

Building a circular economy through digital waste management in Ghana

In our Insights series, TRANSFORM shares successes and learnings from our projects to:

- Help the SME and entrepreneur community gain knowledge and learn from our projects
- Showcase to funders what can be achieved through impact-led initiatives

PROJECT AT A GLANCE:

SCALING TECHNOLOGY-ENABLED WASTE MANAGEMENT IN LOW-INFRASTRUCTURE CONTEXTS



AppCyclers is a Ghanaian social enterprise using web technology, data analysis, and community engagement to improve the collection, management, and recycling of plastic and electronic waste. Its work supports informal waste workers, many of whom are women, while creating circular economy solutions that reduce environmental pollution and generate local value.

Find out more

Collaboration is key to scaling impact enterprises. TRANSFORM has captured lessons from over a decade of experience supporting impact enterprises into a playbook, a practical 'how-to' guide for public, private and non-profit leaders seeking to build and manage successful public-private partnerships. [Learn more here.](#)

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THE CHALLENGE

Plastic waste presents a growing environmental challenge in Ghana, particularly in regions with limited recycling infrastructure. Large volumes of plastic end up in open dumps or landfills, contributing to pollution and health risks. At the same time, informal waste workers — often women — operate in precarious conditions with low, unpredictable incomes and little formal recognition. A lack of reliable information on who is collecting waste, where it goes, and in what quantities makes waste management systems harder to manage and improve.



THE INNOVATION

With support from TRANSFORM, AppCyclers launched the Northern Ghana Plastic Waste Reboot Initiative to strengthen plastic waste collection and recycling systems while improving livelihoods for informal workers. The initiative supports a circular economy model in which collected plastics are processed into recyclable raw materials, such as flakes and pellets, for downstream manufacturers.

The initiative integrates a digital platform, improving visibility across the waste value chain and enabling better tracking of collection activities and worker participation. Alongside this, AppCyclers provides targeted training, resources, and operational support to women working in the informal waste sector.

THE IMPACT

By improving collection processes, strengthening recycling value chains, and introducing digital oversight, AppCyclers has redirected over 1.1 million kg of recyclable waste from landfill, while creating safer and more reliable income opportunities for over 360 women in the informal waste sector. The initiative demonstrates how technology-enabled circular economy models can deliver environmental impact alongside inclusive economic growth.

WHAT'S NEXT?

AppCyclers will continue to scale the Northern Ghana Plastic Waste Reboot Initiative. This includes expanding its digital traceability platform and strengthening data collection and transparency across the waste value chain.



INSIGHTS:

STRENGTHENING PLASTIC WASTE MANAGEMENT SYSTEMS WHILE IMPROVING LIVELIHOODS

1. BUILD LOCAL OWNERSHIP THROUGH PARTNERSHIPS

Local delivery thrives on strong connections but coordination is often fragmented.

AppCyclers found that strong local partnerships were important for smooth project implementation. Involving local stakeholders early and giving them an active role in delivery helped build ownership and accountability. This made it easier to address challenges as they arose and supported day-to-day operations. Trust and transparency with local partners also helped lay the groundwork for future projects.

2. SECURE OFFTAKE TO MANAGE MARKET VOLATILITY

Material markets fluctuate, creating inherent instability for recyclers.

Fluctuating prices for recyclable materials created uncertainty and challenges for AppCyclers' operations. To manage this, the team prioritised building strong relationships with buyers and establishing clear offtake arrangements. This helped ensure that processed materials consistently had a market, reducing financial risk and supporting more stable, predictable operations.



3. INVEST TIME IN BUILDING TRUST WITH INFORMAL WORKERS

Informal waste work is highly decentralised, making collaboration difficult to initiate without long-term engagement.

Many informal waste workers operate independently, which made coordination and collective activity challenging. AppCyclers found that trust had to be built before training and joint work could take place. By engaging workers early through community discussions and being transparent about pricing and expected benefits, the team was able to bring people together more effectively. This approach supported participation in training and ongoing collaboration.

4. UNLOCK TRACEABILITY THROUGH ACCESSIBLE DATA

Waste is difficult to monitor in settings where data is dispersed and visibility is limited.

Effective waste management relies on knowing exactly what has been collected, where it has gone, and how it has been processed. Without accurate, accessible information, it becomes difficult to make informed decisions or measure progress. AppCyclers' digital platform provides real-time tracking of collection activities. By making this information available to its recyclers within the country, the platform strengthens accountability and transparency. Consistent data capture, clear communication and shared access to information ensure that waste flows and overall waste management remain fully traceable.



TRANSFORM is an impact accelerator that has united corporates, donors, investors and academics to support visionary enterprises across Africa and Asia between 2015 and 2026. Together, we have tested and scaled new market-based solutions to build inclusive, sustainable economies, empower marginalised communities, and drive climate-resilient growth.

By combining grant funding, business insight and research, TRANSFORM has advanced innovative business models to help solve global challenges. The initiative has been led by Unilever, the UK's Foreign, Commonwealth and Development Office, and EY.

Having delivered its intended outcomes, TRANSFORM concludes in 2026, leaving a strong legacy of more resilient enterprises and insights to inform future collaborations.