Title: Energy Reduction Manager Update

Contains Confidential or Exempt Information?: NO - Part I

Member reporting: Councillor Coppinger, Lead Member for Sustainability

Meeting and Date: Sustainability Panel - 8 March 2018

Responsible Officer(s): Andy Jeffs, Executive Director

David Scott, Head of Communities, Enforcement & Partnerships

Wards affected: All



#### REPORT SUMMARY

- 1. This report provides an overview of the progress being made to deliver the Council's energy and water reduction strategy.
- 2. This update report recommends that members note progress and comment on the proposed work plan for the next period. It provides an update on energy data monitoring, streetlighting performance, the new energy and water strategy, the energy and water baseline period and the tap volumiser project. It is recommended that the panel notes the progress made, comments on the proposed work plan, notes and provides comment on the 2018/19 energy and water strategy action plan and approves the inclusion of Optalis and Action for Children sites in the 2017/18 energy and water baselines.
- 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 11.21.

RECOMMENDATION: That the Sustainability Panel notes the proposed 2018/19 energy and water strategy action plan and provides comment.

RECOMMENDATION: That the Sustainability Panel approves the inclusion of Optalis and Action for Children leased Council buildings in the energy baseline.

## 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 three years of the strategy the 2013/2014 energy baseline has been reduced by 15%. This equates to the Council avoiding just over £300,000 of energy costs over these three years.

2.4 Table 1: Report options

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.
<ul> <li>(b) The Council works according to the current and any future sustainability strategy.  This is the recommended option</li> <li>(c) The Sustainability Panel notes the energy and water action plan 2018/19 and provides comment.  This is the recommended option</li> </ul>	<ul> <li>(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. (Para 2.3)</li> <li>(c) Consultation of the Sustainability Panel will ensure that the desired actions are put in the action plan.</li> </ul>
(d) That Optalis and Action for Children sites are included in the energy baseline for the new energy and water strategy 2018 -2022.  This is the recommended option	(d)These leased sites remain on the Council's contracts and are being managed by the Council. The energy bills are indirectly paid by the Council. It follows that they should remain on the baseline even though the users are not directly employed by the Council.

## 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 2017/18 compared to the 2013/14 baseline.	<15%	15- 16%	16.1-17%	>17%	31 <sup>st</sup> March 2018
Reduction of water consumption in Council office buildings in 2017/18 compared to the 2016/17 baseline.	<3%	3.0- 3.5%	3.6-4.0%	>4%	31 <sup>st</sup> March 2018

# 4. FINANCIAL DETAILS / VALUE FOR MONEY

4.1 No new funds are being sought through this paper.

# 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 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

# 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
31/03/2018	Completion of current annual plan.

#### 10. APPENDICES

- 10.1 Appendix 1 Electrical usage comparison for April to December 2017 compared to 2016 and the 2013 baseline
- 10.2 Appendix 2 Streetlighting electrical consumption and cost over time
- 10.3 Appendix 3 Energy and Water Strategy 2018-2022 annual action plan 2018/19

#### 11. BACKGROUND DOCUMENTS

#### **Energy data monitoring 2017/18**

- 11.1. The energy consumption data for the corporate gas and electric accounts (everything included in the strategy baseline) is presented in appendix 1. The data shows consumption in the current financial year from April to December and compares this period with the same period last year and the baseline year.
- 11.2. The gas and electric comparison tables are sorted by the difference in the current year to the baseline year. They show the meters with the greatest kWh consumption saving against the baseline at the top. Each row of the table is showing a meter at any given site. This means that some sites e.g. Town Hall gas have two entries. Overall there has been a 25% reduction in electrical usage including streetlighting and a 1% reduction in gas consumption.
- 11.3. Some large savings have been made on the borough's electrical supplies. The streetlighting savings are now starting to show producing almost 1 GWh of savings. Hines Meadow is still producing large savings too as is the Town Hall. These supply points as well as many others are driving the Council's overall savings.
- 11.4. Of course there are also sites that have not made any electrical savings and have increased in consumption compared to the baseline. Most noticeable is the Jubilee fountain at the bottom of the table. The trouble with this site was the regularity of the meter readings. The readings have distorted the baseline figure which is underestimated in reality. Braywick Park Sports Centre had a problem with their biomass boiler and so the electric backup kicked in to heat the showers. Some adjustments were made to reduce the amount of water being electrically heated in the building. The increase at St Mary's house is due to an increase in staff levels in the building. Grenfell park fountain has increased due to a café start up in the park.

11.5. The gas table shows roughly an equal number of meters that are making a reduction against the baseline to an increase. The kWh differences are also much smaller than on the electric table. The largest increases against the baseline were at Tinkers Lane Depot, the Town Hall and Oakbridge Day Centre. With Tinkers Lane Depot there are a couple of points, firstly that the depot is being used for longer hours now compared to the baseline and secondly that the boiler controls didn't automatically put the boilers into summer mode and so the boilers weren't switched off over the summer. The Town Hall consumption has been higher than the baseline too. This is partly due to a problem with the controls over the Christmas period but mainly due to underestimation during the baseline period. A comparison to last year is showing a reduction in gas usage of 16% on the main boilers which is really positive. Oakbridge Day Centre has increased in consumption slightly due to low level out of hours usage of gas. This issue has been reported to shared building services to resolve.

#### **Streetlighting Performance**

- 11.6. Streetlighting monthly consumption is presented in appendix 2. The data presented shows the current strategy baseline consumption and the consumption over the following 4 years. The years are shown April to January to provide a comparison to the current year's available data.
- 11.7. The graph shows the four years prior to the 2017/2018 year performing in much the same way through the year. The most recent year, however, presents a different picture with the consumption profile veering away from the previous annual profile.
- 11.8. Compared to the baseline the current year is showing a reduction of almost 22%. This is due to the roll out of the LED upgrade programme in 2017. Whilst the percentage indicates that the LED programme is roughly a third of the way through, in reality the program will be complete at the end of February 2018. At the end of February the final inventory will be updated to correct the billing. This inventory will update December 2017 to February 2018 consumption in the energy billing. The period February 2017 November 2017 has already been updated with the electric supplier. This means that the consumption data shown is correct for April 2017 November 2017 but beyond this the figures are not correct until the inventory charge codes are updated and backdated.

#### **Energy and Water Strategy 2018-2022**

- 11.9. The first draft of the new energy and water strategy is almost complete. The strategy will be sent out for internal consultation over the next period and then will come to the panel in the May meeting.
- 11.10. The proposed action plan for 2018/19 is attached in appendix 3. This action plan uses the new energy and water strategy 2018-2022 topics and actions as a basis for the plan.
- 11.11. The action plan is ordered by the targeted completion date with the earlier actions at the top of the list. The list is longer than previous years and this is because it is bringing together a number of different energy management topics into one action plan. In the past work has been carried out outside of

- the annual plan. The new strategy looks to bring all energy and water work areas together.
- 11.12. A few examples of items that have been brought into the proposed new action plan are the energy and water contract actions, Systemslink (the Council's energy and water management database) updates, legislation, carbon reporting etc. Alongside this work is the usual energy reduction, renewables, energy supplier switching, energy awareness etc work that has been included in the action plans over the last four years.
- 11.13. Interim targets proposed for the year include a 1% energy reduction in the corporate estate and a 0.5% water reduction in the corporate office buildings. Projects being investigated include a solar car port at Braywick Leisure centre, a roof solar installation at Braywick Leisure centre, a water source heat pump in the York stream, splitting Desborough Suite into heating zones, the Town Hall chiller pumps, adding submetering to the BMS, mechanical ventilation to the town hall ground floor fan coil units and pipework valve jackets at the town hall.

#### Formation of the new 2016/17 energy and water baselines

- 11.14. Moving into the new strategy period it is proposed that the 2016/17 year is used as the baseline for the strategy targets. This is because this year should be more reliable than the previous 2013/14 baseline due to increased smart metering.
- 11.15. The scope of the 2013/14 baseline was all corporate meters on the electric and gas contracts. This baseline included sites that are now Action for Children (AfC) and Optalis controlled and excluded the sites that transferred to Legacy Leisure or were schools.
- 11.16. Whether the AfC and Optalis sites should be included in the new baseline is open to debate. With the leisure sites that were removed from the baseline in the current strategy, they were removed from the energy contracts and full ownership for the energy usage and contracts was taken over by Legacy/Parkwood Leisure.
- 11.17. With AfC and Optalis the picture is different. All of the relevant sites still remain on the Council's energy contracts and the Council is running the buildings for them in terms of maintenance. However, there is less impetus to invest at these sites with energy efficiency measures since the energy bills are only indirectly paid directly by the Council. The Council does of course have a stake in both companies. Overall it is proposed, since the Council effectively pays for the Optalis/ AfC services, that these sites should be included in the 2016/17 baseline for corporate sites.

#### Tap volumiser trial

11.18. The tap volumisers have now been installed on the ground floor of the Town Hall. 26 of the 28 volumisers could be installed. 4 taps were also replaced as part of the work. Most of the taps with the volumisers installed appeared to be working fine although some older push taps weep from the push mechanism after being pushed. Some Soaked stickers have been put up in the wash

- rooms where we have installed the volumisers. The stickers highlight the water saving potential of the volumisers.
- 11.19. Two volumisers couldn't be replaced because the existing insert was found to be completely stuck inside the tap. This meant that they had to be left. The only way to resolve the issue is to replace those taps and so they will need to be picked up later if the project is expanded further.
- 11.20. The Town Hall water consumption is now being monitored to see what difference the volumisers make in reality. Once enough data has been gathered this will be presented to the panel.

## Proposed work plan over the next period

- 11.21. The work being carried out between now and the next Sustainability Panel will be:
  - Energy and Water Strategy 2018-2022 consultation and revisions.
  - Water saving project development subject to positive results on the ground floor of the Town Hall.

#### 12. CONSULTATION (MANDATORY)

Name of consultee	Post held	Date sent	Commented & returned
Cllr Coppinger	Lead Member for Sustainability	23/02/2018	26/02/2018
Cllr Mills	Chairman of the Sustainability Panel	23/02/2018	27/02/2018
Lisa Pigeon	Environmental Health Lead	13/02/2018	23/02/2018

#### REPORT HISTORY

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

Appendix 1 - Electrical usage comparison for April to December 2017 compared to 2016 and the 2013 baseline

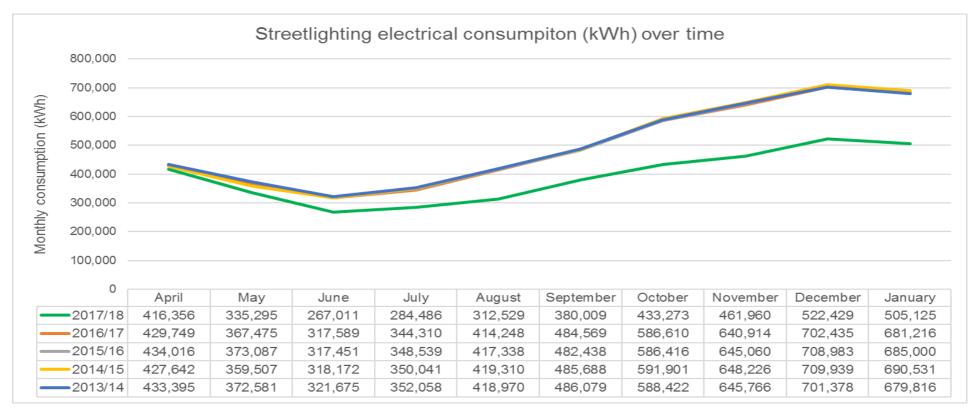
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#### Gas usage comparison for April to December 2017 to 2016 and the 2013 baseline

Site	2013 Baseline	Last year (2016)	Current year (2017)	Difference to Baseline (kWh)	% Difference to Baseline	Difference to last year (kWh)	% difference to last year
MINSTER COURT	33,729	16,598	12,268	-21,461	-64%	-4,330	-26%
WINDSOR LIBRARY	49,770	39,288	31,494	-18,276	-37%	-7,794	-20%
COOKHAM LIBRARY	32,173	28,649	20,076	-12,097	-38%	-8,573	-30%
WALDECK HOUSE	22,922	17,390	12,821	-10,101	-44%	-4,569	-26%
WINDSOR COACH PARK	60,885	44,609	51,367	-9,518	-16%	6,758	15%
MAIDENHEAD PROJECT CENTRE	49,441	42,511	42,817	-6,624	-13%	306	1%
SUNNINGHILL LIBRARY	6,251	1,650	11	-6,240	-100%	-1,639	-99%
PINKNEYS GREEN Y.& C.CENTRE	30,804	32,577	26,235	-4,569	-15%	-6,342	-19%
WINDSOR GUILDHALL	51,637	51,842	47,534	-4,103	-8%	-4,308	-8%
MILLHOUSE FAMILY CENTRE	9,452	5,592	6,508	-2,944	-31%	916	16%
ETON WICK YOUTH CLUB	10,684	9,166	8,437	-2,247	-21%	-729	-8%
DATCHET Y.& C. CENTRE	6,153	4,295	5,048	-1,105	-18%	753	18%
ST MARY'S HOUSE	15,481	23,274	15,168	-313	-2%	-8,106	-35%
Charters Youth & Community Centre	4,389	4,252	5,589	1,200	27%	1,337	31%
TOWN HALL	42,283	43,027	46,562	4,279	10%	3,535	8%
WALDECK HOUSE	22,796	32,921	27,119	4,323	19%	-5,802	-18%
BRAYWICK NATURE CENTRE	9,614	16,240	17,230	7,616	79%	990	6%
OAKBRIDGE DAY CENTRE	73,865	73,517	86,662	12,797	17%	13,145	18%
TOWN HALL	131,347	185,789	155,505	24,158	18%	-30,284	-16%
TINKERS LANE DEPOT	47,537	67,464	85,407	37,870	80%	17,943	27%
	711,213	740,651	703,858	-7,355	-1.0%	-36,793	-5.0%

Current year was 7% warmer than last year 24% warmer than baseline

# Appendix 2 - Streetlighting electrical consumption and cost over time



Year	Total consumption for April to January Period (kWh)	Difference to baseline (kWh)	Percentage diffence compared to baseline	Cost for April to January Period (£ exc VAT)
2017/18	3,918,472	-1,081,668	-21.63%	£442,439
2016/17	4,969,115	-31,025	-0.62%	£555,938
2015/16	4,998,328	-1,811	-0.04%	£527,338
2014/15	5,000,956	817	0.02%	£491,448
2013/14	5,000,139			£475,256

# Appendix 3 - Energy and Water Strategy 2018-2022 annual action plan 2018/19

Strategy Code	Strategy Action	Planned work activity	Result	Target Completion Date
VfM2	Managing and Improving contracts	Transfer of all non half hourly and remaining half hourly electric accounts to EDF Energy	Council moves electric accounts to a supplier it is happy to work with and reduces supplier administration fees in the process.	30/04/2018
M&T6	Record keeping	Update systemslink energy database with EDF information	Relevant EDF account information updated in systemslink.	31/05/2018
M&T6	Record keeping	Update systemslink energy database new contract information for the year.	Contracts updated in systemslink to allow validation of bills.	31/05/2018
M&T1	Smart metering	All Council smart metering reviewed	Metering set up checked and any issues resolved.	31/05/2018
P1	Energy Efficiency	Schools Energy Saving Competition	Set up and run schools energy saving competition (subject to interest).	31/05/2018
P3	Renewables	Biomass boiler at St Edwards Middle School	Support school with EU funding subject to EU funding availability and diocese funding availability.	31/05/2018
M&T4	Exception Reporting	Review exception reporting	Exception reporting checked and adjusted to ensure working as expected.	30/06/2018
P1	Energy Efficiency	Deliver Energy Company Obligation (ECO2t) to the borough	Best route to deliver ECO2t scheme found and scheme delivered to borough subject to panel approval.	31/07/2018
P3	Renewables	Feasibility for a solar car port at Braywick Leisure Centre	Business case for solar car port at Braywick Leisure Centre presented to panel. Decision made whether to proceed with project.	31/07/2018
L1	Display Energy Certificates	Deliver Display Energy Certificates for Council buildings	Corporate buildings remain compliant with the energy performance of buildings regulations.	31/08/2018
M&T5	Annual & within year reporting	Annual greenhouse gas report	End of year greenhouse gas report delivered.	31/08/2018
VfM4	Service Level Agreements	Deliver Display Energy Certificates to schools	Schools signing up to the SLA remain complaint with the energy performance of buildings regulations.	31/08/2018
VfM2	Managing and Improving contracts	Set up a RBWM water contract	Framework identified. Water contract procured for all corporate sites, Optalis sites, AfC sites and maintained schools as required.	30/09/2018
P1	Energy Efficiency	Chiller pump efficiency works	Business case presented to panel. Decision made whether to proceed with project.	30/09/2018
M&T2	Sub metering	Add submetering to BMS	Sub metering connected to the BMS system subject to final feasibility.	30/09/2018
P1	Energy Efficiency	Town Hall mechanical fresh air to fan coil units	Business case presented to panel. Decision made whether to proceed with project.	30/09/2018
P1	Energy Efficiency	Valve jackets Town Hall	Business case presented to panel. Decision made whether to proceed with project.	30/09/2018
P1	Energy Efficiency	Investigate possibility for the Desborough suite to be split into three zones.	Business case presented to panel. Decision made whether to proceed with project.	30/11/2018
P3	Renewables	Watersource heat pump feasibility	Feasibility for a water source heat pump in York Ditch delivered and presented to panel.	30/11/2018
VfM2	Managing and Improving contracts	Energy Switch to Save auction October 2018	Collective swtiching scheme delivered to help residents to save money on their energy bills.	30/11/2018
P6	Auditing and Surveying	Audit electrical usage of Town Hall	Detailed flow diagram of electrical consumption in the Town Hall drawn up.	31/01/2019
P3	Renewables	Braywick Leisure Centre roof PV	Seek private funding for scheme. Install system (at appropriate time for leisure centre development) subject to funding partner being found and panel approval.	31/03/2019
M&T3	Site Targets	Energy target for corporate sites on contract	1% energy reduction compared to the 2017/18 baseline.	31/03/2019
M&T3	Site Targets	Water Target for corporate office sites	0.5% water reduction of corporate offices compared to the 2017/18 baseline	31/03/2019
VfM4	Service Level Agreements	Set up Action for Children SLA	Energy services provided to AfC as required.	31/03/2019
VfM4	Service Level Agreements	Finalise Optalis SLA and deliver	Energy services provided to Optalis.	31/03/2019
M&T5	Annual & within year reporting	Energy consumption breakdown to each Sustinability Panel	Panel is kept up to date with the progress to meet the annual energy reduction target.	Every panel