technology innovation AGENCY
Innovating Tomorrow Together

Technology Innovation Agency (TIA), an entity of the Department of Science, Technology and Innovation (DSTI) was established in terms of the TIA Act, 2008 (Act No. 26 of 2008), with the objective to stimulate, intensify and exploit technological innovation to improve economic growth and the quality of life of all South Africans.

CALL FOR PROPOSALS

Off-Grid Solar Public Lighting Solutions for Informal Settlements – Marikana, Philippi East.

PROGRAMME OVERVIEW

TIA invites proposals for technologies to support the deployment of context-appropriate, market-ready, off-grid solar public lighting solutions in informal settlements. This call focuses on the Marikana Informal Settlement in Philippi East, Cape Town and seeks to demonstrate innovative approaches to improving public lighting to enhance safety, mobility and access to basic municipal services in unelectrified, high-density informal settlement environments.

The Call is released as part of the Viability and Validation of Innovation for Service Delivery Programme (VVISDP), an initiative of the DSTI to support the piloting, demonstration and deployment of technologies and innovations that support the delivery of basic services in Municipalities. The VVISDP programme is implemented by TIA.

The objectives of the VVISDP programmes are to:
- test and pilot technologies for service delivery
- support the adoption of technologies to improve the delivery of basic services
- learn by doing, and to test innovative models for delivering services

BACKGROUND AND CONTEXT

Several informal settlements within South African metropolitan areas remain unconnected to the electricity grid due to land tenure, ownership and planning constraints that require lengthy resolution processes. In the absence of grid electricity, these settlements lack conventional public lighting, which is typically dependent on fixed electrical infrastructure.

The absence of adequate public lighting undermines personal safety, restricts night-time mobility, and limits access to municipal services such as water points, sanitation facilities and community infrastructure often located at the periphery of settlements. In Marikana Informal Settlement, these challenges are compounded by narrow pedestrian pathways, dense housing layouts and widespread illegal electricity connections, which make conventional pole-mounted or high-mast lighting unsafe and impractical.

This context necessitates innovative, decentralised, off-grid solar lighting solutions that are safe, scalable and suitable for installation in constrained informal settlement environments.

PURPOSE OF THE CALL

The purpose of this Innovation Call is to invite applications for funding to support the **deployment of commercially ready solar-powered public lighting solutions** that can:

- Improve outdoor lighting and visibility in unelectrified informal settlements;
- Contribute to pedestrian safety and night-time mobility;
- Support access to basic municipal and community services; and
- Demonstrate scalable models for informal settlement public lighting.
- Limit safety and liability risks to all parties.

Priority lighting areas within Marikana Informal Settlement have been identified through community-led mapping and engagement processes

FOCUS AREA AND SCOPE

Proposals must address the following focus areas:

Off-Grid Public Lighting for Informal Settlements
The proposed solution must:

- Provide decentralised, off-grid public lighting (solar-powered with energy storage);
- Be suitable for installation without reliance on heavy machinery or vehicles;
- Minimise electrical and fire safety risks, including the use of non-conductive components;
- Be adaptable for installation on shack roofs or within key public spaces such as pathways, toilets, early childhood development centres, churches and communal areas;
- Be scalable across the settlement and adaptable to similar informal settlement contexts.

Pole-mounted and high-mast lighting solutions are not appropriate due to access and safety constraints.

PROJECT SITE INFORMATION

- **Location:** Marikana Informal Settlement, Philippi East, Cape Town
- **Estimated Population:** ±12,000 households
- **Grid Electricity:** None
- **Coordinates:** Latitude -34.003026; Longitude 18.612934

TECHNICAL AND PERFORMANCE REQUIREMENTS

- **Lighting Performance**

The proposed lighting solution must, as far as possible, comply with **SANS 10098 (Public Lighting Standard)** within identified priority areas and meet the following indicative performance parameters:

Feature	Performance Requirement
Luminous Output	±600 lumens
Power Consumption	±2.5W
Lighting Autonomy	11–15 hours per full charge
Battery Life	1,500–2,000 charge cycles (±3 years)
Weatherproof Rating	Minimum IP66

ENERGY OPTIMISATION

The system should include programmable dimming profiles to optimise energy use, extend battery life and reduce light pollution. Motion-sensor functionality may be included as an adaptive option.

IMPLEMENTATION AND SUPPORT REQUIREMENTS

- Installation will be supported by a City appointed **Quality Assurance Engineer**, working with the selected technology provider.
- The technology provider must train selected **local community members** in basic maintenance and fault identification.
- A **local community liaison organisation**, appointed by the City, will support stakeholder engagement and community entry.
- The technology provider must provide **post-implementation support for a minimum of one (1) year** to ensure system reliability and address faults.

The technology provider must include third party liability cover for any Operational Health and Safety related incidents that may occur during installation and operation of the lighting solution. The successful applicant must include third party liability cover for any Operational Health and Safety related incidents that may occur during installation and operation of the lighting solution.

PROJECT IMPLEMENTATION TIMELINE

All project activities, including installation and commissioning, must be completed by **30 June 2026**.

ELIGIBILITY CRITERIA

- Technical feasibility and scalability (30%)
- Appropriateness for informal settlement environments (30%)
- Community driven approach / involvement and training approach (20%)
- Robustness of post-implementation support model (20%)

SUBMISSION REQUIREMENTS

Applicants must submit a detailed proposal including:
- Technical description of the solution and innovation aspects;
- Implementation approach and timeline;
- Community training and skills transfer plan;
- Budget and funding request (note price per unit per installation)
- Strategy for one-year post-implementation support and maintenance.

EVALUATION CRITERIA

Proposals will be assessed based on the following criteria:
- Technical feasibility and scalability (30%)
- Appropriateness for informal settlement environments (30%)
- Community involvement in the installation process and training approach (20%)
- Robustness of post-implementation support model (20%)

EXPECTED OUTCOMES

The expected outcomes of the Innovation Call include:
- Improved public lighting in Marikana Informal Settlement;
- Trained community members capable of performing basic maintenance;
- Demonstration of a scalable, innovation-led public lighting model for informal settlements.

Submission Deadline

- **04 March 2026, 17h00.**
- Submit to Nondumiso.Ngwenya@tia.org.za and Ashaal.roopchan@tia.org.za
- Mandatory subject line “Off-Grid Solar Public Lighting Solutions for Informal Settlements – Marikana, Philippi East

Contact & Further Information

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