



*Food loss and waste drives a major climate problem, generating an estimated 8–10 per cent of global greenhouse gas emissions. PHOTO CREDIT: ADOBE STOCK*

# Turning food waste prevention into a scalable climate solution

By Clementine O'Connor

**F**ood waste has often been regarded as an inevitable by-product of today's food systems, but tackling it is emerging as a critical lever for climate change mitigation, improved resource use and strengthened food security.

Around the world, our food systems generate more than one billion tonnes of waste every year at the retail, food service and household levels. Food loss and waste drives a major climate problem, generating an estimated 8–10 percent of global greenhouse gas emissions, and are a significant source of methane, a gas far more potent in climate change processes than carbon dioxide in the short term.

As the world confronts the urgency of the climate crisis and the delivery window narrows for the 2030 Agenda, tackling food waste is emerging not only as a moral and economic

imperative, but also as one of the fastest and most cost-effective solutions for reducing warming and minimising the scale and duration of any 1.5°C overshoot.

The 2026 International Day of Zero Waste, observed on March 30, focused on food waste, underscoring the scale of the challenge and the global momentum now coalescing behind solutions. The United Nations Environment Programme (UNEP) is working to shift the global understanding of food waste from a marginal issue of consumer behaviour to a systems-level challenge that intersects with climate change mitigation, biodiversity conservation, pollution reduction and urban policy. The mandate of UNEP under United Nations Environment Assembly resolution 4/2 recognises food loss and waste as a central element of sustainable consumption and production patterns. As custodians of Sustainable Development Goal 12.3 indicators, the Food and Agriculture

Organization of the United Nations (FAO) and UNEP track food loss and food waste generation respectively. As such, UNEP publishes the Food Waste Index Report, a comprehensive assessment of global and country-level data on food waste, enabling countries to track progress, identify hotspots and develop evidence-based strategies.

With this science in hand, UNEP and partners launched the Food Waste Breakthrough at the 30th annual United Nations Climate Change Conference (COP 30) in Belém, Brazil in November 2025 to mobilise governments, cities, food businesses and non-state actors to halve global food waste by 2030. By elevating food waste reduction as a key climate and methane mitigation strategy, the Breakthrough aligns with the food systems, climate and waste agendas behind a single, scalable approach. It puts cities at the centre, where the challenge – and opportunity – is greatest: organic waste in dumps and landfills is one of the





largest urban methane sources, with the United States Environmental Protection Agency finding that food waste alone drives 58 percent of landfill methane emissions. Through technical support, capacity-building and communities of practice, UNEP is helping cities develop food waste reduction plans and implement integrated interventions, aligned with climate strategies, solid waste management plans and circular economy initiatives.

Strong national and subnational leadership is being demonstrated by Brazil, which has built a comprehensive governance architecture to tackle food loss and waste, beginning with the development of an updated Intersectoral Food Loss and Waste Strategy. The strategy has strengthened coordination across ministries and public agencies, and created a national framework that guides prevention, redistribution and the management of unavoidable organic waste. Complementing this work, Brazil adopted the National Plan for the Reduction and Recycling of Urban Organic Waste (PLANARO), which provides guidance for municipalities to reduce the generation of organic waste, promote segregation at source, and expand composting and other circular solutions. Together, these frameworks have established an enabling environment in which action across the supply chain can flourish.

The Alimenta Cidades programme is helping cities in Brazil strengthen urban food policies, focusing on access to healthy diets, food security and more resilient local food systems. This work is now expanding through Alimenta 1000, an ambitious network that brings together 1,000 municipalities committed to transforming their food environments. With such a vast ecosystem of cities engaged, the potential for coordinated action on food waste is enormous. Municipalities are beginning to integrate food waste prevention into

their urban food strategies, exploring interventions in public procurement, school feeding programmes, household-level behaviour change, community composting, and short value chains that connect farmers and consumers more directly.

Brazil is also advancing a public-private partnership that brings together businesses, government and civil society to tackle food loss and waste across the supply chain. The Brasil Sem Desperdício initiative is designed to foster collaboration among food businesses, enabling them to share data, improve measurement practices, identify hotspots, overcome bottlenecks and collectively test solutions. UNEP supported the early stages of this process by conducting a feasibility assessment, mapping stakeholders across priority sectors and helping identify the financial and institutional arrangements needed for a national voluntary agreement. This type of partnership model has proven successful in other regions in significantly reducing food waste in retail, manufacturing and hospitality. Brasil Sem Desperdício is an important new member of a global network of Food Pacts, using a collaborative framework to cut food loss and waste in diverse national food systems contexts.

To strengthen the evidence base for action, UNEP and national partners in Brazil will publish the National Household Food Waste Baseline Report this year, filling a critical measurement gap and enabling policymakers to design interventions targeted to real consumption patterns. The combination of strong federal policy, growing interconnectivity with subnational policy and implementation, an expanding municipal network, a collaborative public-private platform and an improving data landscape makes Brazil an illustrative case of what a whole-system approach can achieve. It shows how action becomes possible when governance structures, incentives and partnerships are

aligned, and how cities and national governments can work together to drive change.

As we marked the International Day of Zero Waste, these examples offered lessons that resonate globally. First, reducing food waste requires an integrated approach that connects climate, food systems and waste agendas, recognising that emissions arise at production level, at disposal, and across the value chain. Second, multilevel governance is essential: national frameworks provide direction and coherence, but cities are the frontline of implementation, where interventions can be most quickly tested and scaled. Third, data matters. Without national baselines and consistent methodologies, it is impossible to target interventions effectively or measure progress credibly. Finally, collaboration across the supply chain, around a shared goal, is indispensable. Public-private partnerships help overcome fragmentation, align incentives and unlock cost-effective solutions that would be difficult for any actor to implement alone.

Through the Food Waste Breakthrough and the continued expansion of regional and national efforts, UNEP is helping build a global movement that transforms ambition into measurable impact.

With evidence growing, partnerships strengthening and governments increasingly recognising food waste as a climate priority, there is a window of opportunity to accelerate progress in this decisive decade. The International Day of Zero Waste is a reminder that the solutions already exist; the task before us is to implement them at the speed and scale the planet demands.

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