

Committee(s)	Dated:
Resource Allocation Subcommittee, RASC	30/10/2024
Subject: 24/25 Energy & Decarbonisation Performance Q1 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 2024/25 Quarter 1 energy performance for the City of London Corporation (COLC) operational sites. There has been a 22.7% reduction in energy usage since the 2018/19 baseline year (weather-corrected) but despite this, we are off track to achieve our Net Zero Carbon targets by 2027.

Recommendation(s)

- Note, that for the rolling year, Q1 24/25 weather-corrected energy consumption has reduced by 22.7% compared to the baseline year 2018/19 compared to 22.2% for Q4 23/24.

Main Report

Background

1. The 23/24 Q4 Energy Performance Report was submitted to the RASC meeting on 11th July 2024. This noted that the rolling 12-month energy performance was reduced by 22.2% based 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 Operational Properties and Housing (landlord areas) project, 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.
5. Our 2023/24 net interim target was a reduction of 84% against the 2018/19 baseline. We achieved a 65% reduction on baseline, missing our target by 19%. The main cause for

missing the 2023/24 target was due to a 7% increase in the carbon factor of National Grid electricity since last year (i.e. more carbon intense energy in the electricity mix).

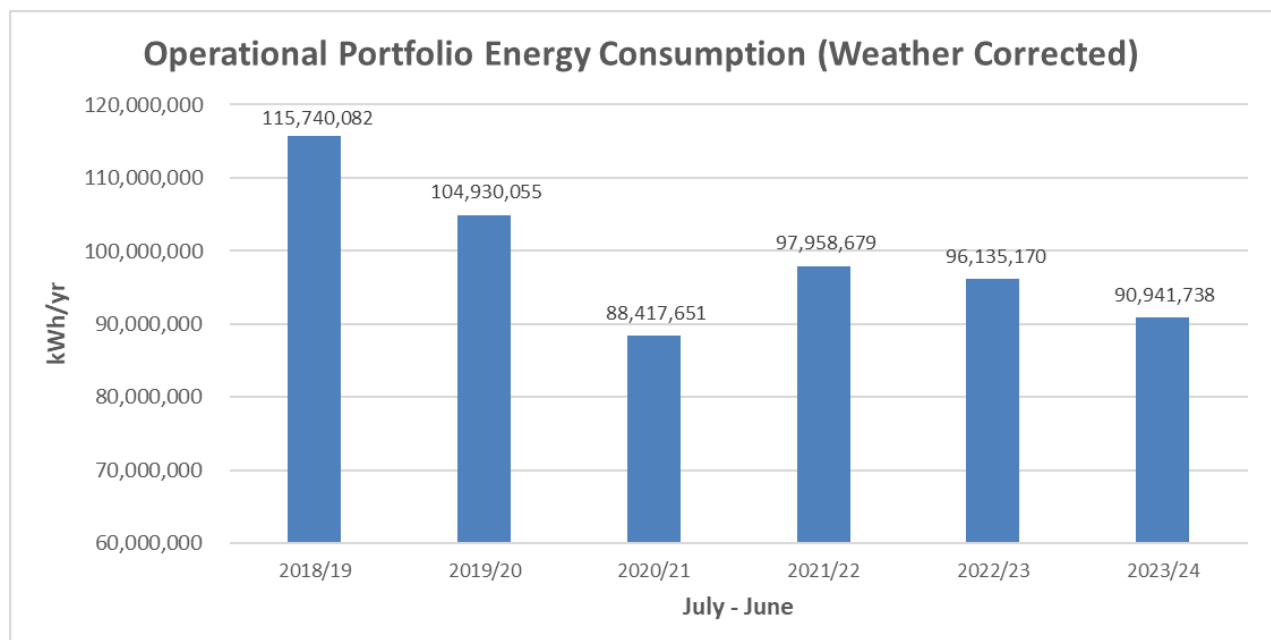
6. We need to reduce our emissions by a further 7kt CO₂e by 2027 to reach net zero. Works currently planned in the Operational Property Portfolio and Housing should deliver 4.2kt CO₂e of emissions reduction, leaving a further 2.8kt CO₂e to be delivered by additional works. If the National Grid decarbonises as expected, and all capital works (planned and additional) are delivered on time, we should reach net zero. If works are not all delivered as planned, or the grid decarbonisation under-performs, we have no buffer and risk missing net zero in 2027.

Current position

7. For the rolling year, Q1 24/25 weather-corrected energy consumption has reduced by 22.7% compared to the baseline year 2018/19.
8. Over the last 12 months the 30 highest consuming sites have seen a reduction in energy consumption of 5,784 MWh (6.2%) when compared to the preceding 12 months (Appendix Table 1).
9. A significant contributor to this reduction in energy consumption is the removal of the poultry market at Smithfield Market. This removal accounts for roughly 1,800 MWh of the 5,378 MWh drop in energy consumption.
10. 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 722 tonnes of CO₂-e savings per annum across our scope 1 and 2 emissions. This is further detailed in paragraph 19.

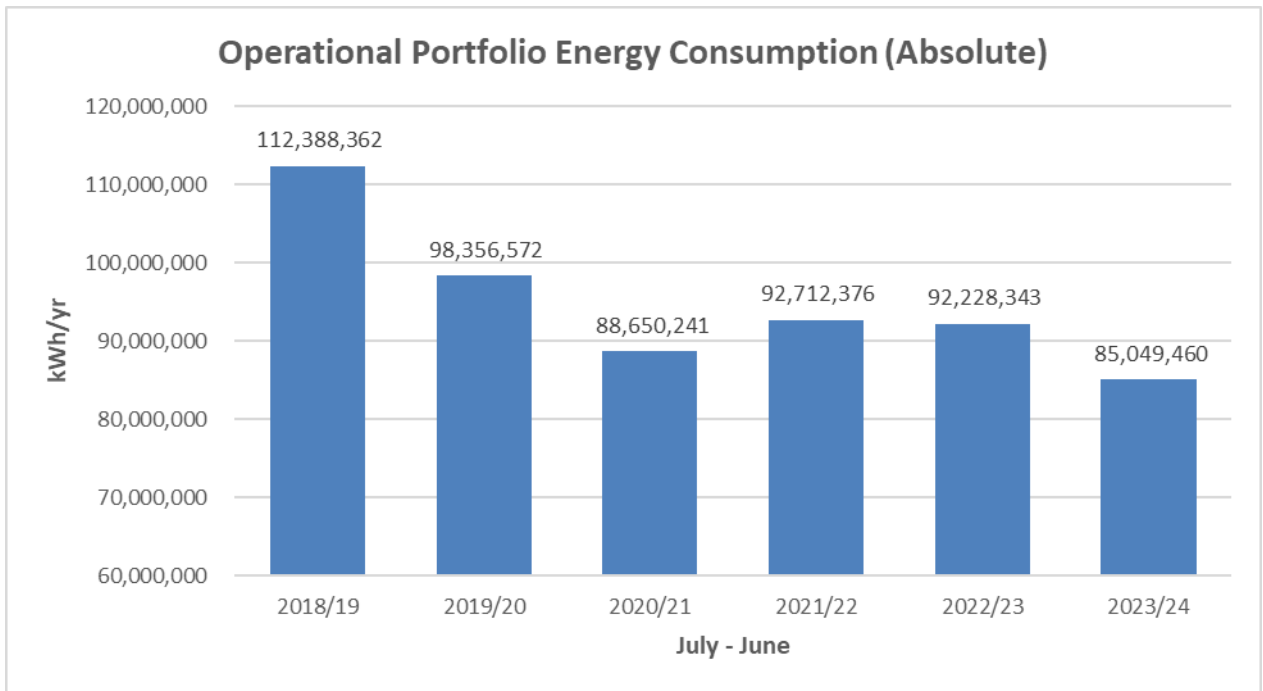
Performance update

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



- a. Note that chart 1 displays 1-year periods between July – June.
- b. Chart 1 portrays weather-corrected operational portfolio consumption year on year since 2018/19. Consumption in the rolling year between 2023/24 was 21.4% less than in 2018/19 and 5.4% less than in 2022/23.
- c. Chart 1 is the combined consumption of grid electricity, gas, heat, chill and oil.

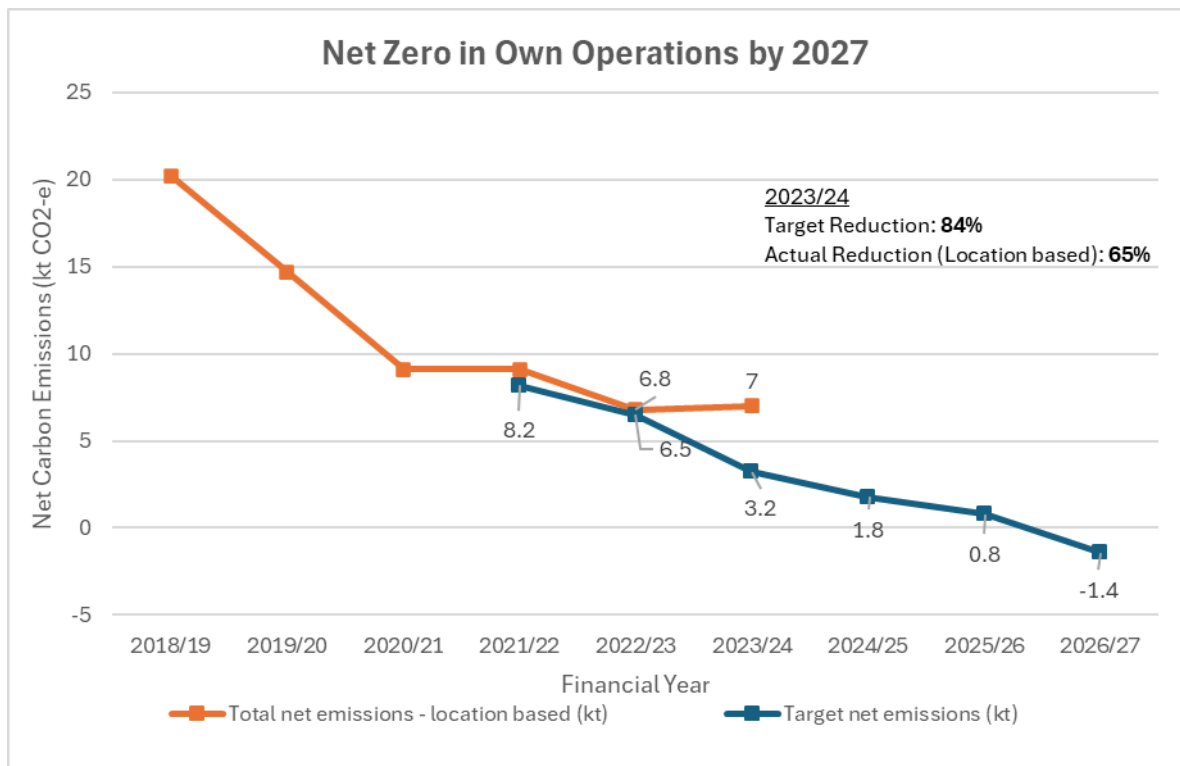
Chart 2. Consumption Performance of the Operational Portfolio (Absolute)



- a. Note that chart 2 displays 1-year periods between July – June.
- b. Chart 2 shows how the City Corporation’s operational portfolio has been performing since the baseline year. Comparing 2018/19 with 2023/24, there has been a 24.3% reduction in absolute consumption.

11. Chart 2 shows how energy consumption has now decreased past the lows of 2020/21 when the COVID-19 lockdown significantly reduced building operations across the estate.

Chart 3. Carbon Trajectory progress towards the 2027 carbon target for the entire portfolio



- a. Chart 3 shows how the City Corporation is performing towards the 2027 net zero carbon target.
- b. Chart 3 shows the net carbon emissions in the City Corporations' operations (scope 1 & 2).
- c. The City Corporations' net zero target for 2027 is based on absolute consumption of location-based emissions, as per DEFRA guidance, which takes into account the carbon intensity of the National Grid.

12. As shown in Chart 3, in 2023/24 the City Corporation is currently off target to achieve net zero in its operations by 2027. This is primarily due to the electricity grid not decarbonising at the predicted rate, and delays to major Corporation projects which would have delivered significant emissions reductions (including Guildhall and Barbican renewal).

13. The City Corporation has a power purchase agreement (PPA) with a solar farm in Dorset which generates and provides approximately 54,000 MWh of electricity per year. This agreement came into effect in January 2023.

14. If you consider the electricity generated by the PPA as having zero emissions (market-based), then the City Corporation would have achieved net zero carbon in its operations last year (-4.3kt CO₂-e).

15. The PPA is not counted in the net zero target in accordance with DEFRA guidelines and international emissions accounting requirements. Market-based emissions consider renewable energy. Taking into account our Power Purchase Agreement (PPA) and our renewable electricity tariff, in 2023/24 our operational (Scopes 1 & 2) market-based net emissions were -6.5 ktCO₂e. However, this is not how our net zero target is calculated.

Chart 4. Overall performance Q1 24.25 Top 5 sites – weather corrected.

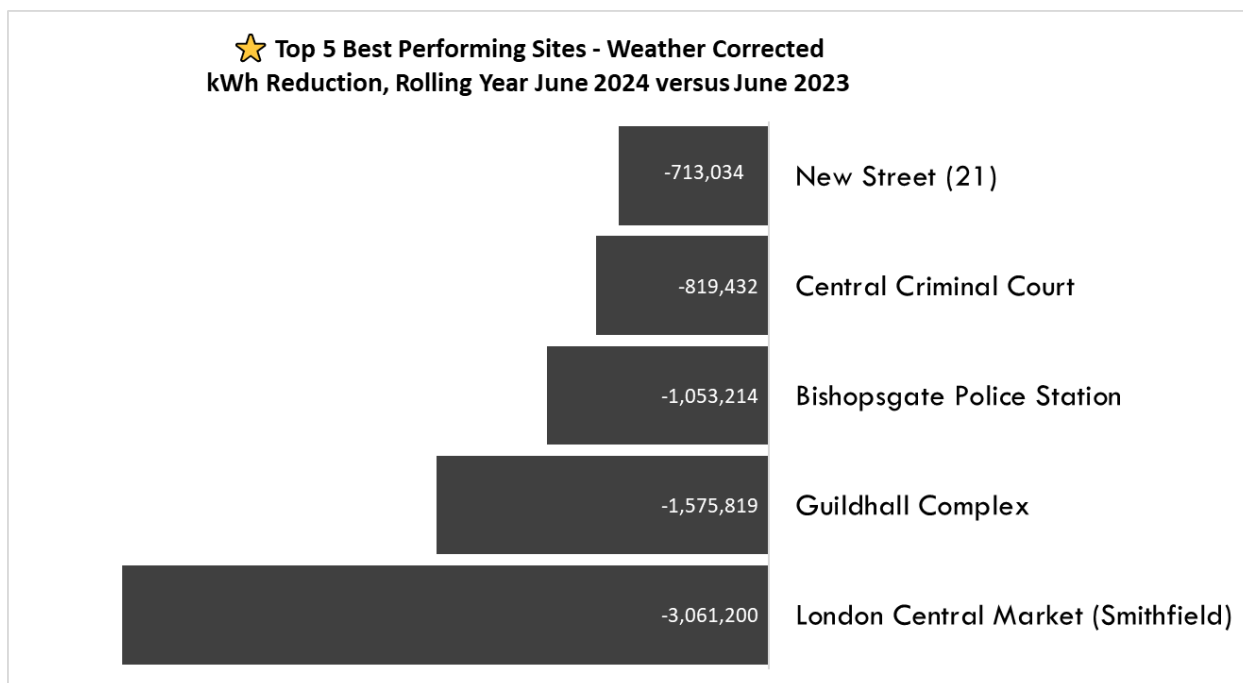
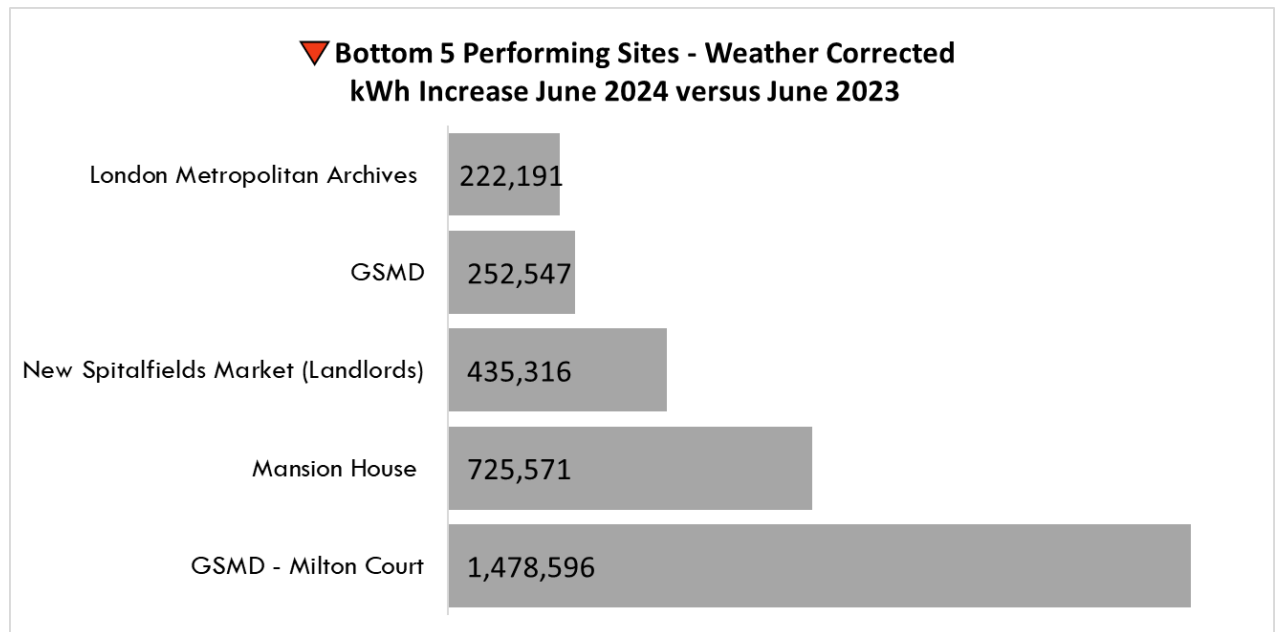


Chart 5: Overall performance Q1 24.25 bottom 5 sites – weather corrected.



16. Chart 4 shows the top-performing sites with the highest energy reductions over the past 12 months compared to the previous 12 months. Chart 5 shows the worst-performing sites with the highest increases in energy use over the same period.
17. The top-performing sites have continued to show a reduction due to improved controls and the implementation of energy-saving measures.
18. The bottom sites have seen increases in heating demand, occupancy levels and refurbishment activities along with metering issues which have contributed to the increase in consumption. 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

CAS Capital Programme

19. The Corporate Property 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. Energy Efficiency projects currently in development have an estimated capital cost of £6,621,912 (incl. risk) and targets savings of 722t CO₂-e per annum. Energy cost savings of £902k per annum.
20. 12 sub-projects (each being a combination of works/measures), across 11 sites are in progress. With projects complete at BAC (pumps), Guildhall (lighting), Tower Hill Coach & Car Park (lighting and ventilation). A further 3 are in delivery at London Archive (solar), Walbrook Wharf (ECM's) and Parliament Fields Lido (solar). The remaining projects are in development. For a list of projects please see Appendix 3.

BEMS

21. 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.

22. 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.
23. Schneider Electric is engaged on several sites to investigate and optimise the BEMS control software to improve the control strategies which will reduce energy waste and carbon emissions as well as improve environmental conditions.

Corporate and strategic implications

24. **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 of "Leading Sustainable Environment".
25. **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 projects will be transferred to the Build Back Better fund for re-investment with further projects.

Conclusion

26. Energy consumption in Q1 24/25 has reduced compared with Q1 23/24 but despite this, we are off track to achieve our Net Zero Carbon targets by 2027. This is primarily due to carbon factors not reducing as predicted. Our interim climate action targets are being reviewed accordingly to replot our pathway to net zero in 2027, taking account of newly proposed works. We continue to mobilise the 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.
27. 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.

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