Committee(s): Markets Board	**Dated:** 03/10/2024
Subject: Markets Climate Action Strategy update	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	**Leading Sustainable Environment**
Does this proposal require extra revenue and/or capital spending?	**N**
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: Paul Wilkinson	**For Information**
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Summary

This paper is to update the Markets Board on
- Energy costs and past reductions
- Prioritised investments to support further energy / CO2 reductions
- CoL 2040 net zero targets including Scope 3 emissions

Recommendation(s)

Members are asked to:
- Note the Energy Team contribution to reducing Smithfield energy consumption
- Note prioritised future investments which support reduction of emissions
- Note markets approach to reporting and reducing Scope 3 emissions

Main Report

Background

1. CoL has set Net Zero targets for two types of greenhouse gas emissions:
    a. Operations Emissions, also referred to as Scope 1 & 2 are emissions from operations under the control of CoL. In 2018/19 CoL generated 36 ktCO2e of gross Operations Emissions.
    b. Value Chain Emissions, also referred to as Scope 3 emissions, include the Operations emissions of tenants and a range of other emissions not under our direct control. In 2018/19 CoL generated 484 ktCO2e of gross Value Chain Emissions.
2. CoL has a target to reach Net Zero on its Operations Emissions (Scope 1 and 2) by 2027, which will be achieved by reducing gross emissions by 55% compared to the 2018/19 baseline and including carbon sequestration from parks etc. CoL

also has a long-term target to achieve net zero across the Value Chain (Scope 1, 2 and 3) by 2040.

3. Previous papers brought to Markets Board have shown the good progress made in reducing Markets Scope 1 and 2 emissions, and rebates due to the Power Purchase Agreement (PPA).
4. This paper provides:
    a. An update on energy costs and past reductions, responding to questions raised in the July Board
    b. Information about prioritised investments and initiatives to further reduce Markets emissions
    c. Information about our approach to recording and reducing Scope 3 emissions in line with the 2040 target

Energy costs and past reductions

5. Following the paper presented to the July Board the energy team were challenged to provide further clarity about:
    a. The net electricity unit cost (taking into account PPA credits) paid by the markets, and how this compares to current market prices
    b. How much of the Smithfield energy reduction can be attributed to our actions and improvements rather than reduced usage as a natural consequence of closing poultry

<u>a. Electricity unit costs</u>

6. In the paper presented to the Markets Board in July 2024, the cost of energy was quoted as £0.27 per kWh. This rate was the average cost of all three markets, including the standing charges, CCL and DUoS costs.
7. The overall average day rate kWh excluding standing charges, CCL and DUoS costs is £0.260 before applying the PPA credits, and £0.214 including the PPA credits, The equivalent night rate is £0.241 before applying the PPA credits, and £0.195 including the PPA credits.
8. 69% of the Markets usage is day-time usage which gives a combined average unit rate of £0.254 before applying the PPA credits and £0.207 including the PPA credits.
9. The current UK non-domestic average day rate is £0.247/kWH with a £0.227/kWh night rate. Based on the Markets consumption, this equates to a combined average rate of £0.241/kWh, which is 16% higher than our current rate after including PPA credits. While it is slightly lower than our current tariffs, our current tariffs are based on energy prices before October 2023, whereas the current non-domestic UK average is based on 2024 prices. The Markets will get new energy prices from October 2024, and we are expecting them to reduce.
10. While it would not be possible for Markets to get a domestic tariff, the energy team have also compared our rates to the lowest night rate domestic tariff they could find. The domestic tariff had a day rate of £0.313/kWh and a night rate of £0.067/kWh giving a weighted average for Markets consumption of £0.235/kWh.
11. The table below compares the annual electricity cost of Markets based on the above price levels for day-time usage, night-time usage and combined. This demonstrates that the price paid by Markets after the PPA rebate is ca. £500k or 15% cheaper than the non-domestic average.

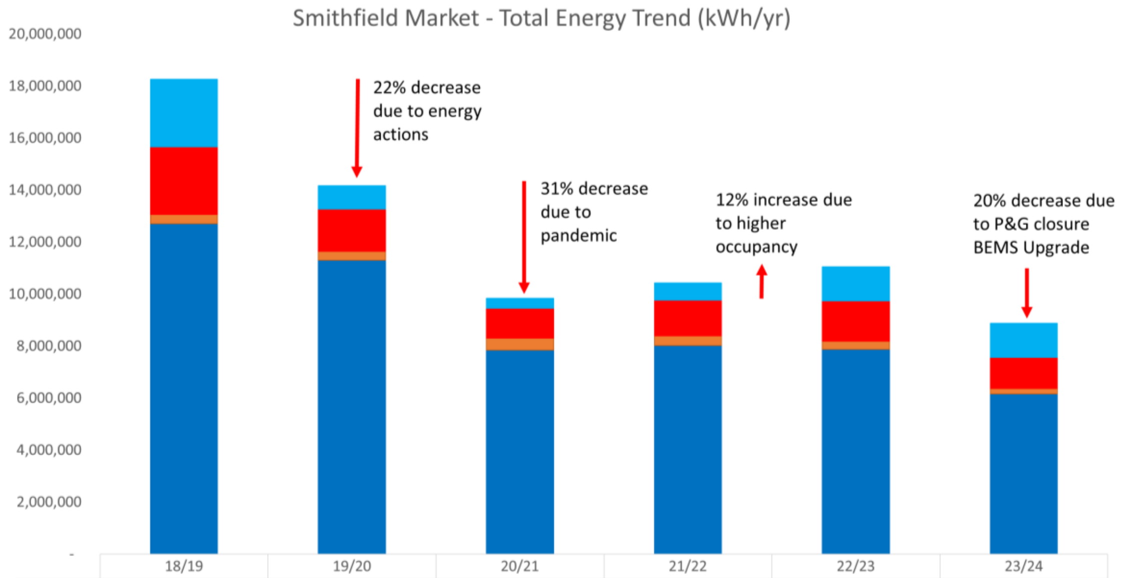
Figure 1. Markets electricity costs for October 23 – September 24 based on alternative tariffs.

	23/24 Estimated Total Day Spend	23/24 Estimated Night Day Spend	23/24 Total
Current Tariff	£2,507,491.0	£1,105,713.8	£3,613,204.9
Current Tariff (inc PPA)	£2,058,824.5	£896,988.7	£2,955,813.2
Non-Domestic Average Tariff UK 2024	£2,417,924.1	£1,046,652.1	£3,464,576.3
Low Night Rate Domestic Tariff (Utility Warehouse)	£3,056,453.1	£308,565.0	£3,365,018.2

b.- Smithfield energy reduction

12. The July energy paper highlighted a 51% reduction in energy consumption at Smithfield since 2018/19, and the team was asked how much of this reduction is due to energy team actions as opposed to reduced occupancy.
13. Figure 2 shows the annual changes and their main contributors.
14. In 2018 the energy team prioritised actions to minimise energy waste at Smithfield market due to its significant landlord consumption resulting in 65% reduction in cooling, 38% reduction in heating, and 11% reduction in electricity. Overall there was a 22% reduction in total site energy consumption (and a 28% reduction in landlord energy) in advance of any demand reductions as a result of the COVID pandemic or Poultry Market exit.
15. The 31% reduction from 2019/20 to 2020/21 is believed to be largely attributable to the decrease in use and footfall as a result of the COVID pandemic.
16. From 2020/21 to 2022/23, there is a 12% increase in usage as market activity recovered following the COVID pandemic. Total energy usage only returned to 78% of the pre-COVID levels, but it is not possible to confirm how much of this improved efficiency is due to on-going reduced market activity as opposed to energy team activities.
17. From 2022/23 to 2023/24 there is a 20% reduction in usage. This can be largely attributed to the poultry market exit but also coincides with a BEMS (Building Energy Management System) upgrade which will likely have contributed to some of the reductions.

Figure 2. Annual changes in Smithfield energy consumption.



	18/19	19/20	20/21	21/22	22/23	23/24
Coolth	2,601,220	902,580	395,584	674,980	1,315,840	1,324,890
Heat	2,591,914	1,618,130	1,139,014	1,372,747	1,557,954	1,189,815
Gas	359,040	338,961	467,375	365,729	306,181	216,006
Electricity	12,700,420	11,301,928	7,836,112	8,017,581	7,868,227	6,149,356

Prioritised investments and initiatives

18. We have identified the following priority further energy savings, all of which relate to Smithfield market and which could provide a further 4% reduction to the total carbon emissions for the landlord scope for all markets combined:
    a. Energy Management: The City Surveyor's Energy Team are working in collaboration with colleagues and Smithfield Market to identify further opportunities to reduce energy waste through control and maintenance improvements. We have prioritised improvements to the cooling consumption which we estimate will provide annual savings of 465,711 kWh, £35,357 and 56 tCO2e.
    b. Cyclical Works Programme (CWP), managed by the City Surveyor's Minor Projects Team (MPT), are due to deliver a number of improvements at Smithfield over the next 1-3 years. This includes further LED lighting, pump and ventilation upgrades, which we anticipate will provide annual savings of c.180,000 kWh, c.£50,000, and 33 tCO2e. Further to this the East Market is due for controls upgrade which will then enable further savings through good energy management.

Scope 3 emissions and 2040 net zero target

19. The high-level CoL plan to achieve net zero including Scope 3 emissions assumes differing reduction levels across the different categories of assets owned by CoL. For example, a 100% reduction target has been set for investment assets, and a 70% reduction target for leased assets, against a 2018/19 baseline.
20. Markets are part of the leased assets category, and any emissions under the control of tenants in these premises count as Scope 3 emissions for CoL. A headline target reduction of 70% has been set for this category, but detail planning has not yet been completed to give a more granular breakdown of targets by site or type.
21. Our baseline estimate of Scope 3 building emissions for Markets in 2018/19 is 4,887 tCO2e. Since that date, a reduction of 45% has already been achieved

through 26% energy reduction overlaid on decarbonisation of the grid. Metering on the sites, gives visibility of total energy consumption of tenants, and we are able to report and track these reductions.

22. The emissions of vehicles operated by tenants also count as part of our Scope 3 emissions. However, we have very limited data on the actual number and type of vehicles operated by tenants and miles driven, so cannot report and track this accurately. The intention is to collect high-level information from tenants annually to track emissions and see the level of improvements being made. However discussions with the Smithfield and Billingsgate tenants associations have indicated a reluctance to support this data gathering process while there are on-going discussions about the Markets Collocation Programme (MCP) options. We hope to complete a baseline in March 2025, and develop a Scope 3 reduction plan by July 2025.
23. It should be noted that as well as reducing energy consumption and vehicle CO_2 emissions, it is important to also avoid other greenhouse gas emissions. In particular, HFC refrigerant leakage can have thousands of times more impact per kg than pure CO_2 emissions. Vigilance in maintenance on cooling units to prevent leaks is important to avoid detrimental impacts.

Conclusion

24. The electricity prices paid by Markets after PPA are lower than other non-domestic prices available on the market.
25. Significant energy reductions at Smithfield have been delivered by the energy team over and above the impact of COVID and Poultry Market closure.
26. We plan to start collecting information about tenant vehicle emissions in 2025 to support tracking progress against the CoL 2040 net zero target.

Appendices

- N/A

Background Papers

- 9/11/22 – Markets Board Energy Update
- 20/9/23 – Markets Board Energy Update
- 8/11/23 – Markets Board Energy Update
- 13/3/24 - Markets Board Climate Action update March 2024 vfinal
- 22/7/24 – Markets Board Energy Update

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