

Committee(s)	Dated:
Operational Property and Projects Sub Committee	14 th December 2022
Subject: 22/23 Energy & Decarbonisation Performance Q2 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 2 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, Q2 22/23 energy consumption has reduced by 18% compared to the baseline year 2018/19.
- Note the 21/22 CO₂e emissions are in line with our targets with a 31% or 11,061 tonnes/CO₂e drop since 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 26th September 2022 the 21/22 Q1 Energy performance report was presented. This identified the rolling 12-month energy performance to Q4 as a 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. Full completion of the projects is expected by November 2022.

CAS target alignment

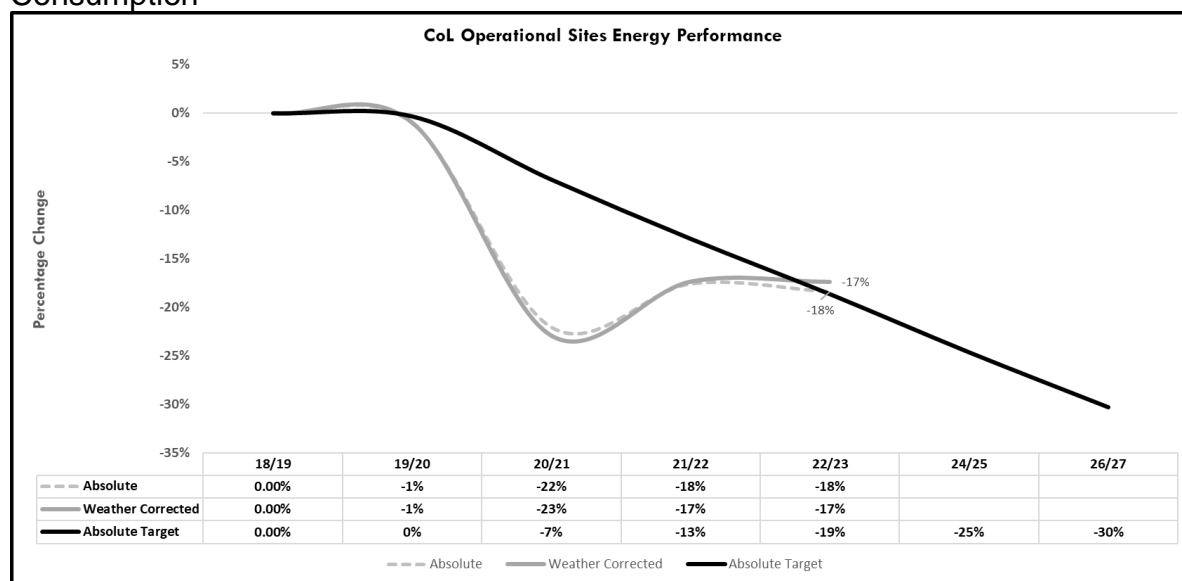
4. The Energy Team continue to collaborate with CAS on best practise methodologies for reporting KPIs and achieving overall CAS targets. The CAS buildings baseline includes Operational property portfolio, landlord supplies to housing estates and investment properties.
5. To achieve CAS Net Zero CO2 target by 2027, 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 Q2 23/24, though some related savings are being accounted for in these figures. The City must continue supporting carbon reduction projects in order to remain on track to reach 2027 CAS targets. Currently, milder than average weather over the current period supports the position.

Performance update

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

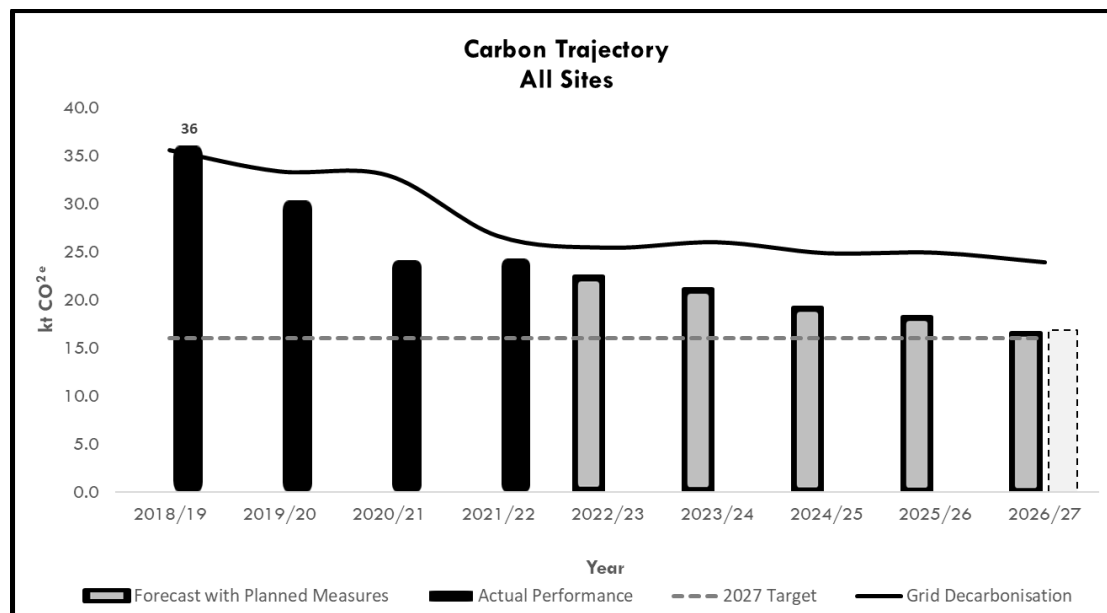


6. **Long term:** Chart 1 presents updated operational building targets to reflect 2018/2019 baseline data in conjunction with the Climate Action Strategy (CAS). It shows continued progress towards the interim target. Compared to the 2018/2019 baseline, the performance up to Q2 2022/2023 indicates:
 - a. A 18% reduction in absolute energy consumption.
 - b. A 17% reduction when corrected for the weather

A comparison of rolling year energy performance for the Operational properties Q2 2022/23 and Q2 2021/22 shows an increase in weather corrected values by 5%. This was expected as we have returned to a 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 financial year



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. Finalisation on the delivery of PSDS projects (table 4 of Appendix) will support continued reduction of emissions as we return to more sustained use of our buildings. The Energy Team recommends that sites continue to take active control of their energy consumption by ensuring proper maintenance of BEMS and staying on top of general operating/maintenance issues and preparing for colder weather to ensure continued reduction of carbon 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.
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 15.6 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 Q4 Top 5 and bottom five sites – weather corrected

Top 5 Best Performing Sites	Sep-19	Sep-21	Sep-22	Difference kWh 21 vs 22	Difference % 21 vs 22
Guildhall Complex	17,575,251	14,427,588	13,319,212	- 1,108,375	-8%
City of London Crematorium	3,071,720	2,981,801	2,115,635	- 866,166	-29%
Open Spaces Epping Forest London	751,816	1,543,647	735,860	- 807,787	-52%
Metropolitan	1,297,017	1,598,249	1,203,726	- 394,524	-25%
City of London School For Girls	2,271,961	1,842,297	1,592,163	- 250,134	-14%

Bottom 5 Performing Sites Weather Corrected	Sep-19	Sep-21	Sep-22	Difference kWh 21 vs 22	Difference % 21 vs 22
Barbican Arts Centre	17,643,695	13,009,509	15,679,147	2,669,638	21%
GSMD - Milton Court	3,481,745	3,006,343	4,608,607	1,602,264	53%
City of London Freemen's School	4,725,165	3,904,391	4,976,234	1,071,842	27%
London Central Market (Smithfield)	15,380,518	9,975,333	10,716,873	741,540	7%
New Street (21)	1,662,171	1,550,393	2,260,912	710,519	46%

10. Table 1 above provides a snapshot of the highest energy reductions and the greatest increases within the top thirty buildings over the past 12 months to September, 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 the sites to support reduction projects. 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. **Energy Supply contract procurement:** Gas and electricity contracts have been procured using a “purchase in advance” approach for the period November 2021 -2025, this strategy is designed to return a market reflective price. We continue to procure the remaining electricity volume for October 22 – September 23 via our Brokers (Laser Energy), with most of this volume procured. The Energy Team have provided a recent budget update to Chamberlains and supported a review of the MTFP in relation to future energy costs.
15. **PPA:** The PPA contract with Voltalia UK Ltd. is in place and construction work on site at the South Farm Solar site near Blandford Forum is close to completion with commercial operations expected by 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 ~£300 MWh at current rates.

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 Q2 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 ensure 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.

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