

Committee(s)	Dated:
Operational Property and Projects Sub Committee	March 6 th 2023
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?	No
If so, how much?	
What is the source of Funding?	
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:

- 56 energy conservation measures have been approved at GW2. See Paragraph 4 for detail.
- £100k BEIS funded Citigen decarbonisation study secured. See paragraph 11.
- £28k Low Carbon Skills funding (BEIS) secured for Heat Decarbonisation plans at 3 sites. See paragraph 12.

Recommendation(s)

- Note progress made in delivery of project tasks including energy surveys, BEMS Strategy, and design and technology standards.
- Note the progress on the delivery of capital projects including PSDS phase 1.

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. CO_{2e} emissions are as follows:

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

Portfolio	Baseline 2018/19	YTD (Q3 2022/2023)	2026/27 Target
Housing	10.6 kt/CO _{2e}	3.68 kt/CO _{2e}	4.6 kt/CO _{2e}
Operational	22.2 kt/CO _{2e}	9.93 kt/CO _{2e}	10.8 kt/CO _{2e}

2. 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 Corporation to continue investment in carbon reduction projects. Item 7 within the appendix provides an overview of the carbon reduction expected from planned interventions.

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	6 - Additional energy specialist resources
7 - Capital programme roll-out	

Status Updates

Action 1 Progress: Building energy surveys – operational assets & Housing

Corporate

3. Vital Energi Ltd. have provided energy efficiency audits to the top fifteen buildings (appendix 1) in support of the Climate Action Strategy.
4. To date, all fifteen buildings have had a High-Level Assessment (HLA) issued. The HLA's have been reviewed and an initial tranche of interventions that have been approved by P&R and OPSS Committees in December 22 and January 23. These 56 measures have been prioritised according to their return on investment, potential to save carbon and deliverability within a 2-year period amount to a combined value of £6.6m (including risk) and provide an annual saving of 520 tonnes of CO_{2e} per annum.
5. The indicative project plan for these measures is highlighted in item 5 of the appendix.

Housing

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 Barbican residents as these proceed.
7. Housing surveys, being delivered by Silver EMS, are underway and expected to be completed by February. These will review landlord areas within our scope 1 & 2 operational emissions, focusing on options for solar PV, LED lighting upgrades, pump controls and ventilation efficiency improvements.

Next Steps – Action 1	
a.	Operational: Completion of decarbonisation delivery plan. Presentation of Gateway 3-5 papers for capital works.
b.	Housing: Completion of 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 for the Guildhall and LMA. Intention is to extend the platform to Mansion House and Central Criminal Court in the coming months, as set out in the CAS Capital Programme.
9. The building controls strategy was drafted in November and is being reviewed prior to implementation.

Next Steps – Action 2	
a.	GW3-5 papers for Building Analytics Software at Mansion House and CCC
b.	BEMS integration with Team Sigma.

Action 3 Progress: Enhance monitoring and targeting programme.

10. Benchmarking, target setting and analysis against variables is currently being set up within Team Sigma for individual sites. In Q4 we plan to have individual targets updated within Sigma, league tables set up for building categories and benchmarks in place to compare our building performance against National datasets.

Action 4 Progress: Decarbonisation of Heat

11. Citigen - Development of Citigen Decarbonisation strategy is in progress - we have commissioned a study (funded by a £100k grant from the Heat Network Development Unit (HNDU) to develop the Citigen post-2027 plan. We have commissioned a consultant to investigate measures which would improve performance for Barbican Arts Centre, GSMD and Guildhall. A package of work focusing on increasing resilience and reliability of Citigen is also being developed. An agreed position has been reached with the London Wall West developers to connect the new scheme to the Citigen network, allowing new air-source heat pump plant (installed on-site) to back-feed low-carbon heat to the network and provide additional decarbonisation. We have also applied to participate in the government's Advanced Heat Networks Delivery Programme, which aims to prepare local authorities for the forthcoming Heat Zoning regulations for supporting heat network development.
12. Operational estate – Decarbonisation studies on 6 of our sites are due to be completed in February, following surveys by consultants Silver EMS which were part funded (£28k) from the government's Low Carbon Skills Fund. We have commissioned Beveridge Associates to provide detailed decarbonisation plans for a further 6 sites covering IPG and CPG, to be completed by June 2023.

13. Housing – Decarbonisation studies on our 5 communally heated housing estates are being finalised for March 2023. All estates have been surveyed to identify the technically viable options.

Next Steps – Action 4	
a.	Deliver HNDU study by June 2023, work with Citigen to develop the preferred strategy for decarbonisation of the network
b.	Complete Citigen connected sites performance improvement study by June 2023 and engage Citigen on the findings
c.	Complete the heat decarbonisation studies (Silver EMS and Beveridge commissions) for operational sites by June 2023.
d.	Complete the housing decarbonisation studies by March 2023 and develop a delivery plan.

Action 5 Progress: Deep fabric retrofit pilot – operational asset

14. 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

15. We have added support in place with Etude Consulting Ltd. Overseeing tasks relating to Housing. Additional levels of support have been agreed to progress Heat Decarbonisation over Q3 from Arcadis.
16. We have successfully recruited to two posts during the last period with one project manager post remaining vacant.
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 and gateway paper presented in December (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. Details of associated energy and cost savings are included within item 6 of the appendix.

Next Steps – Action 7	
a.	Extend interim project management resource for 2023/24 and onwards.
b.	Completion of GW3-5 papers from March 23 onwards for capital works.

NZ3 Capital Projects Design Standards and RS3 Resilient Buildings

19. Work continues on both the Design and Technology standards with an initial draft provided in December. We are now working through the design and functionality of the standards. Embedding these standards will begin in Q1 2023.
20. Whole Life Carbon (WLC) member briefing session has been scheduled for mid-March 2023, the session will provide an update on CoLC's approach to developments in the Square Mile and on our own developments and major refurbishments
21. Climate impact modelling began with a digital twin model of our buildings in June 2022, focusing on flood and heat stress. The climate impact modelling outputs and intervention measures have been incorporated into a GIS platform where the information will inform the resilience action plan which is planned for completion by Q2 2023.

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 4. of the appendix. This now includes the current operational property review impacting the level of opportunity to reduce carbon across this group of buildings.

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 residence 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.

Report author

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