

HAMPSHIRE COUNTY COUNCIL

Report

Committee/Panel:	Buildings Land and Procurement Panel
Date:	3 January 2018
Title:	Energy and Carbon Management Programme Update
Report From:	Director Culture, Communities and Business Services

Contact name: Steve Clow, Assistant Director Property and Facilities

Tel: 01962 847858 **Email:** Steve.clow@hants.gov.uk

1. Executive Summary

- 1.1 In October 2017, the Director of Culture, Communities and Business Services (CCBS) reported that progress on the second phase of carbon reductions had achieved a reduction of 38.1% (of 2010 levels) against the 40% target for 2025.
- 1.2 More activities are planned which will further reduce the carbon emissions and good progress is being made with their delivery. This report provides further details on these programmes of work.
- 1.3 The Director of CCBS has engaged an energy category specialist to review our current energy contracts and to examine the options for the procurement of future contracts taking into consideration price certainty; flexibility in the market; risk of supply; the purchase of green energy; and business opportunities from providing energy to third parties.
- 1.4 At the last meeting of the panel, members asked the Director of CCBS to set a new, more stretching, target for phase 2 of the Carbon management Strategy. Officers have reviewed the planned projects including the Energy Performance Programmes, office rationalisation, street lighting and behaviour change programme and recommend that a new target is set of 50% reduction from 2010 levels by 2025.
- 1.5 This report identifies a further, more ambitious and challenging project to replace the County Councils streetlights with LED lamps is investigated. A viability study and outline business case is recommended in this report.

2. Introduction

2.1 In 2010, the County Council's Cabinet approved the Carbon Management Strategy. This set out targets for the short, medium and long term as follows:

- Phase 1: Short term 2010–2015 20% reduction (target exceeded)
- Phase 2: Medium term 2015–2025 40% reduction (on target to exceed)
- Phase 3: Long term 2025-2050 Carbon neutral

2.2 As context some investigation has been done into what peer authorities have set as targets and what information is available as to progress. The following lists includes County Councils and District Councils from a comparable two tier Local Authority system

- Kent County Council – 34% by 2020 from 2010 levels : 15% achieved by 2015
- Surrey County Council – 10% by 2019 from 2016 levels : 8% achieved by 2017
- Wiltshire County Council – 20% target by 2017 from 2008 levels : 19% achieved
- Dorset County Council – 30% target by 2020 from 2009 levels : 14% achieved to date
- Eastleigh Borough Council – 50% target by 2020 from 2007/8 levels : 27% achieved to date
- Basingstoke and Deane Borough Council – 34% target by 2020 from 1990 levels : 22 % reductions in building consumption achieved from 2012 to 2017

3. Carbon Management Strategy – Progress to date

3.1 Against a target of a 20% reduction in the first phase of the Programme running from 2010–2015, the following was achieved; exceeding the target by nearly 3%:

Phase 1: 2010 – 2015	
Carbon reduction target	20%
Carbon Reduction Achieved	22.8%
Carbon emissions in 2010	131,800 tonnes
Carbon emissions in 2015	101,750 tonnes
Energy Cost saved over period	£29m (over 5 years)
Carbon Tax saved over period	£200,000

- 3.2 In June 2016, the Panel supported recommendations from the Director of Culture, Communities and Business Services to focus Phase 2 of the Carbon Strategy on buildings in the Corporate Estate, street lighting and officer travel.
- 3.3 Phase 2 of the Programme from 2015–2025, aims to reduce 2010 levels by 40% and progress in the first two years of the Plan were as follows:

Phase 2: 2015 – to date	
Carbon reduction target	40%(from 2010 levels)
Carbon Reduction Achieved	38.1%
Carbon emissions in 2010	54,200 tonnes
Carbon emissions in 2017	33,544 tonnes
Energy Cost saved over period	£950,000
Carbon Tax saved over period	£86,000

- 3.4 Members need to be aware that these figures are not weather corrected and exceptionally mild or cold winters will affect the energy use and carbon emissions. It is therefore more appropriate that the data trend is considered over a number of years, rather than taking a single year in isolation.

4. Carbon reduction activities update

- 4.1. The reductions to date have been achieved through a number of Energy Performance Programmes (EPP) which have invested in programmes and projects including the installation of solar PV on the corporate estate, improved thermal insulation, LED lighting, draught proofing works, improved heating controls and the behavioural change programme 'Do Your Energy Bit'
- 4.2 As well as the EPP programmes for buildings, the PFI contract for the replacement of street lighting has contributed a substantial proportion to the overall carbon emissions reduction. The initial five year period of the contract saw the replacement of the majority of the street lights with more efficient lamps and fittings, subsequent dimming and switching over the last two years has further reduced emissions.

5. Current Energy Programmes

- 5.1. The Director of CCBS, supported by the panel, is progressing a number of additional programmes to further reduce the county's carbon emissions including the following:

- A major programme of LED lighting replacement in the corporate estate which will see approximately £1.6m invested over an anticipated two year period. This will result in 1.4m kWh of energy saved with a consequent reduction in carbon emissions of 750 tonnes and a energy revenue saving of £240,000 per annum
- The provision of a network of Electrical Vehicle (EV) charging points. A framework to facilitate the installation and management of charging points for the public sector is currently being procured.
- The phased replacement of the existing fossil fuelled fleet of County Council small vehicles with electric
- Investigation and feasibility studies into the use of innovative Battery Storage Technology

6. Energy Supply Contracts & Management

- 6.1. The Director of CCBS has engaged the services of an energy category specialist to review our current energy supply contracts and undertake an options analysis for the development of future arrangements for the County Council and its partners.
- 6.2. The initial work will be focussed on driving efficiencies from the remaining two years of existing contracts. A thorough audit is being undertaken to identify improvement and modernisation of processes to procure and pay for energy including digital systems and automation.
- 6.3. Alongside this, options will be developed for the procurement of future energy supply contracts which will explore the routes to market, appetite for risk and price surety, the advantages and disadvantages of the various contractual arrangements, the ongoing management of the contracts and the inclusion of green energy in the mix of fuels.
- 6.4. Business opportunities for the Council to generate income through energy purchase and supply to other public sector organisations will also be investigated. The Council already procures on behalf of Police, Fire, schools and other Local Authorities.

7. Green energy

- 7.1. As renewables and cleaner energy sources make up a larger proportion of the electricity purchased from the grid, our energy supply does become greener in absolute terms. However it is possible to source green electricity from the grid which comprises energy generated from renewable and non-fossil fuel sources.
- 7.2. There is currently an additional cost associated with the purchase of all green energy depending on a number of factors including demand and energy source. Initial enquiries to our existing energy suppliers indicate the additional cost of green energy would attract a price premium of at least 3.5% at current rates. Further work will be undertaken as part of the Energy

Supply Contracts as referred to in paragraph 4. The Council will then have options to consider the balance of energy sources and the costs with a greater understanding of the implications.

8. Battery Storage

- 8.1. A number of public sector bodies are exploring large scale strategic battery storage. The Director of CCBS is currently working with the industry and other local authorities to further explore potential opportunities for Hampshire.
- 8.2. This could include providing land for third party specialists to build a battery storage facility linked to the grid or funding and building our own run and managed battery storage facility.
- 8.3. A report on the progress of this opportunity will be brought to a future Panel when the workstream has progressed.

9. Electric Vehicle (EV) replacement programme

- 9.1. The Director CCBS is currently evaluating which vehicles in the county council's fleet could be 'exchanged' for EVs once their lease term expires.
- 9.2. It is estimated that 400 tonnes of carbon emissions could be saved by converting all small cars from diesel to EV, but further work is needed to establish which groups of vehicles have EV equivalents and whether their journey type and duration suits an EV. Where it is practical to change to EV it is proposed that this is the default position and that vehicles using other fuels are leased only by exception

10. Street lighting

- 10.1. Street lighting currently accounts for approximately one third of our carbon emissions – 12,000 of the 33,544 tonnes as at 2017 levels. Emissions have reduced by over 50% as a result of the major street lighting replacement programme and the subsequent dimming and switching regimes in place. This is all part of a long term PFI contract established by the County Council.
- 10.2. Early indications are that reductions could be achieved by replacing the light sources with LED lamps and control gear. It is estimated that a potential 5000 tonnes of emissions (9% of 2010 levels) could be saved by utilising LED lamps in a programme of replacement, however the technical viability and cost of this is still to be determined. The indicative cost of this is estimated to be in the region of £7 million.
- 10.3. The Directors of ETE and CCBS are reviewing the potential for a large scale LED replacement programme; what the implications are for the current PFI contract; how a programme could be funded; and what constraints and technical challenges need to be overcome if it were to be delivered.
- 10.4. The outcomes of the viability study and outline business case will be shared with the panel at a future meeting.

11. Salix funds

- 11.1. Salix funding has been used successfully to augment our energy programmes by sourcing interest free loans to fund (or part fund) capital investments in energy saving technologies such as the LED lighting scheme recently completed at Milestones Museum in Basingstoke.
- 11.2. Salix loans have a simple payback criteria of a maximum of 5 years for local authority schemes, but as the number of achievable solutions becomes fewer the payback periods extend and the number of projects eligible for this form of funding reduce.
- 11.3. Council officers are in regular dialogue with Salix and, positively, they have recently announced a revised Recycling Fund where authorities match fund any Salix loan contribution which is then used to fund energy saving works. The revenue saved in energy cost is returned to the funding pot and is further used to invest in more energy saving measures.
- 11.4. Salix have relaxed the payback requirements for this recycling fund recognising the more challenging environment for energy reduction programmes. The simple payback period is now up to 10 years (it was 5) and the cost of carbon reduction over the life of the measure must be no more than £240 per tonne.
- 11.5. Salix funding has been successfully used for building related energy programmes but could now be potentially viable for street lighting improvements.
- 11.6. The Director of CCBS is currently investigating how a Recycling Fund could be set up and utilised to fund further energy reduction measures.

12. Future carbon targets

- 12.1. As a result of the works completed and the ongoing behavioural change programme excellent progress has been made toward the 40% reduction target and if the current trend continues it is certain that this target will be met in the near future.
- 12.2. Consideration is has been given to setting an increased target for 2025 given the workstreams and activities currently being progressed by the Director of CCBS.
- 12.3. It is proposed that taking into account the known funded programmes and allowing for some further reduction initiatives that a target of 50% reduction on 2010 levels by 2025 is achievable.
- 12.4. By way of illustration, should it possible to change the streetlights to LED lamps then a target of over 55% is achievable.
- 12.5. It is proposed that further work is undertaken by officers to test the viability and feasibility of the new programmes, particularly the Street Lighting opportunities, during 2018 and the results reported to the panel.

13. Recommendations

13.1. That the Panel recommends to the Executive Member for Economic Development that a new, stretching carbon emissions reduction target of 50% by 2025 from 2010 levels is set.

13.2. That the Panel notes the progress on the carbon management activities.

13.3. That Panel notes that the Director of CCBS;

- intends to review the current energy supply contracts and bring an options paper on future energy purchasing to the Panel for review
- intends to investigate setting up a Salix Recycling Fund and identify potential programmes to be funded through it
- intends to establish an Electric Vehicle roll out programme and seek the support of the Panel for the principal of EV as the default when leasing new vehicles where it is practical to do so
- intends to prepare a report for consideration on the potential for large scale battery storage

13.4. That the Panel notes that the Directors of CCBS and ETE intend to undertake a detailed feasibility study to consider the viability of LED conversion of street lights and report to a future meeting of this Panel.

CORPORATE OR LEGAL INFORMATION:

Links to the Strategic Plan

Hampshire maintains strong and sustainable economic growth and prosperity:	Yes
People in Hampshire live safe, healthy and independent lives:	Yes
People in Hampshire enjoy a rich and diverse environment:	Yes
People in Hampshire enjoy being part of strong, inclusive communities:	Yes

Section 100 D - Local Government Act 1972 - background documents

The following documents discuss facts or matters on which this report, or an important part of it, is based and have been relied upon to a material extent in the preparation of this report. (NB: the list excludes published works and any documents which disclose exempt or confidential information as defined in the Act.)

Document

Location

None

IMPACT ASSESSMENTS:

1. Equality Duty

1.1. The County Council has a duty under Section 149 of the Equality Act 2010 ('the Act') to have due regard in the exercise of its functions to the need to:

- Eliminate discrimination, harassment and victimisation and any other conduct prohibited under the Act;
- Advance equality of opportunity between persons who share a relevant protected characteristic (age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, gender and sexual orientation) and those who do not share it;
- Foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

Due regard in this context involves having due regard in particular to:

- a) The need to remove or minimise disadvantages suffered by persons sharing a relevant characteristic connected to that characteristic;
- b) Take steps to meet the needs of persons sharing a relevant protected characteristic different from the needs of persons who do not share it;
- c) Encourage persons sharing a relevant protected characteristic to participate in public life or in any other activity which participation by such persons is disproportionately low.

1.2. Equalities Impact Assessment:

The proposals in this report will have no effect on groups with protected characteristics. Energy Programmes have the potential to improve the environment in buildings and reduce vehicle emissions to the benefit of staff and residents.

14. Impact on Crime and Disorder:

14.1. There is no impact on Crime and Disorder.

15. Climate Change:

15.1. The Carbon Management Programme continues to have a positive impact by reducing carbon emissions and energy consumption.