

Title: Energy Reduction Manager Update
Contains Confidential or Exempt Information?: <i>NO - Part I</i>
Member reporting: Councillor Coppinger, Lead Member for Sustainability
Meeting and Date: Sustainability Panel - 31 January 2017
Responsible Officer(s): Andy Jeffs, Interim Strategic Director of Operations Craig Miller, Head of Community Protection & Enforcement Services
Wards affected: All

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REPORT SUMMARY

1. This report provides an overview of the progress being made to deliver the Council’s energy reduction strategy.
2. This update report recommends that Members note progress of energy consumption reductions, the Town Hall Solar panel generation, RBWM Energy Switch to Save, Schools Energy Saving Competition, Water reduction proposals and comment on the proposed work plan until the next Sustainability Panel. It recommends that that urinal controls project and the tap flow reduction trial are approved.
3. Recommendations are being made because it is important that Members provide comment and direction on the work being carried out and that the sustainability strategy targets are met.

1. DETAILS OF RECOMMENDATION(S)

RECOMMENDATION: That the Sustainability Panel notes the report, the progress made and comments on the proposed work plan over the next period as detailed in paragraph 11.22.

RECOMMENDATION: That the Sustainability Panel approves the upgrade of the urinal controls for a total cost of £7,120 and a trial of restricting flow to the taps for £300 using capital code CY03.

2. REASON(S) FOR RECOMMENDATION(S) AND OPTIONS CONSIDERED

2.1 The Council is currently working towards a four year Sustainability Strategy running from April 2014 to March 2018. The strategy focuses on 6 workstreams including: Sustainability, Energy, Water, Waste, Transport and Renewable Generation. The strategy has three key targets over the four year period which are:

1. Reduce energy use in the Council building estate by 15% in 2017/18 compared to a 2013/2014 baseline.
2. Reduce water usage in the Council's corporate office buildings by 3% in 2017/18 compared to a 2013/2014 baseline.
3. Recycling rates increased to 55% in 2017/18.

2.2 Each year an action plan is drawn up to enable the Council to meet these targets as well as other goals presented in the strategy documents. This update provides a progress report for the energy workstream.

2.3 After the first two years of the strategy the 2013/2014 energy baseline has been reduced by 12.5%. This equates to the Council avoiding just under £130,000 of energy costs over these two years.

2.4 Table 1: Report options

Option	Comments
(a) The Council does not work towards the sustainability strategy. This is not recommended	(a) Failing to work towards the sustainability strategy would mean the Council would not be able to meet its legislative commitments, would not be able to continually drive down energy costs and therefore would not be offering value for money for its residents.
(b) The Council works according to the current and any future sustainability strategy. This is the recommended option	(b) The Council will be able to meet all its legal requirements whilst improving the local environment and providing value for money for its residents.
(c) The Council upgrades the Town Hall urinal controls and trials reducing flow to taps. This is the recommended option	(c) The Council needs to reduce water consumption at the Town Hall in order to work towards the overall water reduction target.

3. KEY IMPLICATIONS

3.1 Table 2: Target outcome following report

Outcome	Unmet	Met	Exceeded	Significantly Exceeded	Date of delivery
Overall reduction of annual gas and electricity consumption in Council buildings in 2016/17 compared to the 2013/14 baseline.	<11%	11-12%	12.1-13%	>13%	31 st March 2017

4. FINANCIAL DETAILS / VALUE FOR MONEY

- 4.1 No new funds are being sought through this paper.
- 4.2 Use of existing funds from capital code CY03 of £7,420 are recommended to upgrade the urinal controls and trial flow restricting taps. These projects should yield an annual saving of £3231.

5. LEGAL IMPLICATIONS

- 5.1 None.

6. RISK MANAGEMENT

6.1 Table 4: Risks for Sustainability Strategy actions.

Risks	Uncontrolled Risk	Controls	Controlled Risk
Targets for overall energy and water reduction are not met.	High	By providing updates at each panel meeting, Members are able to keep track of overall progress to ensure the Council meets its annual projected reductions and savings commitments.	Low
Increasing energy and water costs for the council puts additional	High	By providing updates at Panel meetings on progress to	Low

Risks	Uncontrolled Risk	Controls	Controlled Risk
pressures on budgets.		reduce energy and water usage and progress on securing the best available energy contracts, Members will be able to assess the work that is taking place to ensure that cost increases are minimised as far as possible.	

7. POTENTIAL IMPACTS

7.1 This update contains content relating to the sustainable improvement of the Council's buildings and the information collated about them.

7.2 No equality impact assessment has been carried out.

8. CONSULTATION

8.1 None

9. TIMETABLE FOR IMPLEMENTATION

9.1 Table 5: Timetable

Date	Details
31/03/2017	Completion of current annual plan.

10. APPENDICES

10.1 None

11. BACKGROUND DOCUMENTS

Energy Consumption

11.1 Corporate building energy consumption has continued to reduce compared to the baseline over the year. The cumulative percentage saving for the year to the end of October was 11.7%. The monthly gas and electric figures can be found in appendix 1.

11.2 Largest increases in electrical consumption compared to the baseline over the period include Braywick Park Sports Centre, St Mary's House and Grenfell Park. Braywick Park Sports Centre is due to the fact that if the biomass boiler breaks down as has happened this year then the backup electrical immersion

system kicks in. St Mary's House is due to the increase in usage of the building compared to the baseline period. Grenfell Park is due to the introduction of a café.

11.3 Largest increases in gas consumption compared to the baseline over the period include the Town Hall, 4 Marlow Road and Pinkneys Green Youth and Community Centre. The Town hall increase is likely due to the boiler controls not working as they should do. This is of course being looked into as part of the Town Hall BMS upgrade project. 4 Marlow Road and Pinkneys Green Y&C Centre are being investigated.

11.4 Overall the energy cost saving for corporate buildings during the current Sustainability Strategy is now just under £250,000. There is 1 year and 5 months left until the end of the Sustainability Strategy (according to the available figures used to calculate the overall saving to the end of October 2016).

Town Hall Solar Performance

11.4. The Town Hall solar panels are currently performing very well and have generated more electricity from April to December than the year before (1772 kWh more). Also, the generation output was 2.4% higher over this period compared to the cash flow agreed with Cabinet. Further to this the increase in output corresponds to a period of less solar irradiance (2% less). This means that the panels have been working more efficiently in 2016. One reason for this may be the cleaning of the panels in February 2016.

11.5. The solar panels were checked following the fireworks and there where no issues observed with debris or otherwise. The condition of the panels will be checked in February to see if it would be beneficial to have them cleaned again.

RBWM Energy Switch to Save

11.6. The Energy Switch to Save Scheme results for the October scheme have now been provided. On average our residents saved £280 per household by using the scheme. Overall the final figures show 114 people registered for the scheme and 31 people ended up switching. This is a 27% switching rate for registrants which is good. In total residents who decided to switch are estimated to save £8667 from this auction.

11.7. Moving forward to the next auction 25 potential switchers who didn't switch during the last auction have carried over their details. This will allow them to compare the rates achieved in the February auction to their current tariff.

11.8. The communications for the February auction cycle have now been rolled out. All of the previously used communication channels have been used as before. However, following the approval of a grant the Council has also printed fliers and pop up banners. The fliers have been distributed to libraries, York House and the Town Hall. The pop up banners are set up in the Town Hall, York House, Maidenhead Library and Windsor Library. It is hoped that 100 more people will sign up due to the greater scheme exposure from the fliers and pop up banners.

11.9. The key dates for the February auction are:

- 14th February 2017 – Auction date
- 28th March 2017 – End of offer acceptance period

It is hoped overall that 200 residents register at this auction and that 54 people switch supplier. Increasing energy prices may well affect the switching rate if there is less of a saving to be achieved.

Schools Energy Saving Competition

11.10. The schools energy saving competition is currently underway with 9 schools taking part. The competition is running over four weeks and is aimed at all levels of the school community from pupils to headteacher. The first two weeks are a baseline period where the schools continue to run as normal. During the second two weeks (commencing 23rd January) of the competition schools will be identifying energy wastage and then doing something to reduce the wastage. The energy consumed in the second two weeks will be compared to the energy consumed in the first two weeks to determine the percentage savings achieved. The school with the highest saving will win the competition.

11.11. Schools have been given example energy survey sheets to help them identify energy wastage. The actions that the schools take to reduce energy consumption will mostly be no cost measures, however, if any of the schools are happy to pay a small amount on an energy saving measure they are free to do so. Advice will be available should schools have any questions.

11.12. The Bayliss Trust will be supporting the competition by providing the winners cup, providing press coverage in the local paper and assistance with printing certificates for the runners up.

Town Hall Water Usage and Reduction Project

11.13. The introduction of water AMR at the Town Hall has made it possible to see when water is being used in the Town Hall. Although there is not a full years worth of hourly data the daily usage can be averaged and extrapolated to show a full year since usage remains fairly constant.

11.14. When this extrapolated figure is compared to the 2013/14 baseline figure previously presented to the Panel there is a clear discrepancy of consumption:

	Annual Water consumption (m3)
Town Hall baseline consumption 2013/14	3,816
Town Hall AMR (extrapolated consumption)	10,479
Difference	6,663

11.15. The difference could be down to billing/ metering problems in the baseline year, increased usage of the building, an underground leak or down to increased wastage. Looking at the hourly AMR data it is clear that water is being used when you would not expect it to be i.e. Overnight, Sundays and bank holidays. This indicates a degree of wastage. Further to this, a review of the billing information indicated problems with both the billing and the metering over the baseline period. The baseline was adjusted to try and take

this into account but it could be that the baseline was set too low. There is not any indication of a leak judging from the AMR data at this stage.

- 11.16. Clearly any wastage needs to be curtailed as soon as possible. Since there is no clear indication what is causing the out of hours water usage to be quite as high as it is, it is proposed that initially upgrades are made to the urinal controls. This is because any problems with urinal controls could affect usage out of hours. Other actions such as replacing taps or installing water hippos in cisterns do not affect out of hours usage patterns.
- 11.17. The cost to upgrade the urinal controls to individual bowl sensor controls is estimated to be: £3,120. Individual sensor controls mean that only the used urinal is flushed. This means less water needs to be flushed overall compared to other control types. This should save about £1800 in water costs per annum providing a 1.7 year payback. However, until the urinal water pipework is fully exposed and confirmed suitable for the upgrade, the final costs can not be confirmed. It is likely that there will be an extra expense relating to pipework upgrades. It is therefore proposed that a large contingency is added to the estimated cost of a further £4000. This would bring the project total to £7,120 and a payback of just under 4 years should all the contingency be used. It is recommended that this is approved to allow the works to proceed with the Council's term contractor.
- 11.18. The cost to upgrade standard mixing taps to infrared sensor taps and push taps instead of screw down taps has also been investigated. The aim of this replacement would be to reduce flow rates and the length of time the taps stay on. The total cost of this work is estimated to be: £6,810. Unfortunately replacing the taps is estimated to only save £520 based on current calculations. This equates to a 13 year payback.
- 11.19. Further to the poor payback of the tap replacement the building maintenance manager is not happy about replacing the existing taps as he has had problems with limescale on push taps in the past.
- 11.20. As an alternative to replacing the taps the term contractor stated that the isolation valves could be turned down slightly to reduce flow. This could be investigated as an option, however, this can cause noisy taps if flow is restricted too much. It is recommended that this is trialled to see the effect of the reduction. It is estimated that this would cost £300.
- 11.21. The final area that has been investigated was the installation of water hippos / bricks in the toilet cisterns. They can be installed for an estimated £500 and would provide an annual saving of £1340. Unfortunately the building maintenance manager has some serious concerns regarding reducing the flow to the toilets as there has recently been a number of blockages. It is therefore not recommended at this time that water hippos/ bricks are put in the cisterns.

Proposed work plan over the next period

11.22. The work being carried out between now and the next Sustainability Panel will be:

- Instruction of the water control upgrades subject to member approval
- Delivery of the Energy Switch to Save Scheme
- Delivery of the Schools Energy Saving Competition
- Tendering of the corporate building LED upgrade phase 2
- Tendering of the Town Hall BMS project.

12. CONSULTATION (MANDATORY)

Name of consultee	Post held	Date sent	Commented & returned
Cllr Coppinger	Lead Member for Sustainability		
Cllr Mills	Chairman of the Sustainability Panel		
Lisa Pigeon	Environmental Health Lead	13/01/17	15/01/17

REPORT HISTORY

Decision type: Non-key decision	Urgency item? No
Report Author: Michael Potter, Energy Reduction Manager, 01628 682949	