption (fans) and provision of a productive working environment • Higher rate of air change/air flow provides for better cooling of office space 	<ul style="list-style-type: none"> • Electro chromatic glazing to be incorporated with window refurbishment • Ability to cool building through outside ventilation by installation of lobby roof light opening system 	<ul style="list-style-type: none"> • Investigate for Civic Centre, and other sites where appropriate
P1 Sustainable Corporate Estate	Reducing energy consumption of IT Server Room cooling process through heat recovery	<ul style="list-style-type: none"> • Significant energy, financial and carbon savings 	Options include : <ul style="list-style-type: none"> • To re-use heat produced from server and pump it into building space • Control cooling at times when energy costs are lower/battery storage option 	To measure consumption and investigate options available

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P1 Sustainable Corporate Estate	Centralise kettles and fridges in office areas.	<ul style="list-style-type: none"> • Reduced energy consumption • cost and carbon savings • more productive working environment 	Potential to use empty store rooms to make way for improved kitchen spaces and more social space / Refurbish existing kitchens.	To investigate savings potential and space available/costs
P1 Sustainable Corporate Estate	To introduce paperless electronic billing, through use of EDI files for utilities	<ul style="list-style-type: none"> • Significant savings through reduced admin and billing errors. • savings from reduced use of paper. • Improved consumption data 	<p>We currently use Team Sigma software for billing data. Accounts link enables billing to be sent automatically through electronic files and is used by many authorities.</p> <p>Provides software link and full training, but will require admin support within the energy team.</p>	To obtain costs/business case for savings
P1 Sustainable Corporate Estate	Energy Performance Contract	<ul style="list-style-type: none"> • Significant energy, financial and carbon savings 	<p>Opportunity to use joint Devon LA. Potential to fund energy efficiency measure that require longer Paybacks this could include :</p> <ul style="list-style-type: none"> • Insulation/heat pumps • Leisure Centre retrofit 	Contract will be developed in 2017 jointly with DCC, RD&E and MOD
Priority 3 Low Carbon City P1 Sustainable Corporate Estate	Extend Electric Charging network for fleet and City wide use	<ul style="list-style-type: none"> • Reduced carbon emissions • Fuel cost savings • Promotion of Electric Vehicles 	<ul style="list-style-type: none"> • Utilise funding from the Office for Low Emissions(OLEV) for fleet, staff and visitor use • Sponsorship opportunities • Knowledge of charging infrastructure learnt. • Extensive opportunity to provide on street EV charging throughout City 	<p>2 new ECC sites to be installed</p> <p>Further sponsorship being sort</p> <p>Monitoring OLEV grant funding</p>

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Priority 3 Low carbon City	Develop the Green Accord to drive sustainable business	<ul style="list-style-type: none"> • Support business/staff engagement tool • Measurable reduction in energy, water, waste, travel and procurement practices • Income generation and carbon reduction • Accreditation demonstrating green credential and corporate social responsibility 	Green accreditation scheme run by City Council. Supports many SME's and is a key procurement tool for ensuring businesses operate using same environmental standards	Further funding and support needed to promote.
Priority 3 Low carbon City P1 Sustainable Corporate	City Heat Network	<ul style="list-style-type: none"> • Decarbonised heating supply 	Heat network to be developed in the City Centre and will feed Civic Centre and new Leisure Complex	Assisting in HNDU research bid for low carbon heat with Exeter City Futures