

<b>Committee(s)</b>	<b>Dated:</b>
Operational Property and Projects Sub Committee	May 30th 2022
<b>Subject:</b> CAS NZ1, NZ3 and RS3 Workstream update for the Operational Portfolio	<b>Public</b>
<b>Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?</b>	<b>5,11 &amp; 12</b>
<b>Does this proposal require extra revenue and/or capital spending?</b>	<b>Yes</b>
<b>If so, how much?</b>	<b>£10,527,715 mix of revenue and capital</b>
<b>What is the source of Funding?</b>	<b>CAS Budget</b>
<b>Has this Funding Source been agreed with the Chamberlain's Department?</b>	<b>Yes</b>
<b>Report of: The City Surveyor</b>	<b>For Information</b>
<b>Report author: Graeme Low</b>	

### 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 fifteen buildings have received initial surveys, with twelve draft reports received.
- Successful £800k Social Housing Decarbonisation Fund bid for William Blake and Southwark Estates.
- Scoping study for whole life cycle carbon assessment complete and the first five assessments will begin in May.
- Appointment of Arcadis to provide assurance and support to City Surveyors led CAS Projects (NZ1, RS3, NZ3 & NZ4).
- One Energy Project Manager post has been filled with one remaining vacancy currently in recruitment.

### Recommendation(s)

- Note the progress made on actions within the report.
- Note the Centre of Excellence resource to support the delivery of Climate Action Strategy tasks.

### Main Report

#### Background

1. The Climate Action Strategy (CAS) measured our direct building emissions in 18/19 as 36.4 ktCO<sub>2</sub>e, by 2026/7 this must reduce to 15.3 ktCO<sub>2</sub>e to reach our net zero target for our corporate properties and Housing portfolio.  
CO<sub>2</sub>e emissions for Housing and Corporate properties are as follows:

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

Portfolio	Baseline 18/19	12 months to Dec 21	2026/27 Target
Housing	10.6 kt/CO2e	8.0 kt/CO2e	4.5 kt/CO2e
Operational Properties	22.2 kt/CO2e	16.1 kt/CO2e	10.8 kt/CO2e

2. To support this goal, the CAS buildings approach was presented at the April Sub Committee with a series of discrete actions which conjoin to deliver the CAS strategy NZ1, NZ3 and RS3 for the Corporate buildings' portfolio – including housing. These actions are summarised in the table 2 below.

**Table 2: NZ1 - Corporate Property and Housing Landlord Areas Actions**

1 - Commission building energy surveys – Operational assets & 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

### Operational

3. Vital Energi are currently undergoing a circa £6m construction project at Guildhall, Barbican, Guildhall School of Music and Drama and London Metropolitan Archives as part of the Public Sector Decarbonisation Scheme (PSDS) project. They are also undertaking additional audits to the top fifteen sites (appendix 1) in support of the Climate Action Strategy. Activities involve high-level assessments of each site, to provide a list of projects that can be immediately undertaken and a list of projects that rely on other existing CoL projects finishing.
4. To date Vital Energi have drafts completed for twelve out of fifteen high level assessment surveys. GSMD, The Barbican and Guildhall all await draft reports due in May. Following this, project packages will be taken forward to 'Investment Grade Proposals' (IGP), contract preparation and construction. All recommendations will be aligned with strategic decisions.
5. As projects already identified move into construction, other projects including those with dependencies will be further developed on a rolling basis. Other sites in the Operational portfolio outside of the top fifteen will also be surveyed for further projects.

## Housing

6. The Housing Action Plan has been drafted and presented to Committees for approval in September 2021, this will be returning to the CCS Committee for approval Following the conclusion of the site surveys later in 2022/23.
7. We have identified several potential pilot locations (Cullum Welch House, City of London Alms Houses, Tevatree House, George Elliston and Eric Wilkins House) to trial energy efficiency measures including Insulation; renewable heat; air tightness and ventilation.
8. Survey work has been conducted at the Barbican Residential Estate to evaluate the benefit of improving insulation to soffits, barrel vaulted roofs and internal insulation in general to properties, improvements to heating controls.
9. The Social Housing Decarbonisation Fund (SHDF) bid for William Blake Estate and Sumner Building (Southwark Estate) was successful. The value of this project is £1.6m, with 50% (£800k) grant funding with the remainder funded through the HRA capital works programme (window and door replacements). The proposal provided the best fit with the grant funding criteria. The work is planned to be complete by March 2023

Next Steps – Action 1	
a.	<b>Operational:</b> Completion of energy surveys and development of project delivery plan for Operational properties.
b.	<b>Housing:</b> Commission building surveys and feasibility studies for pilot projects.

**Action 2 Progress:** Develop building controls management strategy.

10. Work to develop the Building Management System (BMS) Strategy is ongoing and due complete in September 2022. Additional related tasks also include:
  - The Building Advisor (Smart Buildings) platform due to “go live” 1<sup>st</sup> June 2022 for the Guildhall and LMA
  - BMS Upgrade Stage 1 – Guildhall ventilation is in Construction.
  - BMS Upgrade Stage 2 – Walbrook Wharf and LMA is at GW5 awaiting approval.
  - BMS Upgrade Stage 3 – Remaining Guildhall systems is at GW2.
  - BMS Upgrade Phase 2 – GW2 paper will be presented to OPPSC on 26<sup>th</sup> May.
  - Guildhall Internet of Things (IoT) sensors – proof of Concept launched April 2022.

Next Steps – Action two	
	Completion to building controls management strategy – Sept 22
	Complete deployment Building Advisor platform and start appraisal benefits.
	Progress BEMS Phase 1 and 2 projects through Gateway process to completion

**Action 3 Progress:** Enhance monitoring and targeting programme.

11. The TEAM Sigma software has been rolled out, following the successful completion of initial user training. TEAM are now setting benchmarking and targets for individual sites. This will continue to develop throughout the year and include exception reporting to alert building managers to performance issues as they occur.
12. . Installation of new metering will enhance data collection and improve measurement and verification.

Next Steps – Action 3	
	Complete benchmarks and develop league tables for properties.
	Complete analysis of energy usage and correlate to variables such as weather.
	Develop exception reporting at site and sub-site level (depending on data).

**Action 4 Progress:** Decarbonisation of Heat

13. Citigen - 4MW of heat pumps are now installed and Eon are moving into a long-term period of seasonal commissioning – Eon estimate 25% carbon reduction following the commissioning process.
14. Operational estate – Capital works assessment being undertaken by PSDS partners to remove/ reduce fossil fuel derived heat provision.. Further discreet feasibility studies will shortly be developed.
15. Housing – Additional consultancy work will be commissioned 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.
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 – Corporate asset

16. 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.

**Action 6 Progress:** Additional energy specialist resources.

17. A review of the Centre of Excellence (CoE) structure and roles has been completed. We have recruited one of two Energy Project Managers to support the delivery of NZ1 interventions, the second role is still a live vacancy. The Centre of Excellence is now embedded with support from Arcadis across three key areas. Support for Housing and Building Management Expertise is likely to be resourced via alternative providers in the coming weeks.

18. We anticipate the CoE will be fully resourced from June with the following:

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) - TBC
Building Management Systems Operations – Schneider or Arcadis	Monitoring and Targeting – Team Energy Auditing (in place)

19. This resource will also address the NZ3 and RS3 work streams plus the Investment portfolio (NZ4) approach.

Next Steps – Action 6	
a.	Appointment of remaining Energy Project Manager and remaining resource requirement for BMS and Housing 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**

20. The main capital programme roll-out will flow from opportunities identified in the energy surveys. It should be noted that existing carbon saving projects are also currently in progress with the £9.5m PSDS project (completing in August 2022), Phase 1 & 2 of the Energy Reduction Programme (completion 22/23) and £4.5m Guildhall Cooling replacement project (completion expected summer 23).

Next Steps – Action 7	
a.	Project resource requirement to be addressed as per the CAS project plans and embedded within the CSD Surveying and Engineering Projects team.

### **NZ3 Capital Projects Design Standards and RS3 Resilient Buildings**

21. The Energy and Sustainability Team are working closely with the Capital Projects team and consulting with DBE to identify synergies and opportunity for shared working. Arcadis have been appointed to develop technology and design standards which will be delivered in Q2 and Q3, respectively. Embedding these standards will begin in October, completing in March 2023. Climate Impact modelling will also begin in May and will provide a digital twin of our buildings, highlighting the impact of resilience risks such as overheating, drought and flooding. 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 project support across each individual project (NZ1, RS3 & NZ3). Aligned to this brief, support will be in place to cover 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 be extended through to November 2022.

## Key Risks

Risk	Mitigation
Delays in securing resource Impacts project delivery.	Review of Centre of Excellence completed to address this issue.
Funding gap emerges following investment grade proposals.	Existing funding 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.

## Corporate & Strategic Implications

### Strategic implications:

23. 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:

24. 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:

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

## Conclusion

26. The City Surveyor has commenced the mobilisation and is moving into the delivery stage of the four workstreams, three being relevant to this Sub Committee. We have encountered constraints around the supply of resource which has led to a review of the Centre of Excellence, 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

### Graeme Low

Acting Head of Energy and Sustainability  
City Surveyor's Department

E: [graeme.low@cityoflondon.gov.uk](mailto:graeme.low@cityoflondon.gov.uk)