Request for Proposal

Research Service Provider

Quantitatively evaluate the impacts of residential development location within the urban form on carbon emissions

Request by: Green Building Council South Africa and Divercity

Date: 12 November 2019

Contents

1. Introduction

1.1. Green Building Council South Africa and Divercity mission

The Green Building Council South Africa (GBCSA), is a registered non-profit, non-governmental organisation established to support government and industry in the transition to a resource efficient, low carbon and climate resilient built environment, in which people and planet thrive. The GBCSA promotes environmentally sustainable building design, construction and operation practices, through an integrated development approach. GBCSA is the leading authority on green buildings in South Africa, and the only member of the World Green Building Council (there can only be one council per country), which is the global authority on green buildings. The GBCSA supports the transition to a sustainable property industry through advocacy, training and green building certification.

Divercity Urban Property Fund is a for-profit venture that invests in and develops amenity rich affordable housing precincts in centrally located areas. Divercity is founded by some of South Africa's foremost property development and investment professionals with the aim of demonstrating a commercially superior alternative to the current predominant model of urban-peripheral affordable housing delivery that perpetuates urban sprawl and apartheid era spatial divides.

1.2. Research Partnership Context

In September 2019, GBCSA and Divercity initiated a long-term research partnership to further information and knowledge within the built environment sector to aid decision makers in developing more sustainable cities in South Africa. Through this request for proposal (RFP), GBCSA and Divercity seek to contract a qualified, reputable and experience research organisation to undertake the study as outlined in this RFP. This study will form the first publication within the GBCSA and Divercity partnership. GBCSA and Divercity, as equal partners, make up the Project Committee of the project.

2. Research Background

2.1. Cities and Climate Action

By 2050, two-thirds of the world's population is projected to live in urban areas, presenting an immense challenge for decision-makers and residents alike[1]. Globally, rapid urban growth already poses urgent challenges, including inadequate infrastructure, inadequate resources, rising social

inequality, and entrenched poverty. The way in which cities develop in the future will have a significant impact on the integrity of urban ecosystems and global efforts in climate change mitigation and adaptation.

Global scientific studies, including the Intergovernmental Panel on Climate Change (IPCC) Special Report on 1.5°C of Global Warming and the Cities IPCC agenda, identify cities as key areas for and drivers of more transformative climate change action. The IPCC Special Report recognises cities as a critical global system to "accelerate and upscale climate action." and delivering a 1.5°C future[2].

The Global Research and Action Agenda on Cities and Climate Change Science, of the Cities IPCC, identifies a number of key action agendas for cities which require new evidence-based research and knowledge that supports effective climate action strategies in cities and the challenge of planning more sustainable cities[3]. Urban planning and design is highlighted as a key action agenda with the goal of developing more rigorous analyses of the connections between urban planning, design, infrastructure development, and climate action, as well as understanding the continuum between different areas of the urban form (urban, peri-urban and natural areas).

2.2. Urbanisation and Urban Form

It is understood, and increasingly recognised, that urban forms can have considerable implications for carbon emissions of a city. In 2016, The United Nations report The World's Cities Report Data Booklet, stated that of the 10 cities projected to become megacities between 2016 and 2030, all are located in developing countries. Johannesburg is project to be one of these 10 cities[4]. In the 2018 report, it was stated that in 2018 14,4% of South Africa's population resided in Johannesburg and this number is projected to increase by 2% per annum[5]. The implications of urban growth, urban form and associated carbon emissions in Johannesburg needs to be considered to ensure inevitable development, to meet the needs of the current and growing urban population, ensues in the most sustainable manner. All development should be aligned with South Africa's commitments to the Paris Agreement and National Determined Contributions (NDCs), a commitment to reduce national emissions and adapt to the impacts of climate change.

The World Green Building Council (WGBC) recently highlighted embodied carbon as an area for critical attention within the built environment sector. The Bringing Embodied Carbon Upfront report, issues an urgent call to action designed to bring the whole building and construction value chain together[6]. The built environment sector plays a vital role in responding to the climate emergency and the WGBC states that decarbonising the sector is one of the most cost effective ways to mitigate the worst effects of the climate emergency[6].

In support of our national commitments and need for evidence-based information to inform decision-making, the proposed research aims to quantitatively analyse the impacts of development within different urban locations forms on carbon emissions in Johannesburg.

2.3. Urban Form and the Carbon Emission Implications

Internationally, a number of studies have investigated the impact of urban form and location on the carbon footprint of a city. Fewer studies have investigated the impact of urban form on carbon emissions over the life-cycle, i.e. carbon life-cycle assessment. In general, most previous studies and literature have focused on cities in developed countries[7,8,9,10,11,12,15, 16,17] with little attention being paid to developing countries where urbanisation rates are at an all-time high and are continuing to grow.

There is a growing body of academic research that supports the notion that more compact cities have lower CO_2 emissions than dispersed cities with a higher level of urban sprawl. Research by Chen and Lau (2008) and Banister (2012) found that compact cities characterised by higher densities, mix land-use and pedestrian-orientated pattern had lower CO_2 emissions than dispersed cities[13, 14]. In addition, similar outcomes have been found in a number of different cities around the world, including Sydney[8], Finland[7], France[9], Canada[10], Japan[11], and other European cities[12].

Whilst each study and study area has its own socio-economic factors that will influence the urban area and resultant urban forms, the findings are useful for guiding urban development strategies in line with the climate action goals of the cities. Case studies at city scale should be used to inform decision-making and anticipate the carbon emission impacts of urbanisation and different urban forms at the citywide and regional scales.

3. Scope of work

3.1. Project Overview

Through this request for proposal (RFP), GBCSA and Divercity seek to contract a qualified, reputable and experienced research organisation or consortium to undertake the research study as outlined in the RFP.

The objective of the research is to quantitatively evaluate the whole lifecycle carbon emissions (embodied, operational and end of life carbon) associated with development within different locations in an urban area, comparing a residential existence on the urban periphery to that of inner city. The

study would aim to clarify the specific impacts and factors associated with lifecycle residential choices and the associated emissions.

The service provider will conduct research, gather information and perform the analyses necessary to deliver on the research objective. The service provider will also collaborate actively with the Project Committee to provide estimates (resources, timing, cost, etc.) for project planning.

The service provider will be required to attend an inception meeting in person at the GBCSA Johannesburg or Cape Town office, plus additional meetings/teleconferences with the Project Committee over the life of the contract (i.e. approximately monthly).

3.2. Project Requirements and Structure

3.2.1. Service Provider Technical Scope and Requirements

GBCSA and Divercity are seeking to appoint a research service provider with a strong track record in research with technical skills, expertise and experience within one or more of the fields below, for example:

- Urban Design and Town Planning
- Carbon life-cycle assessment (LCA)/ Carbon life-cycle accounting and reporting
- Carbon footprint analysis
- Carbon LCA modelling
- Greenhouse gas emissions assessment
- Embodied carbon assessment
- Urban carbon footprint analysis

Evidence of the above skills, expertise and experience should be provided in the proposal as stipulated in in section 4.2. of the RFP.

3.2.2. Project Tasks

Upon successfully being awarded the project, service provider shall carry out the tasks described below. The final scope of work will be finalised in consultation with the appointed service provider. Proposed adjustments to the tasks and deliverables may be made to the project committee. The project committee reserves the right to accept or decline the proposed changes.

Task 1: Framing of the research topic, carbon life-cycle analysis (LCA) methodology and study boundaries

The project committee would like to investigate the impact of development location on carbon emissions for two different housing brackets. The Project Committee have taken the following decisions that impact the scope of the research project:

- Geographical boundary: Johannesburg
- Urban locations: Central node and urban edge
- Housing brackets: Affordable housing and mid-market housing (considered separately)
- Occupant income bracket: Total household income of R10 000 to 20 000 (affordable housing) and R20 000 to 40 000 (mid-market housing)
- Occupant assumptions: 2 person household, no children, able to afford 30 % of total household income on rent or a bond
- Building typology scenarios: Compare a typical typology for affordable housing and a typical typology for mid-market housing. Typical typologies may include:
    - Studio units between 15m^2 and 35m^2
    - 2 bedroom unit between 30m^2 and 55m^2
    - Four storey walk-ups vs. medium rise (6 storey +)
- Quantifiable contributing factors to carbon emissions: unit typology, building type, transport (commuting) patterns, lifestyle patterns, access to amenities, job opportunities, domestic energy use, construction.

Based on the scope defined by the Project Committee and the inception meeting, the service provider will be required to frame the research topic and propose the most appropriate methodology to complete the research. The service provider will also need to recommend other quantifiable contributing factors in addition to those prescribed by the Project Committee.

Task 2:

Based on the initial workplan submitted in the proposal, the inception meeting and finalisation and acceptance of the inception report (Task 1), the service provider will be required to submit a full workplan. The project work plan should include a detailed scope of work and include the deliverables outlined in this RFP. Timelines should be included. Following the awarding of the contract to the successful service provider, the Project Committee anticipate that the project duration will be approximately 5 – 7 months.

Task 3: Completing the carbon LCA and data gathering

Following the approval of the inception report and the workplan, the service provider will undertake the research following the approved methodology. The initial data gathered as well as any uncertainty in the data will be presented to the Project Committee as an interim report. Should any uncertainty or limitations arise in the data and data gathering process, these should be disclosed to the Project Committee and recommendation should be made.

Task 4: Interpretation of the carbon LCA and data

Means to assess the carbon emission impacts of the different urban form will be devised, based on the results of the carbon LCA for the quantifiable contributing factors.

Task 5: Reporting

Draft reports summarising the methodology, data and results will be prepared and delivered for each of the task above as the work proceeds. These draft reports will inform chapters of the final report.

The final report will include all aspects of the work, including but not limited to: decisions and justification on the scope of the LCA, the data-gathering plan, the data gathered and its uncertainty, data gaps that need to be filled, the LCA, and the interpretation of the results.

A presentation will be developed and made to the Project Committee and invited attendees.

3.2.3. Deliverables

Based on the tasks outlined in section 3.2.2., the Project Committee proposes the following deliverables throughout the project which should cover all tasks in the mentioned section. Interim reports should include an update of the monthly progress aligned with the project tasks. Reports will be submitted monthly to the Project Committee and should include:

- Interim Report 1: Inception Report (Finalisation of the research question: Task 1 and 2)
- Interim Report 2
- Interim Report 3
- Draft Report

- Final Report and presentation to Project Committee

The information contained, and issues suggested, in the Terms of Reference are to be used as a general guide by the service provider. It is expected that the service provider will provide feedback on these items, and make additional suggestions on issues to be addressed by the work identified in this contract. All deliverables, and successful completion of the project, are subject to the acceptance and/or approval of the Project Committee.

To assist with coordination of this project, the service provider will communicate weekly by email and/or by telephone with the Project Committee with updates on the project. The service provider will describe briefly the status of tasks and any deviation from the work plan or the timelines in the proposal. Any changes to the schedule must be justified and accompanied with a solution that takes into account remaining timelines. Updates will include issues that the service provide is facing that may delay the schedule or jeopardise the expected quality of the final product. These updates are important to ensure collaboration and good communication between the Project Committee and the service provider, and ultimately the key partners in the project.

3.2.4. Structure of the Final Report

The final deliverable will consist of a Word and PDF report, complete with appendices as required, to address the issues and questions introduced in the Terms of Reference, as well as any other items raised during discussions between the service provider and the Project Committee.

The service provider may, subject to the approval of the Project Committee, change the suggested order of the final report from that implied by the Terms of Reference.

The final report should be developed in a reader- and user-friendly format targeted toward an audience with a wide range of experience, education, and varying knowledge of the built environment sector and its processes. It is recommended that an effective use of textual, visual (e.g., schematics) and mathematical information formats be incorporated within the report.

4. RFP Instructions

GBCSA and Divercity invite you as a service provider to submit a proposal covering the services described in Section 2.

The evaluation and awarding of the contract to a service provider will be conducted over two rounds. An expression of interest will form part of Round 1. Following the outcome of Round 1, the selected service providers will then participate in the second round of evaluation. In Round 2 evaluation, service providers will be required to present a proposal in further detail to the Project Committee. The full requirements of Round 2 evaluation will be communicated to the successful service providers of Round 1.

4.1. Participation

Service providers interested in participating should confirm by the 29 November 2019 of their intent to submit an expression of interest. Failure to confirm will signify that a potential service provider is not participating in the RFP. First round submissions (letters of expression of interest, per 4.2 below) are due on 20 January 2020.

All service providers confirming their participation should send the intent to respond to the attention of Alexandra Clayton (Project Manager) at alexandra.clayton@gbcsa.org.za.

4.2. Structure of reply expression of interest

Services providers who are interested in submitting an expression of interest should include the following in their Round 1 submission:

- Technical Approach and Methodology
- Work Plan
- Organisation and Staffing
- Indicative Fee Proposal

Technical Approach and Methodology In this section you should explain your understanding of the objectives of the research topic, approach to the services, how you would refine the research question, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output. You should highlight the problems being addressed and their importance, and explain the technical approach you would adopt to address them. You should also

explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach.

Work Plan In this section you should propose the main activities of the research, their content and duration, phasing and interrelations, milestones, and projected delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the RFP and ability to translate them into a feasible working plan.

Organisation and Staffing In this section you should include a company profile and propose the structure and composition of your team. You should list the main disciplines of the research, the key expert responsible, and proposed technical and support staff. Team experience and skills related to the research topic should be highlighted in this section.

Indicative Fee Proposal In this section please outline the proposed fee associated with delivering on the services identified. The final fee proposal will be confirmed with the service provider and Project Committee on appointment of the service provider.

The expression of interest should comprehensively and concisely include the above information in 5-10 pages. The expression of interest will not be considered to be your final research plan, but is rather intended to provide an indication of your intended approach. Based on the expressions of interest submitted, GBCSA and Divercity will select a limited number of consultants to engage with in more detail during the second round of selection. All expressions of interest should be submitted in PDF format via email to Alexandra Clayton (alexandra.clayton@gbcsa.org.za).

4.3. RFP related questions / clarifications

All potential service providers may request further clarifications in regards of this current RFP, by addressing questions in writing to the dedicated key contact identified below. These questions should be submitted to GBCSA before 29 November 2019, as per section 4.4. of the RFP. Answers to any questions submitted to GBCSA will be made available to all service providers who have indicated their intention to respond to the first round call for expressions of interest.

4.4. RFP timeline schedule

Process Steps	Responsible Party	Estimated Timelines
Launch RFP	GBCSA & Divercity	12 November 2019
Last day to send letter of Intent to Submit a Proposal	Service provider	29 November 2019
Last date for requests for clarification of the RFP	Service provider	29 November
Last date to reply to questions received/ Last date for amendment	GBCSA & Divercity	9 December 2019
Date by which letter of expression of interest must be received	Service provider	20 January 2020
Notification of outcome to all Round 1 proposals	GBCSA & Divercity	29 January 2020
Communication of Round 2 requirements with successful service providers	GBCSA & Divercity	29 January 2020
Round 2 presentations by service providers	GBCSA & Divercity and service provider	17 to 21 February 2020
Notification of outcome to all Round 2 proposals	GBCSA & Divercity	2 March 2020
Awarding of contract and contract negotiation	GBCSA & Divercity and service provider	2 to 6 March 2020
Project launch and inception meeting	GBCSA & Divercity and service provider	Week of 9 March 2020
Interim Report 1 submitted	Service provider	23 March 2020
Review and commentary of Interim report 1	GBCSA & Divercity	31 March 2020
Monthly Project Committee and Service Provider Meeting	GBCSA & Divercity and service provider	April 2020 (TBC)
Interim Report 2 submitted	Service provider	13 April 2020
Review and commentary of Interim report 2	GBCSA & Divercity	22 April 2020
Monthly Project Committee and Service Provider Meeting	GBCSA & Divercity and service provider	May 2020 (TBC)
Interim Report 3 submitted	Service provider	11 May 2020
Review and commentary of Interim report 3	GBCSA & Divercity	25 May 2020

Monthly Project Committee and Service Provider Meeting	GBCSA & Divercity and service provider	June 2020 (TBC)
Final Draft Report submitted	Service provider	19 June 2020
Review and commentary of Final Draft	GBCSA & Divercity	30 June 2020
Final report submitted	Service provider	24 July 2020
Presentation of report to Project Committee	Service provider	24 July 2020
Launch of Publication and Launch Event	GBCSA & Divercity	August/Sept 2020 (TBC)

4.5. RFP evaluation process

The decision to award any contract as a result of this RFP process will be based on Service Providers' responses and any subsequent negotiations or discussions. The decision-making process will consider the ability of each service provider to fulfil GBCSA and Divercity's requirements as outlined within this RFP and the cost of the offer.

Proposals will be assessed against the main following criteria but not limited to:

- Technical criteria
    - Project approach, methodology and planning
    - Experiences/skills, level of company representatives assigned to this project
    - Quality and applicability of proposal
    - Customer references / experience in related area and country
- Capacity to deliver
    - Reasonable timelines fitting with our requirements
    - Project management capabilities
    - Ability to conduct all activities (avoiding as much as possible outsourcing of activities)
    - Past experience with similar work
- Financial criteria
    - Realistic costing of the proposal with NGO rates whenever possible

4.6. RFP terms & conditions

a) This RFP is only an invitation for proposal and no contractual obligation on behalf of GBCSA & Divercity whatsoever shall arise from the RFP process unless and until a formal contract is signed between GBCSA & Divercity with the chosen service provider.

b) This RFP does not commit GBCSA & Divercity to pay any cost incurred in the preparation or submission of any proposal or to procure or contract for any services.
c) The issuance of this RFP in no way commits GBCSA and Divercity to make an award. GBCSA and Divercity are under no obligation to justify the reasons of their choice of service provider following the competitive bidding. GBCSA and Divercity may choose not to justify the decision to the participants of the RFP.
d) GBCSA and Divercity reserve the right to:
    i. Reject any proposal without any obligation or liability to the potential service provider.
    ii. Withdraw this RFP at any time before or after the submission of bids without any advance notice, explanation or reasons.
    iii. Modify the evaluation procedure described in this RFP.
    iv. Award all services to only one supplier or allocate parts of them to different suppliers according to the needs of GBCSA and Divercity.
    v. Request additional data, information, discussions or presentations to support each proposal. All bidders must be available to discuss details of their proposal during the RFP process.
e) Proposals submitted after the deadline are subject to rejection.
f) All offers should be submitted in an electronic format.
g) Service providers are responsible for disclosing any potential conflict of interest that may arise in fulfilling this project.
h) Service providers are responsible for ensuring the accuracy of information provided in support of their proposal. GBCSA and Divercity reserve the right to reject an awardee in the event of failure to disclose any material information, or material changes or errors in any information on which the award decision was based.
i) The proposed timelines in Section 4.4. indicate the process GBCSA and Divercity intend to follow. If there are changes to these timelines, GBCSA and Divercity will notify you in writing.

4.7. Key Contact

Georgina Smit

Head of Sector Development & Market Transformation

Green Building Council South Africa

Email Address: georgina.smit@gbcsa.org.za

Contact Number: +27(0) 21 486 7915

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