

A large, circular graphic element is centered on the page. It is composed of multiple concentric rings in shades of blue and white, with some segments appearing as dashed lines, giving it a dynamic, orbital feel. This graphic frames the title text.

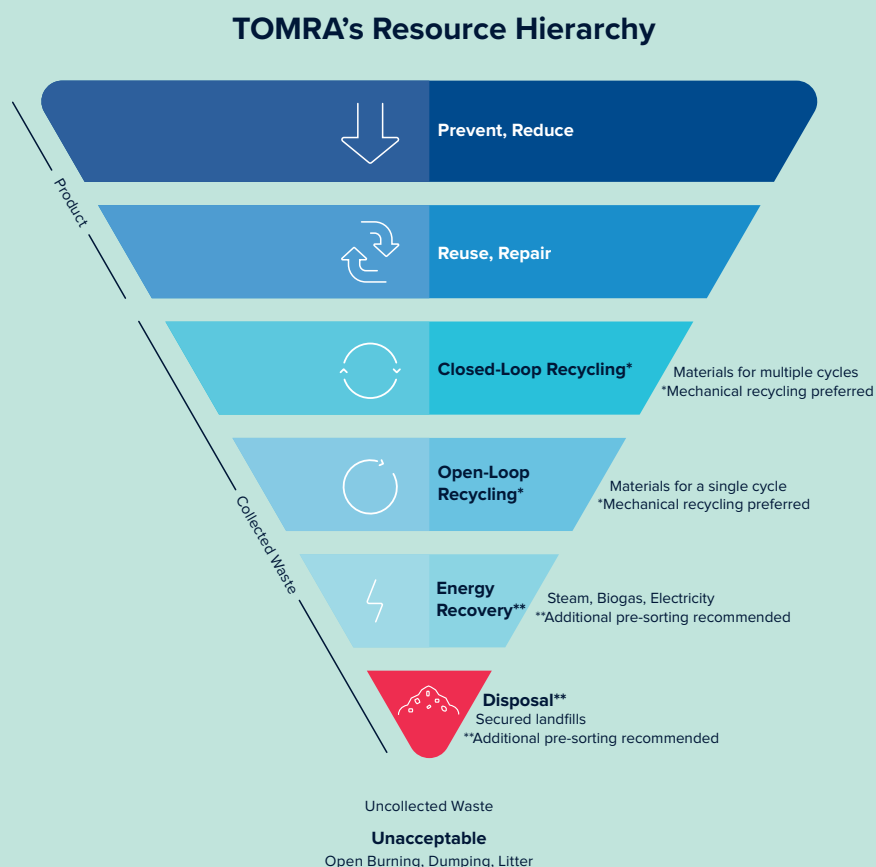
Ten recommendations for the UN's International Legally Binding Instrument (ILBI) on Plastic Pollution

TOMRA fully supports the principles and prioritizations in the waste hierarchy: prevent, reduce, reuse, recycle, energy recovery and disposal. This document is focused on TOMRA's expertise of reuse and recycling of post-consumer plastic packaging.

To meet these ambitious commitments and put an end to plastic pollution, we must implement proven waste management and recycling systems with immediate effect. The UN Treaty on Plastic Pollution has the power to catalyze the swift implementation of these systems - addressing the plastic pollution crisis at scale and forging the path towards a circular economy for plastics.

Over the past two decades, global plastic waste production has more than doubled, and is projected to nearly triple by 2060. Currently, 22 million tonnes of plastic waste is mismanaged and either buried in landfills, burned in incinerators, or finds its way into the environment as litter - another figure expected to rise substantially by 2060. We cannot afford to ignore this crisis any longer, nor can we continue with the status quo. Fortunately, solutions to this crisis exist – it is only a matter of enabling them.

To combat this issue, upstream measures such as prevention and reduction must remain a priority, according to the principles and prioritizations in the waste hierarchy: prevent, reduce, reuse, recycle, energy recovery and disposal.



However, as long as plastic exists, systems are needed to ensure it stays in use and in the economy for as long as possible at its highest value. Today, global circular economy performance for plastic is critically poor, despite the high focus it's been given – progress is limited and too slow. What is clear, we need a better coordinated and enforced approach, voluntarily initiatives are not enough. This is evident when we look at what the relatively few exceptions of regions with high circular performance have in common: they are all operating under an enabling legal and policy framework.

This document is summarizing the key legal and policy drivers that have motivated implementation of high-performance circular systems that exists today.

se harm to the environment at end of use. live we must also look to successful waste management systems from around the world that have been proven to tackle plastic pollution efficiently and cost-effectively. Systems that ensure valuable plastic materials are returned to the production cycle and used to create new products of the same or similar application, again and again – without needing high-capital investments in technology. By studying the strategies of these high-performing systems, we can identify what has enabled their success and apply those principles to maximize recycling rates and reduce carbon emissions in a relatively short amount of time.

The UN Treaty on Plastic Pollution has a unique opportunity to effectively address plastic pollution by ensuring these systems are mandated – the best performing systems are not voluntary, but those with strong policy frameworks in place – and rapidly implemented to achieve plastics circularity in both developed and developing regions.



The background of the slide is a teal-colored image featuring a close-up of large, serrated leaves. The leaves are layered, with some in sharp focus and others blurred in the background, creating a sense of depth. The veins of the leaves are clearly visible. The overall tone is a muted, earthy teal.

Holistic
municipal solid
waste management
to drive plastics
circularity

A holistic approach to waste management, supported by legislation with performance targets and deadlines, is crucial to stop the endless flow of plastic waste worldwide, and close the ‘quality and quantity gaps’ that undermine the plastics value chain.

TOMRA, in partnership with waste management consultancy Eunomia, has found that the systems that deliver maximum recycling rates and the most significant reduction in CO₂ emissions are built on a holistic approach to formal waste management. This holistic approach, with the integration of **legislated extended producer responsibility (EPR)** principles, combines the following elements:

1. Deposit return systems (DRS) for single use and refillable beverage containers

Approximately 20%-25% of all marine litter consists of used beverage containers.¹ Around the world, DRS with a meaningful deposit value and convenient return model close the tap on this litter by giving beverage containers a value thus incentivizing consumers to return them. Collection rates above 90%² can be achieved. Implemented as a full-cost EPR scheme, this will not require government funding, which makes it feasible for all countries. Today, almost 50 markets worldwide operate DRS, with more governments making the political decision to implement new laws and update regulations to enable such systems.

Implementing thoughtful legislation to enable high-performing programs will achieve circularity for one of the most littered packages in the world.

2. Separate collections for certain waste fractions

The separate collection of specific material streams, such as organic waste, paper, glass packaging, textiles, and e-waste is a key element of the circular economy. However, due to the system’s reliance on consumers to practice good recycling habits, the materials captured through Separate Collections alone will not be enough to reach sufficiently high recycling rates, such as those set in EU directives.

3. Mixed waste sorting (MWS) prior to landfill and incineration

MWS has proven instrumental in achieving high recycling rates. In fact, countries that utilize MWS typically increase their recycling rates by 2-5 times.³ In Europe, this will enable those countries to meet the EU’s targets for 2030. When combined with advanced mechanical recycling, plastics extracted from mixed waste can be transformed into recyclates with properties similar to virgin. MWS should be seen as complementary to separate collections.

¹ Ocean Conservatory, “2020 Data at a Glance”, We Clean On – 2021 Report, 2021, p. 14

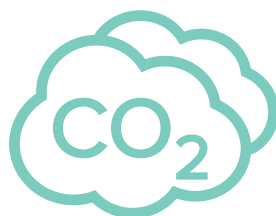
² PETCore Europe, “The Road to 90%. How to Achieve the EU’s PET Bottle Collection Targets by 2029”, <https://www.petcore-europe.org/legislation/334-how-achieve-eu-pet-bottle-collection-bottle-collection-targets-2029.html>

³ Deloitte AS, “Sirkulaer plastemballasje i Norge – kartlegging av verdikjeden for plastemballasje” (“Circular plastic packaging in Norway – mapping of the value chain for plastic packaging”), Forum for Circular Plastic Packaging, April 2019

4. Advanced mechanical recycling (AMR)

AMR has been used to achieve closed-loop (bottle-to-bottle) recycling for PET beverage containers. Today, the AMR process can help to achieve circularity for plastic beyond PET beverage containers. It is now possible to create virgin-like recycled plastic pellets from both source-separated- and mixed waste streams – ensuring that the highest quality recyclate is available to those industries that depend on superior feedstock quality to reach recycling and recycled content targets and reduce their CO₂ emissions. Emerging chemical recycling techniques have the potential to complement mechanical recycling, when proven environmentally beneficial.

The combination of these elements, known as **Holistic Resource System (HRS)**⁴, provides field-proven results where they have been implemented. Now, the continuous expansion of these systems is crucial.



The Holistic Resource System can result in significant annual emissions savings:

In a 2030 scenario vs. current waste management practice, HRS has the potential to **save 2.76 billion tonnes CO₂e globally** each year – the equivalent of removing more than **600 million passenger vehicles** from the road annually.

Savings breakdown:

- | | |
|--|--|
| • Deposit return systems and separate collections | 1.4 billion tonnes CO₂e |
| • Mixed waste sorting before landfill and incineration | 0.73 billion tonnes CO₂e |
| • Elimination of dumpsites and open burning | 0.63 billion tonnes CO₂e |

The positive impact that HRS has on plastic pollution is evident and the possibilities for these systems to expand circularity even further when nations commit to work together across value chains, are endless.

⁴Dr. Debbie Fletcher, Ann Ballinger, Lily Chapman - EUNOMIA, "Waste in the Net-Zero Century: How Better Waste Management Practices Can Contribute to Reducing Global Carbon Emissions", July 2021



TOMRA's vision
for UN Treaty for
Plastic Pollution

TOMRA envisions a circular future where plastic never becomes pollution but is instead treated as a valuable resource – one that is kept in circulation at its highest value and best use for as long as possible.

TOMRA urges a holistic approach to formal waste management and calls for governments to develop a treaty that accelerates the global implementation of:

- Proven waste management systems, including deposit return systems, mixed waste sorting, and a preference for advanced mechanical recycling
- Mandatory measures that will ensure those proven waste management systems are rapidly implemented and operated effectively and sustainably
- Additional effective strategies that enable the sustainable production and consumption of all plastic products and packaging and accelerate the transition towards a circular economy.

Provide access to general waste collection for all citizens in all regions

Reduce littering, the use of open dumpsites, and open burning through investments in municipal waste management.

Set specific and ambitious recycling targets

Accelerate the implementation of established, high-performance systems that maximize recycling rates and closed-loop recycling. Obtain long-term visibility to encourage investments and creativity, thus enabling simultaneous efforts from all members of the circular value chain towards a shared target.

Establish legislated well-designed EPR

Extended producer responsibility (EPR) motivates reduced use, increased reuse, and eco-design, including the use of recycled content or renewable feedstock. Funding should be provided for recycling and recovery of plastic through source separation (e.g. waste electrical and electronic equipment (WEEE), textiles, and deposit return systems (DRS) for beverage containers) and residual waste sorting (e.g. general plastic packaging).

10 recommendations to improve plastic circularity

- #1** Ensure access to efficient and convenient general **waste collection for all citizens in all regions** as a universal human right. Global access to waste collection is imperative to prevent litter and end illegal dumpsites and open burning.
- #2** **Promote reuse models** by setting targets for specific categories, such as takeaway food and beverage packaging, and creating financial incentives that initiate a shift from single-use to reusable packaging wherever this is environmentally beneficial. This will work towards making plastic consumption more resource efficient.
- #3** Ensure **specific ambitious mandatory recycling targets** for high performance systems, providing realistic, staggered targets for all countries at their individual development stage. Set a minimum 55% recycling target for plastic packaging. This will ensure that resources are spent on efficient initiatives towards a sustainable circular economy for plastic.
- #4** Introduce **legislated well-designed extended producer responsibility (EPR)** for plastic packaging. Mandatory EPR will provide a long term and sustainable financing mechanism for infrastructure investments to collect, sort, and recycle plastic waste, as well as incentivize producers to choose and manage their packaging more sustainably.
- #5** Introduce **legislated well-designed deposit return systems (DRS)** for beverage containers combined with a 90% separate collection target. As a well-mandated, full-cost EPR scheme, DRS will decrease the amount of plastic that lands in nature (approximately 20%-25% of all marine litter is beverage container related) and drive circularity with a proven potential of 80% bottle to bottle recycling.

#6

Introduce **legislated well-designed EPR for textiles** to enable the scaling up of textile collection, sorting, reuse and recycling infrastructure and accelerate the transition towards a circular economy for textiles. Today, polyester represents >50% of the global fiber market with <1% of clothing being recycled into new clothing.

#7

Introduce legal measures ensuring **effective mixed waste sorting (MWS) prior to incineration**, including a meaningful CO₂ tax on plastic incineration. Furthermore, energy recovery from plastic should not contribute to the achievement of recycling targets, nor be defined as renewable energy. MWS is essential for the high recovery of plastic for recycling and typically increases recycling rates by 2-5 times. Additionally, by diverting plastics from burning, this solution contributes to a reduction in CO₂ emissions. As each ton of plastic incinerated generates ~2,5 tonnes CO₂ emissions.

#8

Introduce legal measures ensuring **effective MWS prior to landfill**, including landfill plastic taxes or bans where alternative waste treatment is available. MWS will enable the recovery of plastic before it is lost to landfill, keeping these resources in circulation for as long as possible.

#9

Introduce legal measures ensuring **closed-loop – or high-quality - recycling, including recycled content targets**, financial incentives for use of recycled plastic and strict export/import control for waste and recycled plastic. This will motivate eco-design, as well as optimization throughout a circular value chain.

#10

Ensure independent institutions **control the transparent reporting and measurement of achievements** based on well-defined global industry standards. Worldwide alignment and efficient systems will create a level playing ground and stimulate real progress.



Partnerships, collaborations, and endorsements

TOMRA invites collaboration with all industry players, experts, NGOs, and governmental organizations with high ambitions for UN Treaty for Plastic Pollution.

TOMRA is an active member of the **Business Coalition for a Global Plastic Treaty facilitated by the Ellen MacArthur Foundation (EMF) and World Wildlife Fund (WWF)**

About TOMRA

Founded in Norway in 1972, TOMRA is the largest global provider of reverse vending machines (RVMs) for the automated collection of used beverage containers. Our RVMs collect over 40 billion used beverage containers every year.

TOMRA is also the leading provider of smart sensor-based sorting machines for the recycling, food, and mining industries. We are involved in many curbside collection systems for household packaging and municipal solid waste worldwide, as well as the downstream plastic recycling process with more than 8000 sensor-based sorting units installed in more than 100 markets.

With more than 50 years' experience in the circular value chain for packaging waste, we are committed to sharing our knowledge about the systems and policies that accelerate the transition towards a circular economy.

TOMRA strives for a world where, by 2030, 40% of post-consumer plastic packaging will be collected for recycling, and 30% will be recycled in a closed loop. As it stands, only ~14% of plastic packaging is captured for recycling, and only ~2% of this is recycled in a closed loop.



TOMRA

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