Specification Brief for Good Growth by Design Research Inquiry

Designing for Net Zero 2030

Note: This brief is to be read in conjunction with 'Designing for Net Zero 2030: case study Nomination Form'

INTRODUCTION

Bidders are invited to submit a quotation for a research commission on how to design and adapt buildings to significantly reduce carbon emissions in line with the Mayor's Net Zero 2030 target. This work is part of the Good Growth by Design (GGbD) programme and seeks to inform the implementation of Mayoral policy and related strategies, thought leadership on net-zero design in London, and future investment into London's places and neighbourhoods. The commission is sponsored and managed by the Greater London Authority (GLA) Regeneration, Planning, and Environment teams, with support from the Mayor's Design Advocates (MDAs).

Meetings will be required as follows: Initial inception meeting. Interim presentations to client team and key GLA stakeholders to guide development of commission. Feedback will be provided by the client to be included in final presentation and document. Final presentation to client team followed by submission of document. The final report should be well communicated and visually engaging report that follows the GLA Good Growth by Design style guide. The report will be made available online on the GLA website.

CONTEXT, OBJECTIVES & BACKGROUND INFORMATION

The definition of net-zero carbon and the short period of time allowed to reach it presents a massive challenge for the built environment / development sector which needs to adopt immediately new ways of designing much more efficient buildings with sustainable resources.

This research commission will focus on ways in which we can design and adapt buildings and neighbourhoods to significantly reduce carbon emissions, and how we can adapt to a changing climate. Alongside this, the commission seeks to spotlight best practice examples of how these measures have been successfully incorporated into a project, resulting in high quality, exemplar masterplanning and building design. It will be an important design resource in response to the Mayor's Net Zero 2030 target, highlighting how the development sector needs to respond to the target and allowing us to support and encourage them to create the type of developments that are good for, and ready for, our future climate. This commission will contribute to the creation of necessary guidance and support to aid the implementation of the Mayor's Net Zero strategy.

The commission will draw on some of the best of both delivered and proposed project examples that have considered climate and other environmental issues where appropriate and that are aligned with London's climate targets. It will set out best practice case studies for London, with a focus at both the building and masterplan/neighbourhood scale and can include schemes that aren't yet delivered. As 'on-target' case studies may well be scarce, the commission will also look at schemes that do not meet the current trajectory and advise on how these could have been designed differently. It will also as needed promote a few 'what ifs' to further chart the path ahead.

Note: It is an explicit objective of this study to demonstrate the mutual relationship between good urbanism and optimal energy use. The study must showcase projects where exemplary sustainable design has been considered in partnership with outstanding architectural and urban design, culminating in a building that brings these together successfully and capitalises on the synergies between them.

RATIONALE FOR UNDERTAKING THIS WORK

To tackle the climate crisis, we need to change how we design, construct and redevelop our neighbourhoods in London. To support this change, we need a resource that showcases and celebrates exemplar projects (buildings and masterplans) that are driving innovation in the sector to go beyond required standards, and to learn from projects that don't quite meet the required standards and understand why.

The relevant context for London link below provides wider context of Government's planned Future Homes/Buildings Standards. Planned for 2025, this may remove the ability of Local Planning Authorities to set higher standards than Building Regulations (as the current London Plan does). There is an interim stage of energy performance uplift for buildings in Part L of Building Regs 2021 which will take effect from 15 June 2022).

Resources with case studies have been developed, however there is not a resource available that looks at:

- Neighbourhood scale
- Relevant context for London (https://www.gov.uk/government/consultations/the-future-buildings-standard)
- Includes new build and retrofit
- Focuses on energy targets and embodied carbon targets as well as adaptation and resilience
- Includes masterplanning and placemaking

Useful examples that showcase case studies are shown below, alongside comments:

- *Buildings Mission 2030, Green Construction Board* - shows about 5 residential, 5 school and 5 office examples, alongside energy targets. Does not show much information per case study and does not look at embodied carbon.
- *LETI Client Guide for Net Zero Carbon Buildings*
- *LETI Climate Emergency Retrofit Guide* - Only residential, mainly single home examples – not neighbourhood scale. Does not look at embodied carbon.
- *The Re-Use Atlas: A Designer's Guide Towards the Circular Economy* - a designer's guide towards a Circular Economy. A great resource, but doesn't contain energy and embodied carbon targets
- *Residential Retrofit: Twenty Case Studies (Marion Baeli*) - Mainly single-family homes, does not look at embodied carbon
- *Net Zero carbon buildings where to we stand: World Business Council for Sustainable Development (WBCSD).* 5 offices, showing operational and embodied carbon.

DOCUMENT STRUCTURE

Consultant deliverables required by this commission are outlined under each section below. A budget of up to £30k funding has been awarded to the project, exclusive of VAT.

The research commission will be a concise primer structured into three sections:

1. **Introduction**: Setting the context
2. **Principles**: Setting out of key principles and requirements
3. **Practices**: A set of case studies that meet the principles and show how they were incorporated into the design
4. **Evaluation:** Learning from the project

It is anticipated that the methodology, format and dissemination of this research will be further developed with the successful consultant.

Section 1: Introduction
Review and summarise current policy and guidance regarding zero carbon 2030 aspirations to give an overview/ introduction to the study and provide readers with context.

Section 2: Principles
This section will establish around 10 principles/recommendations that can help guide readers in delivering community positive, zero carbon design, in line with current policy. Key considerations are:

a. **Meet the climate emergency**: Meeting operational energy targets and embodied carbon targets.
b. Resilient: Overheating risk and water (reducing water use and minimising flooding)
c. **Community positive:** Strong master planning, public realm and placemaking. Inclusivity and health (active transport, air quality, access to green infrastructure etc). Identifying the mutual beneficial relationship between good urbanism and zero-carbon design.
d. **Adaptive reuse:** promotes retrofit and a circular economy

Current policy: The London Plan 2021
The London Plan sets a net zero carbon target for major development for a 35% minimum regulated carbon emission reduction above the current building regulations, with the remainder being offset. In 2021, the London Plan was developed further to require whole-life cycle carbon (WLC) emissions to be reported and reduced with a comparison made against a set of benchmarks for different typologies, which developments are expected to achieve with an additional set of aspirational benchmarks to drive performance further. There are no set WLC targets within the London Plan yet due to a lack of consistent data, but performance against the benchmarks will help support the development of targets in future.

In June 2022, updated Energy Assessment Guidance was published in response to updated national building regulations to explain how London Plan policy should now be applied. This included the introduction of Energy Use Intensity and space heating demand reporting against specific comparison values. These new metrics were introduced to support the energy efficiency targets and to help inform future policy direction. See the London Plan for further details.

Air quality:

- Developments are required to meet Air Quality Neutral (AQN) benchmarks to help manage and minimise regional increases in pollutant emissions
- Large-scale developments are required to provide Air Quality Positive (AQP) Statements to demonstrate measures taken during the design stages to achieve the best possible outcomes for air quality

Climate adaptation and greening:

- Protection of green and open spaces and green infrastructure to ensure no worsening of situation
- Public open space hierarchy with benchmark distances to promote fair access to green space

- Urban Greening Factor to ensure all major developments make a meaningful contribution to greening the city
- Enhanced water consumption standards so that London is more resilient to drought
- All developments should incorporate SuDS that follow the drainage hierarchy and aim to achieve greenfield run-off so that the city is more resilient to surface water flooding
- Major developments are required to model the potential for overheating and reduce the risk

Waste and Circular Economy:

- Aims to reduce waste and support a circular economy meeting targets for reuse and recycling
- Referable developments are required to produce a Circular Economy Statement
- Promotes a design-led approach to optimise resources including a focus on flexibility of use and building lifespan, quality and robustness, high sustainability standards

Consultant tasks for *Section 2. Principles:*

1. Consultants will explore and expand upon the considerations listed above and develop a set of around 10 principles/recommendations, based on lessons from the selected case studies. To be richly illustrated with best practice examples.

Section 3: Practices (case studies)
This section will comprise of around 15 - 20 case studies that will cover both new-build and retrofit projects across a mix of typologies, sizes and uses. They will be concise and laid out on a double page spread (approx. 50% images/illustrations and 50% text). Projects may be built or in the design phase and an important element will be the consideration of project objectives (outlined previously) at the outset so that these principles are incorporated into the design of the development from the very beginning. Where the key principles set out in *Section 2: Principles* are not met, potential alterations to the project will be investigated to propose how the targets could be met.

The consultant team will be appointed to work alongside the GLA leads and MDAs, as well as with a range of other sector organisations including LETI and RIBA. This project seeks to use the 'hive' mind of the MDAs, drawing on the MDAs networks and our advocate organisations to collect project case studies that meet the criteria below. All information required on projects is set out in the 'Designing for a new climate: case study Nomination Form'. All data collected must be the latest and most accurate data available for the scheme.

Consultant tasks for *Section 3. Practices*

1. The client team have put a call out to the current MDA cohort to input into the Case Study Nomination Form, to gather a wide range of potential case studies in a consistent and concise manner. The consultant will work with and coordinate GLA staff, MDAs and advocate organisations to identify, prepare and gather 15-20 case studies and ensure all key topics and typologies are appropriately covered (exact number of studies to be reviewed). At inception, consultants will receive the first draft set of case studies in Excel spreadsheet format, with accompanying images. The consultant will propose a clear and legible way to organise case studies into groups. Strong consultants will provide editorial oversight to ensure consistent presentation and will identify and address missing information from case studies, including liaising with architects and engineers to retrieve information and where necessary undertaking predictive energy use intensity calculations and embodied carbon

assessments. Consultants to supplement identification of case studies if not forthcoming from MDA cohort to ensure the full range of building, use and sizes are covered.

2. The consultant will prepare a straightforward case study manual working closely with graphic designers to ensure high standard of communication in line with GGbD publications.

Section 4: Evaluation and recommendations

This section will set out how the standards and principles have been achieved, clearly articulating the lessons learnt from the case study projects. This section will also highlight next steps to support processes that can ensure the implementation of masterplans, neighbourhoods and buildings will help us meet our climate targets and inform future policy.

Consultant tasks for *Section 4. Evaluation and recommendations*

1. Prepare concise recommendations to GLA staff and the wider design community to support the delivery of zero carbon exemplars and to mainstream the delivery of zero carbon buildings and neighbourhoods. Consultants will be asked to develop the narrative around zero-carbon buildings and masterplanning and demonstrate the mutually beneficial relationship between the two.

DELIVERABLES

- 150 hard copies of the document
- Slide deck of report
- PDF of report
- Presentation of work at 3 keynote events

SKILLS REQUIRED

We welcome a multi-disciplinary consultant team consisting of the following skills and expertise:

- Experience in delivering projects with exemplar sustainable design (zero-carbon)
- Planning
- Architecture / urban design / place-making / masterplanning and related research
- Strong graphic design
- Undertaking energy assessments and developing zero-carbon strategies

Bidders are encouraged to submit bids in partnership with other organisations to create a suitable team in order to meet the requirements of this brief. The team should have a nominated lead consultant who will project manage the commission and act as first point of contact for the GLA. It should be noted that if partnerships are formed, the principal bidder will hold all management responsibility of the co-partner/s and the contract will be with the principal bidder.

STEERING GROUP

GLA project team:

- Pete Daw (project sponsor) – GLA Environment team
- Simon Wyke – GLA Environment team
- Anne-Marie Robinson – GLA Environment team
- Rhian Williams – GLA Planning team
- John Diver – GLA Planning team
- Jamie Dean – GLA Regeneration team
- Jasmine Low – GLA Regeneration team
- GLA Housing and Land team to be identified

NB. Brief prepared by Jamie Dean, Jasmine Low, Clara Bagenal George (MDA) and Simon Wyke.

Mayor's Design Advocates:

- Hanif Kara
- Adam Khan
- Louisa Bowles
- Narita Chakraborty
- Steve Webb
- Irene Djao-Rakitine
- Tara Gbolade
- Clara Bagenal George

The MDA reference group will be headed up by Hanif Kara and Clara Bagenal George who will prepare an authored piece to help situate the research and will include the MDAs listed above along with other invited experts.

TENDER REQUIREMENTS

Consultants will be asked to respond to the brief, by proposing a method statement and team that can undertake the study. This includes working closely with the MDA steering group who can be called on to propose and prepare case studies. Consultants will be expected to supplement case study research and identification alongside MDA steering group.

We expect the appointed consultant to demonstrate they have successfully delivered studies of this nature with an excellent track record in achieving similar project objectives and outcomes.

Shortlisted bidders are asked to produce a proposal no longer than ten A4 pages providing:

- Up to 1000 words describing your understanding of the project requirements, initial response to brief and statement of approach to the project
- Proposed methodology
- Indicative programme for carrying out the works
- Details of the team that will work on the project, including CVs of the key team members
- Brief practice biography along with details of three relevant past projects
- Contact details of referees

Please refer to the evaluation criteria in the ITT for further detail.

Commented [JL1]: •Research scoping and development
•Case study identification and preparation
•Report writing and finalisation
•Production and dissemination

INDICATIVE PROGRAMME

1. Request for case study submissions from MDAs – *September 2022*
2. Issue ITT – *September 2022*
3. ITT returns – *October 2022*
4. Project inception meeting – *October 2022*
5. Receive case studies – *October 2022*
6. Review and shortlisting of case study submissions – *October 2022*
7. Sounding board review – *October 2022*
8. Editing of case study submissions – *November 2022*
9. Sounding board review 2 – *December 2022*
10. Sounding board final review – *February 2023*
11. Dissemination & micro-site launch – *March 2023*
12. Publication – *March 2023*

Appendix

Working list of potential case studies:

New build

- Shell Centre – Hanif Kara
- Studio 3 Arts
- The Spark
- Waterloo City Farm – Fielden Fowles
- White Arkitektur – Sara Kulturhaus Centre
- Goldsmith Street, Norwich
- Max Fordham's House, Camden Town

Retrofit

- New Court, Trinity College - 5th Studio
- Building Bloqs – Assael Architecture
- Ellebo Garden Room – Adam Kahn
- Rugby Radio Station - van Heyningen and Haward
- St Paul's Cathedral School - Kilburn Nightingale
- 1 Triton Square, Euston - Arup
- Centre Point (GII listed) residential conversion – Conran and Partners

Innovative technologies

- IBIS (formerly) ETAP hotel, Birmingham – grey water recycling
- Bunhill energy centre, Islington - Innovative heat recovery technology
- Energiesprong - *transforming social housing in Nottingham by Nottingham City Homes (housing provider), Melius Homes (solution provider) and Studio Partington (architect)*

Unbuilt

- Market Garden City

Other considerations:

1. The London Plan has a set definition of net zero. However, there are different definitions of 'net zero' out there and the scope will vary. It is likely we will have to review the definition and scope of the current London Plan policy in any new plan, so it would be good if the project and some of the case studies can show how to deliver good levels of performance in terms of operational emissions, WLC and against the new metrics we will be introducing in the Energy Assessment Guidance (e.g. good Energy Use Intensity, and space heating performance) to use as evidence, as well as how adaptation policies (overheating, water use) can be built on in the next Plan.
2. What are the design implications of carrying out net zero technologies - clear effect on space standards and densities of housing, external render affecting the perception of buildings – what issues are there around heritage and planning that can affect what work is carried out on buildings. What projects implement these strategies without negatively affecting the other design considerations?