SCALING CLIMATE-SMART SOLAR PANEL MANUFACTURING SOLUTIONS

Introduction

Auxano Solar Nigeria Limited is pioneering the future of renewable energy manufacturing in Nigeria. Founded in 2014 with a vision to make clean energy technology more accessible, affordable, and locally produced, the company operates as a solar panel assembly and manufacturing enterprise that addresses critical gaps in Nigeria's renewable energy value chain.

Auxano Solar removes the barriers that have long constrained local renewable energy manufacturing in Nigeria by providing high-quality solar panels to commercial and industrial customers. By combining innovative financing models with world-class manufacturing capabilities, the organization empowers Nigeria's transition ambition to clean energy while creating jobs, building technical capacity, and contributing to climate resilience.

Today, Auxano Solar stands as a compelling example of how development finance can transform manufacturing into a thriving engine of sustainable industrial growth.

The Challenge

Nigeria's renewable energy sector is expanding, but the solar manufacturing segment faces structural and financial barriers that limit local value addition, create overreliance on imports, and slow industrial growth.

Import Dependence: Over 90% of solar panels are imported, putting pressure on foreign exchange and limiting job creation.

Financing Gaps: Lack of affordable, long-term financing for capital-intensive equipment and working capital.

Infrastructure Deficits: Inadequate power, logistics, and port infrastructure disrupt supply chains.

Capacity Underutilization: Even with production capability, many manufacturers operate below optimal levels due to working capital constraints.

BOI's Climate-Smart Partnership with Auxano Solar

The Bank of Industry recognized Auxano Solar as an industry pioneer to support the scale-up of the country's solar panel manufacturing capacity. The Bank provided a facility to expand Auxano Solar's manufacturing annual production capacity from 10MW to 100MW. This would strengthen Nigeria's renewable energy manufacturing base, and reduce fuel-import dependence.

- **Advanced Manufacturing & Quality Systems:** The funding enabled the procurement and installation of an advanced automated assembly equipment including Auto Stringer welding machines, solar panel laminating machines, Electroluminescence testers, and comprehensive quality control systems.

- **Capacity Building & Technical Excellence:** Investment in training programs, quality certification systems, and technical partnerships with universities to build Nigeria's renewable energy manufacturing expertise.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

INFRASTRUCTURAL DEVELOPMENT AND INDUSTRIALIZATION IN NIGERIA

- **Manufacturing Infrastructure:** Established advanced solar panel assembly facility with automated production lines.

- **Technology Development:** Implementation of quality testing systems including Electroluminescence testing and solar cell testing capabilities.

ENABLING GENDER & YOUTH EMPOWERMENT

- **Women's Inclusion:** **40-45%** of all jobs created are held by women, with women holding key management positions including Finance Manager and HR Manager.

- **Innovation Ecosystem:** Partnerships with universities and research institutions supporting technical development.

5 GENDER EQUALITY

DRIVING GROWTH OF MSMES IN NIGERIA

- **Manufacturing Capacity:** Expanded from **10MW to 100MW** annual production capacity of solar panels, contributing to Nigeria's renewable energy manufacturing base.
- **Technology Access:** Improved availability of solar panels through local manufacturing to support MSME Businesses.
- **Energy Efficiency:** **50%** reduction in factory energy costs through solar hybrid systems.

LEVERAGING TECHNOLOGY TO DRIVE CLIMATE ACTION

- **Skills Development:** Technical training programs for employees, enhancing manufacturing skills and career advancement opportunities.
- **Technology Transfer:** Adoption of automated manufacturing processes and quality control systems.
- **Waste Minimization:** Manufacturing process produces minimal waste with collection systems for damaged materials.
- **Quality Systems:** Rigorous quality control measures ensuring durable, high-performance solar panels.

SUPPORTING CLIMATE MITIGATION IN NIGERIA

- **Carbon Emissions Reduction:**
  Current production (**10MW annually**): **6.300** tons CO_2 avoided annually
  Full capacity potential (**100MW**): **88,000** tons CO_2 avoided annually
- **Climate Resilience:** Contributing to energy security and climate mitigation through clean energy access.

Going Forward, BOI Can:

- Partner with other manufacturers to replicate this integrated financing model across Nigeria's renewable energy sector
- Develop specialized financing instruments for technology transfer and capacity building