



United Nations Development Programme

In response to the [notification](#) by the United Nations Framework Convention on Climate Change (UNFCCC) secretariat inviting Observers and other non-Party stakeholders to submit views on opportunities, best practices, actionable solutions, challenges and barriers relevant to the topics of the dialogues in 2025 in accordance with paragraph 14 of decision 4/CMA.4., **UNDP is pleased to submit views on enabling mitigation solutions in the waste sector, including through circular economy approaches.**

- The **Paris Agreement** provides a framework for countries to address waste management as part of their broader efforts to mitigate climate change and transition to a more sustainable future. Countries' Nationally Determined Contributions (NDCs) provide a key entry point to integrate circular economy approaches, including but not limited to the waste sector, helping reduce greenhouse gas (GHG) emissions, build climate resilience, and drive sustainable development priorities.
- The **outcome of the first Global Stocktake** *"notes the importance of transitioning to sustainable lifestyles and sustainable patterns of consumption and production in efforts to address climate change, including through circular economy approaches, and encourages efforts in this regard"* ([paragraph 36](#)).

1. Background

Today, our global economy remains overwhelmingly linear: we extract, consume, and discard. As a result, we generate more than [2 billion tonnes of waste](#) annually, a figure projected to rise to [3.4 billion tonnes by 2050](#). Meanwhile, [resource extraction](#) has tripled since 1970, driving 90 percent of biodiversity loss and 55 percent of all GHG emissions. It is responsible for 40 percent of particulate matter health related impacts, driving us to exceed safe planetary boundary limits beyond which current and future generations cannot continue to develop and thrive.

The current system is not only unsustainable but also unraveling the very foundation of development. Circular economies grow by reducing resource use. They focus on reusing, regenerating, and minimizing waste in all sectors, like agriculture, energy, and consumer goods. This helps ensure a fair transition to a low-carbon, sustainable future. Switching to a circular model could bring US\$4.5 trillion in economic benefits by 2030, cut emissions, create stable jobs, and open new green markets, helping both people and planet thrive in harmony.

2. **UNDP's support to countries in the waste sector, including through circular economy approaches.**

UNDP recognizes the critical need to address emerging challenges in the waste sector and its impacts on climate change, as well as the opportunities of integrated approaches such as circular economy to simultaneously address issues of waste, reduce emissions, build resilience and advance development priorities. UNDP's cross-cutting mandate and presence in 170+ countries allows it to connect circular economy strategies with climate action, waste and pollution prevention, biodiversity protection, livelihoods, and governance.

UNDP has done extensive work to bring a whole-of-society approach to this agenda, mobilizing governments, private sector, and civil society to co-create circular economy solutions that are just, inclusive, and locally driven, that can help tackle waste management issues through a value chain approach.

UNDP has also helped to bridge implementation gaps to drive an inclusive, whole-of-system circular economy transition through cross-sectoral partnerships and technical expertise, including in the waste sector. Drawing on a range of portfolios across Climate Change, Nature, Chemicals and Waste, Energy, and Sustainable Finance, among others, UNDP works to advance the multiple dimensions of the waste sector as part of the development priorities. This includes policies and programming in the waste sector in NDCs, the phase-out of harmful chemicals and plastics, the sound management and recycling of wastes, including plastics, sustainable food and agriculture, including food loss and waste, sustainable supply chains (mining, ICT, textiles, construction, tourism), energy efficiency and the transition to renewable energy, environmental governance of extractive industries, as well as other cross-cutting themes such as sustainable procurement.

UNDP also enables governments and practitioners to create, implement, and track mitigation solutions in the waste sector, including through circular economy approaches, through flagship initiatives such as the [Climate Promise](#) and dedicated offers on [Zero Waste](#), [Plastics](#) and [Sustainable Cooling](#). This support enables countries to achieve zero-waste, climate, and adaptation ambitions, phase-out chemicals of concern from supply chains, eliminate unnecessary plastics, and increase recycling rates.

3. **Indicative list of areas for discussion during the sixth global dialogue being considered by the co-chairs:**

A. Best practices and solutions to address challenges and barriers to mitigation action in the waste sector, including through circular economy approaches.

The waste sector is a priority sector in many countries' NDC and serves as a key entry point for enabling mitigation solutions, including through circular economy approaches. Based on UNDP's experience supporting developing countries, the good practices and solutions that have emerged from countries' efforts to overcome challenges can be grouped into key areas. UNDP encourages

Parties to consider these areas for further discussion during the sixth dialogue. The following provides an illustration of each area, along with examples from ongoing work where countries are taking forward valuable approaches that could be shared and replicated.

Strengthening waste management capacities at the local level: **Indonesia** has enhanced its plastic waste management capacity through the creation of community-based mini-depots in cities such as Surabaya, Bandung, Malang, and Banyuwangi. These facilities act as local hubs for collecting, sorting, washing, and shredding plastics, including those containing hazardous additives, before they enter downstream recycling markets. The approach integrates waste banks, cooperatives, and small-scale recyclers, improving recovery rates, raising the value of recycled materials, and creating local employment. By diverting plastics from open burning and uncontrolled dumping, this model reduces associated GHG and short-lived climate pollutant emissions, while supporting a just transition to a circular economy that combines environmental benefits with inclusive economic opportunities.

Strengthening institutional arrangements and enabling frameworks: **India** and the **Philippines** are piloting enhanced “Material Recovery Facility (MRF) Plus” models that link waste segregation and recycling hubs with broader development goals, including the creation of new economic activities and improved social and environmental outcomes for workers and communities. The approach combines supportive policy measures (e.g. property tax rebates for households practicing rainwater harvesting, composting, and waste segregation), stakeholder empowerment (e.g. strengthening the capacity of MRFs to negotiate effectively with Producer Responsibility Organisations to secure benefits from Extended Producer Responsibility (EPR) schemes), and expanded market access (e.g. business mentorship programmes for women, gender-diverse groups, and informal waste workers). These measures improve material recovery rates, foster more inclusive economic participation, and reduce waste-related emissions by diverting materials from landfills and open burning, thereby contributing to climate mitigation and a just transition to a circular economy.

In **China**, a comprehensive circular economy approach is implemented to address high-emission and resource-intensive waste sectors, notably waste electrical and electronic equipment (WEEE). Under its national EPR system for WEEE, fees collected from producers finance a treatment fund that provides subsidies to certified recyclers for the formal processing of five major e-waste categories. This is complemented by national technical standards, eco-design guidelines, and innovative digital tools such as the “Baidu Recycle” app, along with community-based collection systems in more than 20 cities. These measures have increased formal WEEE processing by 50%. By replacing informal recycling with environmentally sound processes, avoiding virgin material production, and improving energy efficiency in manufacturing, these actions make a direct contribution to China’s mitigation target.

Meaningfully engaging all actors in the waste management value chain for sustained ecosystem development: in **Ghana**, a [Multistakeholder Waste Recovery Platform](#) was established, serving as a one-stop shop solution platform to connect all actors in the waste management value chain to promote waste recovery in a larger circular economy context and create an avenue for policy dialogue, innovation, and advocacy. Components of the platform include a physical convening mechanism that brings together all the stakeholders on a periodic basis to connect, discuss issues of common interest and forge partnerships for effective waste management; a digital platform that includes a number of

tools (e.g. waste resource map, a compendium of technologies, etc.) to provide real-time information/data on waste management and facilitate material exchange; a promoter of innovation with catalytic support for innovative R&D and businesses that demonstrate, contribute knowledge and raise awareness on opportunities for waste recovery or minimization (e.g. 'Waste' Recovery Innovation Challenge); and a communication dimension that creates awareness and builds knowledge for the general behavioural change needed to make waste recovery systems effective. The Platform has created an avenue for constructive dialogue between government, private sector, civil society and Non-Governmental Organisations (NGOs), and empowered non-traditional groups like informal waste pickers to be recognized as equal players in the circular economy value chain. It has also become a space where new partnerships have been nurtured to enhance private sector development for circular economy development.

As another avenue to engage with informal waste pickers, a dedicated micro-insurance product is being prototyped in **Tanzania**. Based on the tokenization of waste conferred to recycling facilities, it builds a "revenue history" for pickers, on the basis of which insurance companies can offer social and health insurance to individuals for which they would otherwise have no way of estimating risk.

Young people and the general public are also important stakeholders and actors in the ecosystem. A Biohacking Lab in partnership with a high school was established in **North Macedonia**, where students act as citizen scientists to explore possible uses for biowaste, preventing waste and pollution and further reducing emissions.

Sierra Leone is working with Samsung and universities to promote a circular economy with a special focus on electronic waste. Through this partnership, young people are being empowered with information and technological tools to innovate and advance mobile circularity for a safe and low-emission environment. Approximately \$600,000 is being invested to build the capacity of young people to advance the circularity of electronic waste.

Facilitating access to finance: **Indonesia** has strengthened the enabling environment for circular economy financing through its Integrated National Financing Framework (INFF), launched in 2022. The framework aligns national financing strategies, policies, and institutions to mobilize resources for sustainable development, explicitly recognising circular economy investments as eligible under the country's SDG Government Securities Framework. Priority areas include waste-to-energy, waste management, and sustainable water and wastewater management.

Strengthening data collection, through innovative methods and approaches: An extensive knowledge base around waste production, collection, treatment and circularity was collected in **Panama**, through support under UNDP's Accelerator Labs. All knowledge, from waste disposal methods to collection points, was geo-referenced. Pilots on source separation of waste streams were run and citizen science methods were used to assess recyclability. For example, in the San Felipe Neri market, 99 percent of food waste turned out to be recyclable, helping divert food waste from landfills, reduce emissions, and create inputs to new processes.

In **Ghana**, The Ghana Waste Map helps collect and visualize real-time data on waste flows, infrastructure, and stakeholders across Ghana. Piloted in the Greater Accra Metropolitan Area

(GAMA), the map provides real-time data to help stakeholders identify opportunities for collaboration, resource recovery, and investment. The map enables collaboration, tracks material recovery, and informs policy and investment decisions, making it a key tool for advancing circular economy strategies in waste management.

B. Approaches to enable means of implementation for actions and solutions in the waste sector, including through circular economy approaches.

Through an analysis of UNDP's extensive support to countries on climate, waste, and pollution and building on country experiences, insights, and support needs, UNDP has identified the following opportunities and encourages Parties to consider these elements relating to approaches to enable means of implementation for actions and solutions in the waste sector, including through circular economy approaches:

Finance:

- i. Identify how countries are prioritizing climate actions in the waste sector and mobilizing financiers and investors – what are the technical and institutional tools that can be applied to mobilize and catalyze finance?
- ii. Explore and facilitate access to market opportunities, the provision of financial services, and other innovative financial mechanisms for waste processors and collectors, ensuring that communities benefit from these opportunities and that they contribute towards a just transition to a circular economy.
- iii. Strengthen the role of multiple stakeholders, including governments, to serve as interlocutors to bridge the gap between Small and Medium Enterprises (SMEs) that are in need of suitable financial instruments to develop and scale up business innovations, and financial institutions that require more data on the viability of circular economy investments in order to design financial instruments to support private sector growth.

Technology development and transfer:

- i. Facilitate knowledge sharing (especially south-south exchange) on workable technological solutions that can be adapted to meet local needs, also helping reframe informal systems of waste picking and recycling as an asset to build upon.
- ii. Foster and promote collaboration between research/academia and the private sector to ensure that new ideas, and culturally and contextually appropriate technologies and grassroots innovations, are continuously explored to enhance circular promotion. This is particularly important at the stage of product design which has a significant impact on material use, waste generation, and emissions reductions.
- iii. Promote a shift in the waste sector from a linear model to a circular one by identifying practical steps, circular economy approaches and methods as well as evidence-based solutions that are ready to be scaled up and replicated.
- iv. Improve access to waste information, robust data and information systems, and new technologies for increased circularity in the waste sector.

Capacity-building:

- i. Build capacities and share experiences, best practices and innovative grassroots solutions on circular economy approaches that not only include but extend beyond the waste sector for increased climate action.
- ii. Meaningfully engage the poorest and most vulnerable communities such as informal waste pickers, women, and people with disabilities through multi-stakeholder, participatory and inclusive bottom-up approaches, ensuring that their voices, expertise, and needs are heard.
- iii. Support the private sector, specifically local innovations and SMEs to advance circular solutions and business models through green innovation, including training, capacity-building and financial support.
- iv. Support SMEs and young innovators who are in need of spaces where innovative ideas could be incubated and tested before market entry. This is a need that, when met, could allow for innovators to sharpen rough edges of business solutions before market entry. It allows for high success and high possibility of achieving investment returns.
- v. Support SMEs and foster systematic opportunities for business-to-business (B2B) learning and collaboration with more established businesses to enhance their capacity development. B2B enables SMEs to access larger markets, reduce costs, improve supply chains, adopt digital tools, build long-term partnerships, and enhance competitiveness.

In conclusion, UNDP stands ready to contribute to the sixth dialogue as per the elements mentioned above. Leveraging its integrated portfolios and offers, UNDP can support Parties to build capacities and showcase how and where countries are advancing on these topics. Our engagement at the global, regional, country and local level also provides an opportunity to extract lessons, share information and generate knowledge on developing and implementing national policies, plans and strategies related to climate change, the waste sector and circular economy, as well as engaging the most marginalized voices.

As a trusted convener and partner, UNDP can help promote synergies and strengthen engagement, collaboration and partnerships among national, regional, and international organizations and other relevant stakeholders to enhance the coordination and implementation of climate action to address issues related to the waste sector, including through circular economy approaches.