# REQUEST FOR PROPOSAL (RfP)

Baseline Study and Analysis on the Energy and Buildings Landscape of Quezon City

C40 Cities Climate Leadership Group, Inc.
120 Park Avenue, 23rd Floor
New York, NY 10017
United States of America

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# 1. C40 Cities Climate Leadership Group Inc. (“C40”)

C40 is a network of nearly 100 mayors of the world’s leading cities, who are working to deliver the urgent action needed right now to confront the climate crisis, and create a future where everyone, everywhere can thrive. Mayors of C40 cities are committed to using a science-based and people-focused approach to help the world limit global heating to 1.5°C and build healthy, equitable and resilient communities. Through a Global Green New Deal, mayors are working alongside a broad coalition of representatives from labour, business, the youth climate movement and civil society to go further and faster than ever before.

C40’s team of 200+ staff is headquartered in London, with offices in New York, Johannesburg, Singapore, Delhi, Rio de Janeiro, Copenhagen, Beijing and Paris, and individual staff based across 25+ different locations, with the Office of the Chair based in London.

The strategic direction of the organisation is determined by an elected Steering Committee of C40 mayors which is chaired by the Mayor of London, Sadiq Khan. Three term Mayor of New York City Michael R. Bloomberg serves as President of the C40 Board of Directors, which is responsible for operational oversight. A nine-person management team, led by Executive Director, Mark Watts, leads the day-to-day management of C40. C40’s three core strategic funders are Bloomberg Philanthropies, the Children’s Investment Fund Foundation (CIFF) and Realdania.

To learn more about the work of C40 and our cities, please visit our Website, or follow us on Twitter, Instagram, Facebook and LinkedIn.

# 2. Overview of Quezon City

**Quezon City**

As one of the most urbanized and populous cities in the Philippines, Quezon City has committed itself to ramping up its climate action initiatives in meeting its goal of reducing carbon emissions by 30% in 2030 and working towards net zero emissions by 2050. In 2021, with technical assistance from C40, Quezon City launched the Enhanced Local Climate Change Action Plan (LCCAP) for 2021-2050. It encapsulates the city’s ambitious climate actions that were crafted through scientific and evidence-based analyses and covers mitigation, adaptation, and equitable benefits to its citizens.

In its Enhanced LCCAP, Quezon City identified seven thematic priorities to chart its way towards being a carbon neutral, resilient, and inclusive city. Two of these thematic areas include: (1) Building climate-smart industries and services by promoting green, energy-efficient and resilient buildings; and (2) Sustainable energy through adopting renewable energy sources.

Emissions from stationary energy are the largest contributor to greenhouse gas emissions in Quezon City. 51% of these energy-related emissions are attributed to

commercial and institutional buildings and is followed by manufacturing and construction (25%) and residential buildings (24%). In 2009, the city passed a Green Building Ordinance which is now subject to revisions and amendments to raise minimum energy efficiency requirements, improve its incentives mechanisms, and increase compliance with the code.

# 3. Summary, Purpose, and Background of the Project

## 3.1 About the Programme

The **Climate Action Implementation (CAI) Southeast Asia Programme** is part of a new, broader UK Government funded **Urban Climate Action Programme (UCAP)** that aims to work with cities in Africa, Latin America, and Southeast Asia to implement high impact, priority climate actions and to integrate climate action into city plans, processes and structures. In Southeast Asia, the programme will work with Quezon City, Jakarta, and Kuala Lumpur.

The CAI Programme will provide technical assistance and capacity building to the three cities in the region to enable action implementation in one key sector: energy & buildings. The actions to be implemented in the region centre on developing building codes and roadmap for passive and active systems towards net-zero buildings, establishing building energy performance monitoring systems, and developing municipal building decarbonisation action plans.

This programme focuses on the particular policies and projects that can deliver the most significant emissions and risk reduction impact and wider benefits in support of a green and just recovery from the COVID-19 pandemic. The programme also aims to engage other cities across the region to share knowledge and lessons learned on climate action implementation.

## 3.2 Selected Priority High Impact Actions for Quezon City

**Priority Action 1:** Policies and actions to promote green, energy efficient and resilient buildings and establishments in Quezon City

This refers to the crafting of policies and promoting actions that will improve energy efficiency in government-owned, residential, commercial, institutional, and industrial facilities in Quezon City. This includes the aligning of relevant local plans and processes such as improving the performance requirements of the local Green Building Code as well as the associated incentivisation of green, energy efficient measures.

**Priority Action 2:** Actions to expand adoption of renewable energy in government-owned, private, and residential buildings

This refers to the actions to expand and increase renewable energy uptake of the residential and private sector of Quezon City by supporting the solarization of Quezon City through municipal pilot projects and developing incentive schemes.

## 3.3 Purpose

The UKAID CAI Programme in Southeast Asia is looking for a consultant or a consultancy firm/consortium **to conduct a baseline study and analysis on the energy and buildings landscape of Quezon City by integrating the approach of energy epidemiology**. The aim of this baseline exercise is to develop an understanding of the status quo of the city, i.e., the levels of stationary energy which are disaggregated by sector and building typology, i.e., municipal, commercial, institutional, industrial, residential, etc. (consumption side) and the type of facility or energy resource (production side) within the boundaries of the city, the health and operation of the city's building stock, and the facilitating and hindering factors surrounding the city's adoption of energy efficiency and conservation (EE&C) practices, renewable energy (RE) technologies, and green building standards. Part of the baseline data should feed into the greenhouse gas inventory (GHGI) needs of the city as well as the benefits analysis on building retrofits (i.e., locally-relevant data which are related to climate action, fuel, economy, and health).

The report is to be prepared using primary data through historical energy consumption and production (energy bills and equivalent), monitoring tool or equipment (e.g., energy metres, smart metres, data loggers and acquisition systems, and professional energy data simulation), surveys, interviews, etc. and secondary data and information received and gathered from the city, government agencies, industry players, technology manufacturers, and stakeholders as well as reports and studies. As this is a short-term consultancy, the proposal must be able to demonstrate the most appropriate scientific and innovative methods to collect and analyse energy, buildings, and allied data of the city within the limited time frame. Further, the consultant should propose the most feasible and best methodology if primary data is not possible to be collected. The analysis in the report should represent the current situation and must be adapted for the information and utilisation of the city officials and C40.

Energy epidemiology refers to the approach of studying the energy demand to improve the understanding of variations and causes of differences within an energy-consuming population.[1] A brief introductory video of this topic can be found here[2]. In the context of the city, energy epidemiology considers the complexity of interactions between:

- the physical and engineered systems (the buildings, energy-consuming equipment and appliances, and the like);

[1] Hamilton, I., Summerfield, A., Oreszczyn, T., & Ruyssevelt, P. (2017). *Using epidemiological methods in energy and buildings research to achieve carbon emission targets*. London: UCL Energy Institute. Retrieved from ScienceDirect: https://www.sciencedirect.com/science/article/pii/S0378778817310940

[2] Link to video: https://vimeo.com/290859114

- socioeconomic conditions which describe the differences between groups of the population (people, businesses, and the city and its subdivisions) relating to their social class and financial situation (economic habits); and
- the individual interactions, behaviours, and practices of occupants.

By integrating energy epidemiology into this baseline study, real energy and allied data at scale can be used as evidence base for city planners and policymakers to develop transition pathways (regarding local policy/code updating as well as roadmaps and action plans on net zero carbon buildings and EE&C) and future strategy (conduct of energy audits, prioritisation of buildings and projects for retrofits, deployment of RE systems, development of energy management systems, etc.) to substantial and long-term reductions in energy use and carbon emissions associated with buildings. Further, the results of this local study can be used and scaled up to influence national policies and strategies. From a wider perspective, the information can help update and support the industry, technology manufacturers, and innovators in the development and enhancement of the performance of low energy and low carbon solutions. Further, the sets of data collected in the baseline study can inform organisations such as nonprofits and financial institutions in order to come up with appropriate frameworks to support the different sectors and actors of the city.

## 4. Key Activities and Deliverables

At the minimum, the proposal and the study should be able to respond to the following subtasks and proposed activities:

**Subtask A:** City-level baseline energy data availability, collection, disaggregation, and comparative analysis

- Perform a needs assessment and gaps analysis on the city's energy and buildings landscape
    - Identify the city stakeholders' needs on energy and building data (i.e., determine the set of high impact indicators that can be feasibly collected and will provide a meaningful foundation for the development of decarbonisation roadmaps for buildings through the energy epidemiology lens)
    - Determine the currently available energy and building data and perform a data gaps analysis which can inform the level of details of the consultant's work plan (partly, this also includes figuring out a way to access historical utility data and engaging the city in what role it could play in accessing the same in terms of its municipal buildings and private buildings)
- Survey methods on energy and building data structure, reporting, and collection
- Assist the city with the appropriate methodology on energy data structure, reporting, monitoring, and disclosure
- Collect essential, high quality energy and building stock data which are

then disaggregated per sector and building typology and other relevant criteria *(see Energy and Building Stock Representative Data below)*

- Benchmark energy and building metrics that were considered important during the needs analysis and deemed essential by the city stakeholders, some of which can be the following:
    - Energy use intensities (EUIs) in different building sectors (residential, commercial, institutional, industrial, and city-owned assets) as well as in the subsectors (e.g., apartments, condominiums, single-attached/detached homes, etc. for residential buildings) to see which energy services, sectors, and particular buildings to prioritise for future projects
    - EUIs compared across business-as-usual and green building-aligned cases as well as in terms of the age/lifetime of buildings
    - Greenhouse gas emission intensities
    - Energy efficiencies of building envelopes (e.g., the OTTV or Overall Thermal Transfer Value, WWR or Window-to-Wall Ratio, etc.)
- Analyse empirical data of populations of energy and buildings by also correlating allied data, such as (but not limited to) socioeconomic factors, EE&C and RE awareness levels, and behaviours/practices of occupants

**Subtask B:** Understanding of the facilitating and hindering factors regarding the city's adoption of EE&C practices, RE technologies, and green building standards

- Identify and map the key enabling regulatory systems (e.g., policies, procedures, incentive schemes, financing mechanisms, etc.) for the successful uptake of low energy and low carbon solutions (subnational circumstances preferred)
- Provide insights or recommendations on how the city should work with its stakeholders for the adoption of EE&C practices, RE technologies, and green building standards
- Identify key motivators and hindrances for the adoption of renewable energy in the residential sector across different economic classes
- Determine the associated co-benefits as well as the unintended consequences of the energy and buildings actions on different sectors of the city including the vulnerable sectors (women, elderly, youth, indigenous people, low-income communities, and marginalised groups)

**Subtask C:** Presentation of the baseline study on the city's energy and buildings landscape through the most appropriate formats

- Prepare the draft baseline study for consultations with stakeholders
- Prepare and publish the final baseline study report
- Partner with C40 to engage city officials and other stakeholders in the presentation of the technical study

**Energy and Building Stock Representative Data:**

The following table shows a number of energy and building data needs. The data sets must be reconfirmed during the needs and gaps analysis.

| |
|---|
| **1. Energy supply**<br>● Types of fuel and their corresponding emission factors ($CO_2$, $CH_4$, $N_2O$, and/or $tCO_2e$) as per local/national electricity grid and sources<br>● Data on conventional sources of energy generated within the city (annual production and trend)<br>● Data on renewable sources of energy (including those for own use and net-metered buildings) generated within the city (annual production and trend)<br>● Planned power plants in the city<br>● Energy mix (includes the RE mix in terms of local generation and regional/national grid)<br>● Energy tariffs |
| **2. Energy demand and active elements**<br>● Energy usage disaggregated per building typology/index (public, commercial, residential, etc.) and other relevant criteria<br>● Energy use intensities (compared across business-as-usual, retrofitted, and green building-aligned cases)<br>● Breakdown of energy services/uses (space cooling, lighting, heating, ventilation, refrigeration, pumps and motors, consumer electronics, etc.)<br>● Daytime and nighttime usage<br>● Peak demand<br>● Future trends<br>● Energy costs (including its share in the monthly income)<br>● Access to and levels of usage of efficient technologies and interventions (e.g., use of air conditioning equipment with high EER or inverter technology, LED lights, high efficiency motors, employment of BMS or building management systems, insulation of hot and cold pipes, etc.) |
| **3. Energy management and initiatives**<br>● Availability and presence of energy managers and officers as well as building control specialists<br>● Status of facility energy monitoring and reporting<br>● Access to and status of energy audits (citywide and city-owned assets)<br>● Energy efficiency and conservation measures adopted (citywide and city-owned assets) and quantified in terms of reduction in energy demand and financial savings<br>● Current payback periods of several energy retrofit projects<br>● Value of subsidies provided for energy efficiency improvements<br>● Number and percentage of buildings with ISO 50001 Energy Management System in place |
| **4. Building specifics and its envelope**<br>● Typologies and breakdown of buildings<br>● Floor areas of buildings<br>● Age/lifetime of buildings |

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|---|
| • Passive design elements (ventilation and cooling)<br>• General properties (wall and roof colours and materials)<br>• Air tightness of building envelopes<br>• Glass properties (WWR or Window-to-Wall Ratio and materials)<br>• Roof insulation (materials, thickness, and R-value)<br>• OTTV or Overall Thermal Transfer Values of walls and roofs<br>• Vernacular architecture (materials and design)<br>• Indoor temperature of different types of buildings (cooled and uncooled spaces)<br>• Number and percentage of homes vulnerable to excessive heat (including mortality data due to heat)<br>• Occupancy of buildings<br>• Ownership and lease of commercial and residential buildings (e.g., % owned and % rented, etc.)<br>• Building maintenance costs<br>• Rough cost estimates of retrofits per building type (costs of green buildings against business as usual buildings, preferably in cost per floor area)<br>• Number and percentage of issued building permits which are compliant with the city's green building code or low carbon building checklist<br>• Number and percentage of existing buildings retrofitted to meet green building standards<br>• Number and percentage of new housing units built with improved energy efficiency measures and classified as affordable or public housing |
| **5. Other building elements**<br>• Access to and levels of usage of water efficient fixtures<br>• Rainwater harvesting<br>• Water reuse and recycling<br>• Materials selection (usage of non-toxic building materials)<br>• Waste management practices (including how waste resulting from building retrofits are managed)<br>• Site sustainability (e.g., open space utilisation, etc.)<br>• Indoor environmental quality |
| **6. City-specific needs**<br>• Baseline energy data (and assessment) of selected public buildings targeted for the city's upcoming solarization project: (1) 50 public schools and/or hospitals in its first stage; (2) all remaining public schools and hospitals in its second stage; and (3) all remaining technically-suitable public buildings in its third stage |

**Deliverables:**
The initially proposed steps to carry out the work are presented below. It can be adjusted/refined as the work progresses.

| Tasks | Deliverables | Timeline |
|---|---|---|
| **Initialisation** | Updated work plan; agreed scope | By 18 November |

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|---|---|---|
| | and methodology<br><br>Energy and buildings data needs assessment and gaps analysis which can inform the level of details of the work plan | 2022<br><br>2 weeks after inception meeting (by the end of November) |
| **Subtask A:** City-level baseline energy data availability, collection, disaggregation, and comparative analysis | 1. Format and appropriate methodology on energy data collection, reporting, monitoring, and disclosure for the city to adopt<br><br>2. Disaggregated and analysed data on energy & building stock<br><br>3. Benchmarking of energy and building metrics (e.g., EUIs, GHG intensities, energy efficiency of building envelopes, etc.)<br><br>4. Correlation of energy & building stock data with relevant allied data (e.g., socioeconomic factors, awareness levels, occupant practices, etc.) | Dec 2022 - Jan 2023<br><br>Dec 2022 - Mar 2023<br><br>Mar 2023<br><br>Mar 2023 |
| **Subtask B:** Understanding of the facilitating and hindering factors regarding the city's adoption of EE&C practices, RE technologies, and green building standards | 1. Mapping of key enabling regulatory systems for successful uptake of low energy and low carbon solutions<br><br>2. Provision of insights or recommendations on how the city should work with its stakeholders for the adoption of EE&C practices, RE technologies, and green building standards<br><br>3. Identified key motivators and hindrances for the adoption of renewable energy in the residential sector across different economic classes | Feb 2023<br><br>Feb 2023<br><br>Mar 2023 |

| | | |
|---|---|---|
| | 4. Determination of the co-benefits as well as the unintended consequences of energy & buildings actions | Mar 2023 |
| **Subtask C:** Presentation of the baseline study on the energy & buildings landscape | Presentation of the baseline study/analysis results<br><br>Submission of final baseline study report/document (e.g., final report, presentation deck, relevant infographics, briefer of the report, etc.) | By 3rd week of Mar 2023<br><br>By 4th week of Mar 2023 |

Editing, formatting and presentation of electronic files should be of a consistent, professional and publishable standard. All documentation to be shared with cities or other external partners should only feature C40's name and logo; successful bidders may not use their own name(s) or logo(s) except with prior written permission by C40. All project deliverables, reports and documentation, content and intellectual property will be owned by C40.

# 5. Proposal Guidelines

This Request for Proposal represents the requirements for an open and competitive process. Proposals will be accepted until **11:59 PM (PST) of October 25, 2022**. Any proposals received after this date and time will not be accepted. All proposals should include clear timelines, how you will work with C40, clear costs and detail on experience in this area. Proposals should be presented with costs including tax and administrative fees.

The proposal should give C40 evaluators all the information they need to assess your bid. Submissions should include:

- A summary of your understanding of the project and scope of work
- Description of your proposed approach to the scope of work, including a proposed methodology for conducting the baseline study/analysis and presenting the results. We would welcome innovative approaches.
- Information about the organisation's commitment to equity, diversity and inclusion and ethical alignment with C40
- List of key personnel who would be working on the contract, their job titles and responsibilities on the project. Please include relevant experiences and expertise and limit CVs to maximum one (1) page per person.
- Brief description of technical expertise and experience on relevant topics: energy efficiency and conservation, renewable energy, sustainable buildings, climate change, local government, and just transition
- Examples of previous relevant work in relation to project preparatory work, baseline study of energy & buildings, and energy/resource management, highlighting key outputs and impacts achieved

- Tax compliance certificate
- Risk analysis and mitigation plan
- Timeframe for your tasks and completion of the project
- A full, detailed project budget breakdown of deliverables and costs inclusive of taxes and hours allocated to tasks per project team member and daily rates of project team needs to be included in the submission.

**Please note:** Proposals should be written in English, saved in PDF format and **should not exceed eight (8) pages** of text. Reference material may be placed in annexes.

## 5.1 Supplier Diversity

C40 is committed to supplier diversity and inclusive procurement through promoting equity, diversity and inclusivity in our supplier base. We believe that by procuring a diverse range of suppliers, we get a wider range of experiences and thoughts from suppliers and thus are best able to deliver to the whole range of our diverse cities and the contexts that they operate within.

We strongly encourage suppliers (individuals and organisations) that are diverse in terms of size, age, nationality, gender identity, sexual orientation, majority owned and controlled by a minority group, physical or mental ability, ethnicity and perspective to put forward a proposal to work with us.

Feel welcome to refer to C40's Equity, Diversity and Inclusion Statement as supplier diversity and inclusive procurement is one element of applying equity, diversity and inclusion to help the world limit global heating to 1.5°C and build healthy, equitable and resilient communities.

## 5.2 Contract

Please note this is a contract for professional services and not a grant opportunity. Organisations unable to accept contracts for professional services should not submit bids. The work will be completed on the C40 Standard Service Provider Agreement.

These terms and conditions are non-negotiable. Organisations unable to accept them as drafted should not submit bids in connection with this opportunity. If C40 is unable to execute a contract with the winner of this competitive process, we reserve the right to award the contract to the second highest bidder.

## 5.3 Subcontracting

If the organisation submitting a proposal needs to subcontract any work (or submitted as a consortium) to meet the requirements of the proposal, this must be clearly stated. All costs included in proposals must be all-inclusive of any outsourced or contracted work. Any proposals which call for outsourcing or contracting work must include a name and description as well as the specific individual / personnel identified through their CVs / resume of the organisations being contracted.

## 5.4 Programme Management

The Head of Implementation (Southeast Asia), the Technical Adviser for Energy & Buildings (Southeast Asia), and City Adviser for Quezon City from C40 will oversee the project and be active partners. The successful bidder will be expected to foster close and constructive working relations with the Technical Adviser and City Adviser. All interim deliverables and change requests will need to be approved by the C40 team. As part of the project management, an inception meeting will be required, along with fortnightly project meetings (as agreed upon).

# 6. RfP and Project Timeline

| **RfP Timeline** | **Due Date** |
|---|---|
| Request for proposals sent out | September 28, 2022 |
| Questions submitted to C40 | September 29 to October 20, 2022 |
| C40 responds to questions | October 18, 2022 |
| Deadline for receiving offers | October 25, 2022 |
| Evaluation of proposal | October 26 to November 8, 2022 |
| Successful suppliers notified of outcome | November 9, 2022 |
| Inception meeting | November 10 or 11, 2022 |
| Agreed scope and methodology | By November 18, 2022 |

# 7. Proposal Evaluation Criteria

Proposals will be evaluated against the following criteria and weight:

| **Evaluation Criteria** | **Weight (%)** |
|---|---|
| Project delivery approach proposed, including project management approach (ability to deliver outputs on time and with quality) | 30 |
| Expertise and experience of the bidder across the topics of energy and buildings, including previous/existing work and methods that can be drawn on | 40 |
| Value for money<br>● Economy: minimising the cost of resources used / spending less<br>● Efficiency: the relationship between the output from goods/services and the resources to produce them<br>● Effectiveness: the relationship between the intended and actual results<br>● Equity: the extent to which services reach the intended recipients fairly | 20 |
| Equity and ethical alignment considerations:<br>C40 is looking to appoint an organisation that shares our values and is grounded in the context of the local community.<br>Consideration will focus on:<br>● location of organisation (preference will be given to locally based organisation)<br>● organisation which has prior experience in engaging multiple sectors<br>● women and youth | 10 |

# 8. Project Budget

Costs should be stated as one-time or recurring costs. The budget is between **USD 25,000 to USD 35,000**. Note that all costs should be included (taxes, tools, equipment, transportation, meals, accommodations, etc.), as the budget above represents the total amount available. Proposals should include a budget breakdown of the tasks and deliverables.

Cost for workshops should **exclude** the cost for catering and venue hire, these costs will be covered by C40. All budgets are to be prepared in **USD and PHP** (please list exchange rate used).

All costs incurred in connection with the submission of this RfP are non-refundable by C40.

Payment will be made periodically based on the satisfactory completion of deliverables as outlined in the Payment Schedule below. Please note, C40 does not pay contractors more frequently than once per month.

**Payment Schedule**

| **Component & Activities** | **Deliverables** | **Payment (%)** |
|---|---|---|
| Initialisation | Updated work plan and packages by 18 November<br><br>Energy and buildings data needs assessment and gaps analysis which can inform the level of details of the work plan by end of November 2022 | 10 |
| Subtask A (1 and 2)<br>Subtask B (1 and 2) | Draft interim report 1 in early-February 2023 | 25 |
| Subtask A (3 and 4)<br>Subtask B (3 and 4) | Draft interim report 2 in early-March 2023 | 25 |
| Subtask C | Presentation of the baseline study/analysis results including all Subtasks in March 2023<br><br>Submission and acceptance of final baseline study report/document (e.g., final report, presentation deck, relevant infographics, briefer of the report, etc.) by end of March 2023 | 40 |

# 9. Compliance with C40 Policies

C40 expects third parties to  able to abide by these C40 policies:

- Ethical Business Conduct Policy here
- Environmental Policy here
- Equity , Diversity and Inclusion Policy here
- Safeguarding Policy here
- Whistleblowing Policy here
- Global Travel and Expenses Policy (if applicable) here

# 10. Submissions

Each bidder must submit one (1) copy of their proposal to the email address below by **October 25, 2022 at 11:59 PM (PST)** to **Wyda Swestika, CAI SEA Programme Officer**, at cai_sea@c40.org.

All questions related to this RfP by potential bidders should be directed by email to cai_sea@c40.org.

**Disclaimer**

C40 will not accept any liability or be responsible for any costs incurred by bidders in preparing a response to this RfP.

Neither the issue of the RfP, nor any of the information presented in it, should be regarded as a commitment or representation on the part of C40 (or any of its partners) to enter into a contractual arrangement. Nothing in this RfP should be interpreted as a commitment by C40 to award a contract to a bidder as a result of this procurement process, nor to accept the lowest price or any tender.