



interzero[®]
zero waste solutions

“resources **SAVED** by recycling”

Scientific study: How Interzero’s circular solutions help protect the climate and conserve resources

Shaping a true circular economy together

More recycling, less resource waste: The future of business is circular. Interzero is driving this sustainable transformation forward and, with its annual “resources **SAVED** by recycling” study, highlights the indispensable potential of keeping raw materials in constant circulation.

Waste prevention, reuse, and recycling of valuable materials contribute measurably to easing the burden on our planet and open up profitable opportunities for the economy. The shift to a circular economy benefits both the environment and businesses alike.

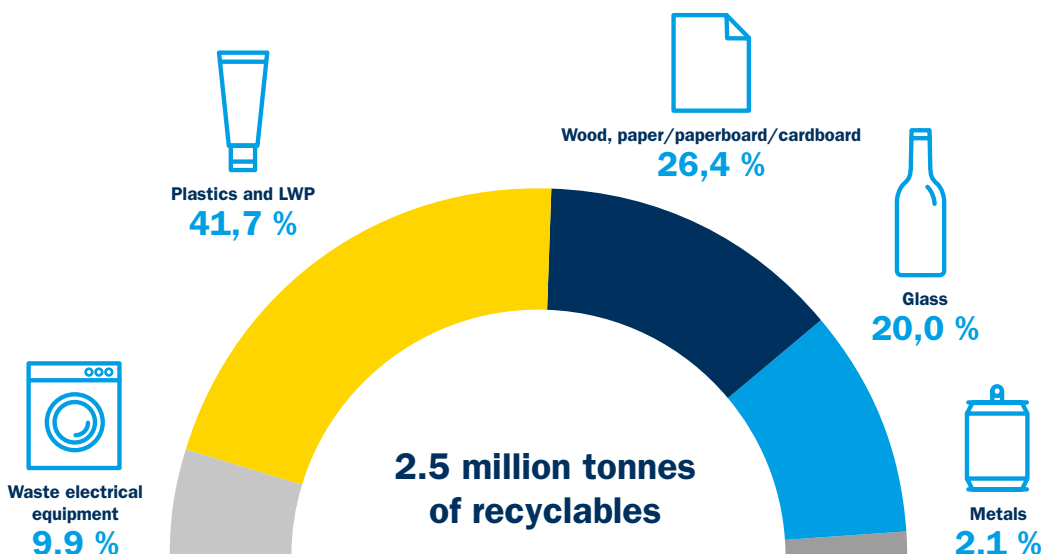
Sustainability Award, Interzero is already developing successful business models for the circular economy of tomorrow. Around 50,000 customers from a wide range of industries rely on our climate- and resource-friendly “zero waste solutions” to reduce their ecological footprint and future-proof their operations.

Our 2023 results *

- Around **2.5 million tonnes** of materials kept in circulation
- Over **11.1 million tonnes** of primary resources conserved
- Around **1.2 million tonnes** of greenhouse gas emissions avoided

Each year, we have the specific environmental benefits of our recycling activities reviewed by the Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT. Their scientists conduct a comprehensive life cycle assessment, analysing all process steps involved in primary production and recycling. This allows us to precisely quantify the savings in resources and greenhouse gas emissions.

As one of Europe's leading circular economy service providers and winner of the 2024 German



*Source: Fraunhofer UMSICHT

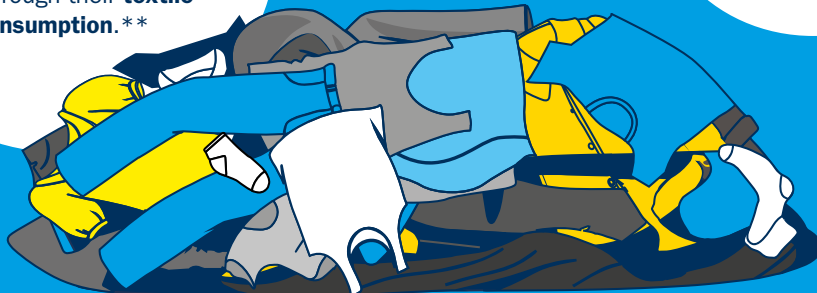
**Source: European Parliament

11.1 million tonnes of resources

equal the amount of **raw materials** consumed by approximately **28.6 million EU citizens** in one year through their **textile consumption**.**

1.2 million tonnes of greenhouse gases

are equivalent to the annual **CO₂ emissions** generated by around **4.5 million EU citizens** through their **textile use**.**



Textile recycling in focus

Each year, around 92 million tonnes of textiles are discarded worldwide, and this waste stream continues to grow. However, only 1 per cent of these textiles are recycled back into the production cycle through fibre-to-fibre recycling. The time is ripe for a sustainable transformation in the textile industry, which is increasingly under pressure to act. This is largely driven by new EU regulations, such as the mandatory separate collection of textiles from 2025 and the upcoming Extended Producer Responsibility (EPR) for textiles.

How can the industry meet legal requirements, enhance resource conservation, and position itself as a responsible brand? Interzero is collaborating with companies across the textile value chain to develop a comprehensive circular textile concept. “Our aim is to close the loop on textiles and create a holistic system for collection, sorting, and recycling,” Julia Haas, Project Manager for Circular Textiles at Interzero, explains. “As an established systems provider, we can draw on over 30 years of experience in building and operating successful recycling systems for used packaging.”

Blueprint for a circular value chain

In the first phase, Interzero is bringing together manufacturers, collectors, sorting facilities, and

recycling companies to develop a blueprint for the operational implementation of textile recycling and the required infrastructure, in preparation for EPR. This process addresses not only compliance issues but also technical challenges. Interzero is testing various options for automated sorting in collaboration with technology providers this year. By 2025, the textile circular economy concept, developed in partnership with the industry, will be put into practice. The goal is to establish a robust collection and sorting infrastructure, create effective

“Together with the industry, we aim to close the loop on textiles and create a holistic system for collection, sorting, and recycling.”

Julia Haas, Project Manager of Circular Textiles at Interzero

recycling pathways, and support the scaling of fibre-to-fibre recycling. The vision: sustainable circular fashion instead of fast fashion. In this future, old T-shirts and worn-out tablecloths won't end up in the landfill but will instead become raw materials for new products, or even fibres for more sustainable textiles.

Questions & answers on the “resources SAVED” study

1 What is the goal of Interzero's “resources SAVED by recycling” study?

Accurate data is a key factor in demonstrating the ecological benefits of the circular economy. Interzero has been commissioning independent scientists for over 15 years to evaluate the environmental impact of recycling. This helps to inform the public, provide arguments for the circular transformation of the economy, and support our customers in communicating sustainability transparently. The annual life cycle assessment (LCA) conducted by the Fraunhofer UMSICHT institute proves the sustainable impact of our work.

2 What data do the scientists use?

The comprehensive life cycle assessment is based on a detailed comparison of primary production versus recycling, covering all necessary process steps. The data used includes:

- Primary data from Interzero: For example, sorting and processing volumes, average transport and collection distances, vehicle types, and energy needs (electricity and heat) for sorting and recycling facilities.
- Secondary data for greenhouse gas emissions and raw material usage: These are sourced from Sphera's LCA for Experts database and cover the emissions and resource use associated with the primary production of new materials, such as plastics (including activities like oil extraction, transportation, and processing steps).

3 Why is it so important to measure resource consumption?

Humanity is living far beyond its means – a reality that the Earth Overshoot Day highlights each year. According to calculations by the Global Footprint Network, by 2024, all the natural resources that our planet can renew in a year were already depleted by August 1st. Recycling plays a key role in conserving natural resources, and it's vital to raise awareness of this.

For example, large amounts of earth, rocks, and ores are moved to extract metals, often with severe consequences for ecosystems. By keeping raw materials in circulation, we avoid further environmental degradation, reduce energy consumption, and lower emissions of climate-damaging greenhouse gases. Through Interzero's circular solutions alone, the global Earth Overshoot date was pushed back by more than seven minutes in 2024.

4 What role does recycling play in climate protection?

The climate crisis poses a significant threat to both people and the environment, already leading to considerable economic and social costs. In Germany, according to the Federal Environment Agency, around 40 per cent of greenhouse gas emissions are linked to the extraction and initial processing of raw materials. Recycling and maintaining materials in circulation is, therefore, an essential strategy for reducing emissions and preserving a livable environment.



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