

<b>Committee:</b>	<b>Dated:</b>
Corporate Asset Sub-Committee (CASC)	22 <sup>nd</sup> November 2017
<b>Subject:</b> Temperature policy and Sub-metering update	<b>Public</b>
<b>Report of:</b> The City Surveyor	<b>For Information</b>
<b>Report author:</b> Mansi Sehgal, Corporate Energy Manager	

## **SUMMARY**

This report provides summary on two work streams that were underway from past three months – consultation on Temperatures Policy and Sub-metering scoping study.

Over August 2017 all CoL staff was invited to comment on the proposed corporate wide policy on ‘Temperatures’. A total of 128 responses were received which is considered an above average response within the Corporation. Most were in support of adopting and implementing such a policy.

With regards to the sub-metering study, a draft report has been issued which identifies various opportunities for both GHC and WW ranging from improving the communications to repairing existing meters to installing new meters. The estimated cost for delivering all identified works is ~£603,000. The Energy Team recommends concentrating on high and medium priority items that will allow us to monitor significant areas within GHC and WW hence suggest prioritising works costing ~£248,000.

At present there is no existing financial provision for these one-off costs and a suitable source of funding will need to be identified if the scheme is to progress. The Energy team will report back to CASC once the high and medium priority items are implemented which is expected to take approximately 12 months. Installing sub-meters was also one of the recommendations stated in the AECOM report.

## **RECOMMENDATION (S)**

It is recommended Members:

- Note the contents of the report;
- Adopt the Temperature policy;
- Supports the recommendation to deliver the sub-metering works, noting a gateway 1/2 report will be prepared to initiate a new project.

## MAIN REPORT

### 1. Temperature policy

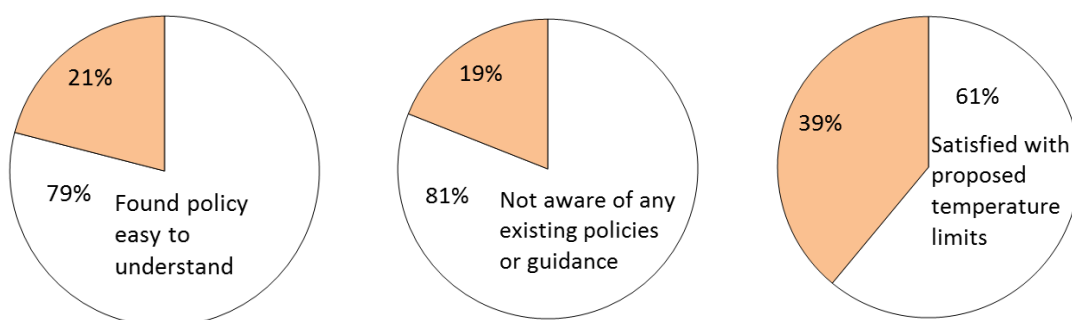
#### Background

- 1.1 Over August 2017 all CoL staff was invited to comment on the proposed corporate wide policy on 'Temperatures'. This policy aims to maintain thermal comfort in an energy efficient approach. The policy, if adopted, will apply to all properties or demises occupied and managed by City of London.
- 1.2 A total of 128 responses received- 117 through the online survey and 11 via emails. The Town Clerk's department estimates, a survey normally receives between 70-140 responses and considering the survey was conducted during lower occupancy summer period it is viewed the draft policy was well communicated.
- 1.3 A revised and draft final version of the policy is attached as an Appendix 1 that took into account of all the key comments received during consultation.

#### Consultation summary

- 1.4 About 80% of responses were from staff occupying the Guildhall Complex (42% the North Wing, and 15% the West Wing). The rest were from a range of other sites and departments, including Barbican Arts Centre, Barbican Estate Office, CoL Freeman's School, CoL School for Girls, Libraries, Open Spaces, LMA, Mansion House, New Spitalfields Market, and Walbrook Wharf.

Responses were also received from staff responsible for health and wellbeing, and the Unions.



- 1.5 We asked if the policy was easy to understand. The feedback was mostly very positive however there were suggestions to improve the current wording in a plainer English to cater for wide range of audience.
- 1.6 We asked if people were aware of any existing local policies or guidance on temperatures. Because 81% of the respondents were not aware or familiar with any similar document or policy, it justifies the need of adopting this policy.
- 1.7 We received feedback on the proposed temperature limits with some concerns about the summer temperatures. It is recommended the limits set out in the draft policy are not revised as they are supported. The upper temperature limit of 24°C

is supported by guidance from Unison, National Union of Teachers (NUT), and Chartered Institute of Building Services Engineers (CIBSE).

### Next Steps

- 1.8 Given that the feedback on the consultation was mostly positive, the Energy Team recommends adopting the policy. Soon after the adoption, the Energy Team will start taking measures to implement the policy. Please refer to Appendix 2 for a detailed timetable for implementing the policy.

## 2. Sub-metering

- 2.1 In September 2017 a study was commissioned to audit existing energy sub-metering and recommend repairs and improvements to the monitoring of energy consumption, including the installation of additional metering. The scope of this study included the entire Guildhall Complex (GHC) and the Walbrook Wharf (WW) office building.
- 2.2 The draft final report from the consultants is available upon request. Please note the results are tentative and a final report is due at the end of November 2017.
- 2.3 The Energy Team have prioritised the identified works, as summarised in Table 2 below with further detail provided in Appendix 3.

Table 2: Summary of prioritised works

Identified works	Cost
1. High priority	£110,165
2. Medium priority	£138,238
3. Lower priority	£355,022
<b>Total</b>	<b>£603,425</b>

- 2.4 The priority works will assist with more accurate Display Energy Certificates (DEC), benchmarking performance, and monitoring for significant areas of energy waste.
- 2.5 The Energy Team recommend completing the high and medium priority works, costing an estimated ~£248,000, before consideration is given to lower priority works. It is expected to take approximately 12 months to implement these items.

## 3. Funding

- 3.1 At present there is no existing financial provision for the estimated costs and a suitable source of funding will need to be identified if the scheme is to progress. In this regard, a gateway 1/2 report will be prepared to progress a new project through the project approval process. The Energy team will report back to CASC once the high and medium priority items have been implemented.

## 4. Conclusion

- 4.1 The team recommends approving the adoption of the Temperature Policy and supporting the works related to sub-metering.
- 4.2 Lowering temperatures by just 1°C when the heating is operating can on average save 8% on the fuel consumption<sup>1</sup>. This will in turn support Corporation's energy target reductions set out in the Carbon Descent plan.
- 4.3 The provision and access to the accurate and frequent energy data is essential to effective energy management. Sub-metering in itself will not save energy however it will provide the management information which will be crucial to tackle inefficiencies. Furthermore it will assist the team in developing a more accurate performance benchmarking indicators for monitoring purposes.
- 4.4 Installing sub-meters was also one of the recommendations stated in the AECOM report.

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<sup>1</sup> Carbon Trust, Technology Guide: Heating Control, [https://www.carbontrust.com/media/10361/ctg065\\_heating\\_control.pdf](https://www.carbontrust.com/media/10361/ctg065_heating_control.pdf)

## Appendix 1. Revised Temperature Policy draft for adoption (separate attachment)

## Appendix 2. Timetable for implementing the 'Temperatures policy'

Nov-17	<b>Adoption of the policy</b>
	<ul style="list-style-type: none"> <li>CASC approves Policy for adoption.</li> <li>City Surveyor communicates Policy adoption to Chief Officers.</li> </ul>
	<b>Communication / Launch of the adopted policy</b>
Dec-17	<ul style="list-style-type: none"> <li>Energy Team communicates Policy to Energy Representatives.</li> <li>Energy Team, in collaboration with Town Clerk's Communications Team, publish dedicated web page on CoLnet on the Temperature Policy.</li> <li>Policy communicated to staff via eLeader newsletter on 5th and 19th December.</li> <li>Energy Reps. communicate Policy to departments (including key facilities staff) and arrange for departmental web sites to link to CoLnet web page.</li> </ul>
	<b>Preparation and monitoring before the implementation phase</b>
Jan-18	<ul style="list-style-type: none"> <li>Energy Team finalise supporting guidance documents for publishing on the CoLnet web page.</li> <li>Energy Team work with Guildhall FM to establish monitoring of GHC and Walbrook Wharf temperatures and systems.</li> <li>Energy Reps, for buildings which have a BEMS, work with the maintenance contractor to establish automatic monitoring and reporting of the set and internal air temperatures.</li> </ul>
	<b>Implementation phase</b>
Feb-18	<ul style="list-style-type: none"> <li>Energy Team and GHC FM review monitoring of GHC and Walbrook Wharf and make changes where possible to ensure air temperatures are in accordance with the policy.</li> <li>Energy Reps, review monitoring of their buildings and make changes where possible to ensure air temperatures are in accordance with the policy.</li> </ul>
Jan-18 to Jun-18	<ul style="list-style-type: none"> <li>Energy Team will continue to consult with departments which have significant non-office use areas on how the Policy can be implemented to ensure the needs of their service users are met. Findings and any recommendations will be provided under the policy review process to ensure the Policy can be effectively implemented for all operational portfolio sites.</li> </ul>
Jun-18	<ul style="list-style-type: none"> <li>Energy Team, in collaboration with Town Clerk's Communications Team, conduct an energy awareness campaign focusing on implementation of the Temperature Policy. Include in the campaign a staff satisfaction survey on workplace temperatures.</li> </ul>
	<b>Review of the policy</b>
Mar-18 , Jun-18, Sep-18	<ul style="list-style-type: none"> <li>Energy Team present quarterly monitoring reports for the Energy Board on the implementation plan, summarising key findings and recommendations.</li> </ul>
Jan-19	<ul style="list-style-type: none"> <li>Energy Team present annual policy review report to the Energy Board.</li> </ul>

## Appendix 3. Sub-metering study recommendations

**Table A. Prioritise sub-metering works**

<b>High Priority</b>	<b>Total cost (£)</b>
1. Communication equipment	£5,000
2. Steam generation: repair gas/steam meters	£920
3. GHC EW CHWS: 1 new meter 1 repair	£5,565
4. GHC GYE LTHWS: Install 1 new meter and repair communications for another 4	£8,907
5. GHC SHARED LTHWS: repair/upgrade 12 meters	£33,453
6. GHC EW elec.: 46 meters*	£56,320
<b>S.TOTAL</b>	<b>£110,165</b>
<b>Medium Priority</b>	
7. Communication equipment	£5,000
8. WW CHW primary distribution: new heat meters	£13,635
9. Steam distribution: NW/WW/GH&OL 3 new meters*	£30,956
10. GHC NW Shared CHWS: heat monitoring for NW chillers	£14,865
11. Walbrook Wharf: 12 elec. meters	£15,295
12. GHC NW Shared CHWS: install/upgrade 4 heat meters	£25,081
13. GHC WW elec.: 26 meters*	£33,406
<b>S. TOTAL</b>	<b>£138,238</b>
<b>Low Priority</b>	
14. Replacement LTHW Heat Meters	£24,316
15. Additional LTHW Heat Meters	£34,278
16. Additional CHW Meters	£46,808
17. Additional Steam meters	£136,304
18. Replacement electricity meters	£2,504
19. Added existing electricity MODbus/pulse meters to BEMS	£25,017
20. Recommissioning/Decommissioning	£4,830
21. Inverter monitoring	£58,680
22. BEMS communications	£22,285
<b>S. TOTAL</b>	<b>£355,022</b>
<b>Grand Total</b>	<b>£603,425</b>

\*we are waiting for the consultants to assess three items; the cost of these items has been estimated by the Energy Team.