ZERO WASTE EUROPE

DARING TO IMAGINE A ZERO WASTE EUROPE

By Joan Marc Simon, Founder of Zero Waste Europe

Reflections on 20 years of work and hopes for 20 years into the future

Disclaimer: The content of this booklet reflects **Joan Marc Simon**'s personal experience and opinion.

A bit of history...

Back in 2006, when I entered the waste scene, the waste world was an ugly one. "Out of sight, out of mind" was the dominant mantra; awareness was low; littering was normal; real recycling was a myth; reuse and repair were a bad old habit for poor people; and waste prevention was a feel-good concept nobody believed in.

Today, when my 6-year-old son returned from school, he told me that one of his classmates had done an exposé about zero waste, and he loved it. He went on to explain to me what zero waste was about... and while I listened to him passionately describe his new discovery, I thought to myself that he was doing a much better job than we did in 2006 when I first heard the concept. After all, if the story has gone around so much for my own son to come to tell me about zero waste, we must have achieved something.

Fast forward 20 years, and zero waste is a mainstream concept, with laws, literature, organisations, etc., but how did we get here, and what is the waste trend in Europe? What is the future for zero waste?

In this piece, I will elaborate in three acts, based on my experience, the story of the last 20 years, and I will speculate about what zero waste could look like 20 years from now - if we dare to imagine it!

FIRST ACT: THE PAST

Eppur si muove...[1]

Waste from 1975 to 2008

I started working on zero waste solutions in the early 2000s, long before "circularity" became the buzzword it is today. Back then, advocating for zero waste earned you about as much credibility as an alien calling for world peace. *Great idea, wrong species.*

To understand why, you need to go back further than twenty years – back to how waste itself came to exist as a problem.

The birth of the waste problem

Waste as we know it today is a relatively recent construct. Before mass consumption, the by-product of running a fast-paced linear economy simply didn't exist in the same way. The little food waste produced was used to feed animals; most materials could be recycled back into the economy; and local systems were built around refillable, reusable practices with a big role for repairers and refurbishers. Waste was a hygiene problem more than a resource problem.

The post-WWII period changed all of this. Cheap and widely available energy, longer and more complex supply chains, population growth, and new materials like plastic reshaped how Europeans produced and consumed. Europeans got wealthier, but one of the externalities of that wealth was waste – and lots of it.

Early legislation and containment

It is quite telling that one of the oldest pieces of EU legislation is the Waste Framework Directive, dating back to 1975. Fifty years ago, waste legislation at the EU and national levels was entirely about waste management, not resource management. No mentions of recycling, let alone prevention or reuse – despite the fact that municipal waste generation was half of what it is today, most packaging was reusable, electronics and textiles were built to last and be repaired, and even single-use nappies were barely in use.

And yet, with more Europeans moving to cities and the nutrient cycle broken, unregulated landfills were filling up with mixed waste, polluting underground waters and creating serious health hazards. Legislation from 1975 until the turn of the century was essentially aimed at containing that damage.

1. Famous expression attributed to Galileo Galilei, meaning "and yet, it moves".

2001: Foundation of the Global Alliance for Incinerator Alternatives (GAIA)

Incineration, a technology from the early 20th century, invented in flat countries like Denmark and the Netherlands (where landfilling was less of an option due to the danger of polluting phreatic waters), **became a popular alternative to unregulated dumps in the 1980s**. The combustion filters used back then were extremely precarious, leading to dioxin and furan crises in countries like Belgium and triggering new legislative efforts at the EU and national levels.

Meanwhile, from a chemical exposure perspective, the same decades marked the beginning of serious exposure of Europeans to chemical additives in products, fertilisers, and pesticides – the main driver behind what would eventually become **REACH legislation**[2]. Europeans today are 50% less fertile than they were fifty years ago, losing roughly one fertility point per year since then.

Glimmers of alternatives

There were glimmers of a different logic emerging. **The Limits to Growth report from 1972** already hinted at the ceiling of the development model. **The Rio Declaration of 1992** identified the *polluter pays principle*, **later codified as Extended Producer Responsibility (EPR)**, which began to be implemented in the 1990s alongside the first attempts at separate collection and the entry of an unfamiliar word into the vocabulary: **recycling**.

Though it is worth noting that the recycling narrative was first engineered and championed by industry – recent research has shown how the industry-sponsored organisation Keep America Beautiful engineered the recycling narrative as a way to shift responsibility from producers to consumers – it was extremely successful in redirecting the focus of the environmental movement toward managing waste rather than preventing it.

Civil society gets organised

On the civil society front, local struggles against landfills and incinerators were scaling up, coordinated by international actors such as **Greenpeace and Friends of the Earth. In 2001, the Global Alliance for Incinerator Alternatives (GAIA)** was created in Durban, bringing together activists from around the world, including many Europeans.

2005: GAIA Asia Pacific protests against incineration in the Philippines

2000s: GAIA demonstration at a COP event

2. REACH (Registration, Evaluation, Authorisation, and Restriction of Chemicals) is the reference piece of EU legislation dedicated to chemical safety.

It is telling that a global network working on waste chose to define itself against a disposal technology rather than against waste itself. That choice reflects the reality of the moment: incineration was being sold as the silver bullet, openly promoted and funded by the European institutions, and even treated as a synonym for recycling in countries with strong green credentials such as Germany and Sweden.

The early 2000s debate landscape

That is the debate I walked into in the early 2000s. The conversation wasn't about circular systems or resource efficiency: **it was about whether recycling was any better than incineration at all.**

The big victories of that time were:

- **Establishing a five-step waste hierarchy** that included prevention and reuse.
- **Carving out a distinction between recycling and incineration.**
- **Setting a 50% recycling target for 2020** (considered by many in the industry to be an ideological target, disconnected from reality).

2007: European Parliament voting on the Waste Framework Directive

2008: International Zero Waste Conference in Capannori (Italy)

2010: Zero Waste Research Centre in Capannori (Italy)

Hands-on zero waste implementation: proving it works

Luckily, I wasn't isolated in the Brussels bubble theorising about waste. I was deeply involved in designing and rolling out zero waste practices in Italy and Spain. At the same time, **San Francisco's zero waste commitment was inspiring the Italian town of Capannori to become the first European municipality to do the same.**

Early 2000s: Rossano Ercolini, the initiator of the zero waste movement in Capannori (Italy)

Early 2000s: Capannori (Italy)

This hands-on work showed me how circular waste management could function in practice, years before circularity entered mainstream policy discourse. Between 2007 and 2015, local communities supported by zero waste experts **developed local systems capable of separately collecting well over 65% of municipal solid waste**, enabling the highest recycling rates in Europe. These systems were cheaper and delivered better social and environmental outcomes than the bulk collection and large disposal infrastructure that dominated the continent.

The progress I was seeing on the ground was in blatant contradiction with the legislation and ambition we were seeing at the national and European levels. This gap was calling for an organisation of the zero waste movement to change the European narrative and replicate and scale up good practices. I learnt that the barrier was never technical. It was always political.

SECOND ACT: THE PRESENT

The times they are changing

From 2008 to 2025

As the years passed, the EU began to progress on separately collecting municipal waste, and recycling rates began to increase. However, progress on the waste management side was trumped by ever-increasing waste generation, which – especially for the most complex streams – grew faster than recycling.

EPR systems began operating more efficiently, and landfills and incinerators were regulated to reduce their emissions. Yet, the implementation of EPR for packaging in the absence of any policies to support prevention or reuse caused reuse rates to plummet. Single-use plastic (for packaging and beyond) grew proportionally much more than the capacity to collect and recycle it. During the 2010s, plastic pollution finally entered the spotlight.

2009: GAIA protests against incineration at COP15 in Copenhagen (Denmark)

2009: International Zero Waste Conference in Naples (Italy)

2010s-2015s: Waste audit

2012: Rossano Ercolini and the zero waste movement meet President Obama at the White House

2012: Zero Waste Europe meeting in Gipuzkoa (Spanish Basque Country)

2012: Zero Waste Europe has its Annual General Meeting in the Spanish Basque country

2012: Demonstration for zero waste in Gipuzkoa (Spanish Basque Country)

2013: Zero Waste Europe confernece in Cluj-Napoca (Romania)

2013: Zero Waste Europe at the European Parliament

2013: First Zero Waste Europe conference at the European Parliament with European Commissioner for the Environment Janez Potocnik

2013: Screening of movie Trashed: Rossano Ercolini with actor Jeremy Irons at the European Parliament

2013: Zero Waste Europe starts working on plastic before it becomes infamous with the launch of International Plastic Bag-Free Day.

2018: Zero Waste Europe hosts a study tour in Belgium (Brussels)

The shift to circularity: 2014 and beyond

In 2014, the European Commission dug out an old study commissioned to Professor Walter Stahel in 1976 about the circular economy. Under the command of Janek Potočnik, this marked a turning point, changing the course of EU waste and resource management with the publication of **the first Circular Economy Strategy**. The European executive finally stopped pushing for incineration and shifted the focus to circularity. Ecodesign, prevention, and recycling moved to the centre of the EU's resource efficiency agenda.

The task of changing the European linear economy to a circular one proved daunting, as it required addressing design, production, use, and end-of-life of products simultaneously. The work on the Circular Economy (CE) started by addressing waste policies, with a particular focus on plastic. After several CE strategies and roadmaps, the EU ended up approving more ambitious **recycling targets (65% by 2035)**, an **obligation to source-separate organic waste by 2024**, **and the first-ever prevention policies with the plastic bag directive in 2014**. This set a precedent for the 2019 single-use plastic directive.

The "Gruyère" legislation: the era of loopholes and perverse substitutions

Despite the good narrative, the EU economy's linear inertia meant that any piece of new legislation contained big loopholes that undermined its very purpose. Voilà the "**Gruyère legislation**."

Hidden behind the good narrative of circularity, the incineration industry managed to include a limitation of 10% landfilling by 2030. Although the EU had stopped using regional funds to build incinerators, this created a major distraction at the national level. Instead of focusing on prevention and separate collection, **nations focused on building incinerators to burn resources Europe badly needed**.

As a result, since the start of the European Circular Economy, the amount of waste disposed of in the EU has not decreased: it only shifted from landfilling to incineration. **More than 50% of municipal solid waste in Europe is still landfilled or burned.**

The Gruyère legislation causing perverse substitution went beyond the disposal world. Loopholes in the single-use plastic directive allowed for single-use plastic cutlery to be replaced with thicker, equally disposable plastic cutlery branded as "reusable." Bans on single-use plastic packaging ended up triggering a worse option: replacing them with single-use paper options (coated with plastic)...

Changing gears: from directives to regulations

After 20 years of environmental legislation, implementation and enforcement varied widely, partly due to the fragmentation of the EU single market. This is why the EU decided to reduce the margin for interpretation by transforming sectoral directives into regulations in the early 2020s.

First came the **Batteries Regulation**, followed by the **Packaging and Packaging Waste Regulation (PPWR)**, and then the **Waste Electric and Electronic Equipment (WEEE) Regulation**. Other substantial efforts were made to create a single market for waste by harmonising EPR principles and end-of-waste criteria. The EU finally started making progress on enforcement and exploiting the potential of the EU single market for circularity.

2019: Zero Waste Europe hosts an event on waste trade at the European Parliament

2019: Zero Waste Europe at the Global Climate Strike in Brussels (Belgium)

2019: Zero Waste Europe hosts a study tour in Milan and Capannori (Italy)

2021: Zero Waste Europe signs a Memorandum of Understanding with the City of Brussels

Environmental backlash: crisis and strategic autonomy

At the same time, the COVID-19 crisis, followed by the wars in Ukraine and Iran and the subsequent energy crisis, changed the context of EU policy-making. Initially, environmental and social policies became the scapegoats for a series of bad strategic choices by the EU and its member states, which led to a wave of deregulation. Even NGOs were accused by populist groups of destroying the EU's competitiveness. Interestingly, most of these accusations came from groups whose agenda was closely linked to and even financed by countries with an interest in undermining the European integration project altogether. After some years of confusion and shooting the messenger, the EU realised that neither the so-called environmental legislation was so problematic nor the NGOs so powerful.

On the contrary, progressive EU industry together with civil society groups warned about the dangers of dismantling the EU system and called for a change of strategy instead. As a result, the narrative around circularity shifted to strategic autonomy and competitiveness, but the whole exercise made clear that, when it comes to circularity measures, environmental policy underpins both competitiveness and strategic autonomy agendas. In this strange way, the EU was confirming that ecology and economy not only belong together but are completely interdependent.

A proof of this is that the EU began revisiting its economic mantra of free trade and globalisation when it realised that formerly dominant sectors, such as the chemical and automotive industries, were no longer dominant. This impacted every new piece of industrial and environmental legislation, which began to include more and more **recycled content requirements**:

- First, the single-use plastic directive mandated **25% recycled content for PET bottles**.
- Then, the Critical Raw Materials Act requested **15% of CRMs to come from recycled content**.
- **Recycled content targets** were subsequently set for plastics **in the automotive and packaging sectors**.

However, the more we worked and learned about recycling, the more everyone realised that recycling is not - and, for as long as production increases, will never be - enough to satisfy the demands of the economy, neither in terms of quantity nor quality. The EU might have state-of-the-art waste collection and recycling legislation and technologies, but it can do nothing against the second law of thermodynamics (which mandates that energy is lost in every transformation process).

And the times they are a-changin' (again)

Despite the double-down on recycling and expensive distractions, such as chemical recycling or material substitution, a new trend and industry slowly found its way. This focused on maximising the utility of materials and products by extending their lifespans through better design, repair schemes, "use as a service," and reuse systems.

The Ecodesign for Sustainable Products Directive (ESPR) set a world landmark in organising design for the 21st century, and the upcoming implementation of **Digital Product Passports** in the years to come promised to be a game-changer at the global level.

Another symbol of changing times was how some countries started to realise the limitations of EPR and recycling. France was the first country to make producers responsible for building reuse systems and covering the costs of repair systems. Others, such as the Netherlands and Belgium, started to follow.

The Packaging and Packaging Waste Regulation (PPWR) constituted a breakthrough vis-à-vis prior packaging legislation: it introduced packaging waste reduction targets, reuse policies, and deposit and refund systems. It was telling that it took 30 years of EU policies to include these instruments in the legislation. Unsurprisingly, over the past 30 years, packaging waste has increased by 50%, while reuse and recyclability have decreased. Unfortunately, the final text contained far less ambition than the original proposal, but the seed had been planted.

2023: Zero Waste Europe event on toxic-free food packaging at the European Parliament

2023: ZWE and Reloop conference on mixed waste sorting at the Committee of the Regions

2023: Zero Waste Europe visits Le Petits Riens sorting centre in Antwerp (Belgium)

2024: Joan Marc Simon Speaks at the INC-5 negotiations for a Global Plastics Treaty in Busan (South Korea)

2024: Zero Waste Europe, Retorna, and Greenpeace hold a press conference to present the study on Deposit Return Systems in Spain.

2024: Reuse systems study visit in Rotterdam (Netherlands)

2025: Joan Marc Simon speaks about Extended Producer Responsibility at the Zero Waste Festival in Barcelona (Spain)

2025: NewERA speaks at the Zero Waste Festival in Barcelona (Spain)

2025: Zero Waste Cities and Business Certifications

2025: The Zero Waste Europe network at the Zero Waste Festival in Barcelona (Spain)

Change from the bottom up

Whilst brands and material producers were trying to kill reuse at the EU level, at the local level the situation was the opposite, and we saw how, despite the lack of a proper legal framework and targets, a bottom-up reuse revolution was happening among innovators, entrepreneurs, civil society, and local authorities. Once again, as happened with the recycling targets in the early 2000s, the real change in the 2020s is a bottom-up one, and reuse is gaining momentum.

In 2026, the reuse industry in Europe is stronger than ever and continues to grow. Former investors and businessmen in single-use packaging are innovating in the reuse sector, and local authorities are enacting bans and taxes to make reuse cost-competitive versus artificially cheap single-use options.

Just as 20 years ago, the zero waste movement continues to bring new ideas to the table to make **the circular economy a reality:**

- **From a resource management perspective**, it proposes practical ways to make a strategic use of materials so that they fit within one planet.
- **From a health perspective**, it proposes to clean up the system from toxics so that we don't end up recirculating them.
- **From an economic perspective,** it proposes to align the waste hierarchy with the financial incentives necessary to push waste up the hierarchy (cap-and-trade on residuals, EPR to finance prevention and reuse, Pay-As-You-Throw, etc.).

Movement building: connecting the dots

From a movement-building perspective, we have managed to connect and rally hundreds of municipalities, companies, civil society, policy-makers, and academia around the zero waste idea.

We have published thousands of pages of research, designed certifications, influenced legislation, run and won crucial elections, published documentaries, participated in films with movie stars, and won international awards. We have waved the zero waste flag in the European institutions, the White House, and the Vatican, but we have also engaged with school teachers working next to an incinerator, with wastepickers in European landfills, and with local priests threatened by the Camorra.

We have given thousands of speeches and training sessions around Europe, infiltrated fashion magazines, schoolbooks, newspapers, social media, and inspired influencers. **The zero waste movement has gone mainstream and is respected.**

The glass is half full

When we look at the picture of today's world, it is easy to despair. Wars, genocides, loss of democratic rights, political polarisation, rising inequality, artificial intelligence, mental illnesses - the list can be long.

However, **looking at the evolution of the last 50 years in resource and waste management, we can be proud of what we have achieved in the EU**. Waste is still increasing, but not in the way it used to and certainly not faster than the economy grows. European resource-related legislation is, despite everything, the best we have ever had. Prevention and reuse are on the agenda, and real recycling is finally taking hold.

Systemic solutions and emerging green industries are mushrooming around Europe, waiting for the tipping point. Yes, the linear economy is still the default and continues to be subsidised despite the EU's decline in traditional heavy industry, but circularity is growing stronger day after day. The tipping point is getting closer, and it's probably only one or two crises away.

2026: Zero Waste Europe's Head of Policy, Aline Maigret, at a high level meeting with European Commissioner for Environment Jessika Roswall

2026: Zero Waste Europe's Enzo Favoino and other members of the zero waste movement meet Pope Leo XIV to discuss deposit systems for beverage packaging

2026: Zero Waste Europe's circular fashion infographic is featured in schoolbooks in Ireland, New Zealand, and Canada

2026: Zero Waste Europe's Executive Director Esra Tat at the high level Circular Economy Act dialogue with European Commissioner for Environment Jessika Roswall and European Commission Vice-President Stéphane Séjourné

THIRD ACT: THE FUTURE

From zero to one

From 2026 to 2046

Disclaimer: This is not a forecast, but rather an attempt to paint a picture that I find both desirable and technically feasible if the politics are shaped accordingly.

From crisis to reinvention

We are in 2046. Rather than copying and improving old ideas, Europe has reinvented itself.

Waste is a concept associated with times of energy and resource abundance - when wasting was not only allowed, but even encouraged, by a system put in place after WWII that measured progress in terms of Gross Domestic Product (GDP) growth rather than human wellbeing.

GDP growth started to be considered not only useless but also dangerous in the early 2030s. In a world that hit the resource wall, prosperity was possible but not at the expense of ever-increasing material and energy consumption. Unfortunately, it took us several crises and getting very close to Armageddon to internalise the fact that unlimited physical growth on a finite planet was neither possible nor desirable.

Walk through a European city in 2046, and the absence of waste is not something you read about: it is something you feel. The streets are quieter, the air is cleaner, and the shop windows no longer advertise disposability. A child born today has never seen a single-use plastic bag, just as their parents never saw a public telephone box. What was once the infrastructure of waste (bins, collection lorries, landfills on the urban periphery) has been replaced by the infrastructure of return: kiosks, reverse logistics hubs, repair cafés, and refill stations have been woven into the fabric of daily life.

Today, in 2046, waste is banned as it is neither economically affordable nor morally acceptable. We live in a world whose population has peaked, and resource and energy use peaked much earlier. However, resource productivity continues to grow, providing more wellbeing per unit of resource than ever before.

This is not an abstraction. **Europeans today eat better food, grown closer to home with fewer additives and less packaging**. They live in homes built from materials that do not poison them. Their children wear durable clothes and use products free from the endocrine disruptors that undermined a generation's health in the early part of the century. Wellbeing per unit of resource has increased not only as a statistic but as something people feel in their bodies, their communities, and their sense of the future.

Crisis after crisis, it became apparent that, despite abundant information and knowledge, access to energy and material resources was becoming increasingly unpredictable. The EU and member states ran out of money to continue bailing out failing linear industries. After a couple of member states went bankrupt and EU countries stopped being able to borrow in international markets, the EU had to reinvent itself and rethink how it managed markets and resources.


REUSE & REPAIR HUB
RETURN
SCHOOL

AI, democracy, and co-designed governance

The key to understanding Europe's wellbeing and material renaissance is how new technologies enabled new, groundbreaking ways to organise governance.

With the help of AI put at the service of human wellbeing rather than threatening society, complex decision-making processes became doable, taking over and automating a number of activities. Next to the regulation and proper utilisation of AI, the reform of democratic decisions and policy-making was also key to understanding the success of the transition. Centuries-old institutions and democratic systems were modernised so that citizens could be more involved in policy-making and, thanks to new technologies, produce deliberative processes and legislative frameworks which would have been unthinkable with the old institutions.

Geopolitics and new technologies accelerated the process of European integration to a level never before seen, enabling the EU to properly shape economic, social, and environmental agendas.

For instance, when resource scarcity revealed itself, instead of leaving it to the markets to allocate resources, a process was set in motion to optimise resource use and consumption to achieve the same utility with much fewer resources. AI was extremely useful in proposing solutions and allowing for massive public participation in the decision-making process. As a result of this process, the most vulnerable – who were going to be disproportionately hit by the transition – were able to flag their concerns, which were incorporated into the model designed to deliver an increase in wellbeing coupled with reduced resource use and pollution.

The Resources Management Regulation: governing scarcity

Since the markets were incapable of supplying the resources the European economy needed, the **EU and its member states decided to set up an emergency system to radically increase the utility of the scarce resources available**. Shifting from the former approach of influencing markets via subsidising the linear economy, the EU chose to regulate markets by rationing supply and directing it to areas with the most added value or the greatest need, stopping superfluous and/or counterproductive activities.

This market regulation aimed to ensure that some critical scarce resources such as water, energy, soil and strategic materials were allocated to the purposes society needed most, **based on a series of "essential use and fair redistribution" principles**. They were all organised under what became the Resources Management Regulation.

As a result, despite the fact that, in 2046, the EU population is only slightly smaller than 20 years prior, resource use has decreased by 60%, which pushed resource productivity over the roof. By using far fewer resources than before whilst focusing on delivering wellbeing, the utility of products and materials has also reached an all-time high.

Key to this transition were, of course, the strong social fabric in the EU with a vibrant and inspiring ecosystem based on small- and medium-sized enterprises; the phenomenal stock of built infrastructure and materials that the EU had accumulated over the last centuries; the rule of law; and the institutions capable of organising a united society.

The Value Preservation Regulation: re-focusing circularity

Whilst recycling was the epitome of circularity in the 2020s, t**he focus shifted to the reuse economy in the 2030s**. A landmark in this transition was the adoption of a Value Preservation Regulation, which, alongside the Waste Framework Directive, defined, organised, and created the legal and economic drivers necessary to develop a whole new economy. It defined **the three pillars of the reuse economy**:

1. **Design products for several cycles of use** (robustness, modularity, disassembly, standardisation) as defined in the ESPR.
2. **Organise the return flows** (refill, collection, recovery, reverse logistics, pool systems).
3. **Transform and extend the uses** (reuse systems, repair, refurbishment, remanufacturing, and repurposing).

The entry into force of the **ESPR** with the roll-out to different product categories covered by **ecodesign rules and Digital Product Passport** - combined with the design for recyclability criteria, recycled content obligations across many product categories, right to repair, and others - paved the way for a circular economy that was radically accelerated: first by the supply shocks brought about by the succession of crisis and wars, and later by the rationing of resources put in place in the early 2030s.

Well-used AI allowed for a completely new product design that enabled impossible features such as recovering the few grams of rare earths present in small electronics at the end of their life. Thanks to reduced resource use and the revolution in ecodesign, the race to mine more and more materials was partially reduced, and Europe can, in 2047, recover over 70% of its critical raw material needs from old products and parts.

The practical result of this shift is visible in every household. The mattress in your bedroom is leased, not owned - maintained, collected, and reconditioned by the manufacturer who retains both its material and its responsibility. The phone in your pocket was designed to be disassembled, its rare earths recovered and re-entered into the supply chain at the end of its useful life. Repair and upcycling shops outnumber the fast-fashion outlets that once lined Europe's high streets. None of this required a cultural revolution; it simply required changing the rules of the game and having people and businesses adapt to them, as they always have.

Economic incentives and financing the transition

When planning the transition in the late 2020s, member states, industry, civil society, and academia - with the help of new technologies that enabled state-of-the-art modelling - saw very quickly that in this new society, the very concept of waste would be on its way out. With much less resource use and much higher material utility, the amount of waste generated would fall sharply, and so it did.

Since **the decline in waste generation** was going to push landfills and incinerators to lower their fees as a way to compete for ever more scarce waste, a cap-and-trade for residual waste was put in place in 2028 with the goal of reducing residual waste to 150 kg in 2035 and 25 kg per capita per year in 2046 - 10 times less than what was generated in 2023. Many of these facilities joined a long list of stranded assets in Europe, but the savings in waste management costs more than offset the losses from stranded assets.

EPR played a key role in financing this transition. Firstly, by harmonising rules across Europe and creating global EPR schemes; secondly, by expanding the scope to cover almost all waste streams, including food products and hygiene items; and, thirdly and more importantly, by changing the purpose of EPR from being an instrument to perpetuate waste management to having the role to finance the transition from linearity to circularity.

With resources becoming rarer and more expensive, producers were happy to finance producer responsibility schemes, which reduced their dependency on virgin materials and instead worked with products and packaging designed to preserve their value over many cycles and years.

Within EPR, Deposit and Refund Systems (DRS) played a key role in ensuring the almost 100% collection rates necessary to reach the resource efficiency the EU has achieved. What started as a way to collect beverage packaging - first mostly for recycling and later, as resources became more scarce and expensive, for reuse - proved to be a way to organise other types of packaging, such as take-away and e-commerce packaging, and even to go beyond packaging. In 2046, incentive systems such as DRS are the main way to ensure close to 100% return rates for electronic appliances, batteries, and textiles.

Organic agriculture and chemical safety

The **increase in the cost of plastics and other fossil-based materials**, initially caused by the crisis and later stabilised by the European Commission's market intervention, was crucial in preventing these materials from being used mainly for disposable applications. Today, it is considered a high-quality, valuable material which operates within planetary boundaries.

As fertilisers and pesticides (as well as other fossil-fuel-based products) became unaffordable, the EU decided to push ahead with organic agriculture.

Thanks to zero waste initiatives, food waste was radically reduced both upstream and downstream, which caused the relative cost increase from going organic to be compensated by the ~30% reduction of food waste. As a result, for the same prices as before, Europeans have access to better food with much less emissions and much more biodiversity and nutrients.

For what concerns organics and waste management, when the EU chose to reorganise **the Common Agriculture Policy to stop subsidising fossil-based energy and chemicals** and instead support closing organic nutrient loops, it indirectly made other feedstocks (such as food waste) much more attractive to be used as soil improvers, source of protein via black soldier farms, and feedstock for bio-based chemicals and energy. This has contributed to making the separate collection of food leftovers much more cost-effective.

Moreover, the increase in resource productivity led us **to abandon many sub-optimal practices, such as using glass, paper, or cardboard for single-use packaging**, thereby preventing fire-prone biodiversity-desert monocrop plantations in Europe and around the world.

The soaring prices, together with the realisation of the toxicity of many chemicals present in disposable plastic applications, forced innovation in many products and systems, from wet wipes to nappies and from clothes to packaging. Despite this intense "cleaning operation," the environment remains contaminated with legacy chemicals such as per- and polyfluoroalkyl substances (PFAS), but levels of endocrine disruptors have been drastically reduced. **The health of Europeans is improving year after year**, and after fertility rates reached a record low around 2030, replacing all these toxic products with safe alternatives has allowed Europeans to recover part of the lost fertility. It is now expected that, by 2070, levels will return to where they were 100 years earlier.

Resource scarcity and higher resource prices enabled innovation in new local materials, helping defossilise the economy, create local jobs, and reduce dependency on global supply chains.

The power shift in Brussels: from volume to value

Over the past two decades, **the balance of influence in EU policy-making has fundamentally flipped**. Previously, lobbying power was dominated by industries built on volume-based business models - companies that profit by selling as many units as possible, as quickly as possible, disregarding externalities. Their economic success depended on high consumption rates, low production costs and minimal barriers to disposal. These lobbies historically pushed for policies that kept production costs low and disposal easy. As European industrial assets aged and were not replaced, the old linear industry lost its power.

The change of paradigm in the 2030s, triggered by resource scarcity, **shifted lobbying power to a different group of circular economy companies whose profits come from preserving value over time**. Their business models succeed when products last longer, materials are recovered, and customers return items for reuse. As these companies have grown, they've gained political influence that now surpasses the traditional volume-based lobbies.

The business case of the new European industry rests on thriving within planetary boundaries. Ecology and economy are defended as two parts of the same coin.

Communities at the centre of the economy and society

The shift to circularity did not only change what people consume – it changed how communities are organised around consumption. The shortening of supply chains that began tentatively in the 2020s has, by 2046, matured into something resembling genuine local economic ecosystems. The food on our table was likely grown in the urban or peri-urban area where we live. Its packaging is managed by a local service provider whose business depends on getting it back. Rather than being amenities bolted on to the economy, the repair shop on the corner, the refill kiosk at the market, the collection point outside the school are now "the economy", employing people, generating taxes, and keeping value circulating within the communities that create it.

Thanks to **better governance and more effective politics**, the profits which once drained invisibly toward multinationals registered in fiscal paradises now remain where they were generated. Local governments have more to spend.

Community infrastructure is better maintained. The people most exposed to the costs of the transition (i.e.those with the least margin to absorb price changes or service disruptions) were, by design, the ones whose needs were centred in the policy models that shaped it. The result is not equality in any perfect sense, but a measurably greater sense of shared stakes: in the neighbourhood, in the city, and in the European project itself.

Legacy challenges and a hopeful horizon

None of this could have happened without the persistence and commitment of the zero waste movement. A movement whose success has driven it out of existence, but, throughout the late 20s and 30s and through various organisations, networks, platforms, and alliances, brought together citizens, policy-makers, industry, academia, and investors to help make this transition happen.

Despite the amazing transition to an almost zero waste society, Europe and the world still face many critical challenges. Temperatures are still increasing because of both new and legacy emissions, forcing migrations and creating humanitarian crisis.

However, for the first time in centuries, Europe can look at the future with not only hope but dignity, leaving behind the double standards that marked its erratic policies at the turn of the century. Once a force for extractivism and colonialism, by having come to terms with the limits of the system, **Europe is today a force for cooperation and support**, treating other countries and regions as equals and agreeing to share the world's resources for the good of humanity.

On a weekday morning in 2046, I drop my 6 year old grandchild at a school where lunch is grown in the courtyard garden, where the building itself is a catalogue of recoverable materials, and where the lesson on "the wild 50" – those five decades of extraction and disposal – is taught with the detached curiosity of studying a mistake Humanity was lucky enough to survive, rather than taught with despair. My grandchild will not remember a world of landfills and ocean plastic, as zero waste is such an obvious concept that it sounds almost like an oxymoron. For them, this is simply the world. That is, perhaps, the most meaningful measure of the transition.

I can say that, after decades of struggle, **I'm proud of this zero waste Europe!**

This vision is not inevitable – it is chosen.
And it begins with the choices we make today.

ZERO WASTE EUROPE

Author:
Joan Marc Simon, Founder of Zero Waste Europe

Editors:
Esra Tat, Executive Director at Zero Waste Europe
Ana Oliveira, Head of Communications at Zero Waste Europe

Design & Illustration:
JQ&ROS Visual Communications, jqrosvisual.eu

Published on:
June 2026

General information: hello@zerowasteeurope.eu
Media: news@zerowasteeurope.eu
Cities-related topics: cities@zerowasteeurope.eu

zerowasteeurope.eu
zerowastecities.eu
missionzeroacademy.eu