Committee(s)	Dated:
Communities and Children's Services Committee – For Decision	4th July 2024
Subject: Housing Net Zero Delivery Plan	
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	**5,10,11,12**
Does this proposal require extra revenue and/or capital spending?	**N/A**
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: City Surveyor	**For Decision**
Report author: Emma Bushell	

Summary

The purpose of this report is to set out the key points and recommendations from the City of London Corporation's Housing Net Zero Delivery Plan and to seek decisions on the recommendations. The Delivery Plan has been developed in response to the position of the DCCS Housing Portfolio within the City of London Corporation's Climate Action Strategy.

Recommendation(s)

The Communities and Children's Services Committee is asked to:

- Note the report and its contents.
- Note that future projects to be taken forward will be received separately for approval via the Gateway process.
- Agree the recommended approach to integrating consideration of the Retrofit Archetypes and measures into the forthcoming Housing Asset Management Strategy.
- Agree the recommended pilot energy void programme and negate the two-week void KPI.
- Agree the recommended priorities in paragraph 10.
- Agree the recommended approach of joining the London Councils' Strategic Partnership to access SHDF funding.

Main Report

Background

1. The UK has set in law a target to bring all its greenhouse gas emissions to net zero by 2050. To help achieve this target, the government's ambition is to improve the energy efficiency of homes, and move to cleaner ways of heating homes, to halve the energy use of new buildings by the end of this decade.
2. In January 2020, the City Corporation set out on a fast-paced, cross-Corporation journey to develop an ambitious Climate Action Strategy (CAS). The resulting Climate Action Strategy was adopted at Court of Common Council on the 8th of October 2020.
3. The CAS marked the start of a new and transformative programme of action. It set out three interlinked primary objectives for the City Corporation and the Square Mile:
    - to support the achievement of net-zero emissions,
    - to build resilience, and
    - to champion sustainable growth.
4. The Climate Action Strategy also set out 4 targets for the City Corporation and Square Mile:
    - Net zero by 2027 in the City Corporation's operations
    - Net zero by 2040 across the City Corporation's full value chain
    - Net zero by 2040 in the Square Mile
    - Climate resilience in our buildings, public spaces, and infrastructure

5. To achieve these goals, the City Corporation has committed to a major investment of £68 million.
6. The Housing Action Plan (HAP) was developed with support from our consultants, Etude, who have been central to London Councils work, focusing on delivering low carbon retrofit work in support of Climate Action. The HAP set out a strategy for retrofit with suggested priorities and was presented to CCS in September 2021. This demonstrated how our housing stock can meet the Net Zero targets for 2027 (housing landlord supplies) and the 2040 (residents' own emissions from heating and power).
7. To simplify retrofit and enable integration into a wider Asset Management Strategy the HAP developed Retrofit Archetypes. Retrofit Archetypes segment properties based on what measures are required to meet net zero rather than the more traditional period-based archetype.
8. The HAP identified six retrofit archetypes across the City Corporation housing stock. London Councils are promoting the use of retrofit archetypes as a preferred approach for delivering retrofit in social housing across London. City Corporation are the first local authority to develop retrofit archetypes for our stock. The next step is to integrate these into the development of the Asset Management Strategy.
9. In 2023 Elevate Everywhere and Beveridge Associates were appointed to undertake surveys of City Corporation housing stock landlord communal services such as lighting, lifts, heating, and opportunities for renewable energy generation through Photovoltaic (PV) panels.
10. The Net Zero Carbon Housing Delivery Plan (HDP) builds on the strategic HAP and sets out a programme of work and identifies the immediate priorities:
    - Landlord services – LED lighting and PV,
    - Expansion of capital projects – William Blake, Avondale and Golden Lane Estates,
    - Information gathering – getting real data from each archetype to generate BIM models,
    - Upgraded void programme – pilot projects to develop void standard, particularly in archetypes requiring internal wall insulation.

    These priorities are vital to put our housing stock on the pathway to meet the Net Zero targets for 2027 (housing landlord supplies) and work towards achieving the 2040 (residents' own emissions from heating and power).

Considerations

Progress since Housing Action Plan.

11. When the HAP was in development projects such as communal heating replacement works were identified that did not meet the necessary specification to contribute towards the Net Zero targets. Unfortunately, these projects were too far progressed to accommodate the uplifts or wholesale changes necessary.
12. These missed opportunities demonstrate the pressing need to prioritise and adopt a retrofit strategy. The forthcoming development of a new Asset Management Strategy presents an important opportunity for alignment (see paragraph 42). In the meantime, the HDP identifies opportunities for the enhancement of the current Major Works programme (see paragraphs 19 & 20).
13. On the positive side energy efficiency improvements to communal services such as lighting have seen a significant reduction in energy use and carbon emissions. Most of the communal lighting have already transitioned to LED, providing efficiency gains and CO_2 savings.
14. Whilst the new communal heating systems at Middlesex and York Way Estates have not decarbonised the heat source, they will deliver significant reductions in energy use and carbon emissions through improved efficiencies and flat level heat metering. These are effectively the first steps on the pathway towards full heat decarbonisation.

Projects Identified through the Housing surveys.

15. A gateway 2 paper was submitted to the March Building Chief Officers Group (BCOG) setting out the LED lighting projects identified by recent surveys. These cover the following estates and blocks: Almshouses, Avondale, Dron House, Golden Lane, Horace Jones, Holloway, Isleden House, Middlesex, Southwark, Sydenham, William Blake, Windsor, York Way.
16. A gateway 2 paper is currently being drafted for LED lighting project at the Barbican Estate.

17. The table overleaf sets out the indicative costs and the predicted energy and carbon savings for both the HRA estate and the Barbican.

	Project Capital Cost	Project Design Cost	Heritage & Planning Costs	Project PM Cost	Total Cost	Energy saved (kWh/year)	Cost saving/year	CO_2tn saved/year	Payback Years
HRA	£ 325,750	£ 68,275	£ 10,000	£ 40,719	£ 444,744	245100	£ 68,138	33.5	6.5
Barbican	£ 260,000	£ 50,000	£ 5,000	£ 32,500	£ 347,500	410000	£ 113,980	56.0	3.0

18. This will provide a 2% reduction on the current annual DCCS weather corrected scopes 1&2 emissions.

Enhancement of Major Works Programme.

19. Our consultants Etude ran several workshops and small group meetings with the Major Works Team to identify opportunities where planned major works could be enhanced to align with delivery of the Net Zero targets.
20. Following this engagement immediate opportunities were identified at the following three estates: William Blake, Golden Lane, and Avondale with further opportunities at Isleden House and York Way. The Energy Team are working with Housing Major Works colleagues to realise these opportunities where possible.

Information Gathering.

21. Whilst the Retrofit Archetypes are a vital development that can underpin a retrofit strategy, to fully exploit their potential more data points are needed. In addition, government funding bids require vast amounts of fabric, energy, and cost data.
22. A novel approach is to combine a PAS 2035 Retrofit Assessment (also a pre-requisite of government funding) with an internal LIDAR scan to develop a BIM model that can be used to create a standardised procurement data set.
23. This combination of a top-down strategy using Retrofit Archetypes with a granular bottom-up data driven approach will enable retrofit measures to be synchronised with the forthcoming Asset Management Strategy, streamlining costs through saving on access equipment and prelims, whilst reducing asset write downs by aligning retrofit measures with the asset lifecycles.
24. This project and funding required are included within the CAS CPG Year 4 project plan.

Void pilots.

25. Three of the identified Retrofit Archetypes have internal wall insulation as a fabric measure because they are deemed unsuitable for external wall insulation either for reasons of heritage conservation or due to technical complexities such as deck access walkways.
26. The installation of internal wall insulation requires a full decant of the property and temporary rehousing of the residents. Therefore, this measure is typically carried out when a property is void to reduce decant costs and resident disruption.
27. In addition, there are other invasive measures such as the installation of Mechanical Ventilation with Heat Recovery (MVHR) and investigations such as an air tightness blow test that would be better undertaken during the void period.
28. There is no current void standard and the HDP proposes using void properties to undertake pilots to inform the development of a void standard informed by Retrofit Archetypes, BIM model data and pilot projects.
29. Aside from the costs to do the works there are implications for any monitored and reported void turnaround KPIs and associated loss of rental income during the potentially longer void period.
30. An Energy Void Programme pilot and funding required for works are included within the CAS CPG Year 4 project plan.

Heat Network Efficiency Scheme (HNES).

31. The Heat User Interfaces (HIUs) in the communal heating system at Isleden House are end of serviceable life and have been identified in the Major Works programme as requiring replacement. In addition, the gas fired boilers, whilst still operable, are approaching end of serviceable life, although they have not yet been earmarked for replacement.
32. The Housing Action Plan highlighted that to comfortably achieve the 2027 Net Zero target would require a removal of gas fired boilers from all communal heating systems.

33. The high-level appraisals for decarbonising the communal heating systems undertaken by Beveridge Associates identified several technical solutions for electric heat at Isleden House.
34. Whilst switching fuel source from gas to electricity is technically feasible there is a significant risk this would increase residents' bills as electricity is 4-5 times more expensive than gas. Whilst the efficiency of heat pumps reduces this risk it does not completely remove it.
35. The pathway to heat decarbonisation should first improve the efficiency of the existing system through improved controls, replacement of HIUs where necessary, increased insulation on the distribution network, improved hydraulic strategy, replacement of pumps and reduction in flow and return temperatures.
36. Following these improvements, modelling can identify what fabric measures are required to enable transition to a low carbon heat source at either nil or positive cost to the residents.
37. HNES is a government fund that will cover 49% of costs for efficiency improvement works on the distribution system, it does not cover replacement of the heat source. The funded works need to be completed within the financial year that the funding is received.
38. In November 2023 City Corporation submitted a successful bid for HNES funding to cover a range of works seeking to improve the efficiency of the current network and install dwelling level monitoring to enable a data driven approach to inform a decarbonisation plan that can be implemented instead of replacing the existing gas boilers.
39. The project was valued at circa £950k with 49% covered by HNES funding. A detailed design is underway and will complete in July 2024.
40. Delivery assurance is the key criteria for funding and as such the City Corporation Minor Works framework contractor, Sykes, have been approached to deliver these works should the bid be successful.
41. The Grant Award Agreement was signed by the Chamberlain as the City Corporation's s151 officer in April 2024.

Next Steps.

Asset Management Strategy.

42. Housing are currently developing of a new 30 year Asset Management Strategy. This is a critical opportunity to integrate retrofit measures for the reasons set out earlier in paragraph 23.
43. The Retrofit Archetypes and forthcoming BIM model and standardised procurement data set will simplify this process.

Funding Opportunities.

44. Wave 3 of Social Housing Decarbonisation Fund (SHDF) will open for bids in autumn 2024. London Councils are intending to form a Strategic Partnership and are seeking expressions of interest from social housing providers. Joining the partnership bid will enable City Corporation to access SHDF funding for a smaller number of homes than the lower limit of 100 properties for eligible single bids. There will also be a reduced requirement for granular data at the point of submission.
45. Wave 3 SHDF has an upper limit for each bid of 10% EPC C or above of properties. Because the majority of City Corporation housing stock are mid to high rise blocks with the mid floor properties achieving EPC C it the level of achievable funding per property will be lower.
46. Using the data derived from the information gathering project set out in paragraphs 22-24, the Energy Team will collaborate with Housing colleagues to identify suitable properties for SHDF, taking a pepper pot approach rather than a whole block approach to maximise funding per property.

Corporate and Strategic Implications

Strategic implications

47. Our energy performance helps to shape outstanding environments for our residents through the reduction of CO_2 emissions and our commitment to procuring clean renewable energy. In this way our energy performance helps shape the outcome "Leading Sustainable Environment".

Financial implications

48. Works to the housing stock are generally funded from The Housing Revenue Account, which is made up from rental and service charge incomes. There is already considerable strain on the

HRA finances and this needs to be borne in mind when planning energy efficiency works. Chamberlains' advice will be sought on what funding from the HRA and other central City sources is to be sought.

49. The CAS has earmarked £6m for housing to help achieve the scope one and two objectives. This delivery plan sets out where to use CAS funding to maximise grant opportunities and increase the specification of elements of the capital works programme such as roof insulation where viable benefits are possible.
50. The City Corporation will actively pursue any external funding for the works including the SHDF, HNES and the Energy Company Obligation (ECO). We will work with other local authorities to achieve improvements across more properties at lower costs.

Equalities implications

51. An Equalities Impact Assessment is currently being undertaken.

Conclusion

52. The earlier HAP recommended a strategy for retrofit through the pioneering development of Retrofit Archetypes. This approach is now being promoted pan London by London Councils. The City Corporation has an opportunity to continue to lead the sector in this area by taking the next step and integrating the Retrofit Archetypes into the forthcoming Asset Management Strategy. This approach will simplify retrofit and ensure synergy with wider investment.
53. An Energy Void Programme pilot with works allocated funding in CAS CPG Year 4 plans is proposed. This would necessitate removal of treated properties from the void turnaround KPI.
54. The HDP follows on from the high level, strategic HAP and sets out a programme of work and key priorities to put our housing stock on the pathway to achieving the Net Zero 2027 and 2040 targets as set out in the Climate Action Strategy.
55. Gateway 2 papers for HRA lighting improvements and for Energy Efficiency Improvements to the Communal Heating System at Isleden House have been approved at March BCOG. Another two are in development: PV Panels on the HRA Estates and LED Lighting Upgrades at the Barbican Estate.

Appendices

Appendix 1 – Housing Action Plan
Appendix 2 – Housing Delivery Plan

Background Papers

Housing Net Zero Carbon Action Plan - DCCS Committee – 24th September 2022.

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