

Report for: ACTION



<b>Contains Confidential or Exempt Information</b>	NO – PART I
<b>Title</b>	<b>Energy Reduction Manager Update</b>
<b>Responsible Officer(s)</b>	Russell O’Keefe, Strategic Director Corporate and Community Services.
<b>Contact officer, job title and phone number</b>	David Scott, Head of Governance, Partnerships, Performance and Policy. Tel: 01628 79 6748
<b>Member reporting</b>	Cllr Coppinger, Lead Member for Sustainability
<b>For Consideration By</b>	Sustainability Panel
<b>Date to be Considered</b>	14 <sup>th</sup> March 2016
<b>Implementation Date if Not Called In</b>	Immediately
<b>Affected Wards</b>	n/a

### REPORT SUMMARY

1. This report provides an update from the Energy Reduction Manager and is intended to give the Sustainability Panel an overview of the progress being made to deliver the Panel’s energy reduction strategy.
2. This update report recommends that Members note progress, comment on the proposed work plan until the next Sustainability Panel, decide if a waterless urinal supplier should attend a future meeting and approve the sustainability strategy action plan 2016/17. It is also recommended that the existing large display screen in the foyer is used to display a Sustainability slideshow.
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 energy reduction target is met.

### If recommendations are adopted, how will residents benefit?

Benefits to residents and reasons why they will benefit	Dates by which residents can expect to notice a difference
1. By reducing utility and waste costs, the Borough is providing better value for money to its residents.	March 2016

### 1. DETAILS OF RECOMMENDATIONS

**RECOMMENDATION:** the panel are asked to note the progress made, decide if they want a waterless urinal supplier to attend a future meeting and

comment on the proposed work plan over the next period as detailed in paragraph 17.24.

**RECOMMENDATION:** that the sustainability strategy annual action plan 2016/17 is approved subject to the confirmation of the waste target. Further details can be found in paragraph 17.8 – 17.10 and appendix 2.

**RECOMMENDATION:** that the existing large public display screen in the foyer is used to display a slideshow showing the savings and positive work of the Sustainability Panel. Further details can be found in paragraphs 17.15 – 17.17.

## 2. REASON 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:

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

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.

Option	Comments
(a) The Council does not work towards the sustainability strategy.	(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. <b>Recommended</b>	(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 Sustainability Panel approves the 2016/17 sustainability strategy annual action plan subject	(c) Failing to work according to the 2016/17 action plan could mean the Council would not meet the targets of the sustainability strategy 2014-2018. The work of

Option	Comments
to confirmation of the waste target. <b>Recommended</b>	the strategy is vital in ensuring value for money for residents through reductions in utility expenditure whilst also improving the Council's sustainability.
(d) The Sustainability Panel approves the use of the large display screen in the Town Hall foyer for presenting the Sustainability slides. <b>Recommended</b>	(d) Use of the existing large display screen is recommended since the screen is large and is in a good position to present information to the public. Using this screen it will be possible to present any information that is required. The solar display screens investigated as an alternative did not allow information to be presented an appropriate format.

### 3. KEY IMPLICATIONS

Defined Outcomes	Unmet	Met	Exceeded	Significantly Exceeded	Date they should be delivered by
Overall reduction of gas and electricity consumption compared to 2013/14 baseline.	<7%	7-8%	8.1-9%	>9%	31 <sup>st</sup> March 2016

### 4. FINANCIAL DETAILS

#### Financial impact on the budget

4.1 None

### 5. LEGAL IMPLICATIONS

5.1 There are no direct legal implications arising from this report.

### 6. VALUE FOR MONEY

6.1 The work to reduce the Council's energy usage will provide residents with value for money if the Council continues to reduce energy usage.

### 7. SUSTAINABILITY IMPACT APPRAISAL

7.1 All the work referred to in this update relate to improving the sustainability of the Council.

## 8. RISK MANAGEMENT

<b>Risks</b>	<b>Uncontrolled Risk</b>	<b>Controls</b>	<b>Controlled Risk</b>
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 commitments.	Low
Increasing energy and water costs for the council puts additional pressures on budgets.	High	By providing updates at Panel meetings on progress to 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.	Low

## 9. LINKS TO STRATEGIC OBJECTIVES

9.1 The Energy Manager's Update meets the following strategic priorities of the Council:

### **Residents First**

- Improve the Environment, Economy and Transport
- Work for safer and stronger communities

### **Value for Money**

- Deliver Economic Services
- Improve the use of technology
- Invest in the future

### **Delivering Together**

- Enhanced Customer Services
- Deliver Effective Services
- Strengthen Partnerships

## **Equipping Ourselves for the Future**

- Equipping Our Workforce
- Developing Our systems and Structures
- Changing Our Culture

## **10. EQUALITIES, HUMAN RIGHTS AND COMMUNITY COHESION**

10.1 There are no direct equalities, human rights or community cohesion implications arising from this report.

## **11. STAFFING/WORKFORCE AND ACCOMMODATION IMPLICATIONS**

11.1 There are no direct staffing/accommodation implications arising from this report.

## **12. PROPERTY AND ASSETS**

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

## **13. ANY OTHER IMPLICATIONS**

13.1 There are no other implications.

## **14. CONSULTATION**

14.1 No formal consultation has been carried out.

## **15. TIMETABLE FOR IMPLEMENTATION**

<b>Date</b>	<b>Details</b>
31/03/2016	Completion of current annual plan.

## **16. APPENDICES**

16.1 Appendix 1 – Site performance tables – January 2016  
Appendix 2 - Sustainability Strategy Action Plan 2016/17

## **17. BACKGROUND INFORMATION**

### **Stark Management Reporting**

17.1 A company called Stark currently collate all of the Council's corporate half hourly energy consumption data. This includes energy consumption data from the Council's mandatory half hourly meters, non half hourly smart meters and automatic meter reading (AMR) gas meters.

17.2 The half hourly data collated from the smart meters and mandatory half hourly meters can be reported in various formats. The data can be shown over different reporting periods: daily, weekly, monthly and yearly. Stark can produce many different report formats using the data over these reporting periods - some of which allow more detailed analysis and some provide overview management information.

- 17.3 The Sustainability Panel previously requested that management information is brought to the panel using the information collated in Stark. The best report format for this purpose is the league table which sums the half hourly data for the period in question and ranks the site according to the site energy intensity for the period. Energy intensity is measured by comparing the total energy consumed in the period to the internal floor area of the site (kWh/ m<sup>2</sup>). This figure then provides a comparison between sites, however, each site must be compared taking into account what the building is used for. Sites with similar usage patterns and equipment can be directly compared for efficiency whilst the efficiency of dissimilar sites can not be. Of course an idea of the overall levels of energy consumption and intensity can be deduced from the information. It should be noted that in most cases the energy consumption has been compared to site floor area, however, the only exception to this rule is car parks. At these sites, which do not have internal areas, the number of parking spaces is compared to the energy consumption.
- 17.4 The tables shown in appendix 1 show the worst performing gas and electric sites when the utilities are considered separately and together as a total energy consumption. The figures are based on the energy intensities during January 2016.
- 17.5 The highest intensity buildings for electricity are the two multi-storey car parks – Hines Meadow and Stafferton Way. As discussed in paragraph 17.3 these sites use a different energy intensity measure and should not be compared to the other sites. However, during January both Hines Meadow and Stafferton Way sites performed in a similar fashion. It is interesting to note that prior to the LED upgrade project Hines Meadow had an energy intensity of over 90 kWh/ space and so now it is performing in line with the other multi-storey car parks at 44 kWh/space. From the other 8 sites listed, the following sites are cause for concern: Riverstreet Public Convenience, Eton Library, Oakley Green Cemetery. These sites do not have gas and so any heating – space or water heating will also come from their electrical usage. These sites do have a higher energy intensity than Maidenhead Library though which is also fully electrically heated. Using the half hourly data it is possible to view the daily consumption profile of these sites which shows high consumption during out of operational hours compared to operational hours at Eton Library and Oakley Green Cemetery. This appears to be due to electrical heating at these sites being left on out of hours. Ways to better control these sites are currently being investigated. At Eton Library the library service are proposing a replacement electrical heating system that will be more efficient and appropriately controlled. Further investigation is happening to determine why Riverstreet public convenience has such a high energy intensity.
- 17.6 Looking at the top 10 worst performing sites for gas intensity there are a couple of smaller sites at the top – Manor Youth Centre and Braywick Nature Centre. Looking at the daily consumption profiles it is clear that the boiler controls are no longer working correctly at these sites. Oakbridge day centre is the 3<sup>rd</sup> worst. This is likely to do with the higher temperatures required at the site since the boiler usage patterns look appropriate. The out of hours usage at Manor Youth Centre has now been resolved following further investigations.
- 17.7 It is also possible to combine gas and electric consumption to gain an overall impression of how the sites are performing. Tinkers Lane Depot is top of the list as

the Council's most energy intensive site. This is due to the 24 hr CCTV office, long working hours and the presence of servers on the site. Riverstreet Public Convenience and Eton Library are positioned second and third on the energy intensity list purely due to their high electrical usage. These two sites seem out of place above 4 Marlow Road and the Town Hall which should be more intensive. Manor Youth Centre is also higher up the table than should be expected sitting between 4 Marlow Road and the Town Hall. This is due to its higher than expected usage of gas as discussed in paragraph 17.6.

### **Sustainability Strategy Action Plan 2016/17**

- 17.8 The proposed sustainability strategy action plan for the 2016/17 year can be found in appendix 2. It is recommended that this action plan is adopted in order for the Council to meet its strategy targets and aims.
- 17.9 Some of the key actions for next year include: the interim target for energy reduction of 11% compared to the baseline year, the roll out of the LED streetlighting programme, replacement of the Town Hall building management system (BMS) and the first of the water reduction works. There are also other investigative actions to determine whether projects are viable or how they will be carried out, such as further LED works and a staff sustainability awareness scheme, which may lead to future projects.
- 17.10 The Waste Strategy Manager has asked that the waste target for recycling, reuse and composting is adjusted to include waste used for energy recovery. This target is now reported corporately and therefore the targets should be aligned. The target for 2016/17 will be confirmed as soon as possible.

### **Solar Car Parks**

- 17.11 As an option for future solar panel installations an initial investigation has been carried out to determine whether installing solar panel canopies in car parks would be feasible.
- 17.12 The Council is responsible for both multi-storey car parks as well as surface car parks. Many of these car parks have large numbers of parking spaces which could provide a large open area for a solar installation. A company was asked to provide an estimated financial model for installing solar canopies on multi-storey car parks and surface mounted car parks. It was hoped that the financials models would provide evidence to determine whether further investigations should be carried out.
- 17.13 It was found that every parking space allows a canopy of 2.5kW of solar capacity. This means the smaller surface mounted car parks could include solar installations of around 200kW. The larger car parks with over 200 spaces could therefore have an installation of roughly 500kW. It was found that it is cheaper to install in a surface mounted car park by about 50p/Watt. This is because it is easier to form the canopy foundations at surface level and there is less wind loading to take into account. However, the Borough's surface mounted car parks are much more likely to have shading problems than the multi-storey car parks and they often do not have any day time power consumption that can use the generated power. Offsetting grid supplied power to a building will help the business case since the cost of purchasing power is more than what you can sell it for.

17.14 At current solar panel prices, feed in tariff levels and electric prices it has been determined that payback periods of over 15 years may be achievable. This would be subject to easy installation which is unlikely in the case of canopies on top of a multi-storey car park. If solar panel prices reduce further then this format of solar generation may become more viable in the future.

#### **Town Hall Solar Display**

17.15 A revised proposal for the Town Hall Solar display has been reconsidered following the last Sustainability Panel discussions on the matter. The key messages taken from the Panel were: the screen needed to be dedicated, it needs to show monetary savings and that savings from other projects the Panel are working on should also be displayed.

17.16 Taking into consideration the points made by the Panel it is recommended that the large screen found in the foyer is used to show a slide show showing the savings and positive work that the Panel is carrying out.

17.17 The ICT team have agreed to provide a dedicated laptop to link up with the large display screen in the foyer. This laptop will be able to display any information that is uploaded to it as a slideshow. The Energy Reduction Manager will become the administrator for the laptop and therefore will be responsible for the content that is being shown. Any particular Council campaigns that come up during the year will be added to the slideshow and presented alongside the current sustainability slides. The slides are currently in draft form and will be presented on the screen very shortly.

#### **Water baseline**

17.18 Over the last year the information that the Council holds regarding its water estate has been checked and where necessary amendments and additions have been carried out in SystemsLink (the Council's energy and water management software) to bring it up to date. Following this exercise, the Council has been obtaining the water supplier billing information covering the period from April 2013 to present. This is so a baseline can be formed for the 2013/14 year which can then be compared to the water consumption for the following years. It is important that the baseline is as accurate as possible since the future water reduction target of 3% will be based on the savings made against this baseline. Water consumption information will be presented at the next Sustainability Panel.

#### **Waterless Urinals**

17.19 Initial investigations are currently ongoing to determine whether the Council could adopt waterless urinals in gentlemen's toilets. Waterless urinals are now a well established technology which has been adopted by many well known private companies on the high street and beyond.

17.20 Waterless urinals do not need to be flushed using water and instead the bowl requires cleaning using various products. To stop smells escaping in the toilet area the urinals have a trap mechanism at the bottom of the unit. This mechanism varies by manufacturer and this can also affect the way in which the urinal is cleaned. According to a study of washrooms, an average urinal uses roughly 100m<sup>3</sup> of water per annum. Usage of certain controls can reduce this figure down to about 50m<sup>3</sup>. This means each urinal uses £100-£200 of water per annum which could be saved by implementing waterless urinals.



17.21 There are three key types of waterless urinals; ones that use microbiological action to break down odours in the urinal u-bend, ones that use an oil based barrier in the trap to block odours and there are also urinals that use a trap system with an in-built valve to block odours. The cleaning products used with each system does vary and it is necessary to use the correct product otherwise it may affect the operation of the urinal.

17.22 The business case for installing waterless urinals is based around the saving that can be made on the water bills taking into account the ongoing maintenance and cleaning costs. The amount of water saving will of course always remain the same at any particular site when comparing different manufacturers products. However, the way that the urinals are cleaned and maintained does vary as does the cost of the urinal itself. It will therefore be important to understand all replacement urinal costs over a number of years.

17.23 The Energy Reduction Manager has spoken with a supplier who is currently putting together a business case for review. If members wish to find out more from the supplier at a future Sustainability Panel then the supplier’s salesman could be asked to attend.

**Work planned over the next period until the next Sustainability Panel**

17.24 The work for the next period includes:

- Ensuring the LED lighting project is fully completed.
- Completing the water consumption baseline.

**18. CONSULTATION (MANDATORY)**

<b>Name of consultee</b>	<b>Post held and Department</b>	<b>Date sent</b>	<b>Date received</b>	<b>See comments in paragraph:</b>
<b>Internal</b>				
David Scott	Head of Governance, Partnerships, Performance and Policy	24/02/16	25/02/16	Throughout
<b>External</b>				

**REPORT HISTORY**

<b>Decision type:</b>	<b>Urgency item?</b>
Non-key decision	No

<b>Full name of report author</b>	<b>Job title</b>	<b>Full contact no:</b>
Michael Potter	Energy Reduction Manager	01628 682949