



Operational Property and Projects Sub Committee

Date: WEDNESDAY, 26 OCTOBER 2022
Time: 11.00 am
Venue: COMMITTEE ROOMS, WEST WING, GUILDHALL

INFORMATION PACK

N.B: These matters are for information and have been marked * and circulated separately. These will be taken without discussion, unless the Committee Clerk has been informed that a Member has questions or comments prior to the start of the meeting.

Members:

Alderman Timothy Hailes (Chair)	Deputy Christopher Hayward
Deputy Rehana Ameer (Deputy Chairman)	Deputy Shravan Joshi
Deputy Randall Anderson	Deputy Edward Lord
Deputy Keith Bottomley	Paul Martinelli
Deputy Michael Cassidy	Anett Rideg
Deputy Madush Gupta	

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John Barradell
Town Clerk and Chief Executive

AGENDA

6. ***22/23 ENERGY & DECARBONISATION PERFORMANCE Q1 UPDATE FOR THE OPERATIONAL PORTFOLIO**
Report of the City Surveyor.

For Information
(Pages 3 - 14)
7. ***CLIMATE ACTION STRATEGY NZ1, NZ3 AND RS3 WORKSTREAM UPDATE FOR THE OPERATIONAL PORTFOLIO**
Report of the City Surveyor.

For Information
(Pages 15 - 22)
18. ***OPERATIONAL PROPERTY PORTFOLIO - DELEGATED AUTHORITIES UPDATE - 1ST APRIL 2022 TO 30TH SEPTEMBER 2022**
Report of the City Surveyor.

For Information
(Pages 23 - 26)
19. ***CITY OF LONDON OPERATIONAL TENANTS - ARREARS UPDATE AND RENTAL SUPPORT**
Joint report of the Chamberlain and City Surveyor.

For Information
(Pages 27 - 36)

Agenda Item 6

Committee(s)	Dated:
Operational Property and Projects Sub Committee	26 October 2022
Subject: 22/23 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?	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 1 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 a 19% reduction in energy usage and a 33% reduction in CO₂e emissions since the 2018/19 baseline year. Progress has been made is 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, Q1 22/23 energy consumption has reduced by 19% compared to the baseline year 2018/19.
- Note the Q1 22/23 CO₂e emissions are in line with our targets with a 33% or 11,778 tonnes/CO₂e drop since 2018/19.
- Note the large majority of the Public Sector Decarbonisation Scheme (PSDS) funded work is now complete.

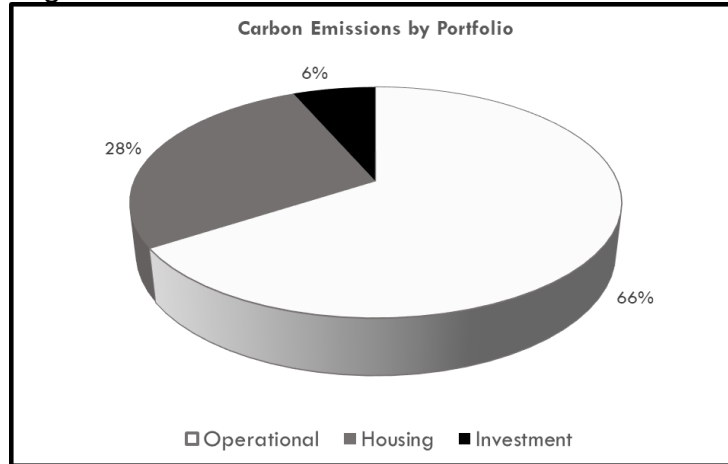
Main Report

Background

1. At OPPSC on 20th July 2022 the 21/22 Q4 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

- 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.
- Approximately 65% of emissions relate directly to the operational property portfolio as demonstrated by the figure below*



*Based on 2021/2022 consumption

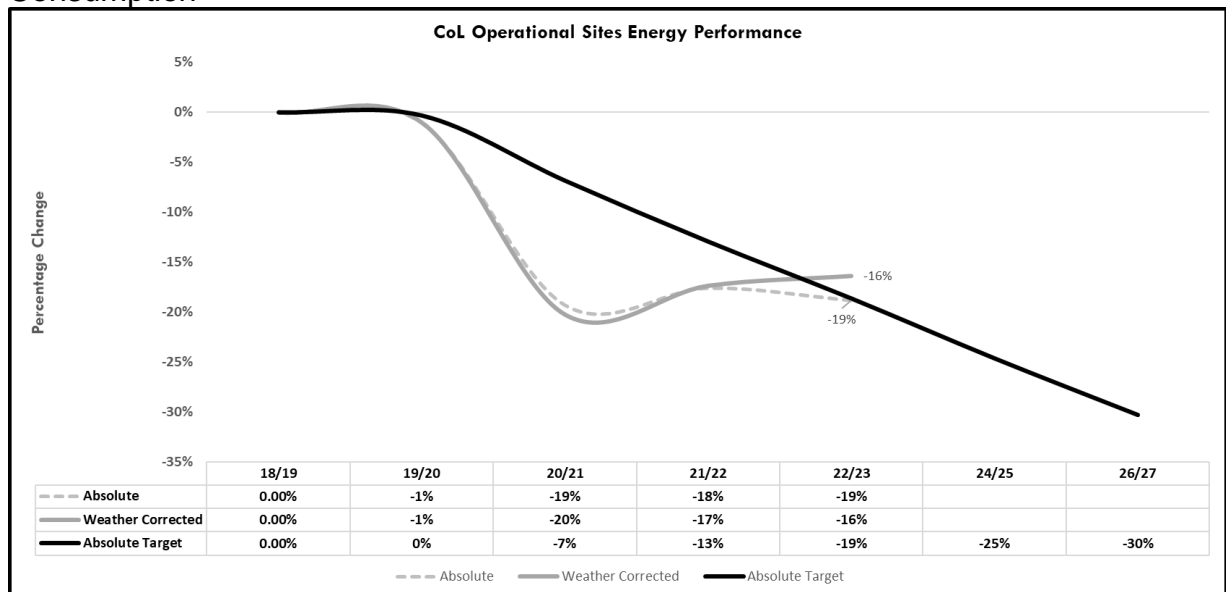
- To achieve CAS Net Zero CO₂ target by 2027, residual emissions are planned to be mitigated via land-based carbon sequestration from our green spaces. These targets are translated into energy and CO₂e, see chart 1 and chart 2 below.

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 later in 2022. However, we remain on track to reach our CAS targets. Milder than average weather over the period has contributed to the position.

Performance update

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

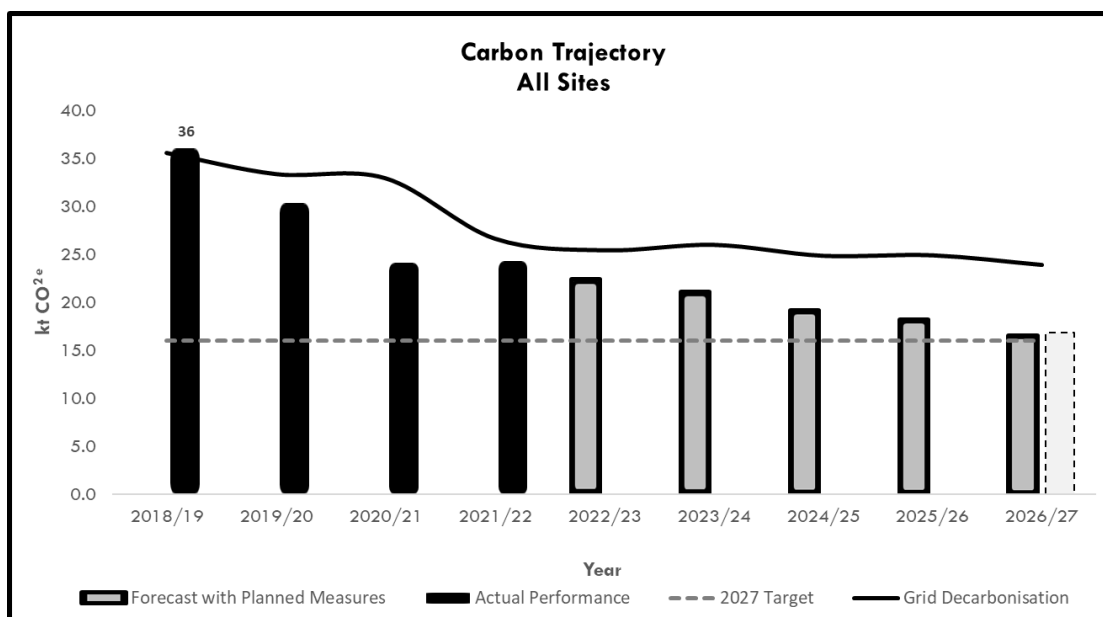


7. **Long term:** Chart 1 presents updated operational building targets to reflect 2018/2019 baseline data in conjunction with the Climate Action Strategy (CAS). It shows continued progress towards the interim target. Compared to the 2018/2019 baseline, the performance up to Q1 2022/2023 indicates:
 - a. A 19% reduction in absolute energy consumption.
 - b. A 16% reduction when corrected for the weather

A comparison of rolling year energy performance for the Operational properties Q1 2022/23 and Q1 2021/2022 shows an increase in weather corrected values by 5%. This was expected as we have returned to a normal mode of operations. However, we remain on track towards our CAS target. 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 11,778 tonnes of CO_{2e} or a 33% reduction from 2018/2019



The following provides a synopsis of Chart 2:

8. 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 to ensure consistent reduction of carbon emissions.
9. 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. The PSDS project is expected to further enhance these savings upon completion.
10. 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 15.9 KtCO_{2e} of emissions, a reduction of 6.2 KtCO_{2e} or 28% 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	Jun-19	Jun-21	Jun-22	Difference kWh 21 vs 22	Difference kWh 19 vs 22	Difference % 19 vs 22
London Central Market (Smithfield)	16,091,832	9,819,425	10,850,112	1,030,688	-5,241,720	-33%
Guildhall Complex	17,596,559	17,982,159	13,584,693	- 4,397,466	-4,011,866	-23%
Streetlighting	3,576,514	2,139,478	1,961,862	- 177,616	-1,614,651	-45%
Barbican Arts Centre	17,316,982	12,195,779	15,808,659	3,612,880	-1,508,323	-9%
New Spitalfields Market (Landlords)	6,795,740	5,753,961	5,899,856	145,895	-895,884	-13%

Bottom 5 Performing Sites Weather Corrected	Jun-19	Jun-21	Jun-22	Difference kWh 21 vs 22	Difference kWh 19 vs 22	Difference % 19 vs 22
New Street (21)	1,683,691	1,221,552	2,622,333	1,400,781	938,642	56%
GSMD - Milton Court	3,587,099	2,693,611	4,345,074	1,651,464	757,975	21%
Walbrook Wharf Cleansing Depot	1,639,210	1,834,012	2,159,765	325,753	520,555	32%
Mansion House	2,200,311	2,104,434	2,382,125	277,691	181,814	8%
Open Spaces Epping Forest	653,132	1,638,558	744,929	- 893,629	91,797	14%

11. 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 March, 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.
12. The top sites have continued to show a reduction due to improved controls and implementation of energy saving measures and a decline in occupancy levels. Lighting upgrades have occurred at Guildhall and across streetlighting. Smithfield reductions are due to active Sites management of the BEMS and reduced occupancy levels at the commercial offices. The Barbican Exhibition Halls have closed temporarily supporting further demand reduction and the PSDS project is nearing completion.
13. The bottom sites can be attributed to increases in heating and refurbishment activities, as well as possible maintenance issues. Further, there has been an increase in occupancy levels due to a recruitment drive at 21 New Street. 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

14. **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 mostly complete across the Barbican Arts Centre, Guildhall, GSMD, and the LMA; with some remaining works and commissioning programmed up to November 2022. Verification of the savings is expected at gateway 6 in 2023.
15. **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. Currently 68% of the electricity is procured via the grid, the rest will be provided by the Power purchase agreement (PPA), with some expected trades back to the market. Continued volatility in the marketplace has increased the likely impact of a significant impact into 23/24, we are working with Chamberlains to manage this.

16. **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 now very well advanced with completion expected by November 2022. Recently work has progressed with the electricity sub-station, grid connection is also due in October. Once operational, the PPA will provide over 50% of our electricity at ~ £41 MWh in 22/23 compared to the current market rates for electricity of ~£650 MWh. The PPA is expected to provide a £2.12m cost benefit in 2022/23 and a £7.35m cost benefit for 23/24 based on current market rates for grid connected electricity (Source: Mitie energy research).
17. The introduction of PPA will help significantly to mitigate the full impact of electricity prices rises when this begins operating, though this remains a short term issue as the delay in operation has increased the electricity volume we need to procure through the Autumn.

Corporate and 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. 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 return to Government.

Conclusion

20. The Energy performance within Q1 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.

Report author

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Appendix

1. Top 30 site energy performance and bottom 5 performance overview

Performance comparison by top 30 sites: Q1 2022/23 with Q1 2021/22 and 2019/2020

Row Labels	Sum of Jun-19	Sum of Jun-21	Sum of Jun-22
Animal Reception Centre	741,977	704,382	743,230
Barbican Arts Centre	17,316,982	12,195,779	15,808,659
Baynard House Car Park	165,009	174,869	155,902
Billingsgate Market	3,612,570	3,362,090	3,427,365
Bishopsgate Police Station	3,388,832	3,256,636	3,243,497
Central Criminal Court	7,532,297	6,192,558	6,669,191
City of London Crematorium	2,914,364	2,924,193	2,105,143
City of London Freeman's School	4,737,071	3,781,977	4,796,484
City of London School	3,229,358	3,151,914	3,264,897
City of London School For Girls	2,237,297	1,795,396	1,651,152
GSMD	2,221,345	1,805,453	2,001,467
GSMD - Milton Court	3,587,099	2,693,611	4,345,074
GSMD - Sundial Court	1,826,106	1,516,607	1,581,121
Guildhall Complex	17,596,559	17,982,159	13,584,693
London Central Market (Smithfield)	16,091,832	9,819,425	10,850,112
London Metropolitan Archives	1,325,213	1,572,347	1,238,306
London Wall Car Park	218,843	219,142	211,806
Mansion House	2,200,311	2,104,434	2,382,125
Mayor's Court	312,999	288,264	252,688
New Spitalfields Market (Landlords)	6,795,740	5,753,961	5,899,856
New Street (21)	1,683,691	1,221,552	2,622,333
Open Spaces East Heath & Kenwood	206,709	186,303	178,405
Open Spaces Epping Forest	653,132	1,638,558	744,929
Open Spaces Golders Hill & Extension	364,971	324,787	435,668
Open Spaces Hampstead Heath Leisure	661,370	570,481	658,313
Open Spaces Parliament Hill	268,918	229,294	285,190
Streetlighting	3,576,514	2,139,478	1,961,862
Tower Bridge	2,299,519	1,785,824	2,161,561
Tower Hill Coach & Car Park	549,416	346,372	565,034
Walbrook Wharf Cleansing Depot	1,639,210	1,834,012	2,159,765
Grand Total	109,955,253	91,571,857	95,985,826

2. Bottom 5 performing sites

Weather Corrected data

Bottom 5 Performing Sites	Jun-19	Jun-21	Jun-22	Difference kWh 21 vs 22	Difference kWh 19 vs 22	Difference % 19 vs 22	Potential Rationale
New Street (21)	1,683,691	1,221,552	2,622,333	1,400,781	938,642	56%	Refurbishment from 2017 to 2019 would account for the lower consumption. Late 2021 has seen an increase in occupancy from approximately 30% to 70% due to recruitment drive.
GSMD - Milton Court	3,587,099	2,693,611	4,345,074	1,651,464	757,975	21%	The increase is due to an increase in heat. Otherwise, electricity and coolth has decreased
Walbrook Wharf Cleansing Depot	1,639,210	1,834,012	2,159,765	325,753	520,555	32%	Gas heaters in the vehicle workshop were replaced in 2019.
Mansion House	2,200,311	2,104,434	2,382,125	277,691	181,814	8%	The number of boilers on site has doubled from 2 to 4. Replaced 2 of the 4 chillers. Energy team investigating programming controls

* Walbrook Wharf includes tenant consumption. Tenant consumption is further broken down in section 9

3.CO_{2e} targets for City of London Corporation

City of London (own operations)	Units	Scope	2018	2019	2020	2021	2022	2023	2024	2025	2026	2030	2035	2040
Corporate Properties and Landlord Area	ktCO _{2e}	Scope 1 & 2	36.4	33.9	30.4	24.4	22.8	19.4	18.1	17.0	14.85	7.2	4.5	3.1
Carbon Removals and Land Management (Scope 1)	ktCO _{2e}	Scope 1	-16.2	-16.2	-16.2	-16.2	-16.2	-16.2	-16.2	-16.2	-17.64	-17.6	-17.6	-17.6
Total net zero emissions	ktCO_{2e}	Scope 1 & 2	20.2	17.7	14.2	8.19	6.54	3.18	1.83	0.76	-2.79	-10.5	-13.1	-14.6
Net (negative removed)	ktCO _{2e}	Scope 1 & 2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	17.6			
% reduction against baseline year	%	Scope 1 & 2	0%	-7%	-16%	-33%	-37%	-47%	-50%	-53%	-59%			
Target amount to reduce in period	ktCO _{2e}	Scope 1 & 2					13.6		4.7		3.2			
% of target to deliver in that period	%	Scope 1 & 2					63%		22%		15%			
Total target amount to reduce	ktCO _{2e}	Scope 1 & 2									21.5	To be reduced by 2026/7		

4. PSDS Project update

The large majority of the PSDS funded work is now complete. The ventilation project has been delayed until November 2022 to reduce the risks to maintaining the internal space conditions and protect the art works and manuscripts.

5. List of key sites in an energy performance partnership with Vital Energi

Guildhall Complex	City of London School	London Metropolitan Archives
Barbican Arts Centre	City of London School for Girls	Tower Hill Car Park
London Central Market (Smithfield)	Walbrook Wharf Cleansing Depot	GSMD – Sundial Ct
Central Criminal Court	Tower Bridge	
New Spitalfields Market	GSMD - Milton Court	
City of London Freeman's School	Mansion House	
Billingsgate Market	GSMD	

High Level Assessments of all the above sites have been completed, with further surveying in progress for the remainder. Projects are now being selected for investment grade proposals with initial work on this well underway. These projects will be presented for gateway approval following the review of the capital programme. Projects under consideration will typically include (but not limited to):

- Energy efficient lighting and controls
- Improvements to HVAC systems
- Optimisation and improvement of BMS controls
- Hydraulic and pumping optimisation
- Low carbon heating
- Renewables
- Fabric measures and draught proofing

6. Cumulative Forecast Carbon Savings – Note: this may require updating if the projected kWh savings change

		Carbon Savings - Cumulative (tCO ₂ e/yr)								
		Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
		2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
PSDS	Gas	0	0	0	0	358	357	355	354	353
	Elec	0	0	0	0	595	622	579	585	548
	Citigen Heat	0	0	0	0	93	88	83	78	73
	Citigen Coolth	0	0	0	0	88	92	85	86	81
Phase 1& 2	Gas	0	0	0	0	7	7	7	7	7
	Elec	0	0	0	0	93	97	91	91	86
	Citigen Heat	0	0	0	0	18	17	17	16	15
	Citigen Coolth	0	0	0	0	4	5	4	4	4
Energy Saving Loan scheme	Elec	23	21	19	15	14	14	13	13	12
GHC Chillers	Elec	0	0	0	0	0	179	166	168	157
Operational management	Gas	0	348	347	349	365	387	409	431	453
	Elec	14	355	351	277	290	348	367	413	427
	Citigen Heat	0	0	120	71	86	104	119	132	143
	Citigen Coolth	0	14	362	278	271	301	297	316	312
CAS	Gas				0	153	598	885	1,170	1,451
	Elec				0	356	1,192	1,527	1,963	2,233
	Citigen Heat				0	50	188	266	334	392
	Citigen Coolth				0	38	145	196	259	300
Total		37	738	1,200	991	2,879	4,740	5,467	6,421	7,045

7. Cumulative forecast energy cost savings

		Energy Cost Savings - Cumulative (£/yr)								
		Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
		2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
PSDS	Gas	£ -	£ -	£ -	£ -	£ 59,733	£ 62,127	£ 65,295	£ 68,482	£ 69,359
	Elec	£ -	£ -	£ -	£ -	£ 530,581	£ 535,785	£ 539,696	£ 549,928	£ 565,152
	Citigen Heat	£ -	£ -	£ -	£ -	£ 81,950	£ 85,235	£ 89,581	£ 93,953	£ 95,156
	Citigen Coolth	£ -	£ -	£ -	£ -	£ 51,278	£ 53,333	£ 56,053	£ 58,788	£ 59,541
Phase 1 & 2	Gas	£ -	£ -	£ -	£ -	£ 1,197	£ 1,245	£ 1,308	£ 1,372	£ 1,390
	Elec	£ -	£ -	£ -	£ -	£ 82,928	£ 83,741	£ 84,352	£ 85,951	£ 88,331
	Citigen Heat	£ -	£ -	£ -	£ -	£ 16,327	£ 16,982	£ 17,848	£ 18,719	£ 18,959
	Citigen Coolth	£ -	£ -	£ -	£ -	£ 2,557	£ 2,659	£ 2,795	£ 2,931	£ 2,969
Energy Saving Loan scheme	Elec	£ 11,274	£ 11,761	£ 11,941	£ 11,670	£ 12,046	£ 12,164	£ 12,253	£ 12,485	£ 12,831
GHC Chillers	Elec	£ -	£ -	£ -	£ -	£ -	£ 153,895	£ 155,018	£ 157,957	£ 162,330
Operational management	Gas	£ -	£ 54,948	£ 51,159	£ 52,052	£ 60,857	£ 67,430	£ 75,211	£ 83,437	£ 89,120
	Elec	£ 6,710	£ 197,716	£ 218,471	£ 222,830	£ 258,881	£ 300,294	£ 341,644	£ 388,021	£ 439,767
	Citigen Heat	£ -	£ -	£ 51,193	£ 56,795	£ 75,794	£ 100,687	£ 128,789	£ 159,164	£ 185,600
	Citigen Coolth	£ -	£ 7,596	£ 139,209	£ 143,242	£ 158,752	£ 175,289	£ 194,918	£ 215,644	£ 229,763
CAS	Gas				£ -	£ 25,566	£ 104,107	£ 162,729	£ 226,368	£ 285,455
	Elec				£ -	£ 317,748	£ 1,027,204	£ 1,422,736	£ 1,844,884	£ 2,301,889
	Citigen Heat				£ -	£ 43,869	£ 182,512	£ 287,727	£ 402,360	£ 509,390
	Citigen Coolth				£ -	£ 22,443	£ 84,502	£ 128,555	£ 176,513	£ 220,992
Total		£ 17,984	£ 272,021	£ 471,974	£ 486,589	£ 1,802,507	£ 3,049,193	£ 3,766,507	£ 4,546,958	£ 5,337,992

8. Energy Reduction Programme Phase 1 and 2 estimated savings

	Budget (incl. risk)	Savings (£/yr)	Savings (tCO2e/yr)
Energy Reduction Programme - Phase 1			
Tower Hill Car Park Lighting	£176,080	£35,782	38
CCC Lighting	£181,703	£43,239	48
Smithfield Car Park Lighting	£90,600	£15,543	25
Energy Reduction Programme - Phase 2			
Smithfield HVAC Upgrades	£186,111	£31,622	37
London Metropolitan Archives Air Conditioning controls	£15,560	£2,770	33
Central Criminal Court Steam System Insulation	£3,241	£2,758	14
Mansion House Lighting	£66,568	£13,899	9
Tower Hill Coach & Car Park Ventilation Control	£123,611	£16,793	18

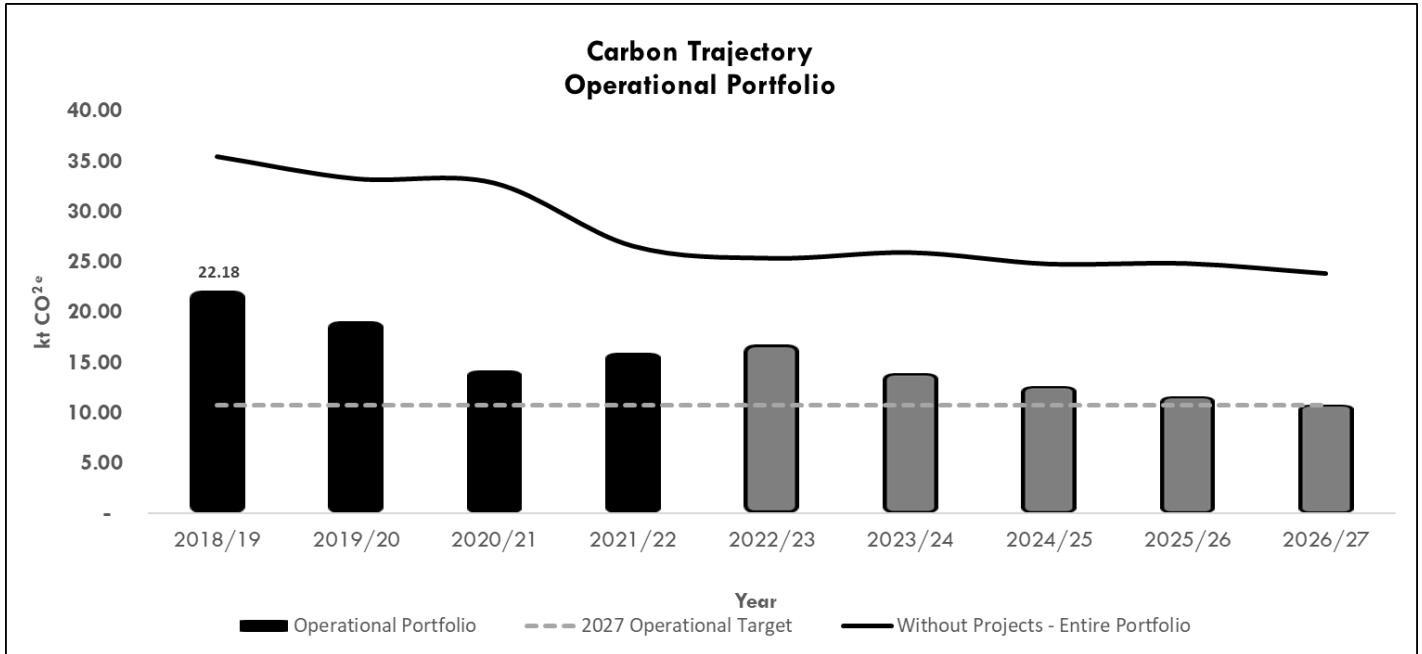
9. Tenant consumption

Note: This table has been newly created due to feedback from stakeholders requesting information about tenant and landlord consumption.

Tenant Consumption figures (kWh)		April - June 2021 Q1	July - Sept 2021 Q2	Oct - Dec 2021 Q3	Jan - March 2022	Total 21/22	April - June 2022 Q1
Electricity	Billingsgate Market	31,845	373,310	303,367	768,811	1,477,333	362,744
Gas	Billingsgate Market	202,690	50,789	190,709	65,883	510,071	129,255
Electricity	Smithfield Market	1,193,433	1,777,086	1,340,800	1,288,375	5,599,694	1,732,696
Electricity	New Spitalfields Market	1,262,768	1,507,878	1,177,265	1,031,986	4,979,897	1,234,481
Electricity	Walbrook Wharf	20,110	28,023	29,760	23,641	101,534	23,912

10. Operational properties only

The black bars represent operational portfolio carbon. The grey bars represent projected carbon. The black line shows actual carbon and projected carbon for the City's entire portfolio, including operational, investment and housing.



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Committee(s)	Dated:
Operational Property and Projects Sub Committee	26 October 2022
Subject: CAS NZ1, NZ3 and RS3 Workstream 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?	Yes
If so, how much?	£10,527,715 mix of revenue and capital
What is the source of Funding?	CAS Budget
Has this Funding Source been agreed with the Chamberlain’s Department?	Yes
Report of: The City Surveyor	For Information
Report author: Graeme Low	

Summary

This report presents an update on the key actions of the operational buildings workstreams as part of the Climate Action Strategy (CAS). Progress has been made in the following key areas:

- Vital Energi have started a programme of building energy surveys, all top fifteen buildings have High Level Assessments issued. Following this, five detailed proposals are now in development.
- Climate Impact Modelling has begun with a “digital twin” model of the square mile in development, workshops are planned for July focusing on heat stress and flooding.
- Building Energy Management System analytics software has been rolled out for the Guildhall and LMA.

Recommendation(s)

- Note the progress made on actions within the report.
- Note progress made in delivery of project tasks including energy surveys, BEMS Strategy, and design and technology standards.
- Note the progress made on the delivery of capital projects including PSDS phase 1.
- Note the successful award of £50k low carbon skills funding for 6 key sites.

Main Report

Background

1. The Climate Action Strategy (CAS) measured our direct building emissions in 2018/19 as 36 ktCO_{2e}, by 2026/7 this must reduce to 15.3 ktCO_{2e} to reach our net

zero target for our operational properties and Housing portfolio. CO₂e emissions for Housing and operational properties are as follows:

Table 1: Baseline and current carbon emissions by portfolio and 2027 target

Portfolio	Baseline 2018/19	year to date (Q1 2022/2023)	2026/27 Target
Housing	10.6 kt/CO ₂ e	1.21 kt/CO ₂ e	4.6 kt/CO ₂ e
Operational Properties	22.2 kt/CO ₂ e	3.18 kt/CO ₂ e	10.8 kt/CO ₂ e

- To support this goal, the CAS buildings approach was presented at the April Corporate Asset Sub Committee in 2021 with a series of discrete actions which conjoin to deliver the CAS strategy NZ1, NZ3 and RS3 for the Operational buildings' portfolio – including housing. These actions are summarised in the table 2 below and demonstrate the requirement for the City to continue investment in carbon reduction projects.

Table 2: NZ1 - Operational Property and Housing Landlord Areas Actions

1 – Commission building energy surveys – operational assets and housing
2 - Develop building controls management strategy
3 - Enhance monitoring and targeting programme
4 - Decarbonisation of Heat
5 - Deep fabric retrofit pilot – Commercial asset??
6 - Additional energy specialist resources
7 - Capital programme roll-out

Status Updates

Action 1 Progress: Commission building energy surveys – operational assets & Housing

Corporate

- Vital Energi Ltd. are providing energy efficiency audits to the top fifteen buildings (appendix 1) in support of the Climate Action Strategy. Their activities have involved a high-level assessment of each building, providing a list of projects that can be immediately undertaken, and a list of projects that rely on other existing CoL projects finishing.
- To date, all fifteen buildings have been through an initial survey and a High-Level Assessment issued. This is currently being reviewed and appraised and a programme of further detailed proposals and subsequent works will be developed into a Gateway 2 paper and expected to be presented in October. Five investment grade proposals have been completed at the Guildhall, Freeman's School, Tower hill Coach and Carpark, Central Criminal Court & Girl's School.

Housing

5. Etude Consulting Ltd. have been appointed in September to provide resource support to the tasks related to Housing within NZ1, particularly supporting the management of initial surveys, development of decarbonisation plan, and support surrounding Housing Heat decarbonisation.
6. Survey work has been completed at the Barbican Estate to evaluate the benefit of improving insulation and heating controls with properties. Further cost analysis has recently been completed providing the value and benefit of undertaking these works. We continue to consult with the Barbican Association as these proceed.
7. Housing surveys are currently being commissioned to review scope 1 & 2 operational emissions, focusing on options for PV, LED lighting upgrades and other opportunities such as pump controls, ventilation, and lift efficiency improvements. This will combine with concurrent survey work focusing on heat decarbonisation opportunities. Procurement of these surveys is expected to complete in September.

Next Steps – Action 1	
a.	Operational: Completion of decarbonisation delivery plan. Presentation of Gateway paper for capital works.
b.	Housing: Completion of procurement for surveys and feasibility studies for pilot projects.

Action 2 Progress: Develop building controls management strategy.

8. The Schneider Electric Building Advisor platform (Analytics) has been operating since July 4th. It has already identified opportunities for efficiency improvements and is being integrated with Facilities Management in regular management reporting for the Guildhall and LMA.
9. The building controls draft strategy is nearing completion and expected to be completed by the end of September.
10. Sigma EMS integration with BEMS is progressing as the BEMS is migrated and Sigma is fully onboarded over the forthcoming quarter.

Next Steps – Action 2	
a.	Completion of BEMS strategy
b.	BEMS integration with Team Sigma.

Action 3 Progress: Enhance monitoring and targeting programme.

- 11.. Benchmarking, target setting and analysis against variables is currently being set up within Team Sigma for individual sites. This is expected to be available in Q3.

Action 4 Progress: Decarbonisation of Heat

12. Citigen - New centre of excellence resource will be in place from October to support with the Citigen strategy. Meetings have been held with St. Bartholomew's Hospital

and Museum of London to support the development of the network and unlock further carbon saving potential.

13. Operational estate – A £50k Low Carbon Skills Fund grant has been successfully obtained to develop heat decarbonisation plans for Heathrow Animal Reception Centre, Walbrook Wharf (update to existing plan), Epping Forest (the View and the Warren) and City of London Crematorium. These plans, once complete will mesh with the delivery plans for each site.
14. Housing – Additional consultancy support is near to being place as part of the programme to review opportunities focused on reducing fossil fuel-based heat provision.

Next Steps – Action 4	
a.	Identify additional funding streams for decarbonisation support including a potential new PSDS application for the LMA.
b.	Continue with Citigen decarbonisation studies prior to review period in 2024.
c.	Undertake review of housing opportunity.

Action 5 Progress: Deep fabric retrofit pilot – operational asset

15. This project will be a proof of concept to inform our wider design and resilience standards. Scoping and delivery will be driven by the dedicated design resource within the Centre of Excellence. It will follow the completion of the Design and Technology Standards

Action 6 Progress: Additional energy specialist resources.

16. Following a review of the Centre of Excellence, we have recently appointed a new consultant to support with Housing decarbonisation, new resource is coming in October to support on heat decarbonisation. One role remains vacant within the Energy and Sustainability Team (Energy Engineering Project Manager) following unsuccessful recruitment campaigns.
17. The Centre of Excellence will also address the NZ3 and RS3 work streams plus the Investment portfolio (NZ4) approach.

Next Steps – Action 6	
a.	Appointment of remaining Energy Engineering Project Manager.
b.	Actions 1,2,3,4 & 5 are reliant on a fully resourced Centre of Excellence.

Action 7 Progress: Capital programme roll-out

18. The main capital programme roll-out will flow from opportunities identified in the energy surveys (action 1). The £9.5m PSDS project, Phase 1 & 2 of the Energy

Reduction Programme (completion 2022/23) and £4.5m Guildhall Cooling replacement project (completion expected summer 2023) will contribute to our carbon reductions. Project resource has also been procured to ensure Climate Action Strategy capital works can continue from July following the closure of the PSDS phase 1 grant.

19. Specific projects at three sites categorised as ‘quick-wins’ have been progressed to the Investment Grade Proposal stage. These are LED lighting projects for which there is immediate known benefit and value for money. Projects are focusing on City of London Freeman’s School, City of London School for Girls, and Central Criminal Court. The school projects are currently on hold, pending funding confirmation and a trial at Central Criminal Court is due in Q3.

Next Steps – Action 7	
a.	Extend interim project management resource for 2023/24 and onwards.
b.	Delivery of quick win projects at three sites.

NZ3 Capital Projects Design Standards and RS3 Resilient Buildings

20. Arcadis have been appointed to develop the technology and design standards which will be delivered in Q2 and Q3, respectively. Work continues on both the Design and Technology standards scoping has completed. We are now working through the design and functionality of the standards. Embedding these standards will begin in October 2022, planned completion is in March 2023.
21. The climate impact modelling began with a digital twin model of our buildings in June, focusing on flood and heat stress. Two workshops have been completed to inform further on the interventions required for key assets. This modelling will inform the resilience action plan which is planned for completion by Q3.

Project support activities

22. Arcadis have been appointed by the City Surveyor to provide, initial assurance support; ongoing assurance; establishing and promoting the Centre of Excellence and to lead the development of an auditable energy management system. The assurance support will finish as planned in November 2022.

Key risks

23. Key risks are included within item 3. of the appendix.

Corporate & Strategic Implications

Strategic implications:

24. This suite of actions drives the objectives of the Climate Action Strategy, buildings stream and will provide linkage and co-ordination with ongoing property management, capital schemes and cyclical works.

Financial implications:

25. The CAS tasks in this report are covered within the overall Climate Action Strategy programme. Capital and resource costs are estimated at £21m for the 6-year term for the tasks related to these project plans. This funding forms part of the £68m agreed at RASC and P&R committees in September 2020.

Climate implications:

26. This action stream will deliver the Net zero carbon goals of the Corporation and support the climate resilience goals of the broader programme.

Conclusion

27. The City Surveyor has commenced the mobilisation and has moved into the delivery stage of the building-related workstreams, three being relevant to this Sub Committee (NZ1, NZ3 & RS3). A flexible approach continues to be necessary to secure the right mix of skills and experience needed. This approach will support our need to move the programme forward and meeting key milestones.

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Appendix

1. List of key sites in an energy performance partnership with Vital Energi

1. Guildhall Complex	8. City of London School	14. London Metropolitan Archives
2. Barbican Arts Centre	9. City of London School for Girls	15. Tower Hill Car Park
3. London Central Market (Smithfield)	10. Walbrook Wharf Cleansing Depot	
4. Central Criminal Court	11. Tower Bridge	
5. New Spitalfields Market	12. Mansion House	
6. City of London Freeman's School	13. GSMD (inc. Milton Court and Sundial Court)	
7. Billingsgate Market		

2. Centre of Excellence roles.

Centre of Excellence roles	
Sustainable Investment Property Specialist – Arcadis (in place)	Heat Decarbonisation Engineering Support – Arcadis (in place)
Resilience and Sustainable Design – Arcadis (in place)	Energy Project Services (Housing) – Etude (in place)
Building Management Systems Operations – Schneider (in place)	Monitoring and Targeting – Team Energy Auditing (in place)

3. Key Risks

Risk	Mitigation
Delays in securing resource impacts project delivery.	Review of Centre of Excellence completed to address this issue. Use of flexible frameworks for Project Management resource.
Funding gap emerges following investment grade proposals.	Existing funding allocation to be complemented with grant funding applications. Investigate energy performance contracts option to minimise capital investment.
Carbon grid factors adversely affected.	Keep in review BEIS grid factors and their impact on reach the 2026/27 Targets.
Major projects/programmes: The proposed further review of operational properties as part of the MTFP and Net Zero Budgeting.	Major programmes and projects may impact the decisions on CAS interventions or reduce the payback period if a decision is made to dispose or refurbish a building. In all cases full consideration should be made within the decision making process.

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