

CASE STUDY

Polysmart Packaging

Powering A Circular Future With Clean Energy

In Nigeria's rapidly evolving industrial ecosystem, energy reliability remains a decisive factor for productivity and growth. For manufacturing and recycling companies, especially those at the forefront of sustainability, inconsistent grid supply, high diesel dependency, and volatile operating costs pose significant barriers to scaling impact.

Polysmart Packaging understands that building a circular economy requires not only innovation in materials but also resilience in operations. As part of the Polysmart Group, a leader in tackling the global waste crisis, the company uses advanced recycling methods and innovative collection systems, including the Switch Recycling App, to deliver sustainable impact at scale.

As a key player in the waste collection and recycling market, Polysmart exports high-quality recycled materials globally, ranging from food-grade rPET flakes and resin to non-food-grade LLD, LDPE, and PP; serving diverse industries from food and beverage to textiles. With this level of operational ambition and global reach, dependable, cost-effective energy is critical to maintaining efficiency, reducing environmental impact, and supporting Nigeria's transition toward sustainable industrialisation.



The Key Stats

	Solution Delivered	Power-as-a-Service (PaaS)
	Energy Generation Type	Solar Power & Inverter
	Project Tenor	15 years
	Sector	Manufacturing/Recycling
	Location	Mowe and Ota, Ogun State, Nigeria
	Completion Date	Phase 1: March 2026 Phase 2: Ongoing
	Installed Capacity	1.264MWp/1.05MWac
	Annual Savings	₦1,057,569,057
	CO₂ Offset (kg)	12,807,215

About Polysmart Packaging

Established in 2013 in Ogun State, Polysmart Packaging Limited has grown into one of Nigeria's leading players in the plastics and recycling industry, ranking among the top five manufacturers in a highly competitive market of over 250 companies. With a network of more than 600 dealers across 21 states and neighbouring countries, the company has built a strong footprint in the region.

Polysmart operates a fully integrated circular model through three core entities:

- Switch Recycling Innovations - focused on waste collection
- Crystal Polymers - dedicated to plastic recycling
- Polysmart Packaging Ltd - manufacturing sustainable, 100% recycled flexible packaging

This end-to-end approach makes Polysmart a leader in addressing plastic waste and in delivering high-quality, sustainable packaging solutions.

The Problem

Polysmart faces the challenge of reducing operational costs while earning carbon credits. Currently reliant on diesel as their primary energy source, they seek to transition towards cleaner energy solutions to align with sustainability goals and minimise environmental impact.

A Smart Energy Solution For Sustainable Recycling And Manufacturing

To address these needs, a hybrid solar energy system was deployed that integrates solar generation with grid and generator support. This approach ensures consistent energy availability while reducing reliance on fossil fuels.

We understood their need for unwavering power and predictable costs, especially given the current economic climate. Our Power-as-a-Service (PaaS) model enables Polysmart to acquire a world-class system with zero upfront capital cost, thereby freeing up their capital to invest directly into their core business growth.

The use of Tier 1 technology ensures that our equipment is of the highest quality, guaranteeing maximum efficiency, durability, and a longer operational life, providing unparalleled reliability for their critical operations.

The Results & Impact



Significantly reduced diesel consumption and operational costs, more predictable energy expenses, and substantial improvements in production uptime and overall efficiency.



A commitment to sustainability, significantly reducing carbon emissions while fostering a circular economy. Operations have also achieved a reduced environmental footprint, reflecting our dedication to creating a positive impact on the planet.



Enhanced energy independence and reliability. This transition solidifies Polysmart's position as a leader in sustainability. Furthermore, allowing them benefit from significantly lower maintenance requirements compared to traditional diesel systems.



TAKE THE LEAP

It's time to rethink your energy strategies and consider the benefits of alternative, reliable energy sources. Join the movement toward sustainability and operational efficiency!

Explore how transitioning to solar power and battery systems can not only reduce your energy costs but also enhance your commitment to environmental stewardship.



Client Testimonial

At Polysmart Group, sustainability drives every decision we make. With the 1.2MW solar installation, our factory is now powered by 35% solar energy, which is significant to our sustainability story. This installation showcases our commitment to reducing our environmental footprint and promoting innovation. By embracing renewable energy, we aim to lower carbon emissions and set an example for eco-friendly practices, all while providing value to our clients.

Assaad Mouawad, Group Chief Operating Officer of Polysmart Group.

A Framework for Nigeria's Industrial Growth

Polysmart Packaging's investment in clean energy is closely aligned with Nigeria's sustainability and industrial development goals. Backed by strong investments to build the country's largest plastic recycling facility, Polysmart is playing a pivotal role in advancing a circular economy.

Its unique position in the industry is defined by:

- Pioneering food-grade recycled PET (rPET) production in Nigeria
- Large-scale waste-to-resource conversion
- Integrated recycling and manufacturing ecosystem
- Sustainable packaging solutions for local and regional markets

By combining renewable energy adoption with circular manufacturing, Polysmart is setting a powerful precedent for industrial transformation in Nigeria.

With operations extending across multiple states and growing regional influence, Polysmart's energy model presents strong opportunities for replication and expansion. The integration of clean energy into recycling and manufacturing demonstrates a scalable pathway for other industries seeking to balance profitability with sustainability.

About Starsight Energy

The Starsight Energy Africa Group is an Africa-focused pure-play commercial and industrial ("C&I") renewable energy service provider covering the full scope of C&I projects, from rooftop projects to large-scale corporate Power Purchase Agreement ("PPA") backed projects, including power-as-a-service and cooling-as-a-service.

We provide carbon reduction, power security and cost savings to blue-chip clients in several key economic sectors, including agro-processing, education, financial services, data storage, healthcare, and manufacturing.

Our presence spans three key geographical hubs (Southern, Western and Eastern Africa) with operations in Nigeria, Ghana, Kenya, Namibia, South Africa, Tanzania and Uganda.

Our primary objective is to offer complete solar solutions at no upfront cost, enabling our clients to reduce their energy expenses, enhance energy efficiency, and reduce their carbon footprint.

For any enquiries, visit

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