

Committee(s)	Dated:
Resource Allocation Subcommittee	11/07/2024
Subject: 23/24 Energy & Decarbonisation Performance Q4 Update for the Operational Portfolio.	
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	Leading Sustainable Environment
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 4 energy performance for the City of London Corporation (COLCCC) operational sites. There has been a 22.2% reduction in energy usage since the 2018/19 baseline year (weather-corrected) and we remain on track to achieve our Net Zero Carbon targets by 2027.

Recommendation(s)

- Note, that for the rolling year, Q4 23/24 weather-corrected energy consumption has reduced by 22.2% compared to the baseline year 2018/19 as compared to 19% for Q3 23/24.

Main report

Background

1. The 23/24 Q3 Energy performance report was submitted to the RASC meeting on 13th March 2024. This noted the rolling 12-month energy performance reduced by 19% on the weather-corrected values for the Climate Action Baseline year of 2018/19.
2. The Climate Action Strategy (CAS) year 4 plan for 2024/25 is being delivered, as approved by the Policy and Resources Committee. The plan includes the CPG workstream, which focuses 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 CO₂e 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.

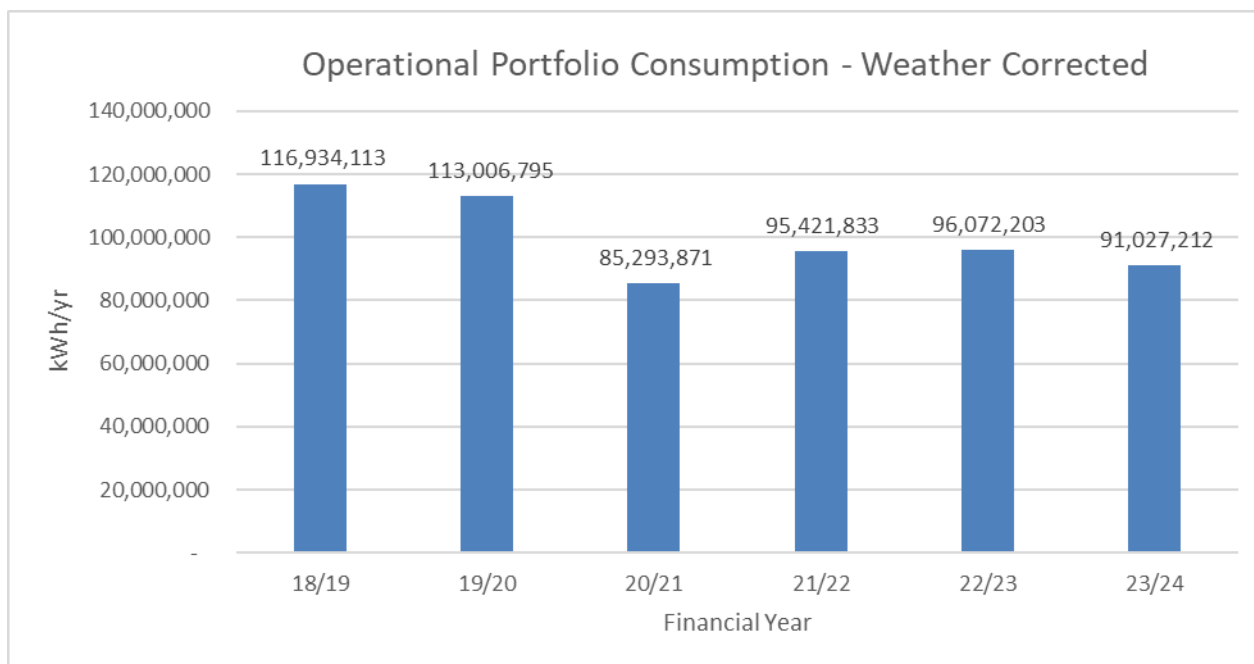
Current position

5. For the rolling year, Q4 23/24 weather-corrected energy consumption has reduced by 22.2% compared to the baseline year 2018/19 as compared to 19% for Q3 23/24.

6. Over the last 12 months the 30 highest consuming sites have seen a reduction in energy consumption of 5,378 MWh (5.7%) when compared to the preceding 12 months (Appendix Table 1).
7. A significant contributor to this reduction in energy consumption is the removal of the poultry market at Smithfield Market. This removal likely accounts for roughly 1,000 MWh of the 5,378 MWh drop in energy consumption.
8. As we move into 24/25, we will soon be able to compare two consecutive years post covid (24/25 vs 23/24). COVID-19 caused a significant decrease in energy consumption throughout 20/21 – 22/23 due to a decrease in building occupancy levels. This made it challenging to accurately calculate how buildings had been performing and compare them against other years.
9. The CAS Capital Delivery Programme for Operational Buildings, which was approved at Gateway 2 in December 2022, has progressed many projects within that programme to the Gateway 5 stage. The programme is expected to provide 520 tonnes of CO₂-e savings per annum across our scope 1 and 2 emissions. This is further detailed in paragraph 15.

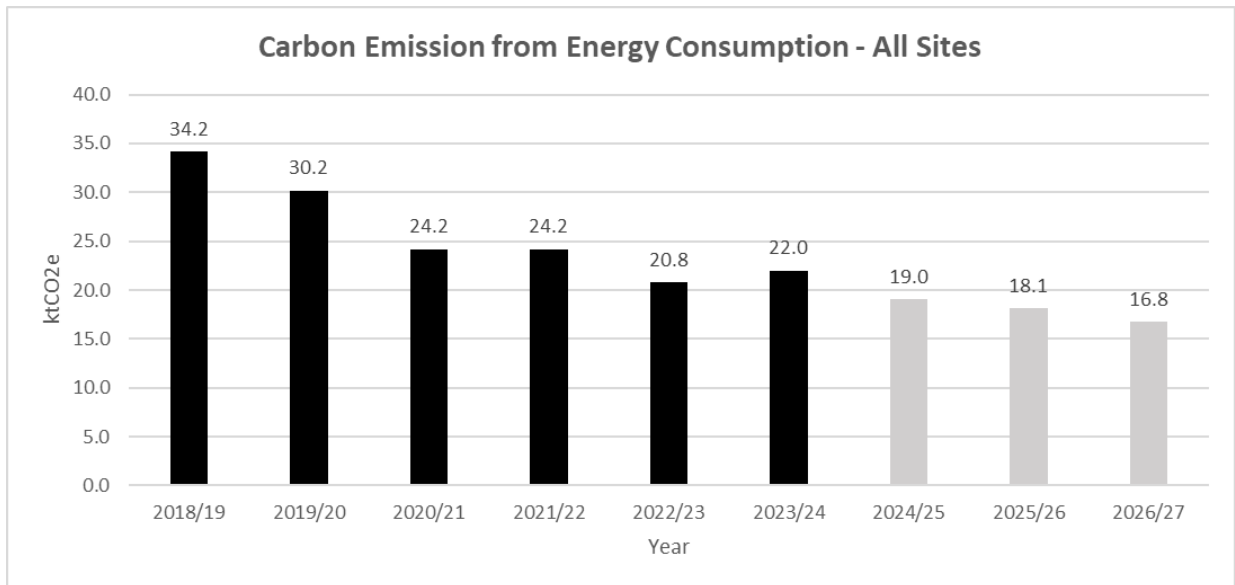
10. Performance update

Chart 1. Consumption Performance of the operational portfolio (weather-corrected)



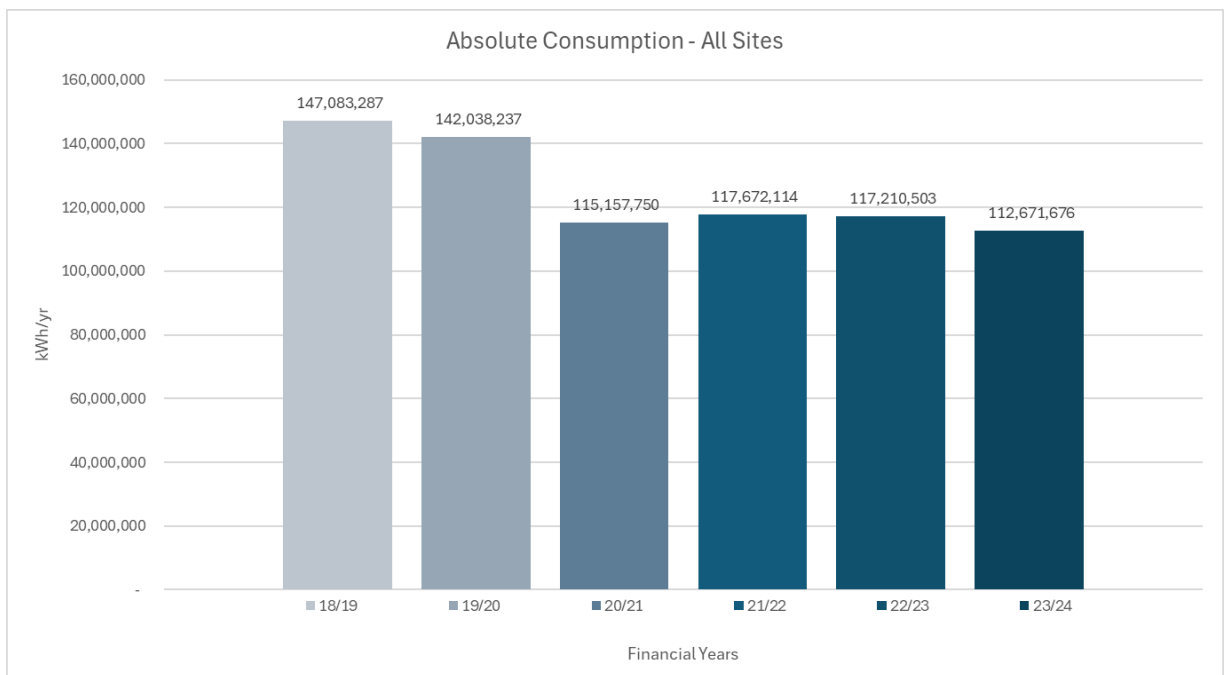
- a. Chart 1 portrays weather-corrected operational portfolio consumption year on year since 18/19. The 23/24 consumption figure was 22.2% less than 18/19 and 5.3% less than 22/23.
- b. Chart 1 is the combined consumption of grid electricity, gas, heat, chill and oil.

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



- 2023/24's total carbon emissions were approximately 22kt CO₂-e. This is a 12.2ktCO₂-e reduction compared with the baseline year of 2018/19. Please also note that this figure is currently being audited and is subject to change.
- In chart 2, the black bars show how we have performed over previous financial years and the grey bars are the future targets until 2026/27.
- Carbon emissions over 23/24 have increased vs 22/23 due to increased carbon factors for grid electricity, Citigen heat and Citigen chill.
- Chart 2 is based on the total consumption of grid electricity, gas, heat, chill & oil.

Chart 3. Total Consumption across all COLC sites



- Total consumption across all COLC sites has decreased by 23.4% vs the baseline year of 18/19 (not weather-corrected).

b. The chart shows that despite carbon emissions increasing for 23/24 vs 22/23, total consumption decreased by 4%. Consumption for 23/24 was also lower than during the peak of the COVID-19 lockdown in 20/21.

c. Chart 3 is based on the total consumption of electricity, gas, heat, chill & oil.

11. 2023/24 has been the strongest year yet for energy use reduction. However, the impact of the increase in grid electricity carbon factor & Citigen carbon factors has caused an increase in carbon emissions. The completion of the energy and carbon saving projects under the CPG project plan will support the continued reduction of carbon emissions towards our CAS 2027 Net Zero Carbon target, continued focus is needed to ensure the pace of delivery meets requirements.

12. **Chart 4.** Overall performance Q4 Top 5 sites – weather corrected.

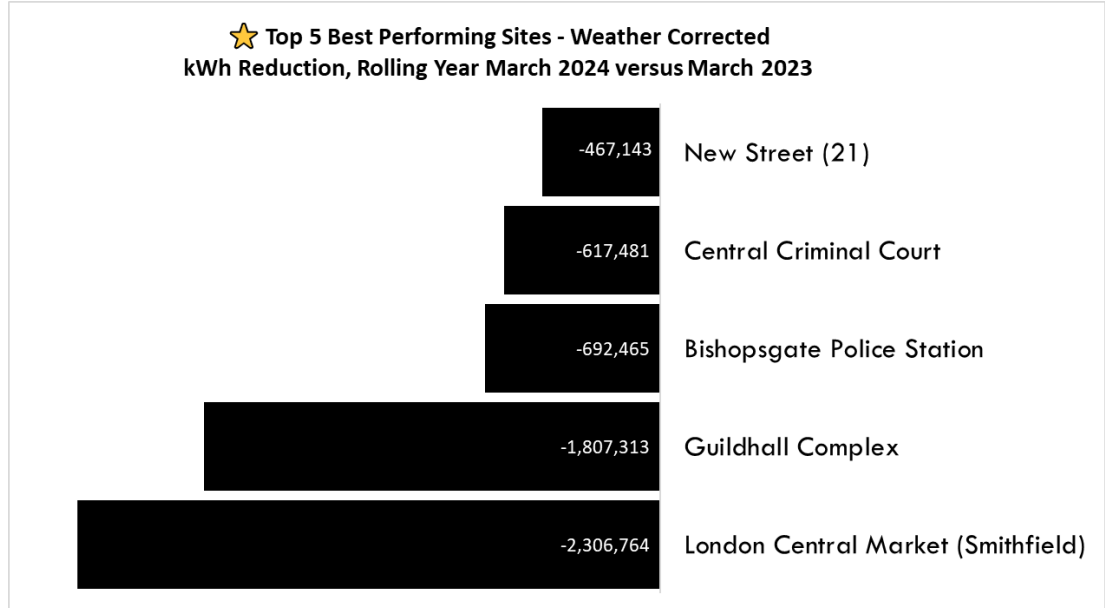
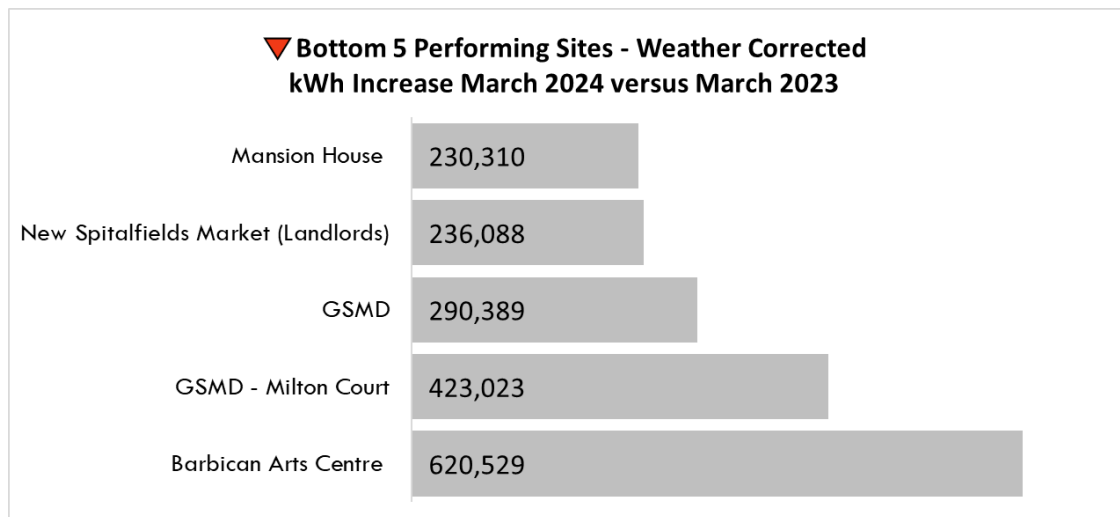


Chart 5: Overall performance Q4 bottom 5 sites – weather corrected.



13. Chart 2 shows the top-performing sites with the highest energy reductions over the past 12 months compared to the previous 12 months. Chart 4 shows the worst-performing sites with the highest increases in energy use over the same period.

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

15. The bottom sites have seen increases in heating demand and occupancy levels and increased refurbishment activities. The Energy and Sustainability Team continues to

collaborate with these sites to optimise their performance. Further information can be found in Figure 2 of the Appendix.

Progress on energy projects

16. **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.900t CO₂-e (based on 2027 carbon factors) and c.£600k in energy costs (based on 2021 energy prices). These works are now complete and our initial post-project verification indicates annual savings of c.780t CO₂-e (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.
17. **CAS Capital Programme:** The CPG project plan 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 targets savings of 520t CO₂-e 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. Seven further projects are in the design and development stages with Gateway approvals due in early 2024. For a full list of projects please see the Appendix.
18. **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. This has been supported through the deployment of a pilot Building Analytics Platform at the Guildhall and LMA in 2022 and the further rollout to CCC and Mansion House is now complete. In the last quarter, BEMS strategy improvements work has focused on, CCC, Freeman's School, Mansion House, Smithfield Market and COLC School. The transition of the BEMS to a new platform has continued with projects close to completion at LMA, Freeman's School (Junior block), Walbrook Wharf, Tower Bridge, and Smithfield West Market and projects at Gateway 5 for Guildhall East Wing (non-office areas), Heathrow Animal Reception Centre, and Epping Forest. These projects are enablers for further energy efficiency projects at these sites.

Corporate and strategic implications

19. **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 CO₂-e emissions and our commitment to procuring clean renewable energy. In this way our energy performance helps shape the outcome "Leading Sustainable Environment".
20. **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 because 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

21. The energy performance in Q4 23/24 remains on track with the long-term trajectory needed to meet our CAS targets for 2027, although the recent increase in grid electricity carbon factor will make this more challenging. We continue to mobilise the CPG workstream related to operational buildings within the Climate Action Strategy. We have absorbed the impact of the reoccupation of our building stock following the COVID-19 pandemic. Our carbon target is 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