

Terms of Reference for Solid Waste Management using Community-Scale Hydrothermal Service Provider: 50-liter Hydrothermal Reactor System (for the Urban-LEDS II city, Indonesia)

[Urban Low Emission Development Strategies Phase II \(Urban-LEDS II\)](#)

As per 16 December 2020

1. About the Urban-LEDS II Project

Accelerating climate action through the promotion of Urban Low Emission Development Strategies (Urban-LEDS II)

UN-Habitat and ICLEI-Local Governments for Sustainability are jointly implementing the Urban-LEDS II project: Accelerating Climate Action Through the Promotion of Urban Low Emission Development Strategies in more than 60 cities worldwide in the Urban-LEDS II project, using a multilevel governance approach to urban climate action.

Through the Urban-LEDS II project, the local governments of selected cities are guided to create community-scale Urban Low Emissions Development Strategies (Urban LEADS) that also address climate resilience. These will be aligned to and ideally inform the Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs), and implementation of these plans will start in the project lifetime.

Further, the local governments will be supported to develop pilot projects and finance models for their Urban-LEDS implementation. The overall Urban-LEDS II project aims to strengthen cooperation and information sharing across national and local governments, offering an integrated Measuring, Reporting and Verification (MRV) concept and guidance on multilevel governance, to support all levels of government to better understand the contribution of local level developments to



support achieving national and global climate and sustainability goals. The project runs from April 2017 until March 2021.

Taking into consideration the results of project activities, a big-scale demonstration project shall be implemented by the Urban-LEDS II project in one of Urban-LEDS II cities, Indonesia¹. The demonstration project aims to support the delivery of the City's climate action plan, while contributing to efforts to reduce greenhouse gas (GHG) emissions in the waste sector and identifying potential entry points for a local circular economy.

Further, the demonstration project aims to support the establishment of a robust body of data in the sector and promote further research studies resulting from the proof of the concept, with the objectives of ensuring project sustainability and continuing support for the climate action plan.

In particular, the demonstration project aims to empower the beneficiary community to effectively carry out proper solid waste management and to manage business activities related to hydrothermal products. Collected solid waste (homogenous and/or heterogenous waste) will be fed in the hydrothermal reactor to undergo the hydrothermal reaction. Urban-LEDS II project seeks to **hire an accredited service provider of a community scale-hydrothermal technology system to support the overall local implementation of the demonstration project.**

2. Terms of Reference for the Service Provider

The project requires the service of a community-scale hydrothermal technology service provider to undertake detailed design, procurement of unit components and other materials, components, installation, testing, and commissioning of a 50-liter hydrothermal reactor system, and capacity

¹ Urban-LEDS II cities in Indonesia: Balikpapan, Bogor, Bontang, Tangerang Selatan, Tarakan and Kabupaten Bogor.



building training for the beneficiary community and the personnel-in-charge of operations and maintenance. The services rendered shall ensure that appropriate unit scale and installation are adopted with due consideration to factors such as the amount and type of collected solid waste, installation location and the safety measures.

2.1. Scope of Work

The following activities will need to be undertaken in order to help meet the objectives of the project.

<p>Detailed design and structural safety assessment</p>	<ul style="list-style-type: none"> • On-site assessment of the civil structure of the building where the community-scale hydrothermal reactor system will be installed to take into account safe distance from and logistics of waste sources (i.e., from households, waste-disposal point). • Providing composition analysis of final hydrothermal products from laboratory (e.g. solid fuel, liquid fertilizer, compost and etc.) is preferable or advantages. • Any hydrothermal technology coming outside of Indonesia is required to provide a permit letter in terms of installing and operating the hydrothermal technology from the relevant Indonesian Government institutions as well as proof that the spare parts are available locally.
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<p>Procurement of unit components and other materials, fabrication, set up and installation</p>	<ul style="list-style-type: none"> ● Procurement and fabrication of 50-liters hydrothermal reactor system are not limited to the following: <ul style="list-style-type: none"> - 50-liter hydrothermal reactor with heating system - Pressure valve - Inside stirrer of the reactor or agitator - Condenser - Product tray - Any other relevant components needed to ensure the facility's operability and functionalities - Provisions of technology spare parts and components ● Facilitation of complete set-up and installation of the 50-liters hydrothermal reactor system in the project site.
<p>Testing and commissioning (including warranty period)</p>	<ul style="list-style-type: none"> ● Monitoring and regular maintenance for at least three (3) months after completion of set-up and installation. ● The service provider also assumes liability for the manufacturer warranties of the respective system components/parts. ● Quality control inspection test and trial run shall be conducted with the oversight of a dedicated representative of the local



	government organization (ideally Environment Agency).
Capacity building training for the personnel in charge	<ul style="list-style-type: none"> • Conduct capacity building training for personnel in charge of maintenance of facilities on proper use, maintenance of the technology, repairs and damage management, ensuring the facility's overall optimum efficiency and lifecycle. • Develop and handover operations manual for personnel in charge, outlining technical steps and guidance to operate, maintain, and repair the technology, and other relevant mechanisms required. • Establish coordination mechanisms (i.e., focal persons) to facilitate on-site and remote assistance in the operation and troubleshooting of the technology after installation and testing period.

2.2. Deliverables and time frames

A maximum of **five (5) months** is estimated to complete the deliverables as stated below. The following table lists the deliverables and their respective delivery date.

Deliverables	Indicative Timeline
Detailed engineering design and structural safety assessment	January 2021



Procurement of unit components and other materials, fabrication, set-up and installation	February – March 2021
Testing and commissioning	March – June 2021
Development and handover of operations manual and delivery of capacity building training for personnel-in-charge of operations and maintenance	March 2021

3. Service Provider Eligibility

The service provider must provide evidence of:

- a. Eligible community-scale hydrothermal technology service provider, in conformation to relevant national/international standards and regulations;
- b. Necessary documentation of accreditation from relevant government authorities for the installation of community-scale hydrothermal technology system in Indonesia;
- c. Prior experience in completed supply, installation, testing, commissioning and handing over of the community-scale hydrothermal technology system;
- d. Use of environment-friendly, cost-effective, and genuine equipment and materials from reputable equipment/component suppliers that conform with available and appropriate national and international standards;
- e. Safety construction solution and overall aesthetics consideration in the design and implementation.

Additionally, advantageous criteria for prospective service provider include:

- Prior work experience with the community in Indonesia;
- Flexibility and a shared vision for the project outcome are essential, since the work will be undertaken in close cooperation with the project team members.



4. Proposal Requirements and General Conditions

4.1. Proposal Requirement

The following information must be provided in the proposal:

1. A detailed system design technical proposal taking into consideration the minimum requirements outlined in this Terms of Reference (ToR). The technical proposal must also provide descriptions of the system's design specifications, approaches to achieve optimal waste reduction and co-benefits of end-products while maintaining environmental safeguards (e.g. pollution prevention).
2. A work plan with the corresponding timeline and financial proposal/bid duly signed by the bidder.

The following information must be provided together in the proposal:

- Letter of Interest;
- Certified copy of valid business registration certificate with respective competency required for community-scale hydrothermal technology system design and installation;
- Certified copy of respective Value-added tax (VAT) registration certificate, and other relevant financial and registration documents required for the organization to operate in Indonesia.
- A portfolio of projects previously undertaken including information on the Beneficiary, Capacity of Installation, Contract Value, Date of Commencement, Date of Commissioning, Contact Details (portfolio of similar projects are preferred).
- Details of method, tools and equipment available to perform the work through considering the key indicators given in ToR.
- A detailed CV of technical personnel to be engaged for this project.



- The bidder shall produce original documents for cross verification as and when requested by ICLEI Indonesia Office and ICLEI Southeast Asia.

4.2. General Conditions

The following conditions shall apply to this project contract:

- The service provider is not allowed to subcontract other firm(s) to carry out the project.
- The quotation shall be inclusive of all costs including taxes associated with the project.

Furthermore, the service provider shall adhere to the following requirements:

- o The price quoted shall be fixed and firm and not subjected to any escalation or variation. The price should be inclusive of all transportation², communications, per diem, and installation charges including all required material to successfully complete tasks, duties & taxes, and insurance.
 - o Bill of materials for the community-scale hydrothermal technology system as indicated should be provided along with the price bid.
 - o ICLEI Indonesia Office/ICLEI Southeast Asia reserves the right to add/delete to the final size and components of the community-scale hydrothermal technology system at the unit rate quoted by the bidder.
 - o All or any accessories/consumables/items required for satisfactory commissioning of work shall be deemed to be included in the contract and shall be provided by the bidder without extra charges.
- It should be noted that the project is being implemented by ICLEI in partnership with one of Urban-LEDS II cities in Indonesia. Hence instructions to bidders will be given by ICLEI Indonesia Office/ICLEI Southeast Asia in consultation with officials of one of Urban-LEDS II

² In the financial proposal please provide 6 scenarios for estimation transportation cost to the demonstration project site that will be implemented in one of Urban-LEDS II cities in Indonesia.



cities in Indonesia. This also applies in the conduct of structural safety inspection before, during and after construction.

- Once the system is installed, commissioned and operated successfully for three (3) months, this will be legally handed over to one of Urban-LEDS II cities in Indonesia as the final beneficiary of the system.
- Bidders shall submit bids that satisfy every condition outlined in this Terms of Reference (ToR), failure to do so will make the tender liable to be rejected.
- Kindly note (caveat) that ICLEI Indonesia Office/ICLEI Southeast reserves the right not to award the contract to any of the bidders.

5. Reporting Requirements and Management

- The service provider will report to Ms. Rika Lumban Gaol, Project Officer for Urban-LEDS II Project of Yayasan ICLEI Indonesia and the activities in one of Urban-LEDS cities, Indonesia will be implemented in close collaboration with Mr. Adhia Tegar, Project Assistant for Urban-LEDS II Project of Yayasan ICLEI Indonesia, and Mr. Renz Cerillo, Officer of ICLEI Southeast Asia Secretariat.
- Field work for installing, commissioning, testing, and operation monitoring.
- Regular meetings/calls to report on progress on specific tasks and deliverables will be required.
- Payment of the service provider will be contingent on the timely submissions of deliverables listed in this term of references.

6. Closing Date for Submission

Please send all materials (proposal and supporting documents) in one PDF document via email with subject “Urban-LEDS II: Solid Waste Management using Community-Scale Hydrothermal Technology” to iclei-indonesia@iclei.org no later than **Wednesday, 8 January 2021**.



For any queries related to submission, please contact Yayasan ICLEI Indonesia via the e-mail address above.

Please use English for all communications. Only successful candidates will be contacted. Due to the volume of applications being received, our office would not be able to entertain phone calls. For more information about ICLEI Southeast Asia Secretariat and ICLEI Indonesia Office, visit <http://icleiseas.org/>.

