Committee(s)	Dated:
Resource Allocation Subcommittee, RASC	24/01/2024
Subject: 23/24 Energy & Decarbonisation Performance Q2 Update for the Operational Portfolio.	
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: Emma Bushell	

Summary

This report presents the 2023/24 Quarter 2 energy performance for the City of London Corporation (COLC) operational sites. There has been a 17% reduction in energy usage since the 2018/19 baseline year and we remain broadly on track to achieve our Net Zero Carbon targets by 2027. The first phase of our capital programme has been approved and we have now started developing the projects.

Recommendation(s)

- Note, that for the rolling year, Q2 23/24 absolute energy consumption has reduced by 18% compared to the baseline year 2018/19 as compared to 19% for Q1 23/24.
- Note the generation of electricity from the Power Purchase Agreement (PPA) has exceeded the electricity consumption from the City of London Corporation sites.
- Note the Public Sector Decarbonisation Scheme (PSDS) funded work is complete and the energy and financial savings are being observed.

Main report

Background

1. The 23/24 Q1 Energy performance report was submitted to the OPPSC meeting on 10th October 2023. This noted the rolling 12-month energy performance reduced by 14% on the weather-corrected values for the Climate Action Baseline year of 2018/19.
2. The Climate Action Strategy (CAS) year 3 plans have been approved by the Policy and Resources Committee. They include the NZ1 plan which is specifically focused on reducing the carbon emissions within the City Corporation's estate through a range of tasks including capital works projects, building control improvements, and monitoring and targeting activities.

CAS target alignment

3. The CAS buildings baseline includes the operational property portfolio, landlord supplies to housing estates and investment properties.
4. To achieve the Net Zero CO_2 target by 2027 for our scope 1 and 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 CO_2e, see Chart 1 and Chart 2 below.

Current position

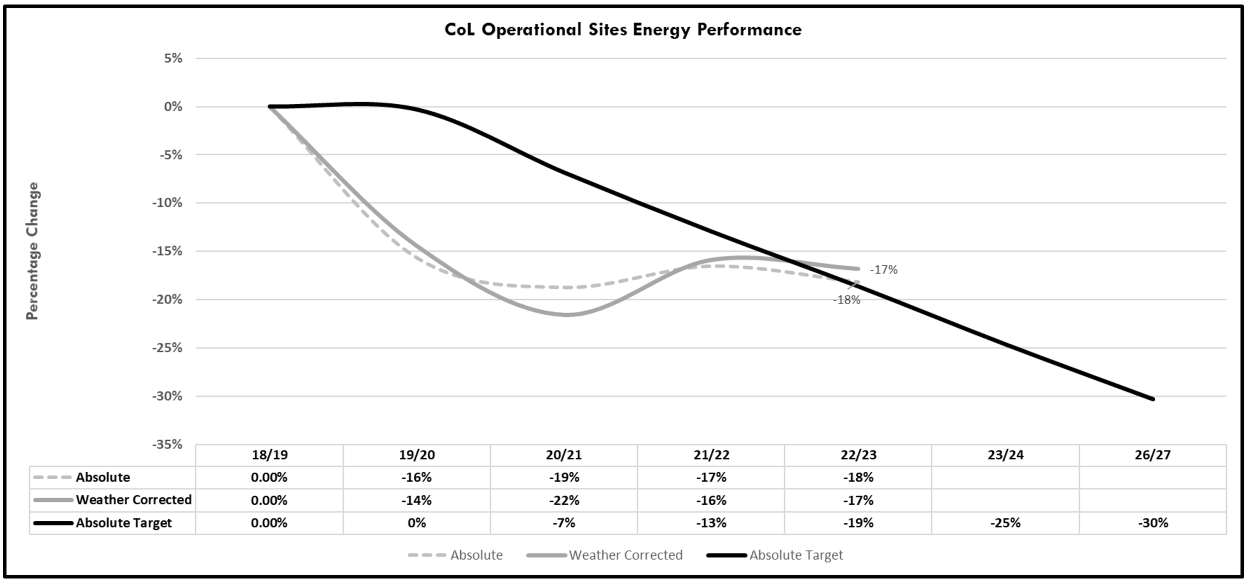
5. Over the last 12 months the thirty highest consuming sites have seen a reduction in energy consumption of 960 MWh when compared to the preceding 12 months (Appendix Table 1).

6. Year-on-year reductions in energy consumption have slowed as sites have returned to pre-pandemic levels of occupancy. In particular, the Barbican Arts Centre has seen a substantial increase this quarter. A review of the metering data is ongoing to determine the cause of the increases in consumption from July 2022. This could be related to a metering issue that can be corrected in coordination with our supplier and meter operator in Q4.

7. The COLC continues to support investment in energy and carbon-saving projects through the 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 our scope 1 and 2 emissions. The CAS Capital Programme is expanded on further in paragraph 13.

Performance update

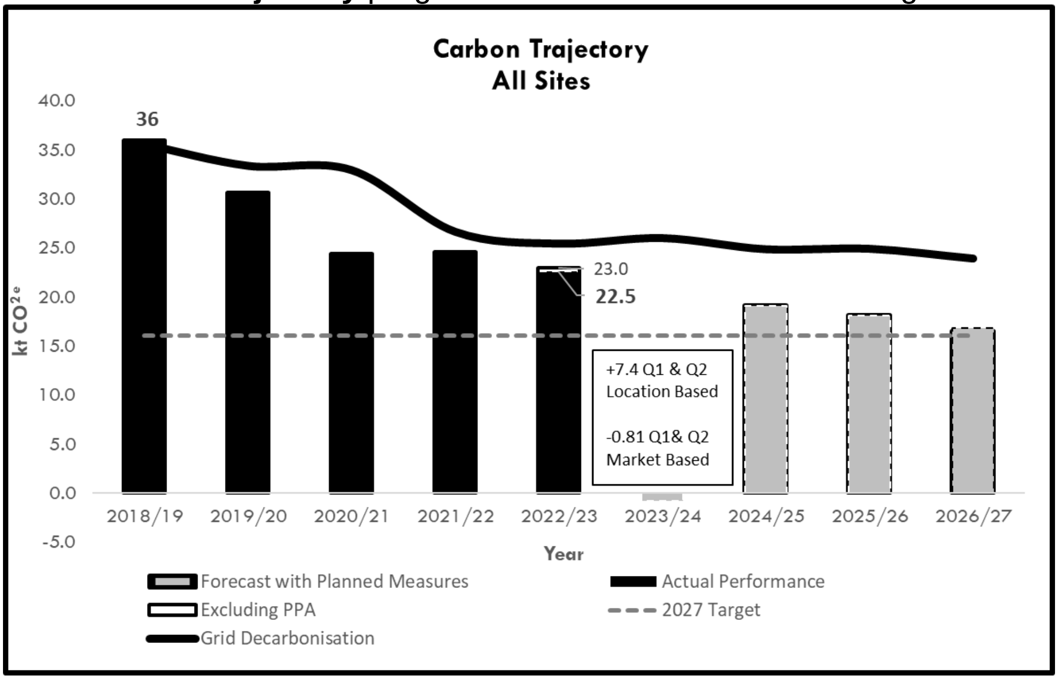
Chart 1. Performance against CAS target: Absolute & weather-corrected kWh consumption.



	18/19	19/20	20/21	21/22	22/23	23/24	26/27
Absolute	0.00%	-16%	-19%	-17%	-18%		
Weather Corrected	0.00%	-14%	-22%	-16%	-17%		
Absolute Target	0.00%	0%	-7%	-13%	-19%	-25%	-30%

8. **Long term:** Chart 1 shows continued progress towards the interim target. Compared to the 2018/2019 baseline, the performance up to Q2 2023/2024 indicates:
   a. An 18% reduction in absolute energy consumption.
   b. A 17% reduction when corrected for the weather.

Chart 2. Carbon Trajectory progress towards the 2027 carbon target for the COLC portfolio:



a. A saving of 13,051 tonnes of CO_{2e} or a 36% reduction from 2018/2019, based on the last full financial year figures (2022/23). Note this figure includes the impact of the PPA.

b. Over Q1 & Q2 23/24 the PPA has helped us save more carbon than the COLC has emitted through energy consumption which explains the -0.81 figure for market-based carbon emissions. The 7.4 kt of CO2e for the same period, is calculated on a location basis, which uses the carbon factor of the local grid and excludes the generation from the PPA.

9. The savings since 2018/19 continue to demonstrate a positive trajectory for the CAS 2027 Net Zero Carbon target. The completion of the energy and carbon saving projects under NZ1 will support the continued reduction of emissions. The PPA has contributed to reduced carbon emissions, as demonstrated by the white bar with the black outline. Carbon emissions for the Q1 & Q2 in 23/24 would have been 7.4 kt CO2e without the PPA.

10. The Operational property carbon performance, without landlord emissions for Housing and IPG portfolios shows a reduction of 8.19 $KtCO_{2}e$ or 37% from 2018/19 to 22/23. The portfolio is still on track to support the COLC targets for 2026/27.

Chart 3. Overall performance Q2 Top 5 sites – weather corrected.

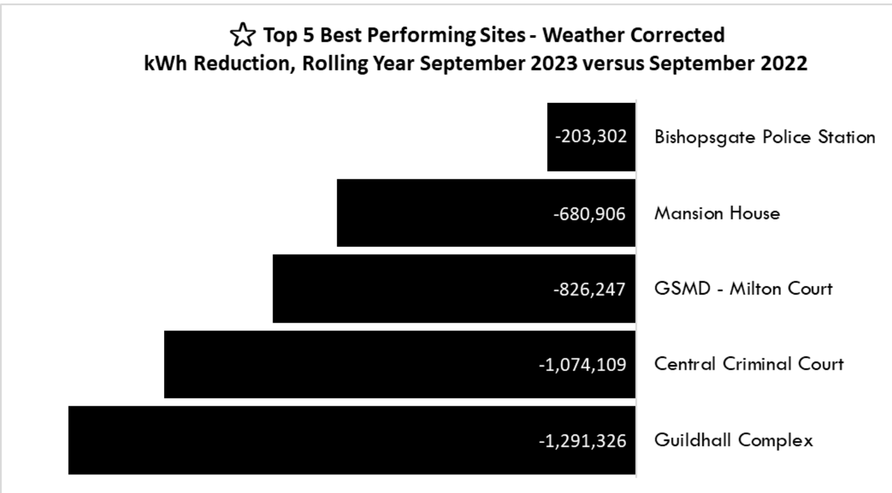
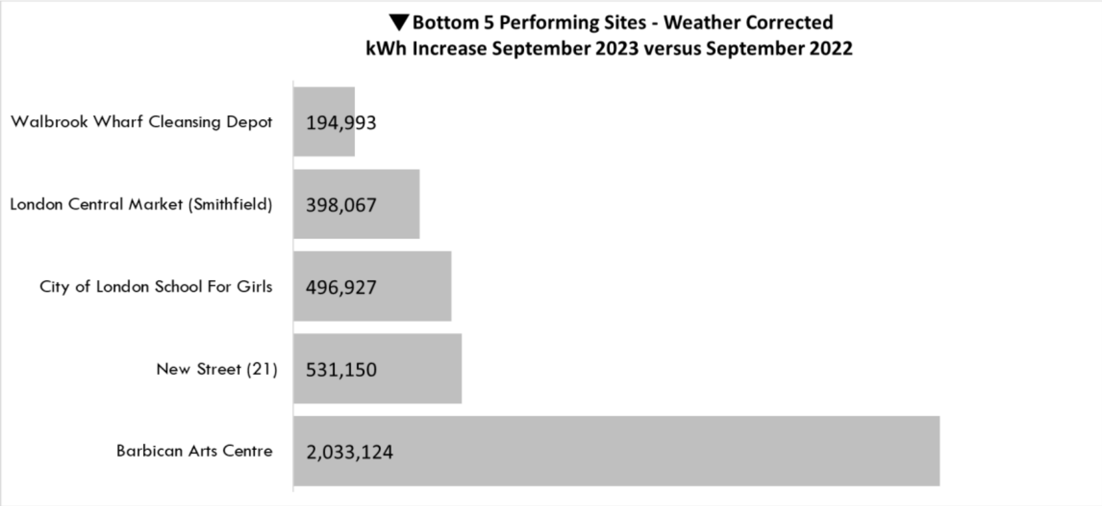


Chart 4: Overall performance Q2 bottom 5 sites – weather corrected.



11. Chart 3 shows the top-performing sites with the highest energy reductions over the past 12 months to 30th September 2023, when compared to the previous 12 months. Chart 4 shows the worst-performing sites with the highest increases in energy use over the same period.

12. The top-performing sites have continued to show a reduction due to improved controls and the implementation of energy-saving measures.

13. The bottom sites have seen increases in heating demand and occupancy levels and increased refurbishment activities. The Energy and Sustainability Team continue to collaborate with these sites to optimise their performance. Further information can be found in Table 2 of the Appendix.

Progress on energy projects

14. **PSDS Project:** In 2021 the COLC was awarded £9.5M under the Public Sector Decarbonisation Scheme (PSDS) to deliver energy efficiency works across five sites, anticipated to save annually c.900 tCO2e (based on 2027 carbon factors) and c.£600k in energy costs (based on 2021 energy prices). These works are now completed and our initial post-project verification indicates annual savings of c.780 tCO2e (based on projected 2027 carbon factors) and c.£1mil in avoided energy costs (based on current short-term projected prices). Where anticipated energy/carbon savings have not been achieved we are investigating. Final verification of the savings is expected at Gateway 6 in Q4.

15. **CAS Capital Programme**: NZ1 of CAS includes the development and delivery of a capital works programme to invest in carbon-saving projects across the scope 1 and 2 emissions within our buildings. In December 2022 Policy and Resources Committee approved a Gateway 2 paper setting out a programme of projects across our operational portfolio. The total capital cost is estimated at £5,338,615 (excluding risk) and is targeting savings of 520 tCO_2 per annum and energy cost savings of £550,000 per annum. The first projects have been approved at Gateway 5 and works onsite are proceeding. Five further projects are in the design and development stages with Gateway approvals due early 2024. For a full list of projects please see the Appendix.

16. **BEMS**: Improved control of our energy usage through the Building Energy Management System (BEMS) within buildings has played a key role in improving operational energy efficiency, supported through the deployment of a new Building Analytics Platform at the Guildhall and LMA roll out of the software to CCC and Mansion House is now complete. In the last quarter BEMS strategy improvements work has focused has been on, CCC, Freemens School, Mansion House, Smithfield Market and CoL School. The transition of the BEMS to a new platform has continued with projects due for completion at LMA, Walbrook Wharf, Tower

Bridge, Guildhall East Wing and Smithfield West Market completed in December 2023. These projects are enablers for further energy efficiency projects at these sites.

Corporate and strategic implications

17. **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 by 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.

18. **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 the 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.

Conclusion

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 the workstream (NZ1) related to operational buildings within the Climate Action Strategy. We have absorbed the impact of the reoccupation of our building stock. Our new targets are challenging but the current data indicates achievable, requiring action in all areas of the City 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 authors

Emma Bushell Energy and Carbon Manager, City Surveyor's Department
emma.bushell@cityoflondon.gov.uk
George Stroud Energy and Sustainability Reporting Manager, City Surveyor's Department
George.stroud@cityoflondon.gov.uk