

Re: Memo: Caversham Road energy strategy – updated review

We have further revised our Energy Statement (CHBS-PB-17022-A_Former Royal Mail, Reading_Energy Statement) following the comments made in the Memo: Caversham Road energy strategy – updated review (201202 SB) by Element Energy.

For ease and clarity, we have summarised our response to the conclusions and recommendations and any changes within the revised report that have occurred due to the feedback/clarifications provided.

1. *Provide a breakdown of SAP calculations using the SAP 2012 emission factors, demonstrating compliance with the 35% reduction in carbon emissions over Part L of the Building Regulations (2013) on regulated energy use within the residential part of the development;*

It is our understanding that the second half of Paragraph 3.34 of the Sustainable Design and Construction SPD that compliance with Policy H5 should be based on the Part L 2013 methodology with a manual conversion to SAP10 emission factors. However, the comments detailed within the memo state that SAP2012 factors should be used to demonstrate the 35% reduction required by the zero-carbon definition.

As the electrical emissions in SAP2012 are exaggerated it is onerous to meet this level of performance where an electric only (heat pump) option is used. Therefore, in order to demonstrate a 35% reduction in domestic emissions using SAP2012 emissions we were required to further enhance the building fabric specification (See report Appendix A). The revised report includes updated results and executive summary sections of the report to present results with both SAP2012 and SAP10.1 emission factors, and to demonstrate a 35% reduction in domestic emissions using SAP2012.

2. *Provide example SAP calculations for each of the modelled residential property types, as an appendix in a revised energy statement or as a separate document for review by Element Energy. This will provide clarity on the discrepancy between the carbon emissions results from the SAP calculations and Element's own carbon assessment;*

In-line with paragraph 3.34 of the Sustainable Design and Construction SPD we had converted our results using SAP10 emissions factors. The Element Energy Memo has stated that SAP10.1 should be used. We consider this to be the reason for the discrepancy in results. As such we have updated our results using SAP10.1. For transparency we have also included the sample SAP DER worksheets in Appendix B.

3. *Retain open-loop GSHP as a viable heat supply source for the communal heating system until such time as site investigations can be undertaken to establish its technical potential (note ASHP should be retained as the fallback option, in the event that open-loop GSHP is shown to be technically unviable following site investigations);*

We have revised the open-loop GSHP assessment and further feasibility investigations can be carried out at detailed design stage. Calculations presented are based on ASHP as the fall-back option.

4. *In relation to WSHP:*

Confirm what the pumping power requirement would be for abstracted river water being pumped to the energy centre, and demonstrate why this should be considered “significant” relative to the wider development;

Confirm what the heat losses from the abstracted river water would be, and demonstrate why this should be considered “significant” relative to the wider development;

If these items cannot be addressed in full, WSHP should be carried forward as a heat supply option to the next stage of the planning process;

The applicant, or CHB Sustainability on behalf of the applicant, should open dialogue with RBC to confirm ownership of the land adjacent to the river Thames and whether there is an opportunity to establish a buried corridor from the energy centre to the river for abstraction pipework;

We have revised the WSHP assessment and further feasibility investigations can be carried out at detailed design stage. Calculations presented are based on ASHP as the fall-back option.

5. *Update the energy statement with the following:*

“Sustainable design and construction drivers”, pp.6:

Note on CHP preference – the Local Plan (2019) notes CHP as a possible technology, but it should be clarified that heat pumps are stated as the preferred technologies, paragraph 4.1.15. This should be noted on pp. 6 of the energy statement;

This had already been stated but we have added an additional sentence for clarity (Note now pg.7 due to expanded executive summary).

6. *Basement energy centre space provision:*

Confirmation from CHB Sustainability that the energy centre has been designed to accommodate heat transfer equipment, in an N+1 redundancy arrangement, for future interconnection with the proposed district heating network.

We have confirmed on pg.15 that the energy centre can accommodate heat transfer equipment, in an N+1 redundancy arrangement, for future interconnection with the proposed district heating network.