

TERMS OF REFERENCE

Integrated Solar Power Backup System for the ISABU Administration Building

Tender No: CABI/4007/10/2026/14

TOR Information	Details
Procuring organisation	CABI, under the PlantwisePlus Burundi project
Beneficiary / end user	Institut des Sciences Agronomiques du Burundi (ISABU)
Installation site	ISABU Administration Building, Bujumbura, Burundi
Procurement requirement	Design, supply, installation, testing, commissioning, training and warranty support for an integrated solar power backup system
Procurement method	Competitive procurement in accordance with CABI procurement procedures
Proposed contract basis	Turnkey / design-and-supply-and-install solution, with final system sizing based on site assessment and engineering design
TOR status	For procurement request, supplier solicitation and technical/financial evaluation

Background

Through PlantwisePlus Burundi, funded by the Embassy of the Kingdom of the Netherlands (EKN), CABI has supported the strengthening of plant health capacity in Burundi, including laboratory capacity at ISABU. The Plant Health Laboratory supports plant pest diagnostics, surveillance, research, capacity development and scientific evidence generation. The laboratory is located within the ISABU administration building.

The purpose of this procurement is to engage a suitably qualified supplier/contractor to assess, design, supply, install, test, commission and provide warranty and after-sales support for a reliable integrated solar PV and battery backup system for the ISABU administration building.

The system shall improve resilience to grid outages and voltage fluctuations, protect critical laboratory operations, provide controlled backup power to the administration building, and incorporate a dedicated EV charging point without compromising essential building or laboratory loads.

Specific Objectives

- Assess the electrical demand and existing electrical infrastructure of the administration building.



- Develop an appropriately sized solar PV, battery storage and power-management solution based on the actual site load and available installation area.
- Prioritise continuity of supply to critical Plant Health Laboratory loads and other agreed priority circuits.
- Provide an integrated AC EV charging point with appropriate load management for the fully electric utility vehicle.
- Install appropriate electrical protection, distribution and control arrangements.
- Test, commission and optimise the complete system to demonstrate safe and reliable operation.
- Train designated ISABU personnel in operation, routine maintenance, fault identification and safe use.
- Provide complete technical documentation, warranties, manuals and maintenance recommendations.

Scope of Work

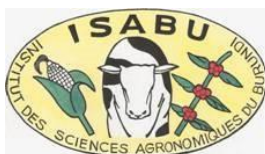
Site assessment and engineering design

1. Conduct a detailed site assessment of the ISABU administration building before finalising system design.
2. Assess historical and current electrical demand, including laboratory equipment, temperature-controlled storage, ICT systems, office loads and other relevant circuits.
3. Inspect the existing electrical distribution system, connection point, protection arrangements, earthing, available roof/ground installation areas and other relevant infrastructure.
4. Assess the feasibility and preferred location of the PV array, batteries, inverter, control equipment and EV charging point.
5. Identify priority circuits and propose an appropriate load-management architecture.
6. Develop calculations and a detailed system design demonstrating expected PV generation, battery autonomy, backup capacity, critical-load support and EV charging integration.
7. Provide a single-line electrical diagram, layout drawings, equipment schedule, protection scheme and installation methodology for approval before installation.

Supply of equipment and materials

The supplier shall supply all equipment, components, accessories and consumables required for a complete and operational system, including as applicable:

- Solar photovoltaic modules.
- Lithium battery energy storage system.
- Hybrid inverter(s) and energy-management equipment.
- PV mounting/support structures appropriate to the installation site.
- DC and AC cabling, connectors, isolators and distribution equipment.
- DC/AC surge protection and other required electrical protection.
- Building-level distribution equipment and priority-circuit arrangements.
- Smart AC EV charging point with load-management capability.
- Monitoring, communications and system-control equipment.



- Earthing and lightning-protection interfaces where required by the site assessment.
- All other balance-of-system components necessary for a safe, compliant and fully functional installation.

Installation, integration and commissioning

- Deliver equipment to site and undertake all installation works.
- Integrate the solar PV, battery storage, inverter, building distribution and EV charging systems.
- Configure priority circuits so that critical laboratory operations receive appropriate backup priority.
- Implement load management so EV charging does not compromise essential laboratory and building operations.
- Carry out testing of all equipment, protection systems, controls, battery charging/discharging, backup operation and EV charging.
- Commission and optimise the system under representative operating conditions.
- Rectify defects identified during testing and commissioning before handover.

Training, documentation and handover

- Provide practical training for designated ISABU personnel on system operation and routine monitoring.
- Provide preventive maintenance guidance and recommended maintenance schedules.
- Provide user and technical manuals for all major components.
- Provide factory test certificates, product conformity documentation and warranty certificates.
- Provide as-built drawings, final single-line diagrams, equipment schedules and configuration settings.
- Provide a list of recommended spare parts and consumables.
- Provide contact details and escalation arrangements for warranty and technical support.

Minimum Technical Requirements

The following requirements establish the minimum procurement basis. The final system capacity and equipment quantities shall be determined by the supplier through the required site assessment and detailed engineering design. Bidders shall clearly identify any proposed deviation and explain its technical justification.

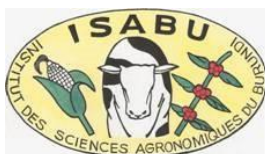
Component	Minimum / required characteristics	Supplier response
Solar PV array	System capacity sized from measured/verified building demand and available installation area; high-quality, commercially established PV modules.	State proposed capacity, module make/model, quantity, efficiency, warranties and installation area.
Battery storage	Lithium-based storage sized to provide appropriate backup autonomy for agreed priority loads; include battery management system and safety controls.	State chemistry, usable capacity, nominal capacity, cycle life, depth of

Component	Minimum / required characteristics	Supplier response
		discharge, warranty and proposed autonomy.
Hybrid inverter / power conversion	Adequately sized for building demand and planned PV/battery capacity; compatible with required backup and energy-management functions.	State make/model, continuous and peak output, efficiency, operating modes, protections and warranty.
EV charging point	AC smart charger with load-management capability, compatible with the proposed fully electric utility vehicle and building electrical system.	State charger rating, connector standard, controls, protection, communications and warranty.
Electrical protection	Appropriate DC/AC isolation, surge protection, overcurrent protection, earthing and other protection required by applicable standards and site conditions.	Describe protection architecture and applicable standards.
Distribution / priority circuits	Building-level distribution and priority circuits enabling controlled backup supply, with laboratory critical loads prioritised.	Provide proposed distribution architecture and single-line diagram.
Monitoring and control	System monitoring sufficient to track PV generation, battery status, grid/backup status and major faults.	Describe monitoring platform, local display and remote support capability.
Installation	Complete installation, testing, commissioning, optimisation and making good of affected areas.	Provide methodology, staffing and proposed schedule.

Quality, Standards and Warranty Requirements

- Equipment shall be new, genuine, fit for purpose and sourced through authorised or demonstrably reputable channels.
- The supplier shall comply with applicable Burundian requirements and relevant international electrical, PV, battery and safety standards.
- PV modules: minimum product warranty of 10–12 years and performance warranty of approximately 25 years, or better.
- Hybrid inverter: minimum manufacturer warranty of 5 years, or better.
- Lithium battery storage: minimum warranty of 5 years or equivalent cycle-life guarantee, or better.
- EV charging point: minimum manufacturer warranty of 2 years, or better.
- Installation works: minimum workmanship warranty of 12 months.
- The bidder shall state all warranty exclusions, response times and procedures for warranty claims.
- The supplier shall provide technical support during the warranty period and identify the availability of local/regional service support.

The warranty requirements are indicative minimum requirements. Suppliers may offer stronger warranty terms and should identify these clearly.

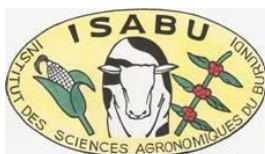


Deliverables

Deliverable	Minimum content	Timing
Site assessment report	Load assessment, infrastructure assessment, site constraints, photographs, proposed system concept and risks.	Before final design
Detailed engineering design	Calculations, system sizing, equipment schedule, single-line diagram, layout and protection scheme.	Before installation
Equipment and materials	Complete supply of approved equipment and accessories.	As per approved implementation schedule
Installation and integration	Complete installed system, including EV charging point and priority circuits.	As per approved implementation schedule
Testing and commissioning report	Test results, settings, defects and corrective actions, commissioning certificate.	At commissioning
Training and handover package	Training, manuals, as-built drawings, warranties, maintenance plan and spare-parts recommendations.	At handover
Warranty / support	Technical support and corrective maintenance during warranty period.	Throughout warranty period

Supplier Qualifications and Experience

- Legally registered company authorised to provide solar PV, battery storage and electrical installation services in Burundi/ East Africa or able to lawfully deliver the services through an appropriate local arrangement.
- Demonstrated experience in design and installation of integrated solar PV and battery backup systems of comparable complexity.
- Demonstrated experience with lithium battery energy storage and hybrid inverter systems.
- Demonstrated experience integrating building loads, priority circuits and EV charging infrastructure is strongly preferred.
- Qualified and appropriately licensed/competent technical personnel for electrical and solar installation works.
- Evidence of at least three relevant completed assignments, preferably including institutional, laboratory, office or other critical-load installations.
- Demonstrated ability to provide after-sales service, warranty support and access to replacement parts.
- Evidence of manufacturer/authorised distributor relationships where relevant.



Bid Submission Requirements

- Company profile and statutory registration documentation.
- Relevant experience and references, including contact details for comparable assignments.
- Proposed technical solution and system architecture.
- Site assessment approach and proposed engineering methodology.
- Detailed bill of quantities / equipment schedule showing make, model, quantity, unit price and total price.
- Separate identification of equipment, installation, engineering, logistics/importation, testing and commissioning costs.
- Warranty terms for each major component and installation works.
- Proposed implementation schedule.
- Details of technical support and after-sales service arrangements in Burundi or the region.
- Evidence of conformity/certification for major equipment where applicable.
- Any assumptions, exclusions or conditions affecting the quoted price.

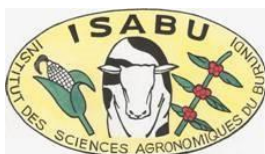
Pricing and Commercial Requirements

The quotation shall be comprehensive and include all costs required to deliver a fully operational system, including design, site assessment, equipment, transport, installation, testing, commissioning, training, documentation and warranty support. Any taxes, duties, levies or other charges applicable to the bidder's proposed delivery model shall be clearly identified.

Evaluation Framework

CABI will apply its applicable procurement procedures. The following technical criteria are proposed to guide evaluation:

Criterion	Indicative weighting	Assessment focus
Technical compliance and quality	30%	Compliance with minimum requirements, system architecture, equipment quality and safety.
Technical solution and engineering approach	20%	Quality of site assessment, sizing methodology, priority-load management, battery autonomy and EV integration.
Relevant experience and capacity	15%	Comparable installations, qualified personnel and delivery capacity.
Warranty, after-sales service and support	10%	Warranty strength, service response and access to support/parts.
Implementation methodology and schedule	10%	Realistic delivery, installation, testing, commissioning and handover plan.



Criterion	Indicative weighting	Assessment focus
Financial offer / value for money	15%	Total evaluated cost, completeness and value relative to technical quality.

Site Visit and Clarifications

A site visit shall be arranged for shortlisted or participating bidders as determined by CABI procurement requirements. Bidders are also expected to visit the site, verify site conditions, electrical infrastructure, installation areas and access constraints before submitting their final technical and financial offer. ISABU will provide reasonable access and available information but bidders remain responsible for validating assumptions underpinning their design.

Implementation and Governance

- CABI will manage the procurement and contract in accordance with its applicable procedures.
- ISABU will facilitate site access, provide relevant institutional/technical information and participate in inspection, testing and handover.
- The supplier will be responsible for the technical integrity, safety, installation quality and performance of the system within the agreed contract scope.
- No installation work shall commence until the relevant design, method statement and safety arrangements have been approved through the agreed contract process.
- The installed system will become an institutional asset of ISABU following handover, consistent with its commitment to ownership, operation and maintenance.

Health, Safety and Environmental Requirements

- The supplier shall comply with applicable occupational health and safety requirements and safe electrical installation practices.
- All works shall be undertaken by competent personnel using appropriate PPE and safe work procedures.
- The supplier shall manage working-at-height, electrical, lifting, battery and other relevant installation risks.
- Packaging, waste and damaged components shall be removed and disposed of responsibly.
- The supplier shall minimise disruption to laboratory and office operations during installation and clearly coordinate any planned shutdowns with ISABU.

Acceptance and Handover

Final acceptance shall be based on successful completion of installation, testing and commissioning; verification that the system performs in accordance with the approved design; demonstration of priority-load operation and EV charging; submission of all required documentation and warranties; and completion of user training.



Annexes / Information to be Made Available to Bidders

- Available ISABU site information and building electrical information, subject to availability.
- Any available load data, equipment schedules or utility bills that can support the bidder's site assessment.
- Site visit arrangements and bidder clarification process.

Submission Deadline

Interested and qualified bidders are required to submit their technical and financial proposals to tendersafrica@cabi.org; on or before 11th November 2026. Questions related to this tender should be channeled to the same email address.