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1. PURPOSE

- 1.1 The Ministry for Housing, Communities and Local Government or 'MHCLG' (here after referred to as 'The Authority') requires a Supplier to undertake an extra piece of research in addition to the existing research project into the overheating of new homes completed by AECOM.
- 1.2 This extra research will focus on further quantifying the benefits from mitigating the risk of overheating in new domestic buildings in England. The scope of the research will not cover non-domestic buildings. The Authority wants to help house builders understand the risks of overheating in new homes and establish tools and/or guidance that helps them mitigate these risks.

2. BACKGROUND TO THE CONTRACTING AUTHORITY

- 2.1 The Authority is central to a number of key government priorities including driving up housing supply; increased home ownership, devolving powers and budgets to boost local growth; and supporting strong communities with excellent public services. The Authority also has policy responsibility for Planning and Building Regulations.

3. BACKGROUND TO REQUIREMENT/OVERVIEW OF REQUIREMENT

- 3.1 Overheating in buildings has been highlighted as a key risk for the health and productivity of people and businesses in the UK. It is estimated that there are about 2,000 heat-related deaths each year in England and Wales¹. This number is expected to triple to over 7,000 by the mid-century, as a result of climate change. At present there is no formal Government or industry wide guidance on how to identify the risk of overheating or how to apply effective preventative measures.
- 3.2 For new homes, the current criteria within Part L of the Building Regulations² – includes making provision to deal only with excessive solar gain in summer months – is not sufficient in mitigating these risks as Part L is concerned with the impact on energy performance rather than thermal comfort or health.
- 3.3 Although there is a range of measures known to mitigate overheating risk, there is a knowledge gap in terms of the assessment of which properties are most likely to overheat, and what combination of measures will be most cost effective in terms of mitigation.
- 3.4 Overheating cannot be seen in isolation with other factors affecting internal air quality and thermal comfort. The research will need to be alert to these issues and draw on any research and evaluation of these as it is taken forward. The Climate Change

¹ https://www.theccc.org.uk/wp-content/uploads/2015/06/6.736_CCC_ASC_Adaptation-Progress-Report_2015_FINAL_WEB_250615_RFS.pdf

² <https://www.gov.uk/government/publications/conservation-of-fuel-and-power-approved-document-l>



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Committee’s statutory report in 2015³ recommended that MHCLG should evaluate the latest evidence on overheating in new homes and subsequently introduce a new required standard or regulation to cover this. In response the government stated it would carry out research to understand better which new homes are at risk of overheating and the options to help industry and others address the risks. Building upon the overheating thresholds work by the former Zero Carbon Hub⁴ and others (recent pre-publication draft of further work by CIBSE can be made available), the planned research would include consideration of the associated costs and benefits before a decision can be made on how best to reduce the overheating risk.

- 3.5 The Authority is the Government’s lead department for housing, planning and buildings-related policy. The Government’s stated ambition is for a million new homes to be built over the course of the current Parliament⁵. Most of these properties will be inhabited at 2080 when temperatures are projected to have risen by a range of 2.8-5.4 degrees and, if no action is taken, by 2050, an estimated 7,000 people will die prematurely from heat-related causes (though not all in homes) annually. The number of people using their home as their main place of work (1.5 million in GB in 2014) or base is increasing. Overheating is likely to have an impact on productivity⁶. Additionally, the air conditioning market rose 22% in the UK from 2013-14⁷. Further increases will undermine Climate Change Act aspirations to reduce emissions and potentially put more strain on the electricity network. Consideration needs to be given to the specification, design, build and operation of new and subsequent homes to address overheating issues.

4. DEFINITIONS

Expression or Acronym	Definition
Part L of Building Regulations	The regulations that cover the conservation of fuel and power
CCA 2008	Climate Change Act 2008
CCC	Climate Change Committee – statutory advisory committee required by CCA 2008
ASC	Adaptation Sub-Committee of the Climate Change Committee

³ https://www.theccc.org.uk/wp-content/uploads/2015/06/6.736_CCC_ASC_Adaptation-Progress-Report_2015_FINAL_WEB_250615_RFS.pdf

⁴ <http://www.zerocarbonhub.org/sites/default/files/resources/reports/ZCH-Overheating-NextStepsDefinitions-Final.pdf>

⁵ <https://www.gov.uk/government/publications/MHCLG-single-departmental-plan-2015-to-2020/single-departmental-plan-2015-to-2020#driving-up-housing-supply>

⁶ http://randd.defra.gov.uk/Document.aspx?Document=10073_CCRAfortheBusinessIndustryandServices16July2012.pdf

⁷ http://www.modbs.co.uk/news/fullstory.php/aid/14607/The_UK_market_for_air_conditioning_heats_up.html

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ZCH	Zero Carbon Hub – a non-governmental organisation running between 2008 and 2016, which ran projects considering overheating in homes among others.
CIBSE	Chartered Institution of Building Services Engineers
BRE	Building Research Establishment
BRAC	Building Regulations Advisory Committee (for England)
PHE	Public Health England
HPRU	Health Protection Research Unit in Environmental Change and Health (HPRU ECH).

5. SCOPE OF REQUIREMENT

5.1 The Supplier will:

- Use the existing methodology used in Phases 1 and 2 of the research into overheating in new homes
- Use dynamic thermal models assess indoor temperatures in the existing dwelling types using test reference year weather data.
- Take the temperatures produced and assess sleep disruption.
- Take the temperatures produced and assess impacts on mortality.
- Take the temperatures produced and assess the counterfactual scenario's uptake of air conditioning.
- Update the cost benefit tool with the outcome of the above three factors.
- Revise the tables, charts and text in the Phase 2 report to reflect the new cost-benefit analysis.

6. THE REQUIREMENT

6.1 The work must be completed by July 2018.

6.2 Regular meetings between the Authority and the Supplier will also be required, however need may be reviewed by the Authority. The Supplier should send an email three working days in advance of meetings setting out progress to the Authority, so meetings reflect current state of play for the project.

6.3 The output of this work should be a revised cost-benefit analysis tool and a revised Phase 2 report.

6.4 As a result of the evidence base formed by the research the Authority will determine what form of action is needed and to what degree regulation of overheating in new homes could play a part.

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7. KEY MILESTONES

7.1 The Potential Provider should note the following project milestones that the Authority will measure the quality of the Supplier's delivery against:

Milestone	Description	Timeframe
1	Confirmation of Project plan	Within week 1 of Contract
2	Meeting of the Authority & Supplier's teams	Within week 2 of Contract
3	Completion of analysis and tool	Within 4 weeks of Contract start
4	Completion of Phase 2 report	Within 6 weeks of Contract start
5	Handover and closure	End July 2018

8. AUTHORITY'S RESPONSIBILITIES

8.1 The Authority will provide assistance with contacts via BRAC, LAs, former Zero Carbon Hub, PHE, HPRU. The Authority may invite representatives from other stakeholders to meetings with the Supplier as appropriate and agreed with the Supplier. The Authority will notify the Supplier of times, dates and location of BRAC meetings.

9. REPORTING

9.1 The Contract will be managed by an official of the Authority who will act as nominated officer responsible for the day to day management of the Contract.

10. PRICE

10.1 Prices are set out using the Pricing Schedule and should be inclusive of any expenses but exclusive of VAT.

11. STAFF AND CUSTOMER SERVICE

11.1 The Authority requires the Supplier to provide a sufficient level of resource throughout the duration of the Contract in order to consistently deliver a quality service to all Parties.

11.2 The Supplier's staff assigned to the Contract shall have the relevant qualifications and experience to deliver the Contract.

11.3 The Supplier shall ensure that staff understand the Authority's vision and objectives and will provide excellent customer service to the Authority throughout the duration of the Contract.

12. SERVICE LEVELS AND PERFORMANCE

12.1 The Authority will measure the quality of the Supplier's delivery by:

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KPI/SLA	Service Area	KPI/SLA description	Target
1	Communication	Brief progress report by email against agreed work programme milestones circulated by the potential provider no later than two working days before project and/or progress meetings between the Authority's Contract/project officers and potential provider's Contract/project managers	100%
2	Communication	Update reports to be submitted by email to the Authority for inclusion in BRAC meeting papers no later than ten working days before BRAC meetings	100%
4	Completion of extra research	Final reports for Phase 2 to be submitted by July 2018 and accepted and approved by the Authority.	100%

12.2 If the Supplier fails to meet the targets noted in this section, the Authority reserves the right to instigate clause 21.4 (Termination on Default) of the terms and conditions set out in Annex B.

13. SECURITY REQUIREMENTS

13.1 For meetings at the Authority's premises (2 Marsham Street, London SW1P 4DF), the Supplier's representatives will need to bring current photographic identification e.g. Driving License or Passport for getting through building security, which will require x-ray bag screening and possibly body searches.

14. INTELLECTUAL PROPERTY RIGHTS (IPR)

14.1 IPR will be governed by the terms and conditions set out in Annex B..

15. PAYMENT

15.1 Payment will be made following acceptance by the Authority of the Supplier's satisfactory achievement of the deliverables set out in Section 7..

15.2 Before payment can be considered, the invoice must include a detailed elemental breakdown of work completed and the associated costs.

15.3 All invoices must reference the Authority's purchase order number.

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16. ADDITIONAL INFORMATION

- 16.1 The Authority will want to understand working relationships that the Supplier has currently with academic researchers and government departments or agencies in the field of building-related research.
- 16.2 In performing its obligations under the Contract, the Supplier is prohibited from taking or seeking to take advantage of any particular taxation regime (including the use of any offshore tax haven) which will or may enable the Supplier to avoid liability for any taxation in the United Kingdom. In the event that the Supplier or the Supplier's Personnel or anyone acting on the Supplier's behalf (with or without its knowledge) breaches this Clause MHCLG reserves the right to terminate the Contract by notice in writing with immediate effect and recover from the Supplier any loss resulting from such termination including the administrative costs of re-tendering the requirement and any difference in the rates or prices which MHCLG may have to pay to a new contractor where such rates or prices are higher than the rates or prices payable under the Contract.

17. LOCATION

- 17.1 The location of the Services will be carried out at 2 Marsham Street, London, SW1P 4DF.

18. CONFLICTS OF INTEREST

- 18.1 The Supplier shall use all reasonable endeavours to ensure that neither the Supplier nor any of the Supplier's personnel is placed in a position where there is or may be an actual conflict, or a potential conflict, between the pecuniary or personal interests of the Supplier or such persons and the duties owed to MHCLG under the provisions of the Contract. The Supplier will disclose to MHCLG full particulars of any such conflict of interest which may arise.
- 18.2 If, in the reasonable opinion of MHCLG, a conflict of interest arises then the Supplier shall take all necessary measures as are required by MHCLG to resolve the conflict of interest or alleviate its effect, at the Supplier's expense.
- 18.3 If a resolution of the conflict of interest is not possible then without prejudice to any rights or remedies of MHCLG, MHCLG shall have the right to terminate the Contract with immediate effect and recover from the Supplier any loss resulting from such termination.
- 18.4 Where MHCLG is of the opinion that a conflict of interest which existed at the time of the award of the Contract could have been discovered by a competent contractor and ought to have been disclosed by the Supplier, MHCLG may terminate the Contract immediately and, without prejudice to any other rights, recover from the Supplier the amount of any loss resulting from such termination.

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