

Committee(s)	Dated:
Operational Property and Projects Sub Committee	30 th May 2022
Subject: 2021/22 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?	n/a
Report of: The City Surveyor	For Information
Report author: Graeme Low	

Summary

This report presents the 2021/22 Quarter 3 energy performance for CoL operational sites.

The continued reduction in 2021/22 was largely due to the reduction in building related activities and operations. In addition, work by both the sites and the Energy Team has enabled these savings to be secured. Please note, for the purposes of comparable analysis we have also shown the reduction from 2019 figures. The pandemic impact in 2020 is a performance outlier.

- The Q3 result for 2021/2022 was a 16% reduction in energy consumption from Q3 2019/2020 when corrected for the impact of weather.
- Compared to the 2018/2019 Climate Action Strategy (CAS) baseline year, energy consumption reduced by 15% in absolute terms.
- Since 2018/2019 the entire portfolio CO₂ emissions have reduced by 10,059 tonnes (28% reduction), achieved through a combination of grid decarbonisation, energy reduction in buildings, disposals, and reduced occupancy levels due to covid.

Recommendation(s)

- Note new carbon and energy targets for operational buildings derived from the CAS targets as shown in the Appendix.
- Note the progress of £9.4m BEIS grant, covering 100% of capital investment needed for the PSDS project.
- Note substantial progress towards the completion of PSDS projects.

Main Report

Background

1. At CASC on 24th November 2021 the 21/22 Q2 Energy performance report was presented. This identified the rolling 12-month energy performance to Q2 as a 24% improvement on the weather corrected values for the Climate Action Baseline year of 2018/19.

2. This saving was due to the temporary closure of buildings due to the Covid-19 lockdown which occurred across this period, as well as active management of the BEMS by the Energy Team.
3. The CAS targets have now been incorporated into the Energy Performance report, replacing the previous Carbon Descent Plan targets for the Operational buildings.
4. 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 project, covering the majority of PSDS works commenced in September 2021 and are due to Complete in August 2022. Vital Energi Ltd., who are delivering the RA-W Project works have continued to survey other key Operational assets for carbon reduction measures that can feed into the CAS Operational Buildings project plan.

CAS Target Alignment

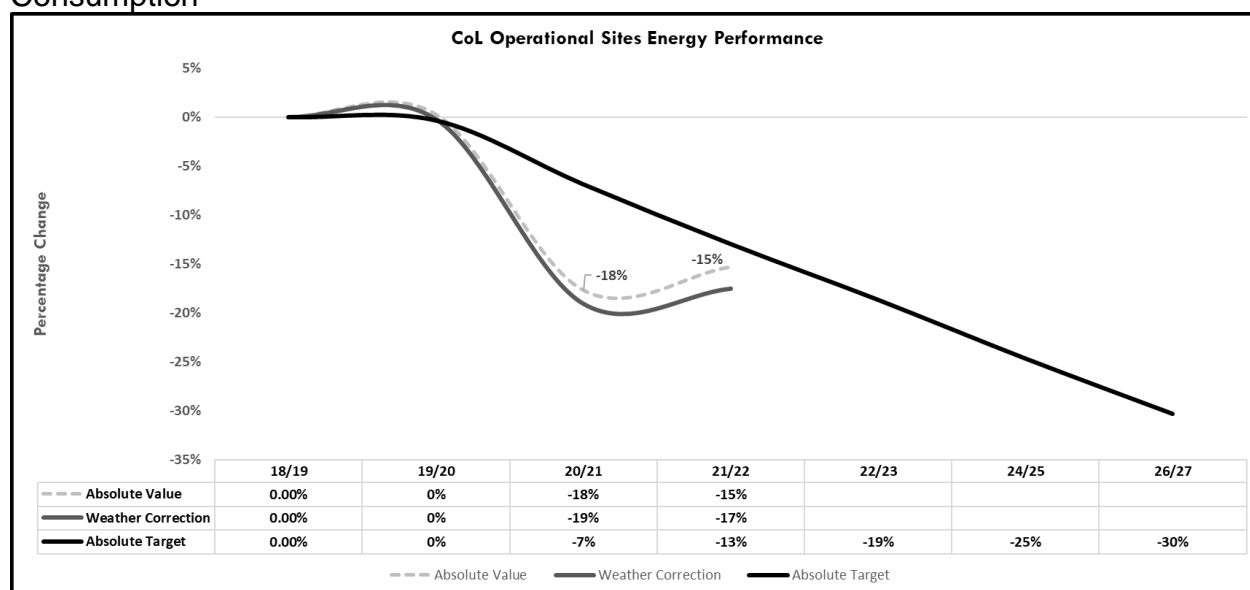
5. The Energy Team continue to collaborate with CAS on best practice methodologies for reporting KPI's and achieving overall CAS targets. The CAS buildings baseline includes the following:
 - Operational property portfolio; and
 - Landlord supplies to housing estates and investment properties.
6. Approximately 60% of emissions relate directly to the operational property portfolio.
7. To achieve CAS Net Zero CO2 target by 2027, any remaining unavoidable emissions will be mitigated via land-based carbon sequestration from our green spaces. These targets are translated into energy and CO2, see chart 1 and chart 2 below.

Current Position

There has been a gradual increase in consumption since the previous two quarters due to the return to normal operations. The impact of PSDS Energy saving projects will not be fully realised until later in 22/23. However, we remain on track to reach our CAS targets.

Performance Update

Chart 1. Q3 Performance Against CAS Target: Absolute and Weather Corrected kWh Consumption

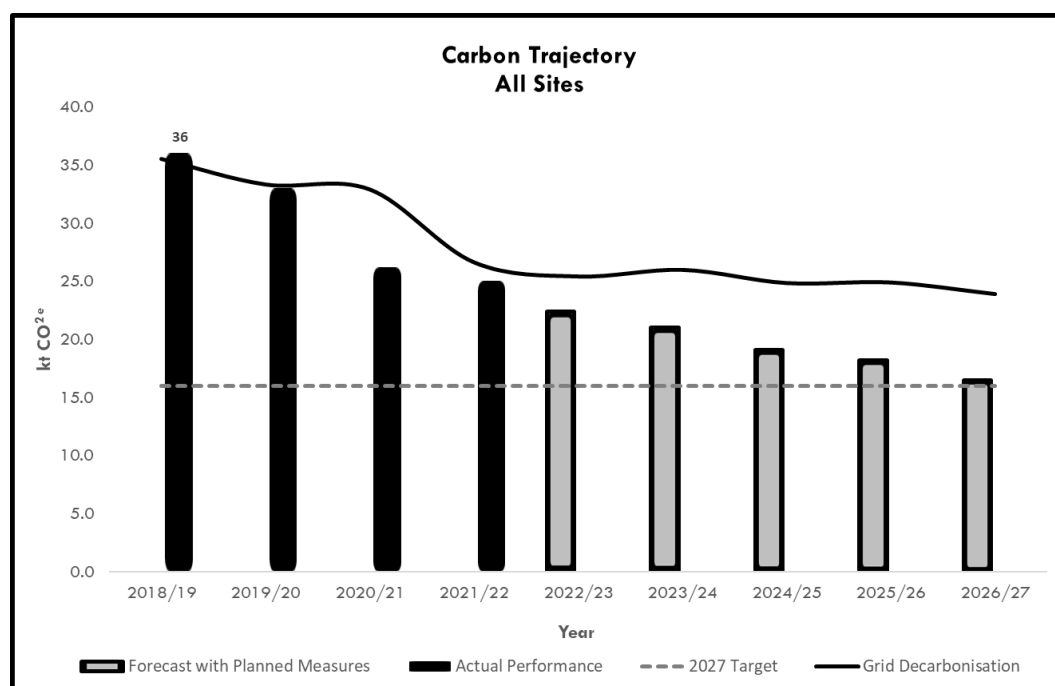


8. **Long term:** Chart 1 presents updated operational building targets to reflect 2018/2019 baseline data in conjunction with the Climate Action Strategy. It shows continued progress towards the interim target. Compared to the 2018/2019 baseline, the performance up to Q3 2021/2022 indicates:
- A 15% reduction in absolute energy consumption; and
 - A 17% reduction when corrected for the weather

A Comparison of energy performance for Q3 2021/22 and Q3 2019/2020 shows a weather corrected reduction of 16%. This provides a pre-pandemic comparison; further details can be found in table 1 of the appendix.

Chart 2 presents progress towards the 2027 carbon target for the Corporation's portfolio and shows:

- A saving of 10,059 tonnes of CO₂ or a 28% reduction from 2018/2019



The following provides a synopsis of Chart 2:

- The savings since 2018/19 demonstrate a positive start for the Climate Action Strategy 2027 Net Zero Carbon target. Focusing on the delivery of PSDS projects (table 4 of Appendix) in the short-term and a full pipeline of projects from 2022 onwards will limit any short term rises in consumption and emissions as we return to more sustained use of our buildings.
- Building stock changes and improved control of our energy usage through Building Management System (BMS) control improvement within buildings has played a key role in capturing these savings.
- Item 10 of the appendix provides an overview of the Operational property carbon performance, without Landlord emissions for Housing and IPG portfolios. This currently shows 16.1KtCO₂e of emissions, a reduction of 6.1KtCO₂e or 27.5% 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 Weather Corrected	Dec-19	Dec-20	Dec-21	Difference kWh 19 vs 21	Diff % 19 vs 21
Barbican Arts Centre	18,376,851	15,378,279	13,617,363	-4,759,488	-26%
London Central Market (Smithfield)	14,836,981	10,661,417	10,330,529	-4,506,452	-30%
Guildhall Complex	17,373,432	18,922,339	14,255,097	-3,118,335	-18%
Streetlighting	3,365,904	2,390,058	2,029,741	-1,336,163	-40%
New Spitalfields Market (Landlords)	6,705,459	6,046,452	5,824,980	-880,479	-13.1%
Bottom 5 Performing Sites Weather Corrected	Dec-19	Dec-20	Dec-21	Difference kWh 19 vs 21	Diff % 19 vs 21
Open Spaces Epping Forest	994,652	1,588,657	1,363,983	369,331	37.1%
Walbrook Wharf Cleansing Depot	1,684,201	1,882,680	1,962,451	278,251	16.5%
Bishopsgate Police Station	1,441,099	877,227	1,614,720	154,388	-10.2%
London Metropolitan Archives	3,220,999	3,555,327	3,375,387	145,684	4.8%
Mayors Court	1,277,259	1,519,882	1,422,943	66,306	11.4%

12. 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 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.
13. The top sites have continued to show a reduction due to improved controls and implementation of energy saving measures. For example, New Spitalfields Market have replaced common part lighting with LED and have continued to provide education to the tenants. The Streetlighting team have actively replaced and upgraded to LED/dimming controls where possible. There has also been increased vacancy following the pandemic at Smithfield Market, combined with active measures to minimise consumption where not required.
14. Increased occupancy at London Metropolitan Archives, Epping Forest and Bishopsgate Police station is thought to be the reason for the increase in consumption. The energy team continue to collaborate with the sites to support reduction projects and provide training opportunities via webinars. Open Spaces has increased due to a full complement of staff and increased usage/charging of Electric battery tools, which has led to increases in electricity usage from associated supplies.

Energy Team & Other Activity

Progress on Energy projects

15. **The PSDS Project:** Our progress with Vital Energi appointed contractor introducing energy saving measures at the Barbican Arts Centre, LMA, GSMD & the Guildhall through the PSDS project is nearing completion with four out of seven sub-projects completed and the remaining project expected to complete by August 22. These projects are expected to save an additional 850 tonnes of CO₂e per annum. Verification of these savings is expected at gateway 6 in 2022. An estimated date of completion for the PSDS projects is presented in item 4 of the appendix.

16. **Energy Supply contract procurement:** Gas and Electricity Contracts have been procured for the period October 2021 -2025 Our purchase in advance approach helps to mitigate the risk of price inflation by procuring volume incrementally when the market dips. This approach is expected to return a market reflective price. We are currently procuring October 22 – September 23 volume in the run up to October 22. We have seen large upswings in energy markets since the beginning of the calendar year. The introduction of the PPA will help mitigate the full impact of electricity prices rises when this begins operating in the Autumn.
17. **PPA:** The PPA contract has now been agreed with Voltalia UK Ltd., Work on site at the South Farm Solar site near Blandford Forum is now well advanced with foundations, structures and modules being installed and access roads all established. Recently work has progressed with the electricity sub-station. Once operational, the PPA will provide over 50% of our electricity at ~ £37 MWh in 22/23 compared to the current market rates for electricity of ~£200 MWh.

Corporate & Strategic Implications

18. **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 CO₂ 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.
19. **Financial implications:** The savings in this report detail reductions in energy consumption and not against agreed budgets. They remain largely due to reduced energy usage due to the pandemic. We anticipate these will reduce as staff return to work. In addition, energy costs are projected to increase over the next year due to external factors, although the PPA agreement is expected to provide some relief commencing Autumn 2022. For longer sustainable gains the focus needs to be on improving efficient use of energy, through targeted investment in energy saving measures. Note that savings from the PSDS project will be transferred to the Build Back Better fund for re-investment with further projects.

Conclusion

20. The Energy performance within Q3 remains below the long-term trajectory needed to meet our CAS targets for 2027. Whilst some of the reductions are being clawed back following the pandemic. 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 remain confident that we can absorb 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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