
african sun
ENERGY
Presents
INNOVATING AFRICA'S CLEAN ENERGY TRANSITION

Powering Education

Tagala Primary School

DESCRIPTION OF THE PROJECT

The Tagala Primary School Solar Project is the flagship initiative under the Francistown City Energy Hub, a visionary public-private partnership (PPP) between Francistown City Council and African Sun Energy. This marks the first PPP of its kind in Southern Africa, focused on delivering sustainable energy solutions through decentralized clean power systems. This project marks the first step in transforming Francistown into a model city for decentralized, clean energy systems in Botswana.

The project is situated at Tagala Primary School, one of Francistown's long-standing public education institutions known for its commitment to community-centered learning. The school serves hundreds of learners and plays a vital role in the surrounding neighborhood. Recognizing the importance of reliable energy for education, this project was initiated to enhance both operational efficiency and learning conditions.

The installation features a grid-tied solar photovoltaic (PV) system, totaling **24.75 KWh** designed to reduce the school's dependency on grid electricity, lower utility costs, and integrate sustainability into the school environment. It also serves as a model for future energy initiatives in Francistown, combining infrastructure development with educational value.

REPORTABLE PROJECT IMPACT

The project has delivered several early-stage impacts that reinforce the value of this partnership and the potential of renewable energy in public infrastructure:

- Provision of clean energy to the school.
- The rooftop solar plant will provide an annual production of **45 756 KWh**
- This will displace **1 665 000 kg** of carbon dioxide over the lifetime of the technology.
- Estimated savings of **P80,815.48** per year of Imported energy.
- The project resulted in an immersive competency-based training offered to City Council and SEB staff.

TECHNOLOGY USED

- **PV MODULES –** 550W Futurasun
- **INVERTERS –** Grid- 25KW SMA Inverter core 1
- **DC AND AC CABLING -** Industry-standard cabling for reliable energy transfer and safety.
- **MOUNTING STRUCTURE -** k2 roofing mounting structure. Smart meters, control units, and data loggers by SMA.

African Sun Energy | Tel: +265 881272194 | Email: info@africansunenergy.com

2021/2022/2023/2024 PROJECTS SUMMARY

2021/2022/2023/2024 REPORTABLE PROJECTS IMPACT

Impact of Reportable Projects in 2021/2022/2023/2024

Over the span of 2021, 2022, 2023 and 2024, we have accomplished significant achievements in our projects, resulting in substantial positive impact: Solar PV

System Installations:

- During this period, we successfully installed solar PV systems with a combined capacity of 7.4 MWp.

Carbon Dioxide Emissions Reduction:

- This collective effort is estimated to displace 15,060 tons of carbon dioxide annually, contributing significantly to environmental preservation.

Energy Cost Savings:

- The projected savings from our initiatives amount to approximately $2,740,960 per year, based on current large business tariff rates, resulting in a reduced reliance on imported energy.

Clean Energy Export and Grid Integration:

- Our systems are effectively replacing reliance on thermal energy by exporting clean energy to the grid, facilitating a shift towards more sustainable energy sources.

Inclusion in BPC/Power Africa Rooftop Solar Program:

- All of our projects undertaken during 2021, 2022,2023 and 2024 have been accepted into the BPC/Power Africa Rooftop Solar program, highlighting the credibility and quality of our work.

Empowerment and Diversity:

- Our projects have not only driven technical advancements but also created employment opportunities, especially for Batswana youth. Over 50 percent of these opportunities have been extended to women, demonstrating our commitment to gender inclusivity.

University Collaboration and Education:

- We hosted six industrial placements from the University of Botswana in 2023/24, with 75% of these placements being women, fostering knowledge exchange and skill development.

Research & Development Support:

- Our Research & Development (R&D) initiatives are actively supporting five full-time MSc (Master of Sciences) students at BIUST, promoting academic growth and practical learning.

Innovative Apprenticeship Programs:

- Pioneering innovation, we initiated the first solar apprenticeship program in Botswana in 2021, and further extended this program to Zambia, qualifying eighteen young individuals in the process.

Empowerment through Community Initiatives:

- We played a pivotal role in establishing Botswana's first Community Distributed Energy Service company (DESCO), facilitating localized energy solutions.

Economic Opportunities for Citizens:

- Our R&D program has led to licensing, employment, and manufacturing opportunities for the citizens of Botswana, contributing to economic growth and self-reliance.

These accomplishments underscore our dedication to sustainable energy solutions, community empowerment, and impactful collaborations. We are committed to continually driving positive change and innovation in the energy sector.