

Climate Positive Organisation

Definition document Waste



CREATING MEANINGFUL EXPERIENCES

Available information

Waste management is a component of achieving climate positivity, as the production, use, and disposal of materials contribute significantly to global greenhouse gas emissions. The traditional linear economy model of "take-make-dispose" is increasingly being replaced by circular economy principles that view waste as a resource rather than an end product.

The R-ladder, also known as the waste hierarchy, provides a framework for sustainable waste management. It prioritizes strategies in the following order: Refuse (R0), Rethink (R1), Reduce (R2), Reuse (R3), Repair (R4), Refurbish (R5), Remanufacture (R6), Repurpose (R7), Recycle (R8), and Recover (R9). The higher on the ladder, the more sustainable the strategy, with prevention being preferable to recycling or recovery.

Internationally, the European Union's Circular Economy Action Plan (2020) sets ambitious targets for member states, including halving the amount of non-recycled municipal waste and achieving a 60% recycling rate for municipal waste by 2030. The Netherlands has committed to achieving a fully circular economy by 2050, with an interim goal of 50% reduction in the use of primary abiotic raw materials by 2030 compared to 2016 levels. The Dutch government's National Circular Economy Programme 2023–2030 provides the overarching policy framework, while the National Waste Management Plan (LAP) provides specific guidelines for waste prevention, separation, and processing. It is worth noting that current trends in the Netherlands fall short of these targets, highlighting the gap between stated ambition and implemented reality.

Research shows that educational institutions generate significant waste streams, primarily consisting of paper, plastic, food waste, and electronic equipment. Best practices from leading universities demonstrate that comprehensive waste reduction can be achieved through a combination of infrastructure improvements, policy changes, stakeholder engagement, and behavioral interventions. Successful examples include zero-waste campus initiatives at institutions like the University of California system and various European universities that have achieved recycling rates above 75%.

Current legislation relevant to BUAs includes the Dutch Environmental Management Act (*Wet Milieubeheer*), which mandates waste separation and reporting requirements for organizations. Upcoming EU regulations on Extended Producer Responsibility (EPR) and packaging waste, including the new Packaging and Packaging Waste Regulation (PPWR) that entered into force in February 2025, will further impact how educational institutions must manage their waste streams. The EU's right-to-repair directive, which entered into force in July 2024, will also influence procurement decisions and product lifecycles on campus.

Breda and the broader West-Brabant region provide the direct regional context for BUAs's ambitions. The municipality of Breda has set an explicit goal of becoming fully circular by 2050, framing waste not as an endpoint but as a source of new value. This vision is embedded in Breda's *Inspiratiedocument Circulaire Stad 2050* (December 2025) and aligns with the R-ladder approach: prioritizing prevention and reuse over recycling. At the regional level, Regio West-Brabant's *Aanpak Circulaire Regio 2023–2027* targets a 50% reduction in primary raw material use and a 20% substitution of fossil materials with biobased alternatives by 2030. For BUAs, as an institution embedded in this region, these ambitions constitute both a benchmark and a shared responsibility.

BUas definition

Within the context of BUas's Climate Positive Organisation project, waste is fundamentally reconceptualized as a resource rather than a disposal problem. Our approach to waste management is rooted in circular economy principles and the R-ladder framework, emphasizing prevention, reuse, and recovery over disposal.

At BUas, we define sustainable waste management as the systematic effort to minimize waste generation, maximize resource recovery, and move towards zero waste operations. Our ambition is to achieve as close to zero waste as possible, targeting a maximum of 10% residual waste while ensuring that 90% of our material streams are recovered and reused as resources. This requires gaining comprehensive insight into our waste streams and achieving measurable reduction in kilograms of waste generated per person on campus.

Our definition encompasses both the physical waste generated through campus operations and construction activities, as well as the behavioural and systemic changes needed to prevent waste at its source. We recognize that achieving this ambition requires active collaboration with our entire campus community (students, staff, and external partners including catering providers and suppliers). Behavioural change among campus users is central to our approach, as individual choices about consumption, separation, and disposal directly impact our collective waste footprint.

Waste management holds particular significance for our CPO ambitions because it is highly visible to our entire BUas community. Every student and staff member interacts with waste systems multiple times daily, from disposing of lunch packaging to printing documents to organizing events. This visibility makes waste management an ideal entry point for engaging the campus community with climate positive principles. When people see overflowing bins, observe sorting behaviors, or notice changes in packaging, they are confronted with the tangible impacts of our collective consumption. This creates immediate opportunities for awareness, learning, and behavior change that extend beyond waste itself to broader sustainability thinking.

This definition was developed through consultation with sustainability experts, analysis of best practices in higher education, and alignment with national circular economy goals. We aim to position BUas as a **good example** in waste management, demonstrating that ambitious waste reduction is achievable through systematic effort, stakeholder engagement, and integration of circular principles into daily operations.

Our waste management approach serves a dual purpose: reducing our environmental impact while creating learning opportunities. By making our campus a living laboratory for circular economy practices, we enable students and staff to experience and contribute to sustainable resource management, preparing them to be changemakers in their future careers and communities.

Scope

In Scope

Our waste management efforts encompass all material streams generated on the BUAs campus. This includes operational waste from daily campus activities such as paper, cardboard, plastic packaging, glass, food waste from catering facilities and student consumption, electronic waste (e-waste) from outdated or broken equipment, and general residual waste. We also address waste from events, conferences, and special activities held on campus, as well as construction and renovation waste from building projects and infrastructure improvements.

The scope extends to both the waste itself and the systems that manage it. This includes waste separation infrastructure such as bins, collection points, and storage facilities, as well as contracts and relationships with waste processing companies and recycling partners. Educational and awareness initiatives targeting students and staff are within scope, as are procurement policies that influence the types of materials and products entering our campus. We also include monitoring and data collection systems that track waste volumes, composition, and destinations.

All BUAs campus falls within the scope of this waste management initiative, ensuring consistent standards and practices across our entire physical footprint. Furthermore, we consider the full lifecycle of materials, from procurement decisions that prevent future waste to end-of-life processing that maximizes resource recovery.

Out of Scope

Waste generated by external organizations using BUAs facilities for their own events or activities is not included in our metrics, though we encourage these partners to follow our waste separation guidelines. Personal waste generated by students and staff in their private residences, even if they are part of the BUAs community, falls outside our operational scope.

This scope definition ensures that our waste management efforts remain focused, measurable, and achievable while coordinating with parallel initiatives across the organization.

Relation to other CPO themes

Waste management intersects significantly with other CPO themes, requiring close coordination to maximize impact and avoid duplication of efforts. Understanding these connections allows us to create synergies and address sustainability challenges holistically.

The relationship with the Procurement theme is perhaps the most direct and influential. Procurement decisions determine what materials and products enter our campus, directly impacting the quantity and type of waste generated downstream. By integrating circular economy principles into procurement policies, such as prioritizing products with minimal packaging, choosing reusable over single-use items, and selecting suppliers committed to take-back schemes, we can prevent waste before it occurs. Close collaboration between waste management and procurement teams ensures that purchasing decisions consider the full lifecycle of products, from acquisition through end-of-life processing.

Energy management also connects to waste in multiple ways. The processing and transportation of waste require energy, while certain waste streams can be converted into energy sources. Additionally, the production of virgin materials is typically more energy-intensive than using recycled materials, meaning that increased recycling rates indirectly reduce energy consumption in manufacturing processes. Coordination with the Energy theme helps us understand the energy implications of different waste treatment options and identify opportunities for waste-to-energy solutions where appropriate.

Biodiversity and waste management connect through the impact of improperly managed waste on natural ecosystems. Litter and poorly contained waste can harm local wildlife and vegetation. Conversely, effective organic waste management through composting can produce soil amendments that support campus biodiversity initiatives such as green spaces and pollinator gardens. Coordination ensures that waste management practices support rather than undermine biodiversity goals.

The Wellbeing theme relates to waste through the physical campus environment and community engagement. Overflowing bins, litter, and unpleasant odors from waste storage negatively impact the campus experience and sense of pride in our environment. Clean, well-managed waste systems contribute to a pleasant and healthy campus atmosphere. Additionally, engaging the community in waste reduction initiatives can foster a sense of collective responsibility and achievement, contributing to social wellbeing and community cohesion.

Regular coordination between theme leads through the CPO Core Team meetings ensures alignment of strategies, identification of overlapping initiatives, and efficient use of resources. Joint projects—such as zero-waste events that require coordination across procurement, catering, mobility, and waste management—demonstrate the power of integrated approaches to achieving our climate positive ambitions.

Stakeholders and partners

Internal Stakeholders

Within BUAs, multiple departments play essential roles in waste management. The janitors and Real estate & Facilities Management, part of Education, Research & Information Management (ER&IM), manages the physical infrastructure for waste collection, contracts with waste processing companies, and maintains waste storage facilities. They are responsible for ensuring that adequate bins and separation systems are available throughout campus and that waste is collected and transported efficiently.

Procurement and Finance, Control & Student Services (FC&S) manages procurement decisions that significantly influence waste generation. By integrating circular economy criteria into purchasing policies and tender processes, this department can prevent waste at the source. They also oversee budget allocation for waste management infrastructure and services.

Marketing, Communication & Student Community (MC&S) plays a role in raising awareness and engaging the campus community. Through communication campaigns, signage, and educational materials, they help shape behaviours and create a culture of resource consciousness. Student community initiatives and events organized through this department provide opportunities for hands-on engagement with waste reduction.

People & Organisation (P&O) can integrate waste management and circular economy principles into staff onboarding, training programs, and organizational culture initiatives. They help ensure that sustainability considerations, including proper waste separation, become part of standard operating procedures across all departments.

All academies are key stakeholders as they generate significant waste through their teaching and research activities. Each academy has unique waste profiles based on their disciplines, for example, the Academy for Games & Media may generate electronic waste, while hospitality-focused academies produce substantial food waste. Academy representatives can champion waste reduction within their programs and integrate circular economy concepts into curricula. Staff and student ambassadors from each academy will be essential for tailoring waste management approaches to specific contexts and fostering peer-to-peer behaviour change.

Students are perhaps the most important internal stakeholder group. As the primary users of campus facilities and future professionals, their engagement is critical. Students generate the majority of daily operational waste through their consumption patterns, food choices, printing behaviours, and event activities. Beyond compliance with waste separation systems, students can drive innovation through projects, participate as ambassadors within their academies, and hold the institution accountable for its commitments.

Catering staff and facility users across campus interact with waste systems daily and their cooperation in proper separation and waste prevention is essential. Cleaning staff, who manage waste collection from individual bins, require training and support to maintain effective separation systems.

The CPO Core Team provides coordination across all these internal stakeholders, with the Waste topic lead serving as the primary coordinator for waste-related initiatives and ensuring alignment with the broader CPO strategy.

External Partners

External collaboration expands our capacity and expertise. Waste processing companies and recycling partners are fundamental to our operations, providing collection services and ensuring that separated waste streams

are properly processed. Building strong relationships with these partners allows us to understand the destinations and outcomes of our waste, verify recycling claims, and potentially access specialized processing for difficult waste streams.

Suppliers and vendors, particularly those providing catering services, packaging, and office supplies, directly influence the waste we generate. Collaborative relationships with these partners enable us to establish requirements for reduced packaging, reusable transport systems, and take-back schemes for products at end-of-life. By communicating our circular economy ambitions, we can encourage suppliers to innovate and offer more sustainable options.

Other universities and educational institutions, both within the Netherlands and internationally, serve as knowledge partners. Sharing best practices, participating in sector-wide initiatives, and learning from institutions that have achieved high recycling rates or innovative waste solutions accelerates our progress and prevents reinventing solutions that already exist.

The Municipality of Breda is an important partner for alignment with regional waste management infrastructure and policies. Municipal waste collection systems, processing facilities, and circular economy initiatives at the city level create opportunities for collaboration and ensure that BUAs's efforts complement broader regional sustainability goals.

Sustainability consultants and circular economy experts provide specialized knowledge for developing strategies, conducting waste audits, identifying improvement opportunities, and training staff. Their external perspective and technical expertise help us set realistic targets and implement evidence-based interventions.

Student organizations and environmental groups can serve as partners for awareness campaigns, volunteer initiatives, and peer education. Their grassroots energy and credibility with fellow students make them effective advocates for behaviour change.

Alumni working in sustainability, waste management, or circular economy fields can contribute through their professional expertise, connections to innovative companies, and willingness to mentor current students working on waste-related projects.

Roles & Responsibilities

Clear allocation of roles and responsibilities ensures effective implementation. The Waste topic lead, as part of the CPO Core Team, holds overall responsibility for strategy development, coordination across stakeholders, monitoring progress, and reporting to the broader CPO initiative. This individual serves as the primary point of contact for waste management within the CPO framework.

Real Estate & Facilities Management is responsible for operational implementation, including maintaining waste infrastructure, managing contracts with waste processors, ensuring compliant waste storage, and coordinating collection schedules. They also provide data on waste volumes and composition for monitoring purposes.

The Procurement team integrates waste prevention into purchasing decisions, develops supplier requirements related to packaging and circularity, and evaluates products based on lifecycle considerations. They work closely with the Waste topic lead to align procurement strategies with waste reduction goals.

Marketing, Communication & Student Community develops and executes communication campaigns, creates educational materials, coordinates awareness events, and supports student ambassador programs. They ensure that waste management messages reach the entire campus community effectively.

Academy directors and department heads implement waste management practices within their academy or team, support staff and student ambassadors, integrate circular economy concepts into curricula where relevant, and allocate time and resources for participation in waste reduction initiatives.

Staff and student ambassadors from each academy champion waste management within their communities, provide feedback on challenges and opportunities specific to their contexts, organize local initiatives and events, and serve as peer educators and role models.

All campus users—students, staff, and visitors—share responsibility for proper waste separation, reducing personal waste generation, participating in awareness initiatives, and providing feedback on system effectiveness.

External partners fulfill their contracted obligations for waste collection and processing, provide transparent reporting on waste destinations and recycling outcomes, and collaborate on innovation opportunities to improve circularity.

This distributed responsibility model ensures that waste management is embedded throughout the organization rather than concentrated in a single department, creating collective ownership and maximizing the likelihood of achieving our ambitious targets.

Action plan and timeline

Short-term Actions (2026) / Quick Wins

The foundation for our waste management transformation begins with comprehensive understanding. In 2026, we will conduct a detailed waste audit across all campus locations to establish our baseline. This audit will identify waste composition, volumes by stream, problematic areas or times, contamination rates in separated waste, and opportunities for immediate improvement. The data collected will inform all subsequent actions and provide the basis for measuring progress. We will conduct this audit together with students, as part of there educational programme.

Simultaneously, we will improve our waste separation infrastructure. This includes improving our clearly labelled bins for different waste streams, ensuring visual consistency in signage across campus, providing dedicated stations for specific materials like cans and plastic bottles, and improving the aesthetic appeal of waste stations to encourage use.

Communication and engagement initiatives will launch immediately to build awareness and shift behaviors. We will develop a campus-wide 'CPO-campaign' with waste as one of the subjects. Explaining why waste management matters for CPO, how to properly separate waste, what happens to each waste stream after collection, and the impact of individual choices. This campaign will utilize multiple channels including our portal, website, visuals, narrow casting etc. We will establish staff and student ambassador networks within each academy, and organize academy-specific initiatives.

Working with catering (partners), we will implement immediate waste reduction measures in food service operations. This includes piloting initiatives to reduce food waste and requesting swill containers for the kitchen. Swill waste can be processed in an environmentally friendly manner into new raw materials such as compost or biogas..

Long-term Actions (2027-2030 and beyond)

Building on the foundation established in 2026, longer-term actions focus on structural and cultural transformation. We will work toward comprehensive implementation of R-ladder strategies across all campus operations. This means systematically moving up the waste hierarchy from recycling toward prevention, designing out waste through product selection and process redesign, establishing systems for reuse and repair rather than disposal, and creating closed-loop systems where materials circulate rather than becoming waste. This requires shifting organizational mindset from managing waste to preventing it.

Other waste reduction measures at BUAs are informed by the outcomes of our waste audit. This audit provides insight into the composition and volume of waste streams generated across campus, and form the basis for targeted action. Rather than applying generic interventions, BUAs uses audit findings to identify where prevention, reuse, or improved separation can have the greatest impact.

We will also address procurement by beginning to integrate circular economy criteria into purchasing decisions for commonly purchased items. This starts with identifying products that generate significant waste, establishing requirements for reduced packaging, creating preferred vendor lists for suppliers offering circular options, and developing procurement guidelines that will eventually become standard policy. Starting with high-volume or high-visibility purchases allows us to demonstrate impact quickly.

Finally, we will establish monitoring systems and reporting processes to track progress. This includes implementing data collection protocols for waste volumes by stream, setting up regular reporting schedules, creating dashboards that make progress visible to the campus community, and conducting quarterly reviews to assess what is working and where adjustments are needed. Transparency in our progress, including acknowledging challenges, builds credibility and maintains momentum.

Measuring and monitoring

Waste Audit as a Baseline Measurement

Establishing a baseline is our first priority in 2026. The baseline measurement will capture total waste volume across all campus locations, waste composition by stream (paper and cardboard, plastic packaging, glass, metal, organic waste, electronic waste, construction waste, and residual waste), and the current separation rate. To enable meaningful comparison, waste generation will be normalised as kilograms per person on campus.

Baseline data will be collected in collaboration with waste processing partners, supplemented by physical waste audits involving manual sorting and weighing of representative samples. These audits reveal contamination rates, materials currently going to residual waste that could be diverted, and whether separation systems are being used correctly. Additional input will come from catering operations, procurement records, and facilities management.

The baseline will be completed in by the end of 2026 and shared transparently with the campus community.

Key Performance Indicators

Our primary KPI is the percentage of waste recovered as resources, with a target of 90% resource recovery and a maximum of 10% residual waste. Engagement indicators, such as ambassador participation and campaign attendance, track behavioural change, while procurement indicators reflect the integration of circular criteria into institutional systems.

Monitoring Approach

Waste volume data is collected continuously through reports from processing partners. Annual assessments coincide with CPO milestone reviews and are shared with management and the campus community. Benchmarking against peer institutions provides external perspective on performance.

The Waste topic lead coordinates monitoring activities, with data collection distributed across facilities teams, procurement staff, catering partners, and students. All data is stored systematically to enable longitudinal analysis and to distinguish lasting change from temporary improvements.

Risks and barriers

Transitioning toward more sustainable waste management practices involves a number of institutional risks and barriers that BUAs must navigate.

Behavioural and cultural barriers pose one of the most significant challenges. Waste separation and reduction require consistent effort from a large and diverse community of students, staff, and facility teams. Without sustained awareness and clear infrastructure, default behaviour tends toward convenience rather than circularity. High turnover among the student population further limits the accumulation of circular habits over time.

Operational and infrastructural limitations can hinder progress even where intentions are good. Inconsistent or insufficient waste separation facilities across different buildings and campuses, combined with a lack of clear signage or feedback mechanisms, reduce the effectiveness of separation efforts. Catering and facility management contracts may also limit BUAs's ability to impose circular requirements on external parties.

Data and monitoring gaps present a structural barrier. Without reliable and consistent data on waste composition and volumes — gathered through periodic waste audits — it is difficult to prioritise interventions or demonstrate progress over time. The absence of a baseline makes it challenging to set meaningful targets or hold departments accountable.

Procurement and supply chain complexity means that many waste streams are determined upstream, before materials even arrive on campus. Packaging, single-use items, and short-lifecycle equipment are often purchased through centralised or framework contracts that do not yet incorporate circular criteria, limiting BUAs's direct influence.

Regulatory compliance risk is also relevant. As EU and Dutch legislation on waste separation, Extended Producer Responsibility, and packaging continues to tighten, BUAs faces the risk of non-compliance if internal systems and reporting practices are not kept up to date.



Games



Leisure & Events



Tourism



Media



Data Science & AI



Hotel



Logistics



Built Environment



Facility

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