

<b>Committee:</b>	<b>Dated:</b>
Corporate Asset Sub-Committee (CASC)	18th October 2018
<b>Subject:</b> 2018/19 Q1 Energy Performance Update	<b>Public</b>
<b>Report of:</b> The City Surveyor	<b>For Information</b>
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## SUMMARY

This report presents the 2018/19 Q1 results of the energy consumption for CoL operational sites and an update on the annual trend to meet the energy reduction targets set out in the Corporation's Carbon Descent Plan 2018.

The Q1 results show an overall decrease of 0.1% (weather-corrected consumption) compared to Q4 2017. The Guildhall Complex, Courts, CoL Boys' and Built Environment have been the main drivers behind energy consumption reductions, whilst increased usage at the Barbican Arts Centre, CoL Freeman's, Mansion House, and GSMD have impacted the overall performance.

The 12 months' performance estimate when compared to the 2008/09 baseline indicates a reduction of 15.3% in absolute consumption and 13.8% reduction when weather corrected. This indicates that more work needs to be done if we are to achieve the 29% reduction target for 2025/26

## MAIN REPORT

### Performance update

- 1.1 The weather corrected energy consumption for Jul-17 to Jun-18 was 0.1% lower than the consumption over Apr-17 to Mar-18, as presented in Table 1 below.

Table 1. Performance comparison: **2018/19 Q1** with **2017/18 Q4**

Department	Sum of 17/18 Q4 (kWh)	Sum of 18/19 Q1 (kWh)	Diff. kWh	Diff. %
CoL Boys	3,343,457	3,100,753	-242,704	-7.3%
Courts	8,947,071	8,357,357	-589,713	-6.6%
Built Environment	6,089,977	5,912,514	-177,463	-2.9%
GHC	19,752,802	19,439,125	-313,677	-1.6%
Police	6,204,139	6,174,934	-29,206	-0.5%
CoL Girls	2,208,074	2,202,198	-5,876	-0.3%
M&CP	29,940,985	29,896,107	-44,877	-0.1%
Open Spaces	8,056,848	8,068,553	11,705	0.1%
GSMD	7,412,934	7,493,652	80,718	1.1%
Walbrook Wharf	1,920,594	1,975,464	54,870	2.9%
Town Clerk's	1,425,621	1,469,032	43,411	3.0%
Mansion House	2,189,797	2,272,205	82,408	3.8%

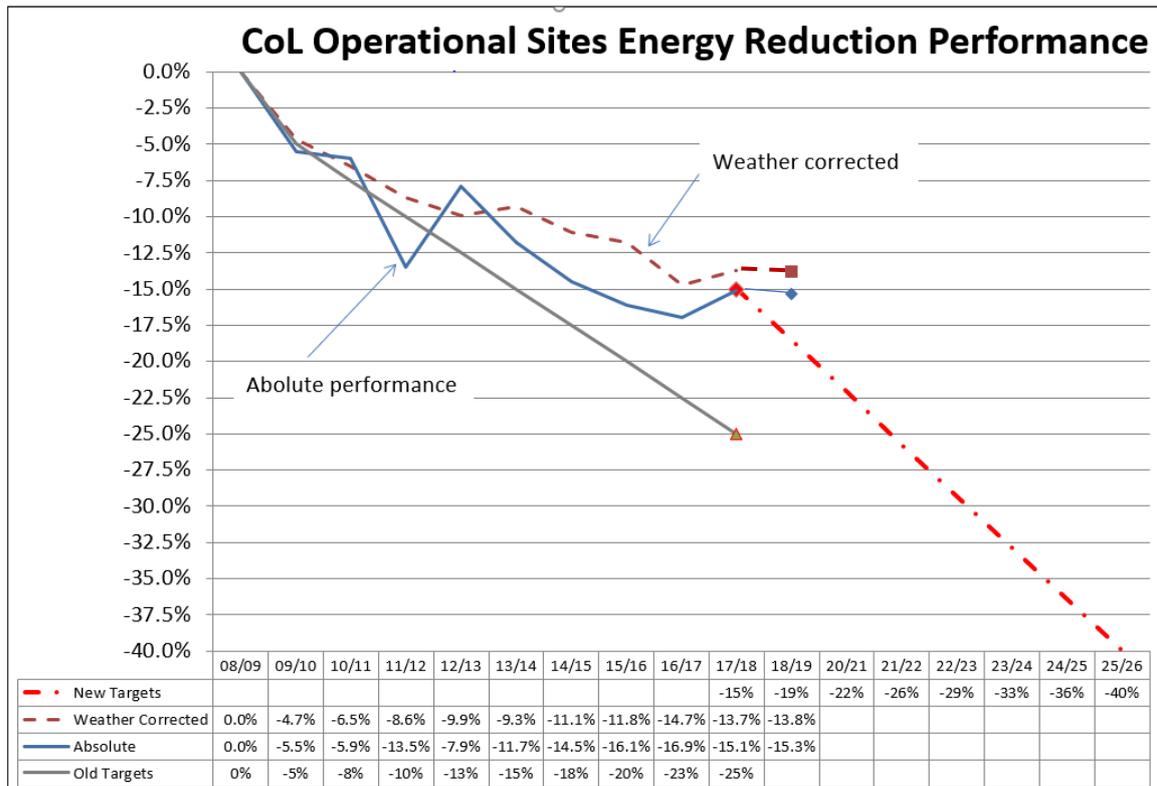
Department	Sum of 17/18 Q4 (kWh)	Sum of 18/19 Q1 (kWh)	Diff. kWh	Diff. %
BAC	17,372,772	18,078,122	705,351	4.1%
CoL Freeman's	4,331,113	4,587,037	255,923	5.9%
City Surveyor's	26,568	32,854	6,285	23.7%
<b>Grand Total</b>	<b>119,222,752</b>	<b>119,059,907</b>	<b>-162,846</b>	<b>-0.1%</b>

\*includes tenant's consumption, see Appendix B for tenant/landlord breakdown.

- 1.2 The weather over reporting period 2018/19 Q1 has been comparable to that 2017/18 Q4. This means that the weather was not the influencing factor behind the changes in consumption patterns at the sites.
- 1.3 At the Barbican Arts Centre, heat consumption for the main building was significantly higher in Apr-18 than expected for the weather. This may be due to issues around control settings following a very cold Mar-18.
- 1.4 Within the Built Environment, the main source of the reduction relates to LED upgrades to Street Lighting, supplemented by recent lighting upgrades to Baynard Car Park. These reductions were partly offset by increases at: Upper Thames Street Tunnel due to a now-resolved ventilation fault and an ongoing rise in lighting consumption which is being investigated, and Tower Hill Coach and Car Park (reason unknown).
- 1.5 Gas consumption for the main heating boilers at the CoL Boys' School was significantly lower over April-June, likely due to the warmer weather allowing the system to be shut down earlier.
- 1.6 The opening of the new swimming pool since Sep-17 is the main reason for the significant increase in energy consumption at CoL Freeman's School, but two other areas of increased gas consumption are being investigated.
- 1.7 At the CoL Girls' School reductions in consumption for a number of electricity supplies from May probably related to the milder weather and earlier switch off of the heating systems.
- 1.8 For the Courts, the reduction mainly relates to the Central Criminal Court's oil boilers. The boilers are old and suffer from poor control; however, over recent months it appears the control has significantly improved compared to the previous year. Further investigations are being undertaken to improve on this with a site visit scheduled in October from a steam specialist.
- 1.9 Most of the energy reduction at the Guildhall Complex relates to lower consumption of gas from the steam generators and lower consumption of heat. The decrease for the steam generators was likely due to a combination of improvements to the control and maintenance down-time. The reduction in the heat is likely due to improvements in the control set points and time schedules from the energy reduction initiative.

- 1.10 Elevated cooling demands over Apr-May exceeded non-weather corrected expectations. In addition, the Sundial gas boilers are consuming more than usual, and will be investigated further.
- 1.11 Increases in heat consumption at Smithfields (due to heating system faults) were counteracted by decreases in gas consumption at HARC (likely due to heating system maintenance) and reduced electricity consumption at New Spitalfields.
- 1.12 Mansion House's elevated gas consumption over Apr-June indicates higher demand for hot water. Likely related to increased occupancy.
- 1.13 Within the Open Spaces a few sites had decreases, which were offset by increases at other sites. The main source of reductions was from replacing the Tower Bridge boilers in April and the very warm weather that allowed them to stay off. The main source of increases was electricity at Parliament Hill Lido due to higher use of the pool filtration pumps, which is being investigated.
- 1.14 For the Police, hot water and electricity consumption increased at Bishopsgate, probably due to increased occupancy. This was partly offset by other small reductions, including a fall in gas-for-heating consumption at Snow Hill.
- 1.15 Consumption was marginally higher at the LMA, likely related to the heat wave and extended hours of plant to maintain environmental conditions.
- 1.16 At Walbrook Wharf electricity and gas consumption for the industrial (Amey) area has increased over the last quarter. This may be related to increased occupancy and activity - site to investigate further.
- 1.17 The 12 months' performance to Q1 of 2018/19 indicates a 15.3% reduction in absolute consumption from the baseline, and a 13.8% reduction when corrected for weather.

Chart 1. Overall performance change from the 2008/09 base year



## Conclusion

The Q1 results show an overall decrease of 0.1% in weather corrected energy consumption compared to Q4 2017/18.

The 12 months' performance up to 2018/19 Q1 indicates a reduction of 15.3% in absolute consumption and 13.8% reduction when weather corrected. This indicates that if the CDP target of 29% by the end of 2025/26 is to be met, then additional investment in resource and capital are required as proposed in the September CASC CDP paper.

## Recommendation(s)

It is recommended Members note the contents of this report.

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