







#22

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Circular Economy: Packaging

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Challenges and opportunities of Circular economy

As cities grow, so too does the volume of waste they generate. While roughly 84% of global waste is collected, only 61% is managed in controlled facilities, highlighting systemic shortcomings that are projected to rise significantly unless current practices change (UN-Habitat, 2023). The world currently generates an estimated 2.3 billion tonnes of Municipal Solid Waste annually, a figure projected to rise to 3.8 billion tonnes by 2050 due to rapid urbanization, increased consumption, and population growth.

Amid the global waste crisis, the topic of packaging is slowly gaining traction, not only as a waste stream but as a strategic entry point for circular economy solutions. Packaging waste – particularly single-use plastics – remains a visible challenge, yet it is among the most adaptable elements of modern supply chains, offering significant potential for redesign and reduction.

Globally, less than 20 per cent of waste is recycled each year, with the remaining 80 per cent ending up in landfills (*Filipenco*, 2024). If fully valorized, this waste could generate billions of dollars in economic value and create millions of jobs - a crucial aspect of the circular economy.

This edition explores how urban actors, through policy innovation, public private partner-ships, community-led initiatives and progressive regulation, can leverage packaging as a catalyst for a more sustainable, resilient and waste-wise future.

▶ Challenges

The growing waste crisis is not just an environmental challenge, but also a pressing human concern. The situation in Africa is critical and requires urgent attention as many cities lack sanitary landfills or organized disposal systems, resulting in sprawling dumpsites, such as the Dandora dumpsite, the largest in Africa, which continue to expand unchecked. (Limo & Tearfund, 2023).

These unmanaged sites directly impact public health. In Dandora for example, smoke from burning waste drifts into the neighbouring Korogocho community, exposing residents to hazardous air pollution and other health risks.

Such sites highlight entrenched systemic failures in waste management, including packaging waste, which remains among the most visible and challenging waste streams.

Another obstacle is the complexity of packaging design and material composition. Many products are wrapped in multilayered or fused packaging that is not cost-effective to process.

When combined with limited recycling infrastructure and weak producer responsibility frameworks, this results in large volumes of packaging waste being burned, openly dumped, or discharged into waterways, causing land degradation, water pollution, and greenhouse gas emissions.

Sanitation and public health are severely threatened by poor collection, sorting, treatment, recycling, and final disposal. In most African countries, less than 55% of waste is collected, leaving significant amounts to be illegally dumped or abandoned in communities. (Yamauchi & Engineering , 2022).





























Moreover, the lack of investment in circular packaging innovation, like compostable materials or reusable delivery systems, suggests that African cities remain stuck in a consumption model, generating more waste than can't be sustainably managed. A shift towards circularity requires coordinated investment, thoughtful packaging design and localized infrastructure that regenerates value.

In addition, the continent's recycling rate remains extremely low despite the fact that a large proportion of waste has resource potential. Globally, although 70-80% of waste is recyclable, only about 4% is actually recycled (*UNEP*, 2023).

Nigeria generates more than 32 million tonnes of waste annually, with less than 12% being recycled. The country also produces 1.5 million tonnes of plastic waste each year, yet the recycling rate remains below 10 per cent. (Cappaone, 2025). This lost opportunity exacerbates greenhouse gas emissions, public health risks, water pollution, and land degradation.

The gap between the potential of circular economy approaches and the reality of current practices remains one of the most critical challenges. Addressing this requires reimagining packaging design to prioritize reuse and safe recovery, supported by systemic investment and policy innovation.

Opportunities

While packaging waste poses significant challenges, particularly in rapidly urbanizing regions like Africa, emerging evidence highlights a future rich in circular opportunities. By rethinking packaging through the

lens of circularity, cities can advance can advance economic regeneration, social inclusion, and environmental resilience, opening a new chapter in sustainable urban development.

One key opportunity lies in job creation. Circular innovation generates employment, with the United Nations Environment Programme (UNEP) estimating that integrating recyclable waste into circular systems could potentially inject up to US\$8 billion annually into Africa's economy and create multiple green employment opportunities (UNEP, 2023).

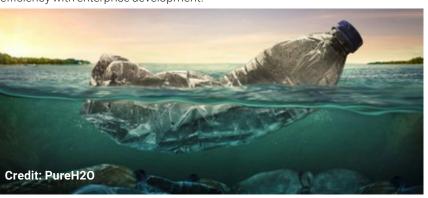
The African Development Bank further underscores thattransforming Africa's Africa's recycling landscape will require sustained innovation and inclusive investment. By embedding circularity into sustainable development projects, the continent could unlock as much as \$350 billion in economic opportunities by 2030 (Ogwo, 2025).

A critical frontier in this transition packaging innovation. Globally, packaging accounts for over 36 per cent of total plastic production, most of it single-use, with the majority end-ing up in landfills or marine environments (OECD, 2022). Advancing sustainable packag-ing solutions therefore represents both an environmental imperative and a significant economic opportunity, combining resource efficiency with enterprise development.

With global population growth accelerating, there increasing is demand to replace conven-tional packaging with alternatives that are biodegradable, reusable, or refillable. Innovations in this sector have the potential to transform the circular economy landscape and pave the way for a more sustainable future. The Ellen MacArthur Foundation estimates that adopting reusable packaging models in just 5 sectors, beverage, food, e-commerce, home and personal care, could unlock an economic opportunity of \$10 billion. (Ellen Macarthur Foundation, 2023).

UN-Habitat, through initiatives like Waste Wise Cities and the African Clean Cities Platform (ACCP), has demonstrated that scaling sustainable packaging solutions not only contributes to circularity but also enhances urban cleanliness, resilience, public health, and human dignity.

In summary, shifting from the prevailing linear "take-make-dispose" model towards a circular economy presents both significant challenges and opportunities. Weak collection systems, low recycling rates, and inadequate policy frameworks remain pressing barriers. Yet, the potential benefits are substantial: unlocking economic value, creation of employment, fostering innovation, and creating cleaner and resilient cities.































Case studies

Case study in re-use and refill sustainable packaging models: transforming waste into value through innovation and inclusion

This article was contributed by José Manuel Moller, Vice Chair of the UN Zero Waste Advisory Board, Founder of Algramo, and Chief Executive Officer of Common House

Mr. Moller's pioneering work in Algramo has advanced circular economy initiatives by promoting packaging through reuse and refill systems. By preventing single-use from becoming Algramo demonstrates how innovation can simultaneously reduce plastic pollution, lower carbon emissions, and decrease household costs.

This with Sustainable aligns Development Goal (SDG) 11 on inclusive and sustainable urban economies, SDG 12 onresponsible consumption and production, and SDG 13 on climate ac-tion. Mr. Moller's transition from Algramo to Common House further underscores how locally driven innovation can be scaled globally, providing cities with practical pathways to embed circular solutions into daily urban life. Plastic pollution driven by the proliferation of single-use plastics, remains one of the most pressing environmental challenges of our time. Each year, millions of tonnes of plastic packaging are discarded in landfills or leak into the natural environment, undermining progress towards SDG 12 on responsible consumption and production, which calls for the prevention, reduction, recycling, and reuse of waste.

Yet this challenge also creates opportunities. Transitioning from a single-use culture to circular reuse and refill systems can conserve resources, reduce greenhouse gas emissions, and unlock new economic opportunities.

A leading example of such innovation is the work of a Chilean entrepreneur José Manuel Moller, recognized by the United Nations as a Champion of the Earth. In 2012, he founded Algramo, which introduced smart dispensers and returnable packaging to make refillable products more accessible and affordable for households in Santiago, Chile. This inclusive approach not only reduced packaging waste but also addressed the so-called "poverty tax" by lowering costs. Through this model, Algramo has prevented more than one million single-use containers from entering landfills.

Building on this experience, José founded Common House, a global reuse studio headquartered in London. This initiative partners with companies, cities, and organizations to design and expand reuse and refill solutions. By intergrating technology, behavioral insights, and circular design, Common House supports the incorporation of reuse models into mainstream urban systems across Latin America, Europe and Asia.

Impact

In terms of environmental impact, Algramo has prevented more than one million single-use containers from reaching up in landfills, thereby reducing both emissions and waste.

On social inclusion, Common House promotes reuse systems that integrate informal waste pickers and micro-entrepreneurs into logistics and delivery chains, fostering a self-sustaining and just transition.

Innovation and technology strengthened through the deployment smart dispensing systems demonstrating that technology can make reuse both affordable convenient, while bridging and infrastructure gaps in cities.





Get to know our affiliates

Africa Collect Textiles Foundation

AFRICA COLLECT TEXTILES

Across Africa, millions of tonnes of textiles are discarded each year, with the majority ending up in landfills or incinerated. Africa Collect Textiles (ACT) is working to change this reality by demon-strating that discarded clothing and fabrics can be given a second life.

Through 43 accessible collection points across the city, households, corporates, and second-hand markets are encouraged to deposit unwanted textiles. Once collected, the items are

carefully sorted: wearable clothing is redistributed locally, non-wearable textiles are upcycled into products such as rugs and mats, while unusable fabrics are responsibly downcycled.

This process not only diverts waste from dumpsites but also generates new employment opportunities and fosters valuable skills.

ACT's work extends beyond collection and recycling. The organization runs awareness programmes in schools, businesses, and communities to promote responsible disposal practices. In addition, ACT actively advocates for Extended Producer Responsibility (EPR) in the textile sector, ensuring that manufacturers share accountability for the end-of-life

management of their products.

By combining hands-on solutions with policy advocacy, Africa Collect Textiles is laying the founda-tion for a circular textile economy in Africa.



Credit: ACT

The Egyptian Clothing Bank



Since 2012, the Egyptian Clothing Bank (ECB) has been redefining textile waste management through innovation. As a zero-waste NGO, ECB transforms clothing poverty and textile waste challenges into opportunities for both the beneficiaries and the planet.

ECB collects clothing, textiles, shoes, fabrics, accessories, and more from individuals, factories, companies, hotels, and fashion brands.

Every item is managed through an innovative system of sort-ing, repairing, altering, upcycling, and recycling, ensuring maximum value with no fabric wasted.

At the core of its work are 12 innovative projects that convert discarded textiles into impactful prod-ucts such as school uniforms, dignity kits, school bags, quilts, tote bags, and more. Each project is a model of innovation in circular economy practices, reducing landfill waste, supporting carbon offsetting, and creating sustainable solutions to global textile challenges.

At the heart of the Egyptian Clothing Bank's mission is women's

empowerment. Through ECB's workshops, women are trained and employed to innovatively transform textiles into high-quality recycled products — creating income opportunities, promoting equality, and strengthening local communities.

Through innovation, empowerment, and zero-waste commitment, the Egyptian Clothing Bank demonstrates that sustainability can be practical, scalable, and deeply human — where every dona-tion becomes a story of dignity, impact, and innovation.



























Waste Wise Cities Affiliates

Do you want to:

- · Support Waste Wise Cities and improve waste management in cities around the world?
- Be an official partner of Waste Wise Cities and UN-Habitat?
- · Show up on the Waste Wise Cities website?
- Implement the Waste Wise Cities Tool (WaCT)?
- Read about your activities in this newsletter?
- Do much more?

Then contact us and become a Waste Wise Cities Affiliate! Together we can become Waste Wise.

Waste Wise Cities Tool (WaCT)

Have you forgotten what the Waste Wise Cities Tool (WaCT) is? No need to worry, you can access all the relevant information on our website.

Here you can explore which cities have already submitted data collected with the Waste Wise Cities Tool (WaCT). As indicated in the article below, additional data is continuously becoming available.



























Affiliate's Event

Second Edition of the Forum on Capitalization of Achievements and Innovations in the Sanitation Sector in Guinea, October 23 to 25, 2025, in Conakry, Guinea

Our WWC Affiliate, The African Waste Managers Network (CAGEDEA), in collaboration with, the Federation of Waste Managers of Guinea (FEGEDEG) will organise the 2nd Edi-tion of the Forum on Capitalization of Achievements and Innovations in the Sanitation Sec-tor in Guinea (VAISA-GUINEA 2025), scheduled to take place from October 23 to 25, 2025, in Conakry.

Following a highly successful first edition, VAISA-GUINEA has become a major gathering aimed at promoting progress, best practices, and innovative solutions in sanitation and sustainable waste management. The forum will be held under the central theme: "Capitalizing on achievements, stimulating innovation, and strengthening synergies for integrated and sustainable waste management in Guinea."

Over three days, this event will bring together public institutions, local authorities, private companies, researchers, civil society organizations, technical and financial partners, as well as engaged citizens. Together, participants will exchange knowledge, present solutions, and build synergies to tackle the pressing environmental challenges facing the country. Highlights of the program include:

- · Exhibitions of innovations and technical demonstrations;
- High-level conferences and panel discussions;
- · Experience-sharing sessions with practitioners and experts;
- · Environmental innovation competitions;

CAGEDEA, together with FEGEDEG, invites all stakeholders to register as exhibitors, speakers, or participants, and to submit projects, innovations, or case studies to enrich the dialogue and showcase impactful solutions. For more information, please reach out to fegedeg@gmail.com or WhatsApp: +224 625 766 435

Together, let us build on achievements, foster innovation, and commit to a clean, healthy, and prosperous from Guinea with all WWC and ACCP member cities!





Waste Wise Cities & African Clean Cities Platform Updates

4th ACCP Assembly - Accelerating Institutional Commitment and Sustainable Financing for Better Municipal Solid Waste Management in Africa ACCP Assembly

The Fourth Assembly of the African Clean Cities Platform (ACCP), under the theme "Accelerating Institutional Commitment and Sustainable Financing for Better Municipal Solid Waste Management in Africa," was convened on 20-21 August in Yokohama, alongside the Ninth Tokyo International Conference on African Development (TICAD 9). The Assembly brought together approximately 360 participants, including representatives from ACCP members, as well as the Ministers of Environment of Angola and Libya. In addition, ACCP Associate Members, international organizations, and companies and organizations, both domestic and international, actively participated

Keynote lectures on the Fukuoka Method and Just Transition were delivered by distinguished professors from Japan and Africa, followed by discussions on regional policy priorities and transformative actions for improved waste management in Africa.

The Assembly also emphasized national, regional, and international

synergies for policy development, the importance of quality data and evidence-based decision-making, strengthened governance and fiscal and collective actions through collaboration with ACCP stakeholders-including Japanese cities, UNIDO, private companies, and multilateral development banks such as the World Bank and Islamic Development Bank.

During the High-Level Roundtable, which brought together the Minister of Environment of Libya, the Minister of Environment of Angola, the Vice-President of JICA, and the Executive Director of UN-Habitat, participants reached a common understanding of the challenges Africa faces in municipal solid waste management (MSWM) and the actions needed address Key priorities them. identified included strengthening political commitment to elevate waste management within national development agendas, and mobilizing both domestic budget allocations and external financing or investment to support essential infrastructure and capacity development. Through its network and partnerships, the ACCP is well positioned to amplify these efforts, foster momentum, and drive a stronger movement under the leadership of its member countries and cities.



For the first time, all ACCP member representatives were given speaking opportunities, sharing their challenges, opportunities, and appreciation for the platform. The Assembly reviewed the progress and achievements of the past three years and, as its outcome, adopted the New Yokohama Action Guidance, which will steer future actions by ACCP members and stakeholders.





Promoting zero-waste initiatives on the next level: UN Secretary-General's Advisory Board on Zero Waste

Led by Türkiye's First Lady, H.E. Emine Erdoğan, the UN Secretary-General's Advisory Board on Zero Waste continues to champion global efforts. Since its launch in March 2023, the Board has helped raise awareness and share solutions through events on the International Day of Zero Waste in Nairobi and New York. On 24 April 2025, the Board hosted a webinar on textile and fashion waste, bringing together youth, policymakers, and industry experts to explore circular economy solutions.

They recognized the critical role of the youth in driving change, and are now working in close collaboration with the UN Youth Office to enhance youth engagement in zero-waste action and advocacy on a two-way street. Further, the Advisory Board is preparing its final report to the UN Secretary-General, providing an account of achievements and strategic recommendations to guide the UN's continued engagement on zero-waste initiatives and contribute meaningfully to global sustainable development efforts.

Finally, the next in-person meeting will be during the International Forum on Climate Change and Zero Waste on 18 October 2025 in Istanbul and focus on their next-level work-plan deliverables.

Looking ahead, the Advisory Board remains committed to identifying and leveraging opportunities to accelerate zero-waste initiatives globally. Do you have any suggestions, any in-puts on what the Advisory Board should focus on? Write to us here: advisoryboard. zerowaste@un.org





Korogocho progress

The Material Recovery Facility (MRF) project in Korogocho is marking a major step for-ward in improving waste management and creating a cleaner environment. Implemented through the collaboration of the Italian Agency for Development Cooperation (AICS), UN-Habitat, Avsi, Miss Koch Kenya and the local community, the initiative recently welcomed a donor mission that monitored the key progress achieved to date.

The donor mission from AICS, conducted from 14 to 17 July, included constructive dialogues with the project team and local stakeholders, a field visit to the MRF construction site, observing the progress made since the groundbreaking in March 2025.

The mission team noted several key achievements, such as completing the main structure, conducting community sensitization, and drafting an operational strategy for the MRF in consultation with the community.

With only final installations remaining, the facility is expected

to begin operations by early October 2025

The facility, upon its full operationalization, will benefit approximately 4,500 residents through better waste collection, job creation, and stronger material recycling efforts.



Waste Wise Cities Tool (WaCT)application in Madagascar

In May 2025, UN-Habitat successfully applied the Waste Wise Cities Tool (WaCT) in the Commune Urbaine d'Antananarivo, Madagascar, in close collaboration with the municipal authority and the local solid waste

management company. The assessment provided a comprehensive baseline on the city's municipal solid waste management performance, including waste generation, collection coverage, and recovery rates. The data gathered will support evidence-based planning and help identify priority interventions to improve service

delivery and resource recovery in the capital. The exercise also strengthened local capacity in waste data collection and analysis. By organising the validation workshop in their city hall, we are fostering ownership and enabling the city to track progress towards sustainable waste management and circular economy goals Promoting





ISWA and UN-Habitat take the Beacon Conference on Waste-to-Energy, in Xi'an, China

UN-Habitat in collaboration with the Cities Investment Facility (CIF), is implementing a Waste-to-Energy (WtE) sourcing project to identify sustainable investment opportunities. With the aim to provide insights to the project, the UN-Habitat team participated in the 1st Waste-to-Energy Technology and Equipment Conference & 1st ISWA Beacon Conference held in Xi'an, China. The conference lasted from 1st-3rd July in one of China's ancient capitals Xi'an City, located in the north-central China

The conference featured technical presentations by national and international WtE experts, along with site visits to WtE plants in Xi'an City, Shaanxi Province. During the event, the team held constructive exchange meetings with key project partners and stakeholders to discuss ways to better promote sustainable waste management.

UN-Habitat considers WtE as one of several technical options, applicable only in specific contexts with strong governance, sufficient financing, and strict environmental safeguards, while prioritizing waste prevention, reduction, reuse, and recycling. The organization remains committed to promoting inclusive, environmentally sound, and socially acceptable waste management systems.



Updates



World Cleanup Day 2025 - Leave No Waste Behind - Tackle the Textile and Fashion Waste Crisis

Every second, a garbage truck full of clothes is dumped in a landfill or burned. The fashion industry generates 92 million tonnes of textile waste each year, overwhelming waste systems, polluting waterways, and fuelling the climate crisis.

Over the years, numerous national, regional, and local governments and communities have undertaken clean-ups globally on September 20, as proclaimed in UNGA resolution 78/122, which proclaims this as "World Cleanup Day". World Cleanup Day plays a crucial role in raising awareness about the broader implications of plastic pollution and waste management. It educates individuals and communities about the importance of reducing, reusing, and re-cycling waste, promoting a shift towards more sustainable lifestyles. This educational aspect is crucial for promoting long-term behavioural change and encouraging the adoption of zero-waste practices.

World Cleanup Day 2025 highlights the urgent need to raise awareness and shift habits toward responsible consumption, strengthen local and global waste management systems, and advance policies and partnerships that build urban resilience. This year's World Cleanup Day also spotlights the growing challenge of textile and packaging waste, while promoting circular economy principles that bring both environmental and socio-economic benefits.

UN-Habitat sees this observance as a vital opportunity to inspire action at the local level in Nairobi and demonstrate how inclusive, community-driven efforts can accelerate the transition towards greener, cleaner cities

Do you want to make a mark and spark collective action? Host next year's global Observance of the World Cleanup Day. Express your interest here.





Dubai International Best Practices Award for Sustainable Development

The Dubai International Best Practices Award for Sustainable Development aims to recognize excellence and support human settlements best practices and to create a global and unique knowledge sharing platform for best practices in human settlements. If you are driving innovative solutions that make cities more sustainable, resilient, and inclusive, this is your chance to gain global recognition and scale your impact.

Now in its 14th cycle, the award features five categories: urban regeneration, innovative ar-chitecture, sustainable food systems, climate action, and urban infrastructure. Open to all sectors globally, it offers international recognition and inclusion in the Urban Best Practices Database, and a unique platform to showcase your work globally.

Winners not only receive international recognition and inclusion in the Urban Best Practices Database, but also a USD 200,000 prize per category and the opportunity to presenting their projects work at the World Governments Summit 2026 in Dubai.

Don't miss the chance to spotlight your innovation and inspire change.! **The deadline for submissions is 15 October 2025**. Apply now from here!



World Urban Forum 13

Registration is now open for the thirteenth session of the World Urban Forum (WUF13), to be held in Baku, Azerbaijan, from 17 to 22 May 2026, under the theme "Housing the world: Safe and resilient cities and communities."

This milestone event is convened by UN-Habitat and co-hosted by the Government of Azerbaijan. It is our flagship platform to engage governments, private sector, civil society, academia and communities in advancing sustainable urbanization and addressing the global housing challenge.

We invite you to register via UN-Habitat's <u>Global Event Management System (GEMS)</u> and help promote the Forum by sharing updates within your networks.

For more information and registration, please visit https://wuf.unhabitat.org/wuf13

























Updates



Resources

- · Why local action is critical for a zero-waste future
- · Latin America Leads by Example on Single-Use Plastics
- Including Waste Pickers in Metropolitan Waste Management

Call to Action

- Share with us your good practices of Circular economy, zero waste practices, and other innovative solutions related to Plastic waste!
- Proactively implement and enforce robust and sustainable Circular economy schemes in your cities for sustainable waste management!
- Become an ACCP and/or Waste Wise Cities member or affiliate and share your stories with us!
- · Visit our ACCP and waste Wise Cities websites for more details on our projects in Plastic waste!





