



Terms of Reference

for

“Study and Technical Guideline for Heat-Resilient and Sustainably Cooled Buildings in Vijayawada city, Andhra Pradesh”

Location: Vijayawada city, Andhra Pradesh, India

Type of Consultancy: Independent consultants or Firms

Proposal Submission Deadline: 16th September 2024

Indicative Starting Date: 25th September 2024

(date when the selected consultant(s) is expected to start)

Envisaged Duration of Contract: 3 months

1. Introduction

ICLEI – Local Governments for Sustainability is a global city network association of more than 2500 local and regional governments committed to sustainable urban development. ICLEI South Asia, the South Asian arm of ICLEI, works with regional and city governments in the South Asian region through programs and projects on climate change and urban sustainability.

ICLEI South Asia, with the support of C40 Cities, is implementing the ‘Mainstreaming Climate Action in Three Cities of Andhra Pradesh’ project. The project aims to mainstream climate considerations in planning, financing, and delivery of services at the city level and supports city governments in three project cities of Vijayawada, Kakinada and Visakhapatnam. The project aims to develop city-wide multi-sectoral climate action plans in Kakinada and Vijayawada, led by the respective municipal governments. Technical assistance to support and facilitate high-impact and bankable climate actions in Kakinada and Vijayawada is also being provided.

1.1 Assignment Overview

Considering the Vijayawada’s climatic conditions and the growing built-up area and economic activity, it is essential to promote and develop heat resilient buildings in the city to cope with urban heat island impacts and overall growing energy demand in a sustainable manner. Through baseline assessments of Vijayawada’s municipal level energy consumption, municipal buildings have been identified as a potential area for interventions. A detailed study is required to understand the existing baseline, space cooling practices and identify opportunities for sustainable, energy efficient and low carbon cooling interventions in the city’s buildings.

In this regard, ICLEI South Asia aims to provide technical assistance to Vijayawada Municipal Corporation (VMC) to develop a technical guideline document for ‘Heat-Resilient & Sustainably Cooled Buildings’ that includes active and passive measures encompassing low carbon space cooling technologies and solutions as well as recommendations for building envelope design with technical specifications. The aim is to optimize occupant thermal comfort, cooling energy and sustainability performance of existing and future buildings, considering Vijayawada’s climate and local context.

Further, a technical evaluation is to be undertaken for one existing institutional building (educational building anticipated) to identify specific solutions and interventions for implementation, helping achieve improved thermal comfort and efficiency. Outcomes from the technical assistance will help VMC’s efforts to implement appropriate interventions and projects, thereby enabling low-carbon transition in the municipal corporation’s buildings.

ICLEI South Asia seeks expert consultancy services (individual or organization) to assist VMC in showcasing the potential for development of sustainably cooled and heat resilient buildings and to deliver practical easily adoptable guidelines and specifications for design and construction of green and energy efficient public buildings.

2 Scope of Work

2.1 Objective and tasks

Task 1: Technical Guideline for heat resilient and sustainably cooled buildings in Vijayawada

This task aims to develop a technical guideline document that includes active and passive measures encompassing low carbon space cooling technologies, solutions as well as recommendations for building envelope design with technical measures, specifications and criteria to optimize building cooling energy and sustainability performance of existing and future buildings, considering Vijayawada's climate and demographic context.

As part of this task, building typologies such as institutional/public and community housing will be selected and addressed for the proposed study and guideline development. For representation in the study and to develop the guideline, it is expected that up to six buildings in total from categories such schools, hospital, auditorium, public offices, and social housing will be covered and interventions will be identified for specific building typology.

As per the list of identified buildings to be addressed in the study, wherein the consultant is expected to conduct walk-through visits (see section 3). It is to be noted that site visits are primarily for understanding local context and space cooling practices and improvement opportunities and measures, wherein detailed audits are not expected. The findings and recommendations will be used to develop the locally applicable technical guideline for heat-resilient and sustainably cooled buildings.

Technical guideline- Proposed scope of work and approach:

- Develop technical guideline document that is easy to understand, contextualized to Vijayawada's local conditions and includes relevant building design and construction techniques to improve building's thermal performance along with recommendations on energy efficient cooling equipment/appliances to improve building energy performance in its lifecycle.
- Identify relevant retrofitting measures, centralised as well as decentralised, for target buildings and their occupancy areas considering no/low-cost, medium cost and investment grade solutions along with suitable case studies and best practices.
- Following aspects are expected to be considered and incorporated by the consultant while preparing the technical guidelines:
 - **Building envelope design and materials**
 - To prioritize thermal comfort, minimize heat ingress in the building and reduce urban heat island effect in line with Vijayawada's climatic conditions
 - Conditions and technical specifications relating to passive building envelope design strategies and building elements (walls, roofs, windows) including minimum compliance criteria for aspects such as window to wall ratio, cross ventilation, orientation, window glass/glazing (U-value, SHGC, VLT) for optimum indoor thermal comfort.

- Conditions and technical specifications for building materials and mixes with better thermal performance than typical concrete mixes; envelope materials; recommendations for the use of eco-friendly, bio-degradable, recycled materials, agricultural, industrial by-products, low-carbon pre-fabricated components, certified green materials, paints (low VOC, high SRI), among others.
 - Consultant may develop a list of materials with better thermal performance that are low carbon, contextually suitable, certified, tested and commercially available in the region.
- **Energy efficient equipment**
 - Recommend energy efficient mechanical cooling equipment/appliances (for centralized/de-centralized cooling systems) for the key building typologies identified above; accompanied with their specifications and criteria including but not limited to star rating, energy load, wattage, coefficient of performance, low-carbon or CFC-free refrigerants, and air-conditioning systems, among others to maximize operational energy efficiency
- For material, construction techniques, equipment, technology and appliance recommendations, the consultant shall include appropriate references for the respective items. Such references may include manufacturer details, technical specifications, installation method (in case of materials and construction techniques) and O&M criteria. These references can be in the form of web hyperlinks and/or published literature.
 - Building level energy performance comparison can also be looked at considering Vijayawada's existing building energy performance vis-à-vis optimum/high energy performance buildings of the similar typologies from the region. For instance, EPI benchmarks of efficient buildings such as offices, auditorium, schools, among others vis-à-vis EPI of Vijayawada's shortlisted buildings.
 - Based on the site visit and available data, provide comparative analysis of the proposed sustainable, energy efficient and low carbon cooling solutions vis-à-vis conventional solutions in terms of energy and costs savings to showcase benefits.
 - It is recommended to include key technical specifications of the proposed technologies for the decision makers to understand, compare and assess the existing practices vis-à-vis proposed.
 - Wherever applicable/necessary, official databases, Acts, GRs, policies, bye-laws and notifications applicable to Andhra Pradesh and Vijayawada shall be referred and cited.
 - The guideline and recommendations shall align with standards such as ECBC 2017, prevalent green building rating systems, and applicable state/local building regulations in consultation with VMC and ICLEI South Asia in order to ensure compliance and certification of future public buildings.
 - Consultant may structure the technical guideline considering different building phases such as design, construction, operation & maintenance with end-of-life aspects if relevant and integrate recommendations for different building typologies or vice-versa. The structure will be mutually decided between consultant and ICLEI South Asia team. This will help city officials for informed decision making, and achieve building energy performance throughout the building life cycle.
 - For suggested energy intensive cooling solutions, provide high level estimation of decentralized RE solutions such as rooftop solar PV system size with ballpark cost to inform on the clean

energy supply requirements for the proposed space cooling solution. For large size buildings with higher electricity demand, RE energy supply solutions such as open access and others shall be briefly elaborated.

- Recommend policy and financing interventions (including state and national level schemes and programs) to support key decision makers for initiating on-ground implementation of the identified solutions in public buildings.
- Provide case studies as possible for the proposed solutions/recommendations with in-depth information such as technology adopted, project costs, energy saving potential and adopted financing mechanism.
 - National/international case studies highlighting role of local and regional governments in mainstreaming low carbon cooling in cities will be beneficial.
- It should be noted that the technical guideline and its related outputs/tools, shall be structured and designed to be practical, easy to understand/interpret, and apply for the intended audience and purpose.

Task II: Evaluation study to identify project interventions for implementation at one school building

Following approach and aspects are expected to be considered and incorporated by the consultant while conducting the evaluation study for the school building:

- Undertake visit at the identified building to understand the building conditions, collect high-level baseline information such as built-up area, total electricity consumption (monthly & yearly), and space cooling practices including building ventilation.
- Consultant shall study the building layout, site, building envelop, occupancy type and size thoroughly to inform customized recommendations for the building.
- Consultant shall undertake software-based building energy modelling and simulation to assess school building's current thermal performance for different seasons of Vijayawada, by incorporating the available data of site drawings and building materials as well as findings from the site visit.
- Based on the results of the simulation, consultant shall suggest the appropriate retrofit measures and showcase the results through the simulation iteration. For instance, if forced ventilation is proposed at certain areas in the school, then the simulation diagrams can be shown to showcase the improved thermal performance.
- Low cost retrofit measures that can improve occupant thermal comfort significantly shall be prioritized, school children in this case.
- It is recommended to add a list of key solution providers along with ball park costs for different technologies and interventions proposed along with cost-benefit analysis.
- Undertake pre-feasibility study for optimum rooftop solar PV installation on the school building to meet maximum energy demand. Aspects such as net metering, technical specifications of solar panels meeting minimum efficiency criteria, type, ideal orientation, rooftop mounting structure, recommendations for effective use of rooftop space as well as ease of panel mounting with facilities for maintenance shall be addressed considering the existing roofing conditions such as overhead water tank in order to avoid shadows on the solar panels.

NOTE:

- ICLEI South Asia team members will liaise with the city government and with the consultant/external agency, support information gathering, facilitate scheduling of site visit and meetings, offer technical inputs to consultant/ external agency. ICLEI South Asia will undertake overall monitoring of activities for this assignment.
- Consultant is expected to undertake at least two visits to Vijayawada for on-site audits, meetings and presentation of findings and outcomes.

3 General Building Information

Following table below provides the basic information of the shortlisted potential buildings such as location, approximate built-up area, and the building typology.

Building Category	Building Details	Site location
Assessment to identify improvement areas and develop technical guidelines		
Offices	Building 1: Approx. Built-up area: 7,800 sq. mt No. of floors: 2	https://maps.app.goo.gl/kuYMdeKtjH1DdY8Q9
	Building 2: Approx. Built-up area: 15,700 sq. mt No. of floors: 10	https://maps.app.goo.gl/iBkvkcdNSG2w7uhRA
Auditorium	Building 3: Approx. Built-up area: 1,750 sq. mt. No. of floors: Ground floor	https://maps.app.goo.gl/4E6ixUrE7FcuZg7Y9
Hospital	Building 4: Approx. Built-up area: 76,200 sq.mt No. of floors: 3, Super Speciality Block – 6 floors (Walk-through visit of entire facility is not anticipated)	https://maps.app.goo.gl/ZVLFxKk2WZK3VLcP8
Public Housing	Building 5: Dwelling units: 6,576No. of floors: 4 (Walk through visit and analysis is expected only for representative 1-2 building blocks and units therein)	https://maps.app.goo.gl/gmZw4dVi67yPvfrC7

Building Category	Building Details	Site location
Evaluation study to identify project interventions for implementation at one building		
School	Total built-up area: 4,500 sq.mt with 4 blocks in total No. of floors: 2 and 3	https://maps.app.goo.gl/UmAjD4CjErUquRPx8

4 Deliverables

- Task 1: Study and Technical Guideline for the heat-resilient and sustainably cooled buildings in Vijayawada:** Easy-to-understand technical recommendations encompassing active and passive strategies such as sustainable cooling technologies as well as building envelope retrofitting measures for making existing and upcoming buildings heat resilient. The proposed guideline and the interventions are aimed to serve as a model demonstration within municipal corporation's owned buildings showcasing city's leadership and intent to reduce end-use GHG emissions.
- Report on implementable project interventions for one building:** Based on the technical evaluation, a final report to appropriately capture the technical methodology, analysis, findings from the evaluation process, appropriate recommendations and interventions justified with techno-economic feasibility analysis, including cost estimates.

The consultant is expected to present findings and recommendations of the Task to ICLEI South Asia and VMC. Final reports and documents shall be submitted after addressal of comments and inputs provided by ICLEI South Asia and VMC to the draft reports.

5 Project timeline, payment and assignment execution

5.1 Timeline of Project

No	Activity/Deliverable	Timeline
1	Publication of Terms of Reference on ICLEI South Asia Website	2 nd September, 2024
2	Last date of acceptance of proposals	16 th September, 2024
4	Issuance of work order to winning bidder	1 week from final date of acceptance of proposals
5	Submission of draft deliverables of Task 1 from Scope of Work	2 months from hiring of expert consultant/agency
6	Submission of draft deliverables of Task 2 from Scope of Work	1 month from hiring of expert consultant/agency
7	Completion of all activities and submission of final documents and deliverables of Tasks I	3 months from hiring of expert consultant/agency

	(post addressal of all comments from ICLEI South Asia and VMC)	
--	--	--

5.2 Payment Schedule

The fee is payable upon satisfactory completion and acceptance of the deliverables by ICLEI South Asia. Breakdown of deliverables and payment disbursement is as follows:

- 40% of total work value on signing of work order.
- 30% of total work value on submission of final documents and deliverables for Task 1 from Scope of Work
- Remaining 30% of total work value upon satisfactory completion of remaining tasks and submission of final documents/reports related to Tasks I after addressing all comments/inputs raised by ICLEI South Asia and VMC.

5.3 Execution approach

The consultant(s) will report to ICLEI South Asia and will work closely with ICLEI South Asia personnel and Vijayawada Municipal Corporation representatives involved in the project. Project relevant communication with the consultant(s) will be done through ICLEI South Asia. The consultant(s) will perform the assignment through a combination of desk/remote-based work and site visits, while engaging with ICLEI South Asia and concerned city officials through virtual and in-person meetings.

The methodology proposed by the consultant(s) for the assignment's scope of work should have a clear focus to meet the primary objectives outlined in this ToR. This will be achieved through coordination with ICLEI South Asia; document and literature review; technical analysis; meetings; and report writing.

ICLEI South Asia and VMC will not provide any equipment or technical support in executing the assignment. Steering support and strategic inputs will be provided as necessary. It is expected that the consultant(s) will sufficiently resource himself/herself to carry out the assignment.

6 Bidders Eligibility Criteria and List of Required Documents

6.1 Bidder Eligibility Criteria

Both independent consultants and firms are welcome to apply. The consultants should ideally have the following expertise and experience:

6.1.1 Technical Requirements

- Minimum 10 years of relevant combined professional experience in design of green, low-carbon and/or net-zero building projects with focus on sustainable cooling based on passive and active measures.
- Experience in design of thermally efficient buildings for different climatic zones with understanding and experience in energy retrofit procedures is desirable.
- Minimum 5 completed assignments involving energy audits in municipal buildings with different building typologies highlighted in the scope of work.
- Minimum 5 completed assignments involving review of RfPs, building designs, technical

specifications and criteria for low carbon buildings and building energy performance in the last 5 financial years.

- Demonstrated experience in providing consultancy for energy auditing, energy efficient/green building projects in government and private sector, provision of technical support to Government institutions in Andhra Pradesh and working with government officials will be considered an advantage.
- Understanding of relevant business models for financing the energy retrofits capturing energy analysis and audits, maintenance and operation, cost-benefit analysis is required.
- Demonstrated experience in working with development/multi-lateral organizations, government institutions, and implementing projects and technical assistance delivery related to energy audits, green and energy efficient buildings in India. Demonstrated experience of working in Andhra Pradesh will be advantageous.

6.1.2 Financial requirements

- The bidder (if a firm) should possess valid. relevant legal documents for taxation and financial accounting purposes issued by authorized agencies (such as GST, TIN registration as relevant).
- The bidder must be registered with relevant Income tax department and should produce Latest Income Tax clearance certificate/income tax return details for last 3 financial years.

6.1.3 Education Requirement

The consultant/ Team lead (if a firm) should have a minimum of Bachelor's/Master's degree in Architecture or Engineering with minimum combined experience of 10 years in energy audits, building retrofits, design of thermally efficient buildings.

6.1.4 Language Requirement

Proficient in English.

6.2 Documents to be Submitted by Participating Bidders

Interested individuals/firms must submit the following documents/information to demonstrate their qualifications:

6.2.1 Technical Proposal

The Technical proposal should provide the following information/ documents:

- a) Consultancy/ company profile (both independent consultants and firms are encouraged to apply)
- b) Bidder's experience on assignments of similar nature, the outline should indicate, inter alia, the profiles and names of the staff provided (if in case of a firm), duration of the assignment, contract amount, and firm's involvement.
- c) The bidder must possess written evidence in the form of Work order issued by the client (any city/ state/ national/ international agency) for related consultancy work. Documentary proof of working experience with development organizations and South Asian multi-lateral government institutions is encouraged.
- d) Detailed Approach and Methodology for undertaking the assignment.

- e) Project Schedule with activity and duration to accomplish the task within the scheduled project duration along with detailed work plan.
- f) Personnel plan reflecting expert names, position/role, and specific tasks assigned. Responsibilities and tasks assigned to each expert as per his / her experience shall influence the evaluation
- g) All relevant CVs shall be provided in full detail. If the CV of a proposed staff is found incorrect, the award of the consultancy to the bidder may also be liable to cancellation in light of such an event.
- h) CVs must be signed in original by the authorized representative together with original or electronic signature of the key team member at the proposal stage. However, at the time of contract signing, original signatures of both authorized representative and the Key Personnel shall be required.
- i) The consultant shall assess required support personnel both technical and administrative to undertake the assignment. Additional support and administrative staff shall be provided as needed for the timely completion of the Assignment within the total estimated cost. **Consultant should provide breakup of time estimates of Key Personnel as well as support staff in the staffing schedule. It is stressed that the time for the assignment indicated in the TOR should be strictly adhered.**
- j) The Proposal/ bid documents must be duly signed by the authorized representative/ signatory and stamped. This shall not contain any alternative items or suggestions, comments, or conditions:
- k) By the partner holding the Power of Attorney in case of a partnership firm / limited liability partnership (A certified copy of the Power of Attorney shall accompany the proposal)
 - i. By the proprietor in case of a proprietary firm; by a duly authorized person holding the Power of Attorney or by a Board Resolution in case of a Limited Company or a corporation (A certified copy of the Power of Attorney/Board Resolution shall accompany the proposal)
 - ii. By the authorized representative of the Member in Charge in case of Joint Venture / consortium (a certified copy of Board Resolution/Power of Attorney indicating the representative shall accompany the Proposal).

Note: Bidders shall also indicate how they will execute the project within the stipulated timelines and are welcome to include any previous experience on the same.

6.2.2 Financial Proposal

The Financial proposal should provide the following information/ documents:

- a) The consultant to provide all relevant documents including company's valid registration in India/outside India issued by concerned authorities. Documents shall prove the entity's legal ability and authorization to conduct the activities described in this ToR.
- b) A Financial proposal including all manpower, equipment, software, travel, lodging and boarding, incidental costs as may be required, adequately addressing the manpower stated available for the project, as given in the technical proposal and to complete all the tasks mentioned in this ToR. A breakup of the budget items indicated above and by tasks listed

in the ToR is required. For travel and on-site support, number of round-trips and pax along with approximate duration of stay to be added.

- c) The Financial proposal shall be inclusive of all the costs including taxes associated with the assignment. For the purposes of evaluation, the financial proposal should be prepared in INR.
- d) The total amount indicated in the financial proposal shall be without any condition attached or subject to any assumption and shall be final and binding. In case any assumption or condition is indicated in the financial bid, it shall be considered non-responsive and liable to be rejected.
- e) In case of any discrepancy between the amount quoted in figures and words, the amount quoted in words will be considered for evaluation purposes.
- f) A copy of valid PAN Number and particulars of registration with GST in case of Indian consultant/firm. For entities outside India, relevant legal documents to be submitted for taxation and accounting purposes.
- g) Last 3 Financial Year's balance sheet (or as applicable), audited by certified Chartered Accountant.

Please note:

- The bidder shall acquaint with the work and working conditions at site and locality. No claim shall be entertained on this issue after the bid has been submitted.
- All or any accessories/consumables/items required for satisfactory commissioning of the study/work shall be deemed to be included in the contract and shall be provided by the bidder without extra charges
- All Technical and Financial proposals should be in English. Bidders are encouraged to visit the weblink with the ToR before submission of proposals.

Failure to comply with or provide the above listed items in the Technical Proposal may result in disqualification. The bidder shall produce, original documents for cross verification as and when requested by ICLEI South Asia. Bidders shall ensure that the technical and price bid documents shall have a sign of the authorized representative/signatory, on the first and last pages at a minimum.

6.2.3 Proposal Submission

- The Terms of Reference (ToR) can be downloaded free of cost from the ICLEI South Asia website.
- The proposal document shall be submitted by bidders through email to the below mentioned email IDs on or before **16/09/2024**:
nikhil.kolsepatil@iclei.org
Nikhil Kolsepatil, Program Coordinator - Energy & Climate, ICLEI South Asia
shardul.venegurkar@iclei.org
Shardul Venegurkar, Assistant Manager - Energy & Climate, ICLEI South Asia
- Contact for queries:

Shardul Venegurkar, Assistant Manager - Energy & Climate, ICLEI South Asia

shardul.venegurkar@iclei.org; +91 –72762 93919

- The bidder shall also submit 1 set of hard copy of the proposal documents to the address as mentioned below:

**Soumya Chaturvedula, Deputy Director, ICLEI South Asia,
C-3, Lower Ground Floor, Green Park Extension, New Delhi - 110016, India.**

Tel: +91 – 11 – 4974 7200 Fax: +91 - 11 - 4974 7201

- The hard copy of proposal document shall reach to the above-mentioned address not later than **5 days** from the last date of submission of proposal, provided the proposal has been submitted through email before the due date of submission.
- The proposal shall be submitted in two documents, viz.
 - Part I: Technical Proposal
 - Part II: Financial Proposal
- The Envelopes submitted for the hard copies of the proposals: sealed and shall be super scribed as:
 - ***Technical proposal for “Heat-Resilient & Sustainably Cooled Buildings for Vijayawada city”***
 - ***Financial bid for “Heat-Resilient & Sustainably Cooled Buildings for Vijayawada city”***
- The proposals shall be valid for a period of 60 days from the date of submission of proposal document.
- A bidder shall submit the proposal documents that satisfy every condition laid down in this ToR, failing which, the proposal will be liable to be rejected by ICLEI South Asia.
- In case the bidder wishes to sub-contract part of the deliverables, the final responsibility of delivery and performance solely lies with the bidder.

7 Contract Terms

7.1 Specific conditions of contract

Consultant to study conditions:

- The bidder shall be deemed to have carefully examined the work and site conditions. In this regard, he/she will be given necessary information to the best of knowledge of ICLEI South Asia in consultation with but without any guarantee to it.
- If he/she shall have any doubt as to the meaning of any portions of these general contract terms, or the scope of the work, or any other matter concerning the contract, he/she shall in good time, before submitting his tender, set forth the particulars thereof and submit them to the point of contact, as given in this TOR, by email in order that such doubts may be clarified authoritatively before tendering. ICLEI South Asia will respond to queries until September 19, 2024. Once a proposal is submitted, the matter will be decided according to the ToR conditions in the absence of such authentic pre clarification.

7.2 General conditions of contract

- The contractor/ consultant shall address all aspects of the proposed outputs and deliverables mentioned in this TOR.
- The comments and suggestions provided by the bidder on the TOR are not binding and shall not affect the financial proposal.
- It should be noted that the project is being implemented in Vijayawada Municipal Corporation jurisdiction area and hence instructions to bidders will be given by ICLEI South Asia in consultation with VMC officials. ICLEI South Asia will be overall in-charge for all the works that would be executed under the present scope of work.
- The bidder shall also obtain necessary permission from concerned government departments related to the work/data collection if deemed necessary and in coordination with VMC and ICLEI South Asia.

7.3 Tender Evaluation & Bid Assessment

- The proposals received will be scrutinized & evaluated by ICLEI South Asia in consultation with relevant project partners. The decision shall be informed to the winning bidder.
- Bidders whose technical proposals are found to be responsive shall be informed and shall be invited for seeking any further clarification/s, either individually or through a meeting, if desired. In both the cases, the bidders shall be informed accordingly, and bidders are expected to be present at given date and time.

7.4 Award of contract

- Detailed Work Order will be issued to the winning bidder within 7 days of announcing the winning bidder.
- The winning bidder is to forward the signed and sealed work order to ICLEI at the earliest or not more than 5 (five) days of issue of work order.
- In case the winning bidder fails to indicate his/her intent to undertake the said work within the stipulated time of 5 (five) days and observe the formalities as above, the Letter of Intent will be cancelled, and the next shortlisted bidder will be finalized by ICLEI South Asia in consultation with project partners.

7.5 Compensation for delay

- Time is the essence of the contract and as such all works shall be completed within the time stipulated in the contract/ work order
- If the bidder, without reasonable cause or valid reasons, commits default in commencing the work within the aforesaid time limit, ICLEI South Asia shall without prejudice to any other right or remedy, be at liberty, by giving 15 days' notice in writing to the consultant/contractor to commence the work, to forfeit the balance payment depending on the status of work, and to cancel the Work Order.

7.6 Extension of date of completion

On occurrences of any events causing delay as stated hereunder, the bidder shall intimate immediately in writing to ICLEI South Asia-
Force Majeure:

- Natural phenomena, including but not limited to abnormally bad weather,

unprecedented flood and draught, earthquakes & epidemics.

- Political upheaval, strikes, lockouts, acts of any Government (domestic/foreign) including but not limited to war, properties, and quarantine embargoes.

Please note that this clause will only account if event occurs during data collection/ site visit/ city visit period.

7.7 Materials/Appliance at site

- Neither ICLEI South Asia nor VMC undertake any responsibility for supply of any materials/ equipment/ Appliance/ tool for site analysis to the bidder.
- All materials/ equipment/ tools brought to site by the bidder shall be the responsibility of the bidder. VMC and ICLEI South Asia shall extend help as and when approached by the bidder to keep any materials/ equipment/appliance/ tool, however not liable for any loss, theft, or damage due to fire or other cause, the responsibility for which shall lie entirely on the bidder.

7.8 Final Inspection of Work

- ICLEI South Asia team and VMC shall jointly make final assessment of all work included in the contract/work order, or any portion thereof as soon as practicable after notification by the bidder that the work is completed and ready for acceptance.
- At the time of such assessment, VMC shall inform ICLEI South Asia which in turn will inform the bidder in writing as to the concerns to be remedied before final acceptance can be made.

7.9 Ownership of Materials and Confidentiality

All material will acknowledge ICLEI South Asia, by featuring its logo, together with the logos of the project partners including C40 and VMC as relevant, the beginning and at the end of the documents.

The Consultant understands that as part of the Consultancy, they might be asked to create, modify, or contribute to the creation of architectural designs, drawings, documentation, and other copyrightable works. The Consultant agrees that all designs, drawings, assignment outputs, including design formats for infrastructure, forms, text, photographs and videos, computer programs, work-up files, documentation, and other copyrightable materials that have been prepared as part of this contract shall be "works made for hire" and that ICLEI South Asia, C40 and VMC shall own all the copyright rights in such works.