

Committee(s)	Dated:
Operational Property and Projects Sub Committee	6 th March 2023
Subject: 22/23 Energy & Decarbonisation Performance Q3 Update for the Operational Portfolio.	Public
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	5,11,12
Does this proposal require extra revenue and/or capital spending?	no
If so, how much?	n/a
What is the source of Funding?	n/a
Has this Funding Source been agreed with the Chamberlain's Department?	No
Report of: The City Surveyor	For Information
Report author: Graeme Low	

Summary

This report presents the 2022/23 Quarter 3 energy performance for CoL operational sites. Progress remains on track to reach the operational property targets for our Net Zero Carbon targets for 2027 with an 18% reduction in energy usage since the 2018/19 baseline year. Progress has been made in completing surveys for the next phase of capital interventions, detailed Investment proposals are now being drafted. Energy prices remain a concern, alongside reported delays in the expected start date for the Power Purchase Agreement.

Recommendation(s)

- Based on rolling year, Q3 22/23 energy consumption has reduced by 18% compared to the baseline year 2018/19.
- Note the recent acquisition of Local Energy Accelerator funds totalling £30k to support an investigative project for Guildhall battery storage.
- Note the large majority of the Public Sector Decarbonisation Scheme (PSDS) funded work is complete and in the final commissioning phase.

Main Report

Background

1. At OPPSC on 14th December 2022 the 22/23 Q2 Energy performance report was presented. This identified the rolling 12-month energy performance to an 18% improvement on the weather corrected values for the Climate Action Baseline year of 2018/19.
2. This saving was due to site disposals, active management of the BEMS by the Energy Team and ongoing success of the PSDS project.
3. The Public Sector Decarbonisation Scheme (PSDS) projects have supported this goal and all projects on the PSDS programme have reached GW5 or beyond. The RA-W contract, covering the majority of PSDS works commenced in September 2021. The projects have now been largely completed with practical completion targeted for February 2023. Going forward, the full benefit of 850 tonnes of CO₂e per annum from the £9.5m of Government funding invested in these projects.

CAS target alignment

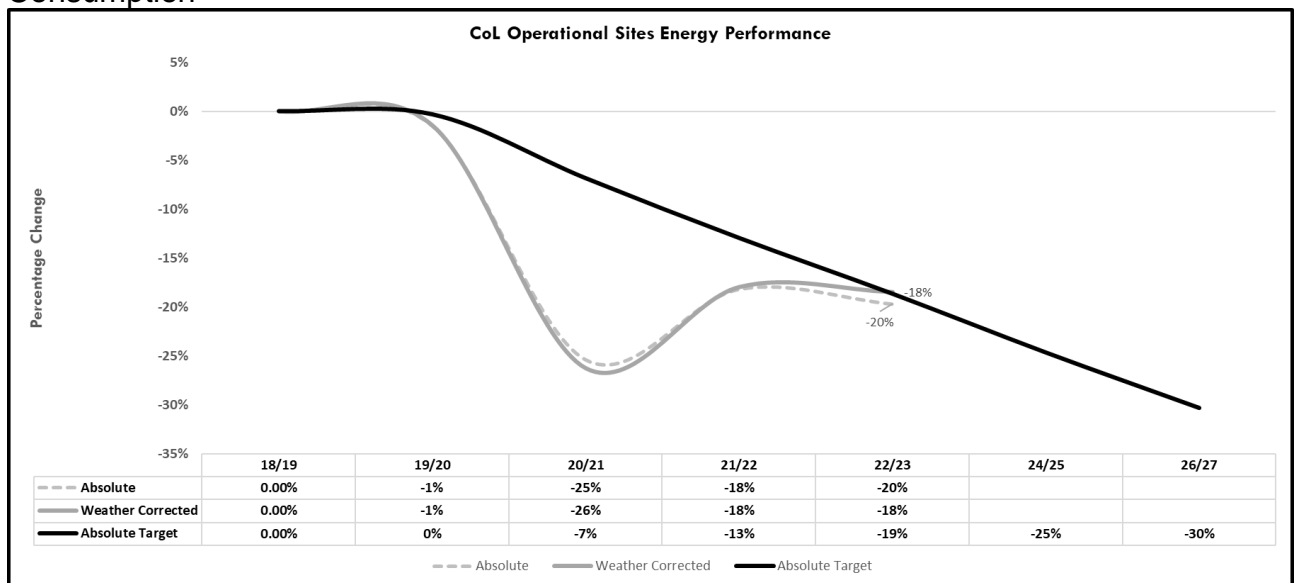
4. The Energy Team and CAS Programme Team use best practise methodologies for reporting KPIs and measuring progress against our Net Zero Carbon (NZC) targets. The CAS buildings baseline includes Operational property portfolio, Landlord supplies to housing estates and investment properties.
5. To achieve Net Zero CO2 target by 2027 for our scope 1 & 2 operational emissions, residual emissions are planned to be mitigated via land-based carbon sequestration from our green spaces. These targets are translated into energy and CO2e, see chart 1 and chart 2 below.

Current position

There has been a gradual increase in consumption compared to the previous quarter due to the return to normal operations. The impact of PSDS Energy saving projects will not be fully realised until Q4 23/24, though some related savings are being accounted for in these figures. The City continues to support investment in energy and carbon saving projects through the recently approved gateway 2 paper focusing on the top 15 energy consuming sites. This is expected to provide an additional 520 tonnes of CO2e savings per annum across the our scope 1 2 emissions.

Performance update

Chart 1. Performance Against CAS Target: Absolute and Weather Corrected kWh Consumption

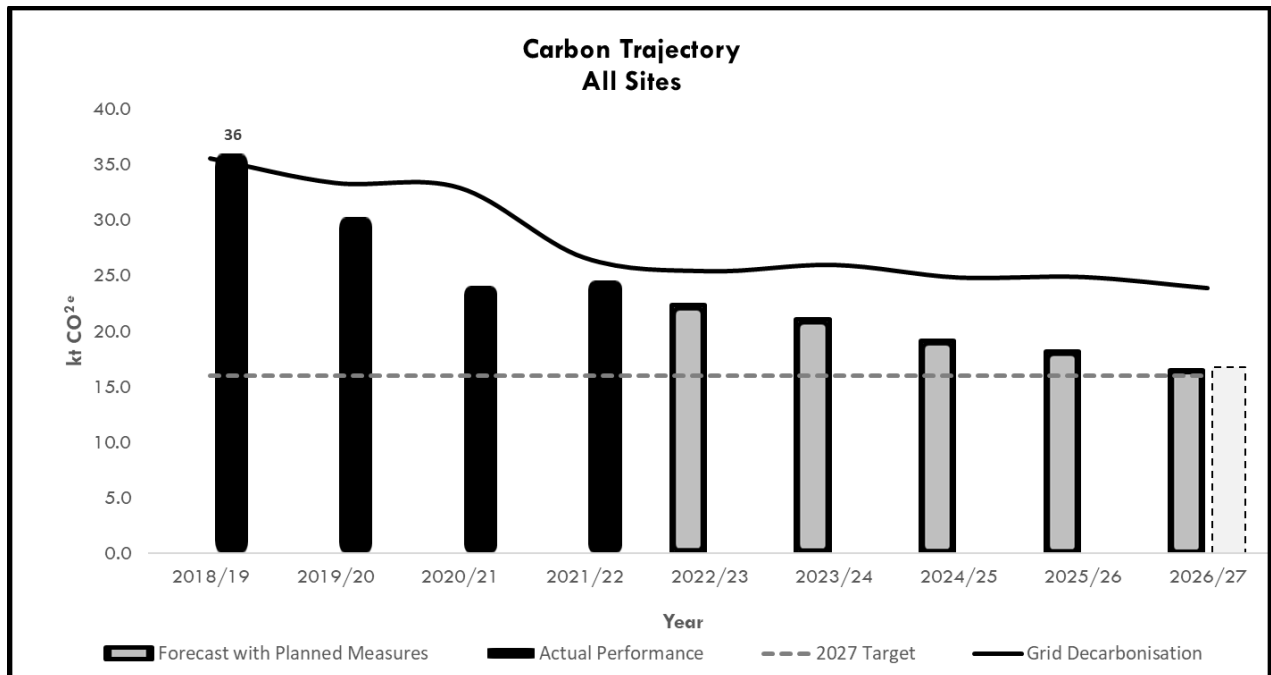


6. **Long term:** Chart 1 presents updated operational building targets to reflect 2018/2019 baseline data in conjunction with the Climate Action Strategy (CAS). It shows continued progress towards the interim target. Compared to the 2018/2019 baseline, the performance up to Q3 2022/2023 indicates:
 - a. A 20% reduction in absolute energy consumption
 - b. A 18% reduction when corrected for the weather

A comparison of rolling year energy performance for the Operational properties Q3 2022/23 and Q3 2021/2022 shows an increase in weather corrected values by 3%. This was expected as we continue a return to normal mode of operations. Further details can be found in table 1 of the appendix.

Chart 2. Carbon Trajectory presents progress towards the 2027 carbon target for the Corporation’s portfolio and shows:

- a. A saving of 11,061 tonnes of CO_{2e} or a 31% reduction from 2018/2019, based on the last full financial year figures (2021/22).



The following provides a synopsis of Chart 2:

- 7. The savings since 2018/19 demonstrate a positive trajectory for the Climate Action Strategy 2027 Net Zero Carbon target. Completion of the PSDS projects (table 4 of Appendix) will support continued reduction of emissions.
- 8. Building stock changes and improved control of our energy usage through Building Energy Management System (BEMS) control improvement within buildings has played a key role in capturing these savings, alongside the success of the PSDS project. Specifically, the Building Analytics Platform at the Guildhall has supported the improvement of site energy performance. We plan to roll this platform out to further buildings including Mansion House in the months ahead.
- 9. Item 8 of the appendix provides an overview of the Operational property carbon performance, without landlord emissions for Housing and IPG portfolios. This currently shows 15.5 KtCO_{2e} of emissions, a reduction of 6.6 KtCO_{2e} or 30% since 2018/19. This keeps the Operational property portfolio on track to support the City Corporation’s net zero carbon targets for 2026/27.

Table 1. Overall performance Q3 Top 5 sites – weather corrected

Top 5 Best Performing Sites Weather Corrected	Dec-19	Dec-21	Dec-22	Difference kWh 22 vs 21
Guildhall Complex	17,373,432	14,255,097	13,153,469	- 1,101,628
City of London Crematorium	3,305,197	2,785,623	2,219,907	- 565,716
Central Criminal Court	6,806,868	6,545,577	6,060,769	- 484,808
London Metropolitan Archives	1,277,259	1,422,943	1,202,783	- 220,160
Billingsgate Market	3,823,144	3,464,910	3,276,461	- 188,449

Table 2: Overall performance Q3 bottom 5 sites – weather corrected

Bottom 5 Performing Sites Weather Corrected	Dec-19	Dec-21	Dec-22	Difference kWh 21 vs 22
GSMD - Milton Court	3,311,184	3,329,652	4,228,873	917,688
New Street (21)	1,813,859	2,340,481	2,361,606	547,746
Walbrook Wharf Cleansing Depot	1,684,201	1,962,451	2,108,881	424,680
City of London School	3,268,611	3,070,798	3,375,195	106,585
City of London Freeman's School	4,674,700	4,265,790	4,755,015	80,315

10. Table 2 above provides a snapshot of the highest energy reductions and the greatest increases within the top thirty buildings over the past 12 months to December, when compared to the previous 12 months. The full list of the top thirty site performance and performance overview for bottom five increases can be found within table 1 of the Appendix.
11. The top sites have continued to show a reduction due to improved controls and implementation of energy saving measures. Descriptions can be found in the Appendix.
12. The bottom sites can be attributed to increases in heating and refurbishment activities, as well as possible maintenance issues and increased levels of occupation. The energy team continue to collaborate with these sites to optimise their performance. Further information can be found in the Appendix.

Energy Team and other activity Progress on energy projects

13. **The PSDS Project:** the scope of works included lighting upgrades, ventilation upgrades, building control upgrades and improvements, sub-metering, new energy management and building analytics software. These works are now complete. Verification of the savings is expected at gateway 6 in Q4.
14. **PPA:** The PPA contract with Voltalia UK Ltd. is now complete and fully operational January 2023. Once operational, the PPA will provide over 60% of our electricity at ~ £41 MWh in 22/23 compared to the current market rates for electricity of ~£250 MWh at current rates.
15. **Battery Storage:** The Energy and Sustainability Team have recently been awarded a £30k grant towards reviewing the options for battery storage and flexibility services at the

Guildhall and Barbican. The study aims to provide detailed information about options and benefits in relation to the delivery of flexibility services to support energy security.

Corporate and strategic implications

16. **Strategic implications:** Energy performance is linked to resilience and helps ensure business continuity through reduced pressure on the energy infrastructure within the square mile. We support a thriving economy through ensuring environmental responsibility in this way. Our energy performance helps to shape outstanding environments through the reduction of CO_{2e} emissions and our commitment to procuring clean renewable energy. In this way our energy performance helps shape outcomes 5, 11 and 12 of the Corporate Plan.
17. **Financial implications:** The savings in this report detail reductions in energy consumption and not against agreed budgets. For longer sustainable gains the focus needs to be on improving efficient use of energy, through targeted investment in energy saving measures. Note that future savings as a result of lower energy spend related to the PSDS project will be transferred to the Build Back Better fund for re-investment with further projects, any capital underspend will be returned to Government.

Conclusion

18. The Energy performance within Q3 remains on track with the long-term trajectory needed to meet our CAS targets for 2027. We continue to mobilise workstream (NZ1) related to operational buildings within the Climate Action Strategy and ensured delivery of the projects that form part of the PSDS project by Q2 2022/23. We have absorbed the impact of the reoccupation of our building stock. Our new targets are challenging but achievable, requiring action in all areas of the Corporation to ensure we meet our planned objectives. Our focus is now on ensuring the next phase of climate action projects can be implemented in a timely and effective manner.

Report author

Graeme Low

Head of Energy and Sustainability, City Surveyor's Department
E: graeme.low@cityoflondon.gov.uk