REQUEST FOR PROPOSAL (RFP)

Pilot Installation of Solar Rooftop System with Battery Energy Storage System (BESS) to Support Existing EV Charging Infrastructure

RFP Reference No.: ICLEI/ISEF/2025/P1

Date: 24 Oct 2025

Submitted to:

ICLEI
Local Governments for Sustainability
SOUTH ASIA

Notice inviting Submissions : Request for Proposal (RfP)

RFP reference No: ICLEI/ISEFC/2025/P1 Date:24/10/2025

Name of the Work :	Pilot Installation of Solar Rooftop System with Battery Energy Storage System (BESS) to Support Existing EV Charging Infrastructure
Total Time period to apply	14 days
Place of supply	Shimla
Date of publication of RFP on web portal Southasia.iclei.org ,	24 Oct 2025
Last date of submission of queries	8 Nov 2025 till 1700 hrs. Suppliers should confirm their application and must submit their queries through post or email (iclei-southasia@iclei.org) in writing.
Mode of submissions of Submissions	Online and offline, detail and terms and conditions can be downloaded at http://southasia.iclei.org/
Date of start of submission	25/10/2025 from 1500 hours
Last date of submission of Empanellement request	07/11/2025 up to 1800 hours

Further details can be seen on website: http://southasia.iclei.org/

1. BACKGROUND

Himachal Pradesh's mountainous terrain and widely scattered settlements pose distinct challenges to energy supply and transport. The state experiences variable grid reliability and rising emissions from conventional vehicles. Solar power offers a practical and sustainable way to meet these challenges by generating clean energy locally and reducing dependence on fossil-fuel-based electricity. By integrating a Battery Energy Storage System (BESS) with a solar rooftop installation, the state can ensure uninterrupted power for EV charging even during cloudy periods or power outages.

ICLEI South Asia, working closely with the Himachal Pradesh Directorate of Transport (DoT), is undertaking a pilot study to demonstrate how renewable energy can reliably power electric-mobility infrastructure in hilly terrain. The project aims to couple solar PV generation with advanced battery storage to make EV operations more dependable and sustainable while contributing to the state's long-term climate and clean-energy goals.

Under this collaboration, ICLEI South Asia provides the DoT with technical guidance, strategic planning, and capacity building to help design and deploy a pilot solar rooftop system with a hybrid inverter and integrated battery storage. The pilot will expand the existing 10 kWp rooftop setup to 15 kWp and use a 50 kVA hybrid inverter for optimal renewable-energy utilization in EV charging with 70kWh Battery energy storage system.

The site already includes one 30 kW DC fast charger and two 7.5 kW AC slow chargers. The pilot will demonstrate how renewable energy can seamlessly support these systems in real-world operating conditions. Beyond installation, the project will serve as a replicable model for other hilly regions,showcasing technical feasibility, reliability, and environmental gains. Data and lessons from this pilot will inform policy development, scale-up strategies, and peer learning among government agencies, municipalities, and private players.

Ultimately, this initiative supports Himachal Pradesh's E Mobility roadmap and advances India's national clean-transport targets. ICLEI South Asia's involvement ensures the pilot strengthens both immediate technical performance and long-term institutional capacity, paving the way for climate-resilient urban mobility in challenging terrains.

The RFP invites proposal for two work packages (WP)

Work Package 1: Supply of 5KW Solar PV Modules, 70 KWh Battery Energy Storage System (BESS), and 50KVA Hybrid Inverter for Pilot EV Charging Infrastructure at DoT, Himachal Pradesh

Work Package 2: Installation of Solar Rooftop System with Battery Energy Storage System (BESS) to Support Existing EV Charging Infrastructure

2. OBJECTIVES

The Directorate of Transport (DoT), Himachal Pradesh, presently operates an EV charging facility equipped with:

- One (1) × 30 kW DC fast charger
- Two (2) × 7.5 kW AC slow chargers
- One (1) × 10 kWp solar rooftop system

To enhance reliability and promote cleaner operations, this pilot project will extend the existing solar capacity to 15 kWp, integrate a 50 kVA hybrid inverter, and add a 70 kWh Battery Energy Storage System (BESS). The installation will ensure round the clock charger operation through renewable, locally generated power.

The pilot pursues the following goals:

1. Demonstrate the practicality and cost-effectiveness of combining solar generation, battery storage, and EV charging in hilly terrain.
2. Strengthen energy reliability for EV charging stations at transport department.
3. Enable real-time monitoring of power generation, battery use, and consumption patterns.
4. Develop a scalable model that other part of the state facilities can replicate.
5. Support capacity building and policy development for renewable-powered mobility solutions.

3. SCOPE OF WORK

The bidder selected through this RFP will deliver a turnkey solution, handling every stage from site evaluation to commissioning and post-installation support. The key components of the scope include:

3.1 Work Package 1: Equipment Supply

All components must comply with relevant IEC/IS and MNRE standards.

Component	**Minimum Specification / Standard**
Solar PV modules	Monocrystalline type, ≥ 21 % efficiency, IEC 61215 / 61730 certified
Hybrid inverter	50 kVA, grid-interactive, with smart monitoring and anti-islanding features
BESS	70 kWh (480 V DC nominal), lithium-ion LFP preferred, DoD ≥ 90 %, IEC 62619 / UL 1973 certified
Mounting structure	Hot-dip galvanized steel or aluminium, designed for wind load ≥ 150 km/h

Cabling & protection	Copper cables, MC4 connectors, MCBs/MCCBs, SPDs, earthing system
Monitoring	Web-based energy-management platform with data logging and remote access

3.2 Work Package 2: Site Assessment and System Design

- Conduct a detailed structural and electrical assessment of the existing rooftop and EV-charging setup.
- Prepare a comprehensive design package covering:
  - Expansion of the solar PV system by an additional 5 kWp.
  - Integration of a 50 kVA hybrid inverter, capable of bidirectional operation with both grid and battery.
  - Deployment of a 70 kWh BESS (lithium-ion or equivalent).
  - Complete electrical schematics, wiring layouts, earthing design, and protection diagrams.

3.2.1 Installation and Integration

- Install the additional 5 kWp solar array and connect it to the existing rooftop system.
- Install and commission the hybrid inverter and BESS, ensuring proper synchronization with both grid and EV chargers.
- Configure seamless switching between grid-connected and islanded operation modes.
- Integrate the monitoring interface with a central dashboard accessible to both DoT and ICLEI South Asia teams.

3.2.2 Testing and Commissioning

- Conduct all required insulation, polarity, and performance tests as per applicable IEC standards.
- Demonstrate reliable operation under simulated load and backup conditions.
- Submit a detailed commissioning and performance validation report for approval.

3.2.3 Documentation and Training

- Provide complete as-built drawings, O&M manuals, and warranty certificates for all systems.
- Conduct at least one hands-on training session for DoT staff covering operation, preventive maintenance, and troubleshooting.

3.2.4 Performance Monitoring

For one months post-commissioning, monitor and report monthly on:

- Solar-power generation and battery-cycling data.

- Charger utilization efficiency and overall system performance.
- Any downtime incidents and corrective actions taken.

3.2.5 Annual Maintenance Contract (AMC)

Provide a two-year comprehensive AMC covering:

- Preventive and corrective maintenance.
- Firmware updates and technical support.
- Quarterly performance and maintenance reports.

4. DELIVERABLES

The selected bidder will be responsible for completing and handing over all deliverables as part of the turnkey project. These include:

1. Procurement, supply, and integration of all approved components and equipment.
2. Testing, commissioning, and final performance report demonstrating system readiness.
3. Training sessions and submission of complete operation and maintenance (O&M) documentation.
4. Three-month post-installation monitoring reports summarizing energy generation, storage performance, and efficiency.
5. Comprehensive Annual Maintenance Contract (AMC) services for two years, supported by quarterly inspection and maintenance reports.

These deliverables must be fulfilled within the specified timeline and meet all technical and quality standards set out in this RFP.

5. ELIGIBILITY AND QUALIFICATION CRITERIA

To ensure quality execution, bidders are required to meet the following minimum eligibility standards. Supporting evidence for each requirement must be enclosed with the proposal.

Requirement	**Evidence Required**
Legal Entity: Registered company or firm	Certificate of Incorporation or official registration document
Relevant Experience: Minimum three completed projects involving solar power installations	Completion certificates or client testimonials
Manufacturer or Authorized Dealer: Proof of product authenticity	Valid authorization letter from OEM or principal supplier

Requirement	Evidence Required
Compliance with Technical Standards: All supplied products to meet IEC/IS specifications	Product datasheets and compliance certificates
Financial Strength: Average annual turnover of at least INR 1 crore during last years	Audited balance sheets or CA-certified financial statements
Reputation: Vendor must not be blacklisted by any government or agency	Self-declaration or notarized affidavit

Failure to provide the required documentation may lead to disqualification at the preliminary evaluation stage.

6. SUBMISSION

To ensure fair and transparent evaluation, bidders are requested to submit both technical and financial proposals following the structure outlined below.

6.1 Technical Proposal

The technical proposal should include:

- Cover Letter (Form 1): A formal letter summarizing the bidder's interest and confirming compliance with all terms.
- Company Profile: Overview of the organization, registration documents, and relevant licenses.
- System Design and Drawings: Schematic layouts, equipment specifications, and proposed system configurations.
- Key Personnel Details: Names, qualifications, and roles of team members who will be involved in the project.

6.2 Financial Proposal

The financial proposal must include:

- A **filled-in Cost/Quote Table (Form 2)**, quoted in **INR**, inclusive of all taxes, duties, transportation, and delivery charges.
- The quoted prices shall remain valid for **at least 90 days** from the date of submission.
- Any optional or alternative offers must be clearly listed and justified.

6.3 Submission Mode

Proposals may be submitted through either of the following modes:

- **Soft Copy:** In PDF format, sent via email or uploaded through the ICLEI portal.

Late submissions, incomplete proposals, or those failing to meet mandatory requirements will **not** be considered for evaluation.

7. Evaluation and Selection Process

7.1 Evaluation Stages

The selection will be conducted through a three-stage evaluation process:

1. **Pre-qualification Review:** Verification of eligibility, documentation, and compliance with submission requirements.
2. **Technical Evaluation:** Assessment of proposed system design, technical specifications, and implementation methodology.
3. **Financial Evaluation:** Among technically qualified bidders, the proposal quoting the **lowest total cost (L1)** will be selected for award, as per the *Least Cost Selection Method*.

7.2 Evaluation Weightage

Evaluation Criteria	**Weightage**
Technical design and specification compliance	10%
Past experience and client feedback	15%
Financial quote (total project cost)	75%

7.3 Award of Contract

The bidder achieving the highest overall score after combined evaluation will receive a Letter of Award (LoA), followed by a formal Work Order within seven (7) days.

The selected bidder must confirm acceptance and return a signed acknowledgment of the LoA .

8. PROJECT IMPLEMENTATION SCHEDULE

Activity	**Duration**
Procurement and delivery of equipment	2 weeks
Installation and commissioning	1 week
Training and handover	1 week

Total indicative implementation time: **3 weeks** (excluding monitoring).

9. PAYMENT TERMS

Milestone	Payment (%)
On signing of contract and submission of performance guarantee	30 %
On delivery of equipment at site	30 %
On successful installation and commissioning	20 %

All payments will be made through bank transfer upon submission of verified invoices and reports.

10. WARRANTIES

- Solar modules: ≥ 25 years performance warranty (≥ 80 % capacity at end of period).
- Inverter and BESS: 5 years product warranty minimum.
- Other balance-of-system components: 2 years warranty minimum.

11. TERMS AND CONDITIONS

- ICLEI South Asia reserves the right to reject any or all proposals without assigning reasons.
- Any deviation from technical specifications must be clearly highlighted.
- All equipment and works must comply with relevant IEC/IS and MNRE standards.
- The vendor is responsible for ensuring on-site safety and obtaining necessary permits.
- All intellectual property and data generated under this project shall remain with ICLEI South Asia and DoT.
- Jurisdiction for disputes: New Delhi, India.

12. CONTACT DETAILS

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