

Board(s)	Dated:
Markets Board	9 th November 2022
Subject: Energy Update	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?	£ 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: The City Surveyor	For Information
Report author: Graeme Low	

Summary

This report presents an update to the Markets Board on Energy and Carbon related issues. We have seen a sustained reduction in energy and carbon emissions since 2018/19 across all sites. The rate of this reduction has slowed as Markets recover from the pandemic. Carbon dioxide equivalent (CO₂e) reductions from operational activity have also reduced significantly since 2018/19 due to demand reduction and the effects of grid decarbonisation.

The impacts of the conflict in Ukraine and an increase in demand has seen delivered energy prices increase significantly by between 120% and 200% for electricity and gas, respectively. Our procurement strategy has been designed to provide a market reflective price and overseen by our energy brokers, LASER.

The Power Purchase Agreement (PPA) has been delayed due to dependent works on the local grid infrastructure. It is expected to be providing generation from mid-December 2022, with an estimated 15% cost benefit in 2022/23 compared to grid supplied costs.

Recommendation(s)

- Note the reduction in energy consumption across all three markets
- Note the reduction in operational CO₂e emissions from Markets
- Note the survey work and energy conservation measure carried out by the Energy Team.
- Note the expected increases in energy costs due to the surge in demand, post pandemic and the conflict in Ukraine.

Main Report

Background

1. The City of London Corporation entered into a new four-year electricity and gas contracts via LASER Energy Procurement Frameworks in October 2021. It was agreed at Project Sub Committee and Finance Committee in October 2020 to adopt a Purchase in Advance (PIA) procurement strategy, allowing for flexible trading of the required energy volume in the months ahead of the contract start date and subsequent contract anniversaries. This approach was similar to the preceding contract with Mitie Energy.

2. The use of the LASER framework enabled our existing energy supplier, Total Energies (TE, formerly Total Gas and Power) to be retained using this OJEU compliant framework. This enabled TE to act as a Sleeving supplier, as necessary to support the introduction of a Power Purchase Agreement (PPA). The Corporation Subsequently agreed terms on a 49.9 MW Solar farm (PPA) in January 2021. Our PPA will provide over 60% over the electricity needs of the Corporation from a Solar Farm near Blandford Forum in Dorset.
3. The Solar Farm is currently in construction and has a connection date of 12th December 2022. All corporate properties, including Smithfield, Billingsgate and New Spitalfields Markets will receive a percentage electricity from this Solar Farm in the coming months. The City of London have contracted with Voltalia UK Ltd. to provide the PPA service for a 15-year term.
4. The City of London Corporation implemented the Climate Action Strategy in April 2021. It aims to reach Net Zero Carbon (NZC) for the Corporations scope one and scope two carbon emissions by 2027. This included non-tenanted energy consumption from the Markets. Tenants' emissions are included as part of our Scope 3 value chain which aims to reach NZC by 2040.
5. The Climate Action Strategy in currently in Year 2 of the programme, with several actions such as Energy Audits having been completed to identify interventions that will help to reduce energy and carbon emissions. Capital funding has been provisionally earmarked to support these capital interventions and this funding could be applicable to the Markets.

Markets Energy Performance

6. Over the past year, the energy and carbon performance of the markets has been influenced heavily by the emergence from the pandemic. Since 2021 we have seen an overall increase in the energy used across all markets, which is consistent with the trends across the wider portfolio. However, this still reflects positively against pre-pandemic levels and reflects a lot of the effort that has gone into site level control changes and interventions.
7. Energy performance

Whilst the performance from all markets shows a positive improvement, as shown in Table 1, there is a significant difference between London Central Market and the Billingsgate and New Spitalfields Markets. This reflects the size of the Market energy usage, opportunity identification and interventions that have been undertaken to date. More opportunities are currently being assessed for all markets to continue to reduce the energy usage on site.

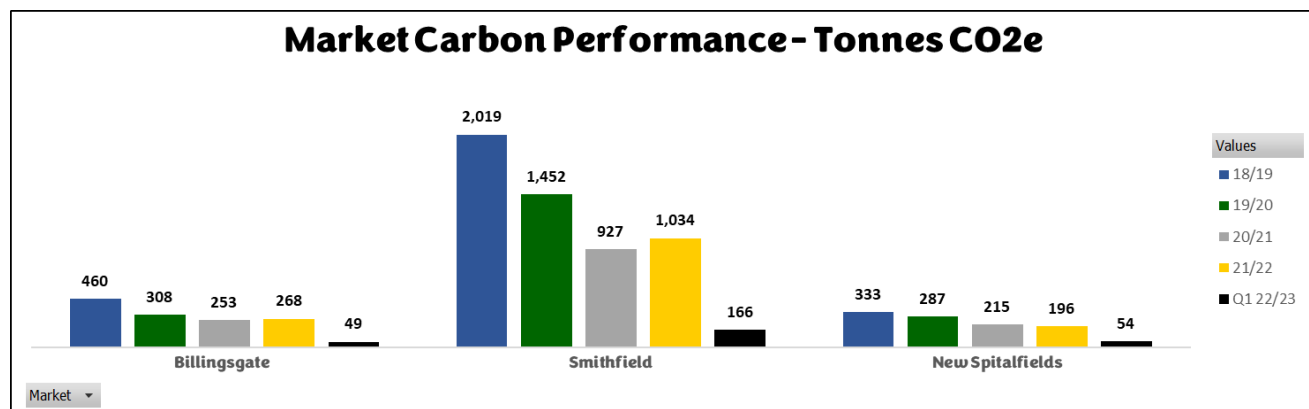
Table 1: Rolling year, Weather corrected Data

Market	Jun-19	Jun-21	Jun-22	% Change 22 vs 19	
London Central Market (Smithfield)	16,091,832	9,819,425	10,850,112	-33%	▲
New Spitalfields Market (Landlords)	6,795,740	5,753,961	5,899,856	-13%	▲
Billingsgate Market	3,612,570	3,362,090	3,427,365	-5%	▲

8. Figure 1 provides an update on the CO_{2e} performance of the markets. Billingsgate has seen a reduction in operational CO_{2e} emissions by 42%, New Spitalfields by 41% and Smithfield by 49%. These savings have been realised through onsite optimisation, occupancy levels,

capital investment in measures such as LED lighting and the impact of grid decarbonisation.

Figure 1: Carbon Performance by Market



Energy Team Activity

- Mitie have been commissioned to produce Net Zero Carbon reports for each of the Markets. We have received the final report for Smithfield which will be reviewed as part of our CAS programme. Mitie are reviewing the energy data for Billingsgate and New Spitalfields Markets, and we anticipate the on-site surveys will begin in the coming weeks.
- The Climate Action Strategy actions include site level energy surveys and the procurement of consultancy resource to manage and deliver the programme. Mitie have submitted draft reports for Billingsgate and New Spitalfields, which are currently being reviewed.
- As part of this task all three markets have received initial surveys by Vital Energi to develop high level assessments. Due to the uncertainty around the future of the market locations, only measures with a shorter payback have been assessed due to uncertainty over the future of each site. At this time, only measures at Smithfield Market are currently being considered due to the longer payback for the other markets. **Table 2** below indicates the measures that have been identified at each of the markets. These measures will be assessed for inclusion within the Corporate Property and Housing Landlord Project Plan (NZ1) delivery plan currently in development. Vital Energi are expected to return to site soon to collate further details needed to progress these options to an Investment Grade Proposal stage. Following this and an assessment of the expected payback, these measures will be considered for implementation in the coming months and incorporated within the delivery plan.

Table 2: Identified Measures

Market	Measures
London Central Market	LED lighting: Mezzanine and Basement Carpark. Ventilation: CO2 demand control HVAC: programmable TRV's & two port valves Pipework insulation New Hot Water System Heater

- The Energy Team have continued to engage with each market and have visited the markets on various occasions to meet with tenants, particularly regarding New Spitalfields

Market, discussing issues relating to energy costs and consumption. Workshops with tenants are planned in the coming month to provide support on rising energy cost and advise on practical measures that can be taken to reduce energy consumption at low or no cost.

13. In September we held the latest of a series of energy briefings with invitations extended to Superintendents and senior officers. Covering the current market position and progress with the PPA.

Energy Procurement

14. Energy prices in the UK have been rising over recent months with the initial impact of the surge in demand following the Pandemic and more recently from March onwards as a result of the continued conflict in Ukraine. This has had an unavoidable impact on our wholesale energy costs. Since 2020/21 we have seen a 120% increase in the delivered unit rates of our electricity, a trend that will continue in 2022/23. Our grid electricity is currently 73% hedged for October 2022 to September 2023 against our expected volume. The introduction of the PPA will significantly help to mitigate the increase in cost.
15. Due to the later than expected commercial operations date for the PPA, Total have procured 100% of the volume for October to December, As such unit prices for these months will differ to future months following the introduction of the PPA. Unit rates are expected to be confirmed towards the end of October, due to the inclusion of the government energy price support.
16. Gas prices have also risen significantly since 2021/22 and will continue to do so in 2022/23 we have 100% of our gas volume hedged for the year ahead from October 2022. The unit rate increase from 2021/22 to 22/23 is approximately 200% and this is expected to drop slightly from October 2023 onwards. We currently have a 68% hedged position for our gas volume for October 23 to September 24. Final delivered unit rates for gas is expected in late October, again due to the inclusion of government energy price support.
17. **PPA:** The PPA contract has now been agreed with Voltalia UK Ltd., Work on site at the South Farm Solar site near Blandford Forum is now well advanced with foundations, structures and modules being installed and access roads all established. Recently work has progressed with the electricity sub-station, and we expect the solar farm to be operational by mid-December. Once operational the PPA will provide over 60% of our electricity at £43 MWh in 22/23 and 23/24 compared to the current market rates for electricity of £636 MWh (LASER market prices for January 2023). This is expected to provide a 15% overall benefit to electricity costs in 2022/23. In 23/24 we forecast the PPA will provide a 33% reduction in the cost of electricity across the Markets based against grid electricity cost.

Corporate Risk

18. Energy price risk for Corporation is currently managed within the City Surveyor's Senior Management Team. The SURV SMT 007 risk is regularly monitored and updated accordingly. The prolonged period of energy price inflation, coupled with a delay to the construction on the PPA solar farm, now due for connection in December 2022 has seen the likelihood of an impact increase. This has moved the risk from amber to red for the first time. Mitigating measures in place include:
 - Regular meetings with LASER on purchasing strategy and risk minimisation.
 - Regular progress meetings with Voltalia on the construction progress of PPA solar farm.

- Communications with Scottish and Southern Electricity Networks to escalate concerns around PPA grid connection.

Corporate & Strategic Implications

19. **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 CO_{2e} 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.
20. **Financial implications:** The information in this report detail reductions in energy consumption and not against agreed budgets. Recent significant increases in the unit cost of electricity and gas has meant that whilst consumption has decreased the overall energy cost for most services has risen. Energy costs are projected to substantially increase further over the next year due to external factors, although the PPA agreement is expected to provide some measure of relief. Members should note for longer sustainable gains the focus will need to be on improving efficient use of energy, through targeted investment in energy saving measures.

Conclusion

21. The Energy Team continue to support the Markets with identifying opportunities for capital investment in energy saving measures and through efficiency improvements that can be made at low or no cost. The Markets continue to be supported on issues related to Energy and Carbon and we are in the process of completing energy surveys in the delivery of this. Energy costs are expected to rise significantly in the coming year despite the impact of the PPA, and on-site demand reduction. We continue to plan with the Markets Team to advise tenants of this impact.

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