



THE STATE OF ZERO WASTE MUNICIPALITIES REPORT 2022



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BIKE SWAP

BOTTLE DEPOSIT SYSTEM

Foreword

Jack McQuibban,
Zero Waste Europe

“The greatest threat to our planet is the belief that someone else will save it.”
– Robert Swan, Author

Today’s challenges can seem daunting. Despite widespread knowledge of the climate crisis, the devastating effects it will have and the things we’re doing to cause it, action to meaningfully change our current path today seems slow, or in some cases, is simply not happening. For this reason, fighting the climate crisis and the multitude of other, interlinked environmental crises can sometimes feel despairing. The issues are complex and global, often leaving us questioning what we, as mere individuals or small communities, can do to truly have an impact.

Yet **the story of the growth of Zero Waste Cities around the world showcases how we can turn despair into action.** This story is one of individuals within a community coming together to forge a new path for themselves. It is the story of local authorities collaborating with business, of schools partnering with social enterprises, of neighbours supporting neighbours.

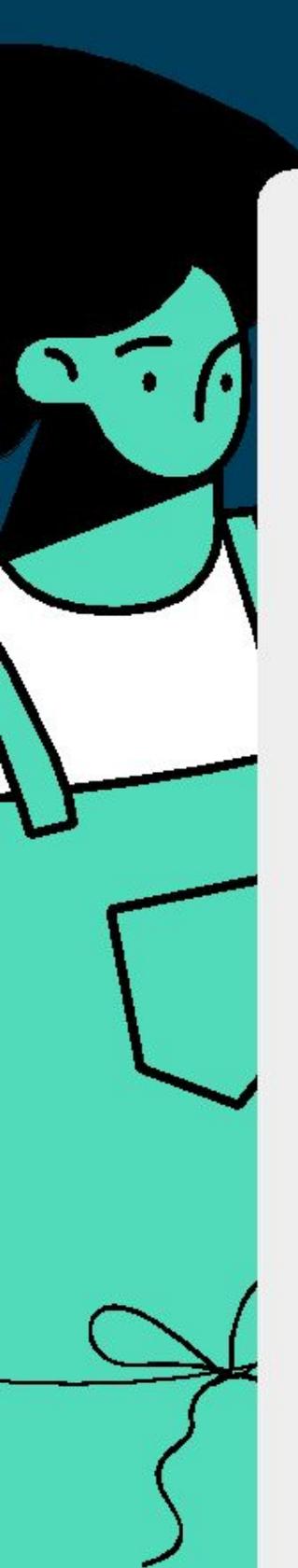
This report aims to provide a spark of hope, fueled by the constant work that is being done at the local level by individuals, organisations and cities across the world who believe in zero waste and are reaping the benefits of such a decision. Through the expansion of our zero waste cities programme and certification, we are beginning to showcase how cities can effectively transition from a traditional waste management system, one that embeds a linear economy, towards a new model of local sustainable resource management.

This report is designed for anyone who wishes to learn what zero waste is and how it can be effectively applied locally. Whether you are a school teacher, a local Mayor or a CEO of a multinational company, the data and information found in this report will be valuable for you. This report captures the story of Zero Waste Cities following another challenging year, of how communities and individuals continue to work tirelessly in their communities and across their country to improve the way that we produce, use and dispose of materials in the twenty-first century.

At the EU level, 2022 saw more details revealed about ambitious legislation that will create the framework for our transition towards a net-zero, circular economy. Legislative proposals around the European Green Deal and the second Circular Economy Action Package, for example, create a path for EU member states to follow. Yet whether we fulfil this agenda and the goals it has set will depend not on the actions in Brussels’ conference rooms, but rather in cities and communities across the continent.

The Zero Waste Cities model provides a blueprint on how we can take the ambitious words written in legislation and turn them into practical reality. And the State of Zero Waste Municipalities Report showcases how this is being done.

Our aim with the report is to both inspire hope for a better future and provide both tangible details and data on how this hope can be channelled into impactful policies and initiatives. We hope you find it useful in your journey towards becoming zero waste.



Introduction

Welcome to the 2022 edition of the State of Zero Waste Municipalities Report.

This is our third edition of the report, which aims to bring together the most comprehensive overview of the work being done with municipalities to promote and implement effective local zero waste strategies.

2022 was another eventful and demanding year. Yet, the stories this report captures continue to provide great sources of hope, inspiration and courage, despite the ongoing challenges. As always, this report includes updates from each of the countries where Zero Waste Europe members are working with their municipalities on becoming zero waste, ranging from Portugal in the west to Ukraine in the east, Latvia in the north and Cyprus in the south. We also include updates from our colleagues around the world working on zero waste cities for GAIA.

For this year's edition, we are also going to be taking a deep dive into the world of reuse. The report highlights some of the best practices that cities have taken to prevent waste from being created, by building different models and systems for reuse. Given the urgent need to reduce our consumption use as a whole, going beyond just recycling, **reuse is incredibly important and yet remains overlooked as a potential solution by many municipalities still today.** We hope to change this in the coming years, showcasing the ease and value of adopting reuse models within communities, and focusing on the direct and indirect role municipalities play in such systems.

The State of Zero Waste Municipalities Report tells the story of zero waste cities in Europe. It's dedicated to the pioneers and leaders who continue to work tirelessly at the local level to improve their community's relationship with resources and nature.

By telling our story, we hope that we can inspire you to change yours, to join the growing movement and realise a brighter future by becoming a zero waste city.

The Zero Waste Cities Programme in 2022



Throughout 2022, there has been continued and exciting growth in the adoption of zero waste strategies by European municipalities, including both the number of commitments being made and the impact of these strategies. We now have over 480 municipalities who have committed to become zero waste across 15 different European countries, whilst a larger group of local organisations (ZWE members) is working with their local authorities regularly on the implementation of zero waste solutions, just without the broader commitment framework of our zero waste city model. These 480+ zero waste municipalities are a combination of those who made commitments in the past with ZWE's Zero Waste Cities programme and those who have joined using the brand new Zero Waste Cities Certification.

2022 has been the first full year that the Zero Waste Cities Certification, hosted by our sister organisation the [Mission Zero Academy \(MiZA\)](#), has been operational. Since launching in March 2021, we have seen demand grow rapidly across Europe and consequently, MiZA has begun to verify the first batch of Zero Waste Candidate Cities and certify the very first select group of Zero Waste Certified Cities.

As of the time of writing, there are currently twelve (12) Zero Waste Certified Cities in three countries. These municipalities have undergone a thorough, third-party assessed audit to measure the performance of their zero waste strategy against the full list of criteria set out in the certification:

- Vrhnika, Borovnica, Log-Dragomer, Bled & Gorje (Slovenia)
- Capannori (Italy)
- Hernani, Usurbil, Astigarraga, El Boalo, and Torrellas el Llobregat (Spain)
- Kiel (Germany)

At the current time of writing, there are also a further 25 Zero Waste Candidate Cities in 8 European countries. These are municipalities who have made public and politically-verified commitments to work towards becoming a Zero Waste Certified City in the coming years. These include, but not limited to: Barcelona (Spain), Munich and Leipzig (Germany); Guimarães, São João da Madeira, Vila de Rei (Portugal); Partizanske and Kosece (Slovakia); Island of Krk (Croatia), Tilos (Greece) and Ipsonas (Cyprus).

The difference between the Cities Certification & the Cities programme

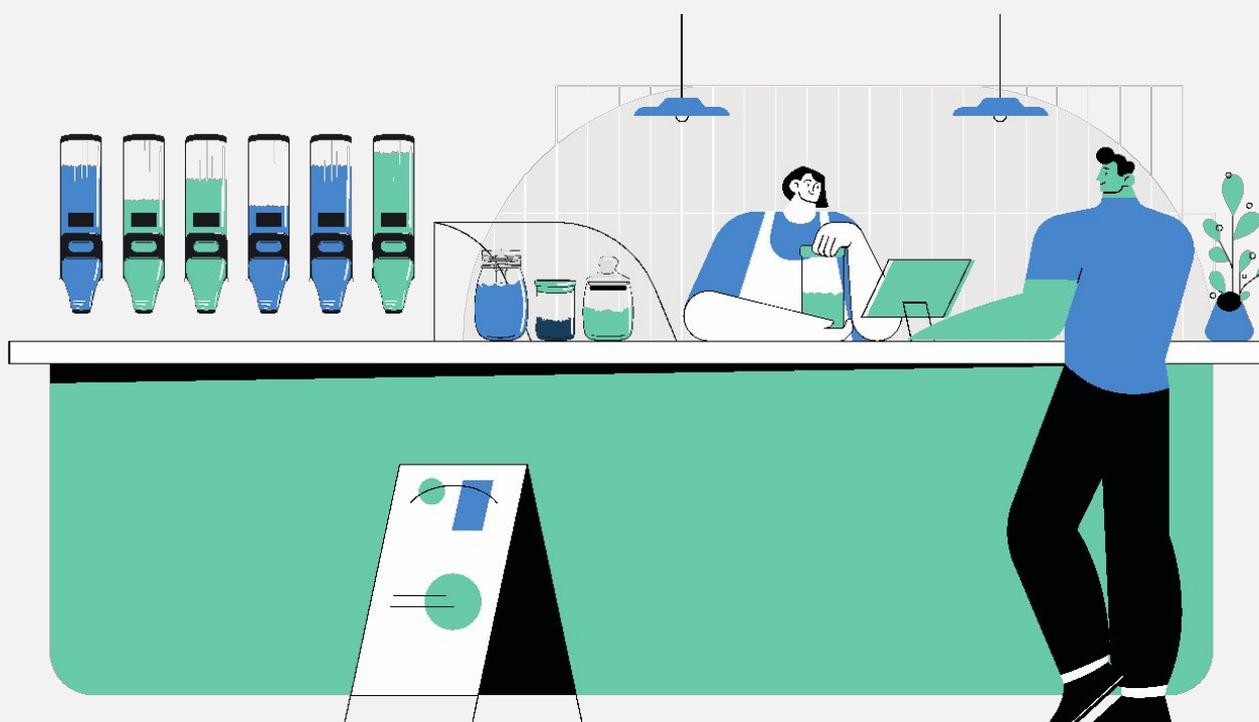
The Zero Waste Cities Certification is the natural evolution of the work, expertise and experiences gained during the past decade of Zero Waste Europe's Zero Waste Cities programme. From the first zero waste city in 2007, the understanding of what zero waste is and how to implement it locally has continued to grow throughout Europe. When the Certification was launched, it was designed to be the gold-standard of what it meant to be a zero waste city. The Certification captured all of the learning and guidance from our network of zero waste experts, those who have been behind the implementation of Europe's best performing policies, and created a robust framework relevant for any municipality in Europe who wishes to follow a set of policies and indicators to become a zero waste city.

With the Certification now up and running, the role of the zero waste cities programme at ZWE has slightly changed. Whereas in the past we also verified commitments from municipalities, we now focus solely on addressing the underlying issues that are preventing Europe from transitioning to zero waste quicker. Therefore, the Cities programme today has three core focus areas:

- **Capacity building:** We help key stakeholders ranging from ZWE members, municipal officials and waste professionals, to better understand the technicalities and benefits on offer to communities who adopt zero waste strategies. This is done in a range of ways, from [Study Tours](#) to [online tools](#) and in-person workshops.
- **Showcasing frontrunners and best practices:** We capture data and key information from the municipalities and individuals behind the [best practices of zero waste](#), disseminating them in accessible, innovative ways to help showcase how such policies can be effectively implemented in a range of contexts.
- **Resourcing local groups and cities:** We help find and secure resources for both local groups/individuals supporting municipalities with their zero waste expertise, or increasingly for the cities themselves via our broader organisational work on creating [new financial models](#), such as a Zero Waste Bond.

When the Certification was launched, back in March 2021, there were approximately 400 municipalities who had made zero waste commitments that aligned with the previous system implemented by ZWE's Cities programme. Therefore there was a clear need to support these cities to transition smoothly and timely over to the certification's new system and requirements. These 400 municipalities were all notified in early 2021 of the new Certification and the benefits this system would provide in comparison to the previous model. These include access to [data-driven services](#) designed specifically for municipalities to improve their zero waste strategies and a number of expert mentoring hours per year to support their journey.

It has been a continued process and focus area of ZWE to help transition these municipalities over to MiZA's Cities Certification, which is still ongoing to this day. Some have immediately made this transition, whilst others are still in the process, and some may not decide to at all. It is important to note that none of our previous zero waste cities are being forced to join the Certification, it is a purely optional choice. We as an organisation have made a decision to channel our efforts into the Certification, as we believe this has the biggest potential for helping European cities and at scale.



2022 recap

Impact of being a Zero Waste City

In early 2022, we conducted an analysis of the data we have from our, then, 460 zero waste cities. The data we examined looked at the total municipal solid waste (MSW) per capita and the share (percentage) of MSW that is separately collected for reuse, composting and recycling that each city reports.

Within our Zero Waste Cities programme and MiZA's Zero Waste Cities Certification, we work with both Europe's best performing municipalities and those who are just starting out on their journey towards zero waste. For example, separate collection rates range from 7% to the highest of 93% (Arcade Treviso in Italy). However, we can see a direct positive impact from our zero waste cities, who on average separate collect 67% of municipal solid waste (MSW). With an average loss rate of 5-10%, we can confidently say that our Zero Waste Cities prove a methodology for achieving the EU's recycling target of 55% for 2025.

Going beyond this, looking at the data from our Zero Waste Cities, we can see that an average of 438kg per capita was produced in the latest year of reporting. With the EU average for 2020 being 503kg, we can prove the impact that our work is having – on average, our Zero Waste Cities produce 65kgs less waste per person per year than the European Union average.



Photos from highlights of events (including study tours, trainings and certifications in 2022), Zero Waste Europe

Zero Waste Cities Around the World

Each year, this report takes a look at the work that is being done with local authorities around the world. Through our colleagues at GAIA, we work with cities and municipalities in all continents to help them design, implement and monitor zero waste strategies within their communities.

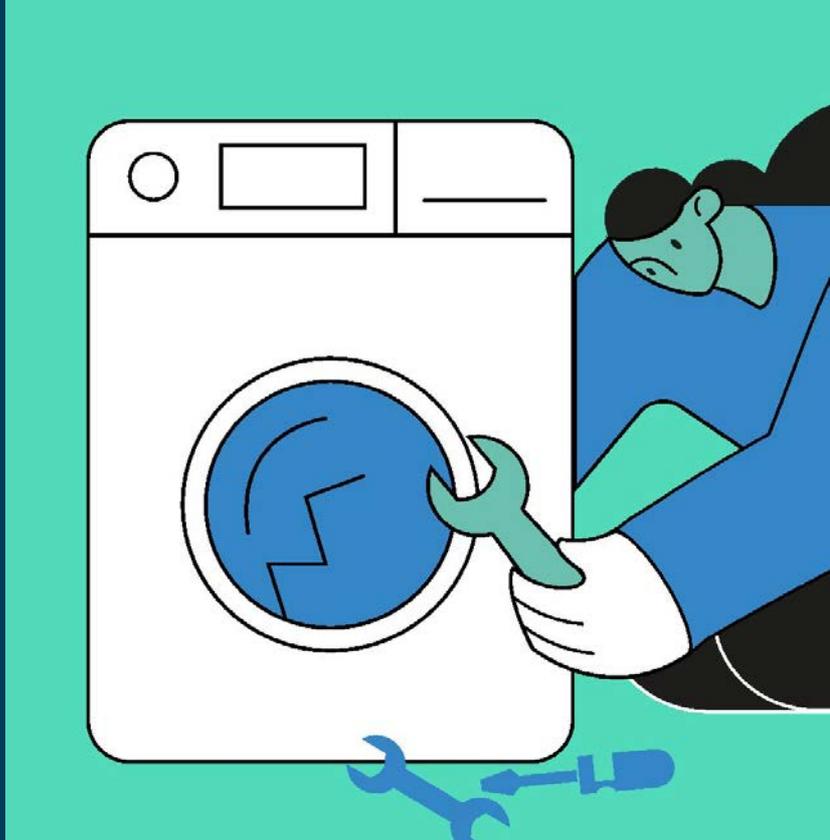
This chapter is written by staff at GAIA who are responsible for coordinating the work at the global level and in each of the 4 regions.



Number of Zero Waste Cities
in region: 550

Global Level

Written by Cecilia Allen,
GAIA



In 2022, we have been working hard to show that zero waste is an effective and ready-to-go strategy that can reduce greenhouse gas emissions in the short term while also building resilience and democracy. The waste sector is a sweet spot for municipal governments to advance climate solutions, and implementing a zero waste approach triggers impacts that extend well beyond the waste sector, reducing emissions in manufacturing, energy, agriculture and more. In many regions, municipalities have an opportunity within reach to cut methane emissions from the waste sector -which is over 80 times as potent as CO₂- by implementing programs to recover organic waste separated at source.

Our biggest success in 2022 was the publication of two flagship reports “[Methane Matters: A comprehensive approach to methane mitigation](#)”, co-authored with Changing Markets Foundation and Environmental Investigation Agency, and “[Zero Waste to Zero Emissions: How Reducing Waste is a Climate Gamechanger](#).” Both reports had significant impact in underscoring the potential of zero waste as a climate solution, and the work done with GAIA and ZWE members together with other allies to spread out this new information helped us gain recognition for our expertise in the field.

These reports brought robust arguments on the multiple benefits of zero waste. For example our Methane Matters report showed that **implementing organic waste prevention and recovery programs can reduce 95% of methane emissions in the waste sector by 2030**. The Zero Waste to Zero Emissions report modelled potential emissions reductions from eight cities of different regions, finding that on average, **they could cut waste sector emissions by almost 84% by introducing zero waste policies, with some able to reach net-negative emissions by 2030**.

One highlight from our membership this year is the increasing and continuous level of organising that the waste pickers movement has been having. In October, this crystallised in the launch of the [Constitution of the International Alliance of Waste Pickers](#) (former Global Alliance of Waste Pickers), which at the moment of the launch included groups from 36 countries. Another highlight I would mention, is that, in addition to the outstanding local work that our members do, we can increasingly see GAIA and ZWE members sharing their expertise in international events and having a prominent role in international policy spaces. That speaks of the collective know-how we have as an international alliance.

In 2023 we will be hosting the [Global Zero Waste Cities Summit](#), a virtual event that will bring together government officials, waste management implementers, civil society organisations, and waste and climate advocates to discuss the latest developments on zero waste as a proven, cost-effective strategy to both reduce waste pollution and help cities reach their climate goals, while creating better jobs and building resilient communities.

We are also going to be conducting a strategic assessment of our zero waste cities work, to reflect on our practices and prepare for scaling up this work and creating more impact throughout the world. Meanwhile, we will also continue to support the work done by members and allied municipalities and groups in advocating for and implementing zero waste systems. So we should see more zero waste academies, strategic meetings, hopefully funding, tools, capacity building opportunities, and exchanges throughout the year.

Asia-Pacific

Number of Zero Waste Cities
in region: 28

Written by Ambily Adithyan
GAIA AP

One of the key successes of our work in 2022 is that by the end of the year, the region will have finalised its three-year strategy developed for the zero waste cities work. Throughout 2022, the team has held in-person consultations with member groups in key countries (India, Indonesia & Philippines), to support them in developing their country-specific strategies. These strategies, as well as inputs from key zero waste cities members representing other countries, will be anchored into the regional zero waste cities strategy, which will define and prioritise the area of work in the region going forward.

Other key highlights for us in 2022 include GAIA AP beginning its first regional Zero Waste Academy in November. This will be a 10-week hybrid program (online and in-person) to equip participants with the tools to implement the Zero Waste program in their respective cities or communities. Furthermore, we have continued to develop a framework for a zero waste island in the Philippines to facilitate the expansion of GAIA AP's Zero Waste Cities work in the country and in the region.

Some highlights from our membership over the past year include:

- In mid-2021, War on Waste-Break Free From Plastic Negros Oriental (WOW-BFFP Negros Oriental) recognized Apo Island, an island barangay (village) in Dauin, Negros Oriental as the first Zero Waste Island Barangay in the Philippines.
- In June 2021, Hong Kong-based Greeners Action established its first naked shop after years of campaigning against single-use plastics. Named "Greeners Fusion," the shop aims to promote no single-use plastic packaging for food and other household products. Customers are asked to bring their own reusable containers and bottles when going to the shop.
- Mother Earth Foundation held a hybrid Zero Waste Academy (virtual and face to face) in August 2022 which welcomed 75 participants from different sectors such as academia, Civil Society Organisations (CSOs) and local government. 3 participants received project seeding/mini-grant to start up a zero waste project in their respective locality.
- In India, Waste Picker groups- Hasirudala & KKPKP held a first-of-a-kind training program to enhance the capacities of waste pickers in demanding space and opportunities to raise their concerns and prepare them as they take on more meaningful roles in environmental governance as part of the just transition towards cities' climate resilience. 50 waste pickers were trained from each city (Pune & Bengaluru).
- With support from volunteers of Clean Coorg Initiative, Hasiru Dala, the Gram Panchayat and the local government, Coorg town in Karnataka, India town demonstrated their commitment towards zero waste, with the closure of two landfills.

GAIA AP will enter 2023 celebrating the International Zero Waste Month (IZWM), after a hiatus of almost 3 years, with the same vision to mainstream zero waste as a solution to waste management issues and connect it to bigger climate discussions. The aim of the IZWM is to gather a large group of members from across all GAIA regions to showcase both the work and the vision of zero waste cities. Furthermore, during this month, the AP region will officially launch our Zero Waste Cities Network, which is a coalition of individuals (officials / elected representatives) representing local governments /cities working on various Zero Waste interventions in cities in the Asia Pacific region.

With a greater global interest in climate change & mitigation, the region will prioritise scaling our organics work as a solution for climate mitigation. In addition to this, other priority areas of work will be integrating reduce and reuse solutions as part of zero waste cities work, to minimise single use plastic waste and scaling zero waste cities work in other countries and geographical contexts (islands, mountain regions) through zero waste academies. The region will also develop a waste picker and waste worker strategy by early next year that will further inform our zero waste cities work.

Africa

Written by Desmond Alugnoa,
GAIA Africa

Number of Zero Waste Cities
in region: 3 (Accra, Durban,
Dar es Salaam)

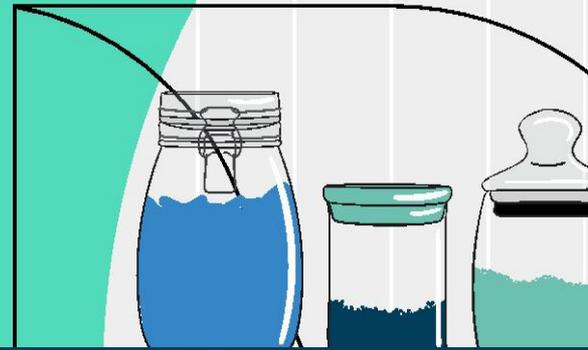
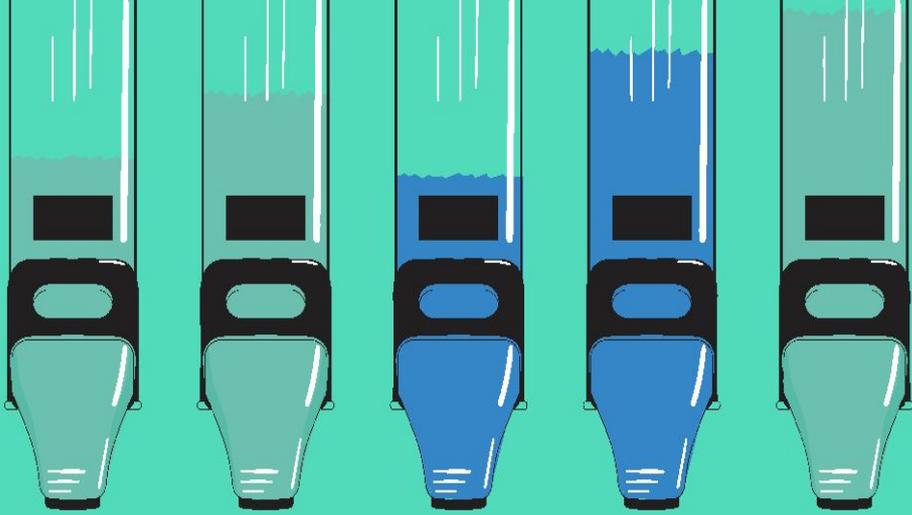
Over the past 12 months, we have been engaging key stakeholders to implement a sustainable communities' project (SCP) in Ghana with the goal of supporting the public, private and informal waste management stakeholders to maximise the potential of zero waste. The project established support networks for sustainable waste management and designed consistent material flow schemes required for zero waste operations. **Our work has had the primary goal of reducing the percentage of waste sent to landfill across communities, by enhancing the work of waste pickers to recycle and reuse municipal waste at the community level, helping to create employment for over 50 local individuals. We continue to explore how this could be scaled up across the continent of Africa to replicate our zero waste communities success.**

In the past year, members have been successful at motivating behaviour changes for both producers and consumers in dealing with waste. This was largely achieved by creating awareness on environmental sustainability for households to guide how they consume and for producers to inform how they design their products, which raw materials are used, how they manufacture such products and, finally, how they are disposed of at the end of their lifecycle. Furthermore, we have been busy supporting measures to increase Extended Producer Responsibility (EPR) schemes, where producers take greater responsibility, physically and financially, for the management of waste that emanates from their products and services.

Some of our biggest success this year include:

- The formalisation of over 300 waste pickers within different locations and collaborating with Municipal assemblies to provide training to them. Through this we were able to curb the low standards of living that stemmed from the injustices and the lack of recognition these workers faced.
- Brought together a wide range of stakeholders to launch a national zero waste strategy document for Ghana, to serve as a manual and blueprint for the development of a national zero waste portfolio.
- Promoted local zero waste actions by working with over 2000 households within communities to educate them on zero waste and its potential to become a source of livelihood. We further developed resource centres across these communities by constructing Materials Recovery Facilities within project communities to facilitate community-based circular economy activities, and also as a training space for waste workers.
- Successfully demonstrated the potential of zero waste becoming a source of livelihood by incubating green startups across project areas.

In the past, our strategy has been to develop and implement a holistic methodology for maximising the efficiency of actors along the waste value chain, having successfully initiated and created the roadmap to a zero waste country in Ghana through grassroots activation and cross-stakeholder synergy. These ongoing activities have laid a foundation for deeper engagements in 2023 across policy, research, health, industrial and local government and non governmental agencies. We strive to create dynamic campaigns and strategic actions next year, further raising awareness through all available media and supporting the work of informal waste workers in addressing municipal waste that is otherwise burnt. We plan to actively mobilise for inclusive advocacy and resistance to open burning and incineration activities across the region and beyond.



US/Canada

Number of Zero Waste Cities
in region: **Not yet measured**

Written by Aditi Varshneya,
GAIA

During the past 12 months, we have continued to support groups implementing zero waste initiatives in cities, including those running model/pilot scale programmes and those advocating for policy change. On the federal level, we have worked to ensure available funding for waste management funds, upstream initiatives and composting, also pushing for funding to not be extended to chemical recycling technologies, which are promoted as false solutions.

We have also been supporting state-level policy pushes on sound EPR policy and the removal of diversion and renewable energy credits for burning waste. We've also increased our work around chemical recycling, given the growing number of chemical recycling proposals and partnerships affecting municipal waste management (e.g. the facility collocated on the Exxon complex in Baytown, Texas that's been contracted by the company running Houston's MRF - the 4th largest city in the U.S). We continued to expand our work on the connection between climate and zero waste, to support inclusion of zero waste goals in climate plans and build connections with the climate justice movement in the U.S.

One of our biggest successes this year is that the federal Environmental Protection Agency (EPA) announced it will be distributing \$275 million for Solid Waste Infrastructure for Recycling, and an additional \$75 million for recycling education and outreach programs under a federal law to improve the nation's infrastructure. Industry groups lobbied heavily for the inclusion of so-called chemical recycling technologies to be included in these funds. We successfully pushed back during the public comment period by organising members and allies to join multiple EPA public feedback calls, drafting public comments and encouraging others groups to submit their own using our template, and through securing a meeting on chemical recycling with an Acting Director within the agency. The final grant details announced in November specifies diversion from landfills and incineration, and specifies that funds can be used for mechanical recycling (thus taking chemical recycling, PTF, gasification, & pyrolysis off the table). This ensures funds will not be wasted on false solutions and will instead fund real zero waste projects in localities across the U.S.

We have seen several big highlights and successes from our members across the U.S. this year, who have been creating models for organics management that are ready to scale up. For example, East Yard Communities for Environmental Justice - located in Long Beach, California, which has one of California's last two MSW incinerators - initiated a community composting hub program in April alongside its zero waste plan development process. Since April, the hubs have diverted over 5,300 pounds of organic waste from the incinerator, and there are plans to add an additional collection site as the organisation continues to develop its zero waste plan.

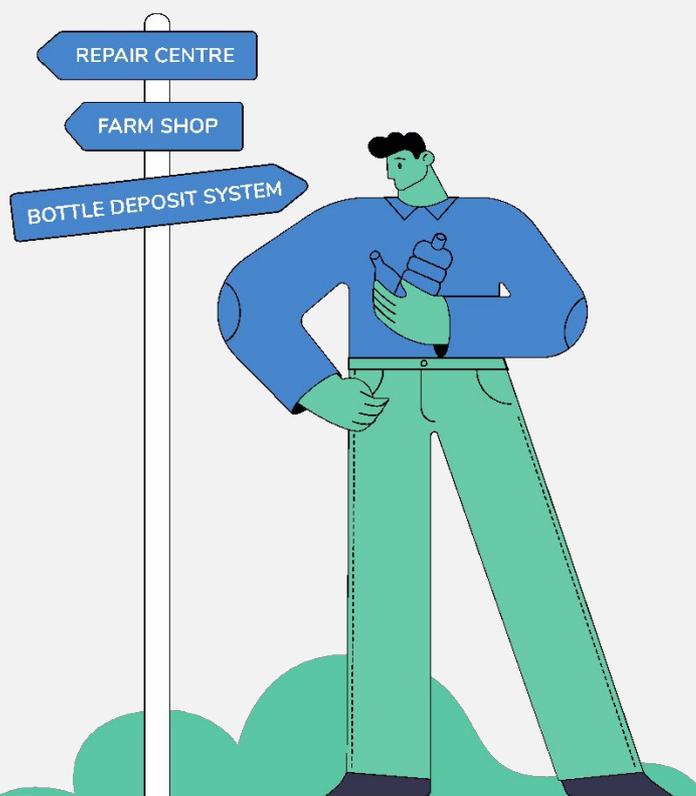
In a former incinerator community in Detroit, Michigan, Breathe Free Detroit is engaging in an exchange program with fellow GAIA member Mother Earth Foundation in the Philippines to learn about their successes in managing organics, applying lessons learned to their new backyard composting pilot program and their engagement with the City of Detroit's Green Task Force for organics management.

Additionally, mission-based recycler Eco-Cycle in Boulder County, Colorado, is turning their three-year study on compost's carbon sequestration potential on urban lands into a replicable model of distributed composting. They are working with hundreds of volunteers to engage the public in carbon farming in backyards and public parks as part of the Cool Boulder Campaign, a collaborative effort with the City of Boulder to create more resilient landscapes in the aftermath of a devastating wildfire at the end of 2021.

In 2023, GAIA US & Canada will continue to focus on supporting local organising work in cities. We have plans for an alliance-building training series to strengthen local movement building, including a session on organising with labour groups. We will also provide deeper technical support on questions of scale and appropriate technology in organics. As part of the Break Free From Plastic movement, we will participate in the Reuse Revolution, where our role will be centering equity in conversations around reuse. We will also continue to provide small funds to organisations advancing zero waste solutions on the ground.



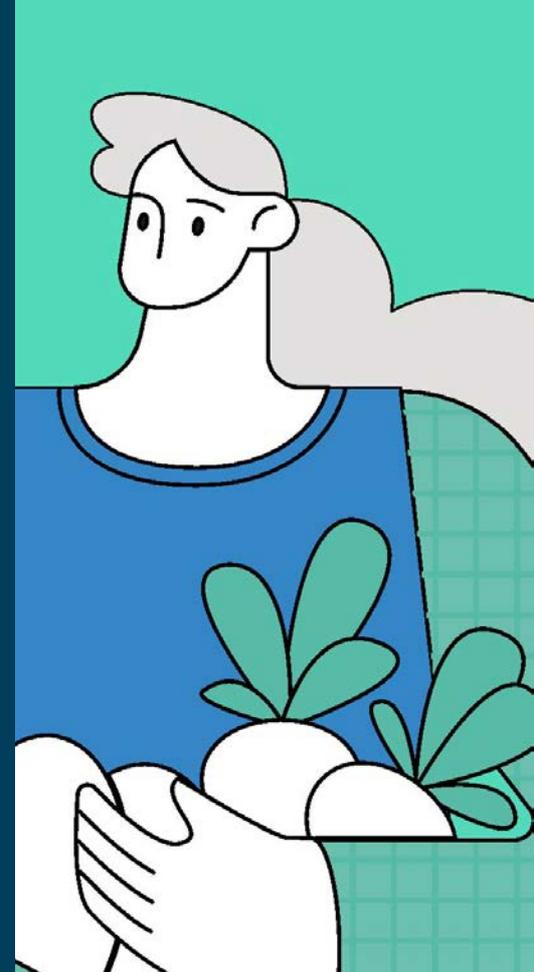
Eco-Cycle volunteers, Boulder County, Colorado.



Number of Zero Waste Cities
in region: **15**

Latin America

Written by Mariela Pino,
GAIA Latin America & the Caribbean /
BFFP



This year has been particularly interesting, as in Latin America the limitations that Covid restrictions posed were quite severe and impacted our society economically and emotionally. Fortunately, people and organisations are activating their work again, and so we have been able to catch up on matters related to our mission in recent months. Latin American member organisations are varied in both age and experience, but they know how to navigate the waters of advocacy, activism and education and so, they have committed to follow methodologies which yield interesting outputs such as: pilot projects, case studies, capacity building, advocacy at national, regional and local levels, studies and research, awareness raising, proposals, communication and dissemination of information.

Because different countries in our region have diverse political and social struggles, singling out victories might prove challenging. All members within the region have actively engaged in strengthening the impact, communication and commitment to zero waste. We had 11 projects working under the Plastic Solution Fund, of which 4 are led by national alliances and 7 by local organisations. We had 5 projects in organics recycling and plastic-free food production. Additionally, 4 countries developed research on the impacts of the plastics global trade, as well as organised training on plastic pollution with 60 online participants. We developed an African-Latin American exchange event against incineration, and another one dealing specifically on issues specifically related to those living on island states/regions.

One of the most important highlights, in my opinion, is **our continued focus on bringing change to areas that were otherwise not being addressed, such as zero waste tourism in remote areas and in sports, such as marathons**. Other important highlights include the rejection of a waste to energy project proposal in Temuco, Chile and our Brazil-based member's plan of lobbying and advocacy work for organics management and food production for mega cities such as Sao Paulo. Finally, a general highlight has been the work towards creating methodologies for closing open landfills, through a social-centred approach that recognises and protects the rights of waste pickers.

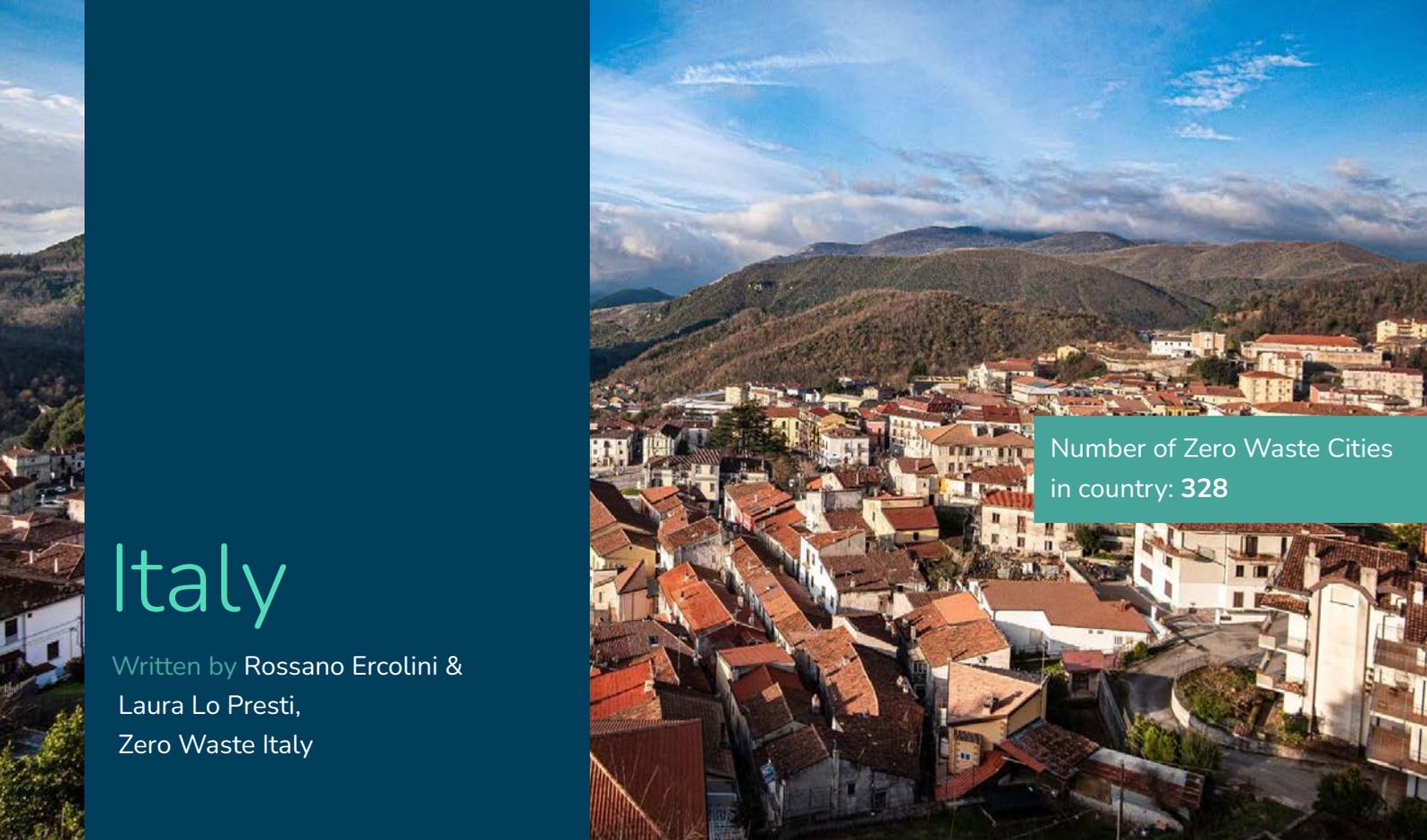
For 2023, we aim to continue our activities with renovated efforts, better perspectives, and some new achievements. In 2023, we hope that what members started this year will continue to deliver results, and to add more means for developing activities in the whole region. These include: limiting the use of SUP, not only in daily life but also in sports and cultural events; reaching law enforcement against incineration and plastics to fuel "solutions", having more municipalities signing zero waste bylaws, boosting more actions against food waste, composting and anaerobic digestion movements, healthy food production and nutrition. We are looking forward to shining a light into remote, touristic and pristine areas of the world being currently trashed, and also urban landscapes where communities are suffering because of landfills, open dumps, leakage into natural areas, burning waste and cement kilns burning tires. We will continue to push for waste pickers recognition, and EPR modifications when needed, so that their decades of work aren't dismissed by the industry or governments. We will continue disseminating the skills and roadmaps for going zero waste at home, restaurants, schools, hospitals, and beyond.

Country-specific Focus

2022 has seen the zero waste cities model grow in both geographical scope widening and the quality of the results being implemented deepening. The past 2 years have provided obvious challenges due to the Covid-19 pandemic, which put unforeseen pressures on municipal budgets and capabilities to deliver basic services such as waste management.

This year has seen new challenges emerge with the energy and cost of living crisis, driven in large by the war in Ukraine.





Italy

Written by Rossano Ercolini &
Laura Lo Presti,
Zero Waste Italy

Number of Zero Waste Cities
in country: 328

Despite difficulties of various kinds, the road towards the circular economy has been drawn in Italy and there is no turning back. More municipalities are implementing compulsory separate waste collection and the results are improving year by year. In some areas the performance is excellent, in other areas there is still a lot of work to be done.

Among the many positive experiences we have seen from municipalities this year, we can highlight the municipality of Collesalveti specifically, which introduced a door-to-door separate collection in January 2022. The published data points to a waste decrease per citizen of around 400 kilograms (from 1000 kg to around 600) and separate collection reaching 77%, an increase of about 30% from before the system was implemented.

In the Florentine area, the municipality of Borgo San Lorenzo is distinguished with a separate collection rate of 75%. 2022 saw the launch of a new Zero Waste Research Center, located inside a local school and financed through a Ministerial Project, a project done in close collaboration with Zero Waste Italy. Activities carried out at the centre include the construction of a bicycle repair centre (“A Ruota Libera”), the redesign of products that are not currently recyclable, the construction of water fountains to avoid plastic bottles and the collection of sneakers to recycle, as well as a two-year awareness program on Waste from Electric and Electronic Equipment (WEEE) recycling issues. It is the second Zero Waste Research centre of its kind in Italy, with the first being our one in Capannori.

A final noteworthy good practice to highlight from 2022 is the Municipality of Calatafimi Segesta. In addition to achieving an excellent 75% of separate collection, the municipality is promoting initiatives leading to cross-border projects both with other Sicilian municipalities such as Palermo and with some Tunisian municipalities aimed at promoting and disseminating good reuse practices.

In the province of Ascoli Piceno and in particular the seaside municipalities of Grottammare and Cupra, plastic waste reduction projects are being developed with local bars and shops that are being financed by the municipalities. They are based on certain membership criteria which commit the participating shops (more than 100) to take steps that avoid the production of waste, in exchange for greater publicity and visibility. This project is particularly significant because it occurs during the key tourist period (approximately 4 months) when the population size triples.

We are working with many other municipalities, including Teramo, which a year ago adopted the Pay-As-You-Throw (PAYT) system in some districts and became the first provincial capital to achieve a separate collection rate of 71.09%. This new collection management will soon become fully operational throughout the city and ecological islands have been introduced in sub-urban areas. The 30% reduction on the variable part of the TARI (waste fee) for those who practise home composting has also had a positive impact on preventing waste generation.

In 2022, as we do every year, we have organised and participated in dozens of events and demonstrations to talk about zero waste and the ecological revolution with a wide range of stakeholders. However, a notable highlight for ZWI this year would be the connections we are creating between the Italian zero waste municipalities and a group of around 20 Italian enterprises (manufacturing and commercial) who are committed to promoting innovative alternatives to disposable products.

In this regard, the "circuit" of the 330 Italian zero waste municipalities is identified as a privileged space to support products and business models that otherwise would risk to remain quite niche or open only to a small market.



Visita ai modelli di business a rifiuti zero, Capannori, Italia, 2022.

The creation of the Zero Waste Product Showcase at the Science Park in Capannori and the promotion of the "Zero Waste Product of the year" national award are two examples of the activities we have conducted within this mission.

For 2023, our priority is to monitor the decisions cities and regions are taking regarding waste management, because we are witnessing two worrying trends - the promotion of smart road bins instead of door-to-door separate collection and an increase in the construction of chemical recycling plants. Our will is to support and help local communities in their battles for ecological sustainability, providing them with key information and knowledge to fight these battles and connect communities with others to support one another. As we like to say, ***"if a raindrop remains isolated, it evaporates. But if the raindrop unites with other drops, it becomes a sea of unstoppable force"***.



Zero Waste Conference in Capannori, Italy, 2022.



Slovenia

Written by Zaklina Žnajder,
Ekologi brez meja

Number of Zero Waste Cities
in country: 16

Looking at some highlights from 2022, the waste management company Komunala Kranj is working hard to implement zero waste practices internally and externally in the 5 municipalities where it manages waste collection. The municipalities of Naklo, Kranj, Jezersko, Preddvor, Šenčur have only recently joined the zero waste cities network, but have since been very active.

Some of the measures implemented include, the replacement of office bins with ones made from reused furniture that also allow for better separation of waste, and the distribution of bottle and can compressors to households to minimize the volume of packaging waste, whilst also taking steps to encourage the use of tap water as opposed to bottled water. The municipalities regularly communicate with the local community about waste reduction and prevention through various channels and activities, in collaboration with a local foundation working on reuse.

Further notable highlights include an incentive by the municipality of Žalec, which distributed small indoor composting bins, 'Organko,' to improve the separation of organics in multi-apartment buildings where it is not so common to do home composting. The use of 'Organko' is very convenient as it minimises the volume of organics and so reduces the frequency of emptying it. This measure prevents organics ending in the residuals, while it increases the rate of separate waste collection.

In 2022, we (EBM) carried out a pilot project to reduce food waste in collaboration with the municipality of Škofja Loka where we concentrated on three key local stakeholders – public institutions, economic entities and households. The objective of the project was to identify the causes of large amounts of wasted food and how we can reduce these amounts. Among other activities, we analysed and measured the food waste in a local kindergarten. As expected, the largest share of food waste occurred at lunch (59%), when 64g of waste was generated per person per day or 304kgs for all 8 units in the monitored period of one week. **The analysis showed that up to €9,500 could be saved annually** by upgrading the system of meal check-out, transferring good practices from units where the least amount of food is wasted, and reducing the amount of liquid food/beverage served. [Full results of the project can be found on the Zelena Slovenija website](#), as well as in [our own presentation of the project](#).

At the national level, 2022 saw ambitious legislation and late transpositions of EU law happen, and while the effects will only be felt in the upcoming years, the direction is predominantly good. Municipalities still have a glass ceiling for certain measures, but slowly the importance of local level practices is being recognized more. Major attacks on NGOs and the erosion of environmental controls have also ceased, whilst overall cooperation with the national government has improved in recent times. Most COVID related limitations came to an end, and so far, the energy crisis has not left a noticeable mark on waste management, but that is likely to change in the near future. We had a series of three elections this year which has inevitably shuffled the political order and disrupted our work slightly.

Our biggest success, and what we are most proud of in 2022, was to have Europe's first ever Zero Waste Certified Cities, Bled and Gorje, which have been following zero waste principles since 2015. We were also happy to organise study visits for local municipalities as well as foreign ones, as a way of learning and sharing good examples of what is possible to achieve. In addition, a delegation from Škofja Loka visited best practices in Vrhnika and a delegation from Kranj visited the Italian waste management company Contarina.

Looking at 2023, the biggest priorities for us can be categorised as follows:

- To get new Slovenian municipalities into our network and subsequently the MiZA Cities Certification scheme.
- To organise a yearly network meeting for cities, combined with an expert / capacity building event.
- To work with our existing network to improve the performance of their zero waste strategies.
- To encourage and facilitate municipalities to apply for a wider range of projects, with the aim of helping them fundraise for their strategies, also considering the zero waste social bond that we hope will be finalised in 2023.
- To effectively deal with any fallout from the upcoming local elections.



Innovative bins for separate waste collection at the events



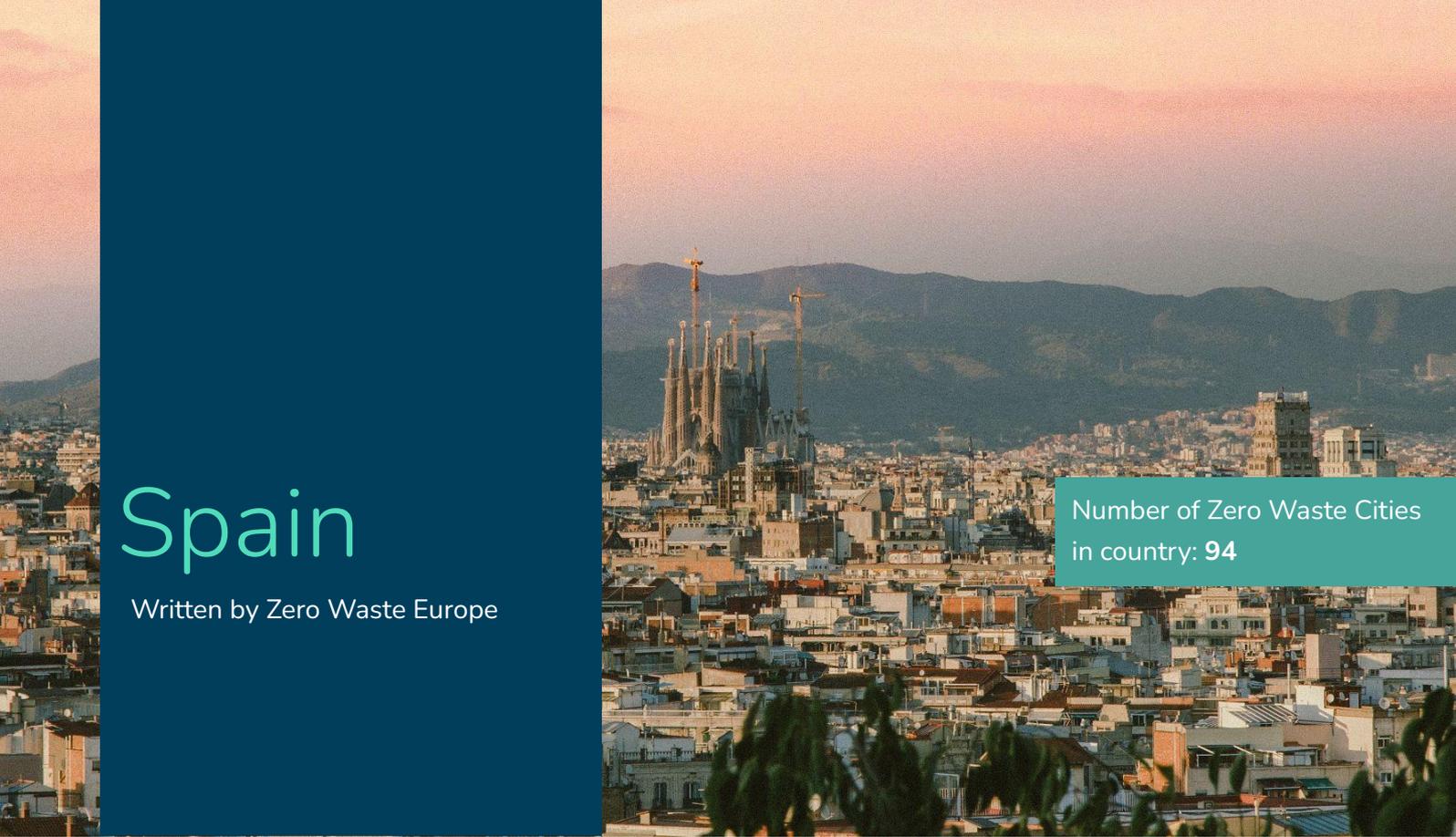
Bottle and can compressor

Waste generation and collection, Slovenia, 2021

*expect for Ljubljana, data is for 2020

Name of City	Total MSW generation per capita, kg	Separate collection rate (%)	Residual waste generation (per capita, kgs)
Vrhnika, Log-Dragomer & Borovnica	368	83%	63
Ljubljana	375	69,5%	102
Bled	457	70%	137
Gorje	271	73%	74
Radovljica	367	66%	124
Žalec	434	67%	142
Slovenske Konjice	336	75%	83
Kranj	380	74,7%	96
Naklo	333	73%	90
Preddvor	196	52%	95
Šenčur	334	68,5%	94
Jezerško	300	63%	110
Škofja Loka	280	73%	75
Železniki	190	67%	62





Spain

Written by Zero Waste Europe

Number of Zero Waste Cities
in country: **94**

The past 12 months has seen some exciting growth in the zero waste cities work across Spain, seen most evidently by the fact that 5 Spanish municipalities have become a Zero Waste Certified City over the past 12 months.

The past 12 months has seen some exciting growth in the zero waste cities work across Spain, seen most evidently by the fact that 5 Spanish municipalities have become a Zero Waste Certified City over the past 12 months. These include the first two, which were Torrelles de Llobregat (Catalonia) and El Boalo-Cerceda-Mataelpino (Madrid). Most recently we have seen Hernani and its two neighbouring municipalities (Basque Country) become the latest Zero Waste Certified Cities, with Hernani receiving an impressive 3 stars out of a possible 5.

Through the work of the Alianza Residuo Cero members and the Certification Coordinator in Spain, dozens more municipalities have also begun to take their first steps towards becoming zero waste. This includes Barcelona, which made its commitment in November 2022 to become a Zero Waste Candidate City. With a population of approximately 1,6 million, the second largest in Spain, Barcelona would become one of the biggest European municipalities implementing a zero waste strategy, and therefore a key priority in the next 12 months and beyond will be to help the city roll-out the policies it has planned within its zero waste commitment.

2023 will also see Alianza members continue to support the 80+ other municipalities that committed to zero waste in the past years, helping them transition over to the new Certification system with tailored support and communications to assist in the continued optimisation of their existing zero waste strategies. In Spain, there is also exciting interest and growth in the Zero Waste Business Certification. One of the biggest priorities for the upcoming 12 months is to manage this growth in both certifications, for cities and business, ensuring that this approach is complementary to one another so that local stakeholders are actively supporting their wider community in the journey towards becoming zero waste.



Croatia

Written by Marko Kosak,
Zelena Akcija

Number of Zero Waste Cities
in country: **19**

The highlights for our work in Croatia this year are split across three main categories - our work with the waste management company PRE-KOM around Prelog and its neighbouring areas, working with the 7 municipalities on the island of Krk, and furthering our work in the capital, Zagreb.

Prelog

In the past year we have continued our work with the first 12 Croatian zero waste municipalities (Prelog, Belica, Donja Dubrava, Donji Vidovec, Sveta Marija, Goričan, Donji Kraljevec, Kotoriba, Dekanovec, Domašinec, Martijanec, Podturen), serviced by waste management company PRE-KOM. Following meetings on targets, new investments and new zero waste certification criteria, we worked together on translating new national legislation related to waste management into their local strategy, as well as on a new legislation related to plastics.

In the past year, PRE-KOM has achieved impressive new results and improvements of their system, based on our recommendations. They are the best performers nationally in separate waste collection, with an **average rate of 65% across the 12 municipalities (data for 2021). This is a significant jump in comparison to 57.25% in 2019 and far higher than the national average of 43%**. All 12 municipalities have achieved goals that Croatia had in 2020 (50% of sep. waste collection). It's important to add that the biggest municipality, Prelog, is close to 70%, and the municipality of Belica has already achieved an 81% separate collection rate, beyond the target they set themselves for 2025.

When we started cooperation in 2015, the average collection rate in the first 7 municipalities operated by PRE-KOM was only 22%. This shows the great improvements in 5 years. Good results can be seen also in waste prevention. Across PRE-KOM's 12 municipalities, an average of just 70kg per capita of mixed municipal waste was generated in 2021, and some municipalities have an even lower rate. This is particularly impressive when compared to the national average of 258kg per capita of mixed municipal waste in 2021. Furthermore, the recycling rate in these 12 municipalities in 2021 was 64%, which is much better than the national average of 31%.

Krk

Most of our activities with cities in the past year were within the ZWE-coordinated project, “Transitioning to a zero waste Europe, one community at a time” with 7 municipalities (Krk, Omišalj, Vrbnik, Baška, Dobrinj, Punat, Malinska - Dubašnica) on the island of Krk, operated by the waste management company PONIKVE. We had many meetings, analysed the residual waste and created a zero waste plan for improvements towards the goals they want to achieve in the coming years. We organised a press conference where we presented their commitments and presented their results after they became zero waste candidate municipalities with MiZA. In addition, the municipalities started with the implementation of the PAYT system which will increase separate collection rates in the coming period.

Despite the very high touristic seasonality, they are already among the top performers in separate waste collection with an average rate of 62% in 7 municipalities in 2021 and all 7 municipalities have achieved goals that Croatia had in 2020 (50% of sep. waste collection). This is a result of a well-established door to door collection model. The municipalities want to go beyond these results and also make more efforts in waste prevention and reuse. Their ambitious goals for the next years are 70% of separate waste collection in 2025 and 150kg of residual waste per capita (including tourists) in 2025 (in comparison to 235kg in 2019). To achieve these goals, PONIKVE will improve separate waste collection, PAYT, promote home composting, open the reuse centre and introduce other various models for reducing the volume of waste generated on the island of Krk. All proposed measures and goals are realistic and it is expected that in the next few years these municipalities will achieve the criteria for the full zero waste cities certification.

Zagreb

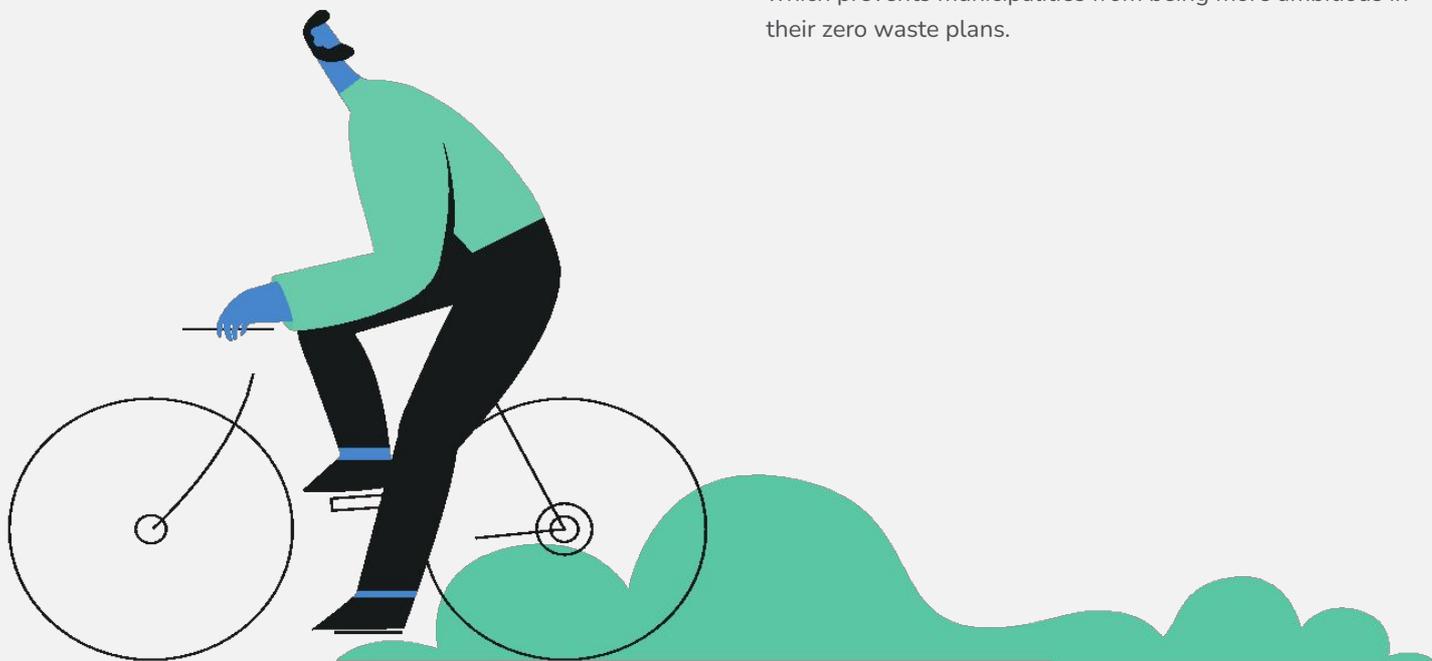
In 2022, we started working with the capital city of Zagreb, with initial successes in the improvement of the local waste management legislation. Within the Waste Management Committee in the city of Zagreb, we had meetings in person almost each week for the last 5 months of the year, with the Mayor of Zagreb and his Deputy, the Waste Management company from Zagreb and the City's Department for Environment. We discussed the implementation of the new decision on waste collection and the payment system in Zagreb, based on zero waste principles – door to door collection, home composting and PAYT. The new legislation has been implemented since September 2022 and is already achieving positive results and great improvements.

Our hope is that Zagreb can join the zero waste cities certification system soon, through its planned implementation of the changes in the City's new Waste Management Plan over the next 5 years. These include potential new facilities in the city, such as an MRBT plant, a bigger sorting and composting plant and a reuse centre.

National legislation barriers

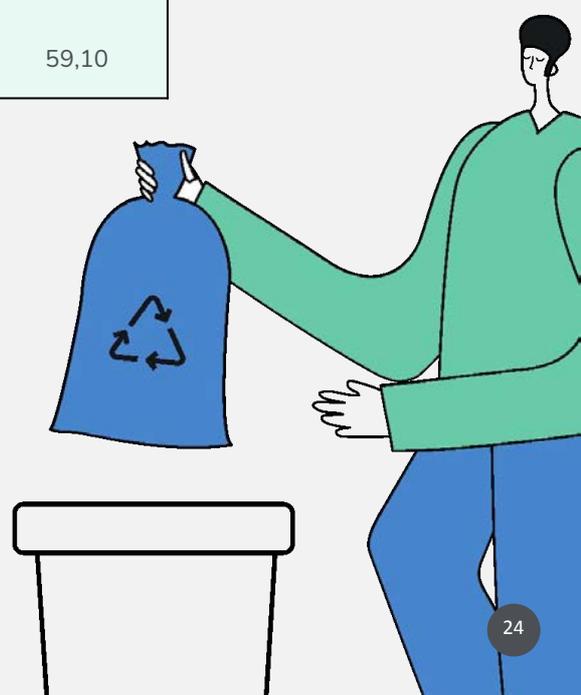
Croatian national legislation regarding waste management is not ambitious enough and in some parts actually prevents improvements in the waste management systems in municipalities, due to certain obligations that municipalities need to fulfil. In addition, the recycling system in the country is not as developed as it should be, and this results in big costs for municipalities that are successful in separate collection, which often need to pay large fees to recyclers to manage the separated waste.

There is also a lack of funding from the Ministry for important infrastructure for sorting, composting and for reuse centres, which prevents municipalities from being more ambitious in their zero waste plans.



Separate waste collection 2017- 2021, Croatia (in %)

	2017	2018	2019	2020	2021
Prelog	55,88	62,79	66,69	68,98	67,40
Belica	51,17	68,86	66,16	79,97	80,90
Goričan	52,68	53,44	61,09	64,67	63,40
Domašinec	18,84	55,01	59,84	62,50	66,20
Podturen	18,00	34,92	52,27	62,88	62,50
Sv. Marija	46,10	55,88	56,61	59,92	61,30
Martijanec	1,01	34,81	56,35	61,02	61,60
D. Dubrava	53,92	58,31	56,88	58,21	61,30
Dekanovec	38,45	54,60	56,19	65,34	66,90
D. Kraljevec	52,21	47,34	54,34	60,26	53,10
Kotoriba	41,48	48,32	50,89	55,52	59,30
D. Vidovec	41,93	47,99	49,70	59,28	59,10





Germany

Written by Marc Delaperriere,
Zero Waste Germany

Number of Zero Waste Cities
in country: **3** (Kiel, Munich,
Leipzig)

2022 saw both Munich and Köln (big cities with populations of over 1 million) begin to come to the end of their zero waste strategy definition phases, with Munich making its official commitment to become a Zero Waste Candidate City in November.

In Kiel, the implementation of the strategy officially started with a 3-person Zero Waste Team as part of the environmental department of the municipality. Plans and activities outlined by the city can be found in their progress report of 2021. Kiel will undergo its certification audit in early 2023 to become Germany's first Zero Waste Certified City. The municipality report of 2021 was published in 2022 indicating which measures are ongoing (the report for 2022 will follow in 2023).

During 2022, we can showcase 2 impressive examples from Kiel regarding waste prevention:

- New version of the “waste statute” (Abfallsatzung) : “At events on public streets, paths and squares and in municipal facilities, food and beverages are to be served exclusively in reusable packaging and containers.”
- The introduction of an incentive programme to encourage the use of reusable nappies, which was initially started for just one year but due to its success will continue for an additional 12 months. In 2022, approximately 220 families have received up to €200 to be used to purchase reusable nappies.
- The national context in Germany is quite favourable now to help our work as an association and especially in the implementation of Zero Waste City strategies by German municipalities. This is due to recent changes in the law, driven by the implementation of European directives, principally within the amendment of the KrWG - Circular Economy Act 2021. We have also seen progressive legislation introduced in ElektroG, BattG and VerpackG laws.
- These refer to the market placement, return and sustainable means of disposal / recycling for electrical and electronic equipment, batteries, accumulators and packaging. Changes can be found on the [official government page](#).

We continue to see that the Zero Waste City strategy is a way to transform a legal “obligation” into a set of policies able to realise the goals set per law or supersede them before the set deadlines. In addition, waste issues are very present in the media and reach a large percentage of the public. The projection of the film “The recycling lie” (“Die Recycling Lüge”) from Tom Costello und Benedikt Wermter is an example.

Less favourable is, however, the economic inflation context due to the Russian war in Ukraine: priorities on keeping the stability of the economy are set in foreground, prior to environmental priorities, for example the ongoing development of liquefied natural gas (LNG) sources.

For Zero Waste Germany, in 2022 we invested a lot of time and efforts into the consolidation of our association in such a way that we are now settled in such a way that we can effectively provide answers to cities interested by the zero waste programme, formally establishing the link with MiZA and ZWE. The organisation has also acted formally as consortium partner in the Zero Waste City Köln Project.

For our association, the biggest priorities for 2023 are as follows:

- To increase our capacity to act as a professional organisation, offering the best response to municipalities starting or optimising their zero waste journeys. This includes the need to ensure we have the German zero waste certification framework, criteria and process without any ambiguity (certification documents using the same wording as the German waste professionals and in line with the wording used in the legal contexts). Furthermore, we will streamline our methodical-based follow up of municipalities in their zero waste journey, including our ability to coordinate with a range of local organisations who are in contact with their municipalities, providing them with first line support on open points (second line is then MiZA, ZWE).
- Gain new municipalities in the Zero Waste Cities Certification, especially middle size cities
- Increase our communications and subsequent visibility as an association, mainly via the development of our website. This includes creating and disseminating the following:
 - Guidelines for cities to become zero waste in German;
 - Contacts / Interface and roles (between ZWG, MiZA, ZWE);
 - Offer zero waste cities related documents for download in German language;
 - Use cases / best practices / quotes from municipalities;
- To establish the first concept and opportunity to “network” German Zero Waste Cities, especially through a zero waste training specifically dedicated for municipal officials.

Waste generation and collection, Germany, 2021

Name of city	Total MSW generation (per capita, kgs)	Separate collection rate (%)	Residual waste generation (per capita, kgs)
Kiel	498kg	51	180kg
Munich	446kg	36	285kg



Bulgaria

Written by Evgenia Tasheva,
Za Zemiata

Number of Zero Waste Cities
in country: 1

The key highlights for us in 2022 include the Mayor of Svilengrad officially signing the agreement for Zero Waste Cities certification in March, making Svilengrad the first Bulgarian municipality on the European Zero Waste map. Svilengrad committed to reach no more than 99 kg of non-recycled waste per year per inhabitant by 2025.

In 2022, Svilengrad launched an innovative EU-funded pilot implementation of the pay-as-you-throw (PAYT) principle for local waste charges. The smart system, powered by sensors and an information portal, will measure the expected reduction in residual waste and the experience will be synthesised in a guidebook on PAYT for Bulgarian municipalities. In recent months, Svilengrad has also introduced two new spots for the separate collection of textiles (clothes, shoes), in addition to the specialised municipal centre for reuse and recycling of sorted waste brought in by businesses and individuals. In 2022 Svilengrad's pilot door-to-door separate waste collection from 1000 households was enlarged with 300 new yellow bins for paper, plastic and metal packaging.

Furthermore, in April 2022, the municipality of Gabrovo piloted a local-level trial with two reverse vending machines for take-back of plastic bottles and aluminium cans. The bonus system providing reusable items and discount vouchers from local businesses has caused exceptional interest, resulting in 234,934 pieces of packaging recycled in just 7 months.

In early 2022, Gabrovo created four community composting zones: at a kindergarten, a school, in a residential area and near a hotel in a resort. The local authorities are focused on waste prevention by providing reusable promotional materials, such as textile shopping bags, aluminium beverage bottles, thermal cups, etc., combined with numerous information campaigns and open lessons in schools and kindergartens on waste reduction and recycling. As a further plastic prevention measure, water dispensers that filter tap water were installed in the municipality's official building.

Waste generation and collection, Bulgaria, 2021

Name of city	Total MSW generation (per capita, kgs)	Separate collection rate (%)	Residual waste generation (per capita, kgs)
Svilengrad	281	3,76%	No data
Gabrovo	330	34%	220

The political situation in Bulgaria proved to be the biggest challenge, yet also the greatest opportunity. An unprecedented positive shift was seen at the Ministry of Environment and Water, which was headed by the Greens Party. The short-lived coalition government was dissolved after 7 months and replaced by an interim government, making the period too short for long-term changes and bold steps towards laying the legal and strategic framework for better waste management in Bulgaria.

Bulgaria has one of the lowest levels of effective waste management in the EU, mainly because the funds for separate waste collection are allocated and used ineffectively. Waste management-related costs, as well as the money levied through local waste charges typically are the largest share of local authorities' budgets, making waste management a potentially highly-contested issue, accessible to the influence of predominantly large players, such as waste collection businesses.



Multimedia street action to oppose a proposal of waste-energy plant in Sofia, Bulgaria, by Za Zemiata.

As well as achieving Svilengrad's official commitment to pursue the Zero Waste Cities Certification program, our other big success in 2022 was Za Zemiata's support to local people in Pavlikeni to stop a proposed incinerator of enormous capacity (400 000 t/y). Za Zemiata's team participated in all the public consultations, in an expert council in the regional environmental agency, sending 4 position statements during the Environmental Impact Assessment (EIA) procedure. As a result, the project has not received permission for construction. Although a great victory, it is still a temporary one, because the final decision of the Executive Environmental Agency is yet unknown.

In 2023, Za Zemiata will focus efforts on establishing and deepening relations with smaller-sized Bulgarian municipalities, while also facilitating potential exchange tours and practical field visits between larger Bulgarian municipalities and their counterparts from the ZWE cities network. The official [Zero Waste Cities Certification website for Bulgaria](#) will feature more best practices, case studies and guidelines from the ZWE network (translated into Bulgarian), as well as good examples from Bulgarian municipalities.



Part of campaign aiming to correct myths about DRS (the above about deposits in particular), coordinated by Za Zemiata.



Ukraine

Written by Iryna Myronova, Anna Prokayeva and Aelita Ermolenko, Zero Waste Alliance Ukraine

Number of Zero Waste Cities in country: 2

2022 was for Ukraine a year of full scale Russian military invasion, causing massive distractions, atrocities, and deaths. However, it enabled Ukraine to gain EU Candidate status with obligations to approximate legislation, including on waste management and circular economy.

Recovery planning is one example of a process that must now be in accordance with the European Green Deal approach. The framework law on waste management was finally passed by the Ukrainian parliament, which helped create some interest in the zero waste city approach and in particular the case study of Lviv's experiences. On the other hand, the Ministry of Environment is pushing towards more infrastructural decisions to divert direct landfilling of municipal waste but which do not tackle waste generation as a whole - for example through building 27 WtE (waste to energy) plants and 62 MBTs (mechanical biological treatment) throughout the country. Lviv and Liubotyn provide alternative models for other Ukrainian cities to follow, such as the implementation of the first separate organic collection and composting in Lviv.

Lviv

The war brought new challenges, such as a 25% increase in population due to internally displaced people from the regions directly affected by the war seeking refuge in the city of Lviv. **Zero Waste Lviv (ZWL) took the initiative to pilot more waste conscious ways to deliver humanitarian relief and information on waste management to refugees both transitioning through and staying in Lviv.**

ZWL was able to apply a zero waste approach to help refugees, the military and the municipality once the war had started. Based on our previous work with local restaurants, the organisation helped several catering outlets to reorganise food delivery and distribution in refugee centres with reusable kitchen and tableware. ZWL provided restaurants with large hermetic containers, delivery boxes, cups with lids and portion containers, even washing machines in some cases. Refugee centres were provided with reusable dishes, glasses and cutlery - all donated by local residents. This helped these institutions to prevent waste but to also save money - with the break even point of investment into reusable alternatives 2 weeks into the service. 8 partner restaurants served refugees and volunteers altogether, with 2000 lunch meals per day through March-May and around 350-400 ever since. **ZWL also provided 400 army officials with reusable camping tableware to help prevent waste within military activities.**

The biggest success for ZWL in 2022 was the presentation of the Lviv case study at COP 27 as part of the Zero Waste to Zero Emission report by GAIA. Lviv modelled its potential greenhouse gas (GHG) reduction from zero waste activities, which showed a staggering 93% potential GHG reduction from the improvement of organic separate collection, separate collection of recyclable materials, waste prevention programs such as popularisation of reusable menstrual products and diapers, single use plastic packaging reduction and the introduction of a reusable deposit return delivery system for food and drinks to-go services.

Ukraine

Through the tough year, and despite the war, our organisation of Zero Waste Lviv kept working towards this ambition. We helped refugees to adopt the habit of separate collection of organic waste and recyclables through information campaigns. For many newcomers it was not a familiar experience since Lviv is the only city in Ukraine with centralised separate organic waste collection. To make the information on various waste prevention and waste segregation options available and visible, ZWL offered support to the municipality to include advice into the [newly-created chat-bot](#) for refugees.

Another project that helped citizens to sort their waste better was the installation of a '[sorting boat](#)' in one of the local parks. The bowl of the boat has 6 separated compartments for cardboard, glass, plastic bottles, plastic caps, cans, and tetra pak. Compartments have different volumes, based on the waste composition analysis conducted in the park a month before. The sails tell visitors how to minimise and sort waste. Lviv park authorities plan on extension of the pilot to other parks.

The war has had a negative economic impact on women and children. ZWL continued its lectures for women on [reusable menstrual products](#) to help lessen the financial burden, as well as to provide more healthy and environmentally friendly alternatives. We are thankful to our partners NGOs Zelena Akcija (Croatia), GreenZone Association (Hungary), and UAZA (South Africa) who helped deliver over 500 reusable menstrual cups, pads, and panties that were distributed for free after our lectures. ZWL also developed a set of [educational videos and trainings](#) for doctors and caregivers about infants' hygiene, cloth nappies, and timely potty training. The Lviv Department of Health supported the approach, while the economic department of Lviv city council co hosted the first roundtable of the reusable hygiene product producers in order to meet future demand.

The strategy for 2023 in Lviv remains the same: to continue our journey towards the Zero Waste City Certification in cooperation with Zero Waste Lviv and other stakeholders, including the different departments within municipal government. The improvement of separate collection of recyclables and organic waste will be a priority, especially for the HoReCa sector and for public spaces like parks, schools and within the municipality itself.

2023 is the year when Lviv is meant to review the norms of waste generation for different waste producers like households, restaurants, hospitals and others. The effort will be placed on waste data collection and management, including what is collected separately by local waste pickers. Waste morphology studies have to be conducted in order to inform data driven tariff setting and improve a future PAYT approach.

Waste prevention is in the focus as well, through activities such as educational talks done in partnership with the medical community about reusable menstrual products and diapers. Decreasing single-use packaging in delivery and food-to-go services will get more attention as well. Our experiences in Lviv provide valuable experience for other municipalities in the region and help inform national policies in this field, so the city will continue to host conferences and study tours for representatives from other municipalities, playing an active role in setting zero waste principles of waste management in the recovery strategy of Ukraine.



Zero Waste Lviv distributing reusable tableware to refugees and military during the war.

Liubotyn

The new phase of the war in 2022 inevitably affected the work of our organisation, but instead of halting its activities, it expanded its scope, as we continue to help displaced people as well as the military, while continuing to move towards zero waste.

This year, the Kharkiv Zero Waste Ecohub has become not only a waste management centre, but also a humanitarian headquarters. When the war started, Zero Waste Kharkiv began to actively help local residents, displaced persons and military personnel by providing food, hygiene products, clothes, blankets and much more. Our approach to waste management has also changed, for example, we now transfer previously used metal cans to the production of trench candles.

The "Liubotyn Zero Waste City" project has also continued to develop and grow in 2022. The city has received many immigrants, for whom information about zero waste was completely new. The situation in the country prompted our organisation to take more active actions. Many successes were achieved during the year, such as:

- Information campaign to promote the use of reusable feminine and children's hygiene products
- A permanent exhibition of zero waste alternatives began operating in Liubotyn
- "Zero Waste Camp Liubotyn" - the first online Zero Waste camp for children - was created
- The first public composter was installed
- A brand audit was conducted for the Break Free From Plastic International Movement
- The Zero Waste Academy was completed and projects within the Academy were implemented
- A project has been launched, within the framework of which a network of 8 public composters and 2 recycling cabinets will appear in Liubotyn
- We are communicating with the authorities regarding getting closer to Liubotyn's zero waste cities certification

The year 2023 presents us with new challenges. The war in our country continues, but we do not plan to stop. As part of the "Liubotyn Zero Waste City" project, this year it is planned that we, as Zero Waste Kharkiv, will help implement:

- The project "Ecological restoration of Liubotyn - Development of recommendations which is aimed at securing the sustainable post-war restoration of the community, because the war in Ukraine affected not only people's lives, but also the ecological situation.
- Install composters in all high-rise buildings;
- Implement reuse projects, such as cabinets for reuse and others;
- Popularise further the use of reusable feminine and children's hygiene products, with the active involvement of the residents of the Liubotyn community;
- Conduct a cycle of lessons for teachers based on our books and a methodology developed together with ZWAU on the implementation of zero waste principles in school lessons;
- Organise a conference on the experience of implementing zero waste principles for other communities;
- Organise a children's Zero Waste Camp.



Ecohub, a project by ZW Alliance Ukraine which developed from a waste management centre to a reuse and humanitarian hub,

Belgium

Written by Pauline Talbot,
Zero Waste Belgium

Number of Zero Waste Cities
in country: 1 (Brussels)

In Brussels, major awareness-raising campaigns on sorting and reducing food waste have been organised to prepare Brussels residents for the [future obligation to sort organic waste](#). At the same time, the Walloon Region launched a vast study aimed at producing an operational roadmap for moving towards a zero waste Wallonia, while it continues to support the 87 municipalities (out of a total of 262) that have committed to work towards becoming zero waste already.

In Brussels, the awareness campaigns on sorting and reducing food waste were particularly impressive in terms of the number of people directly affected, with three major campaigns organised by Bruxelles Propreté, in collaboration with Bruxelles Environnement. Actions within these campaigns included having two stands at various events in the city: one run by Bruxelles Propreté to distribute food waste sorting bins and the other, run by Zero Waste Belgium on behalf of Bruxelles Environnement, to talk about composting and food waste. The strength and relevance of these events lies in the complementary nature of the two stands. During 2022, Zero Waste Belgium was present at 25 markets to share anti-waste tips and tricks with up to 2500 Brussels residents.

In Brussels, the future obligation to sort food waste was an opportunity to carry out impactful actions on the ground. At the national level, the arrival of mid-term elected officials has given rise to new strategic thinking in order to be able to implement new projects between now and 2024, the year of the next elections.

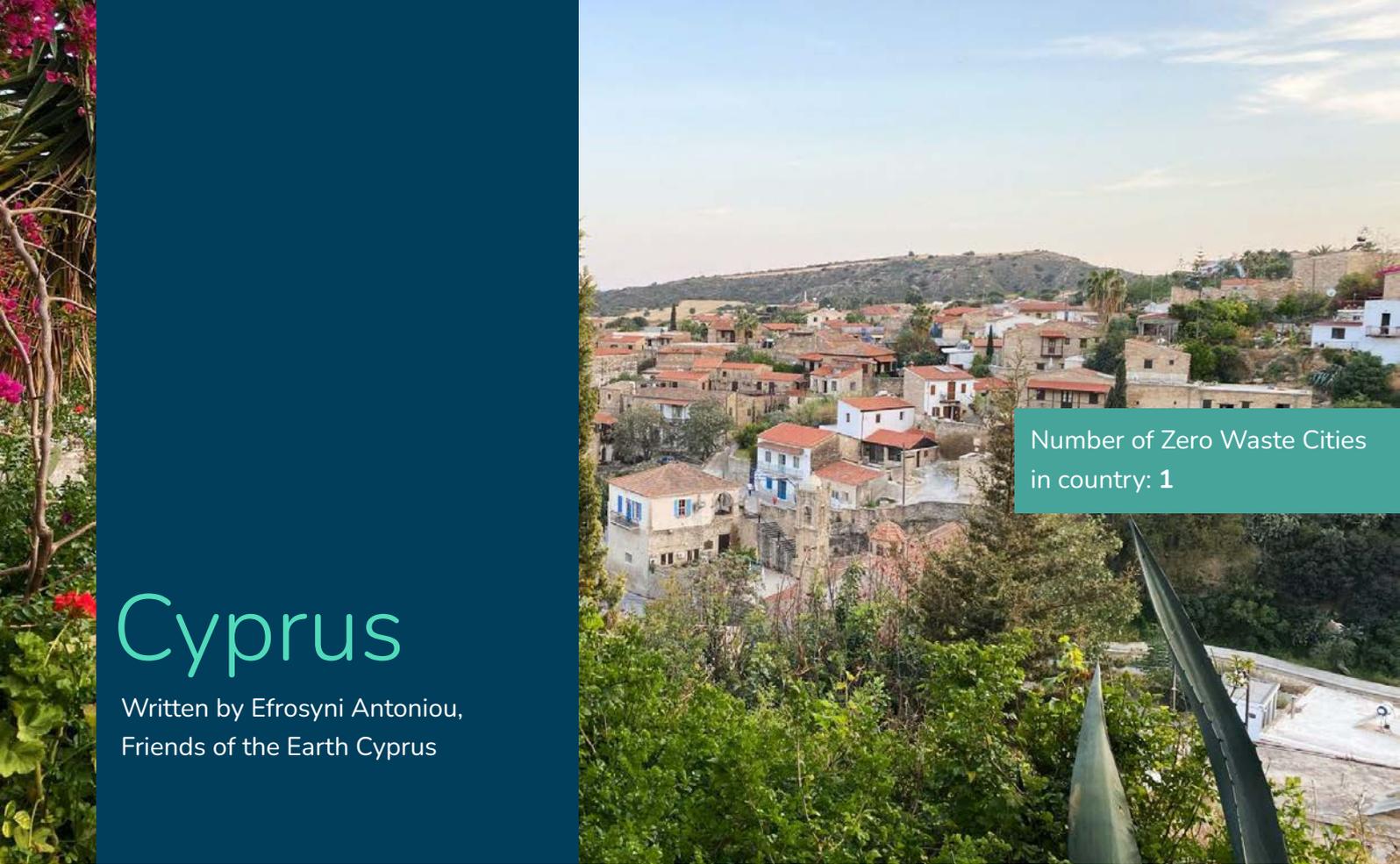
After 6 years of fieldwork, Zero Waste Belgium is increasingly being asked for its strategic vision of zero waste. This trend is completely in line with the work we have started on zero waste cities. The best example is a mission that the association is currently carrying out for the Walloon region, in collaboration with other associations (Espace Environnement and Ecoconso) which aims to produce an operational roadmap to move the region towards zero waste.

Future plans for Zero Waste Belgium moving into 2023 include:

- Working closer with Walloon intermunicipal authorities who play an important role to increase action on waste prevention in the region
- Seeking to collaborate with four municipalities to join the Zero Waste Cities Certification in 2023, and to start supporting these municipalities in the same year.
- To consolidate our staff's knowledge on zero waste, so they can effectively take on the role of ambassadors for the zero waste cities programme.

Waste generation and collection, Belgium, 2021

Name of city	Total MSW generation (per capita, kgs)	Separate collection rate (%)	Residual waste generation (per capita, kgs)
Brussels	284	39,69	171,3



Cyprus

Written by Efrosyni Antoniou,
Friends of the Earth Cyprus

Number of Zero Waste Cities
in country: 1

Our main work over the last year was to introduce the zero waste cities concept in Cyprus. We decided to work with the municipalities and local authorities that have the ambition to make a difference and comply with European and national strategies for waste reduction and the circular economy. We have seen that smaller local authorities were keener to listen and express their interest to become zero waste cities, more so than larger ones.

Furthermore, the ZW Cyprus Alliance started planning common actions in 2022. The organisations that are part of the Alliance support each other's work and moreover, we send common letters or comments as an Alliance for consultations on national strategies and laws regarding waste management.

The big changes and developments that we are expecting at a national level is the introduction of the new law for the Municipal Waste Management that obligates municipalities to adopt a Pay-As-You-Throw (PAYT) system by the 1st of January 2024. Furthermore, the Department of the Environment is at the moment discussing with stakeholders about the management of separated organic waste in the island. For Nicosia and Larnaca there are plans to send the organics to the Integrated Waste Management Plant (IWMP) in Koshi for aerobic composting. For Paphos and Limassol, the complexity lies in the fact that the Integrated Waste Management Plant (IWMP) in Pentakomo is not functioning properly. Therefore, the stakeholders are under negotiations to find a solution before the end of the year. As for mountainous and isolated communities there is a plan for installation of 50 community composting sites around the island.

In 2022, our biggest success at the local level was that we managed to secure the commitment of Ipsonas municipality, which is now our country's first Zero Waste Candidate City. The municipality is currently developing the necessary strategies and plans that will change the narrative in waste management at a local level in Cyprus towards a more positive one, as well as ultimately helping the municipality to meet their targets for waste reduction. This includes making plans to organise and start separate collection of all the waste streams, if possible before the end of 2023.

Our biggest priorities for the next 12 months include:

- Increasing the number of zero waste cities in Cyprus;
- Increasing the awareness of public authorities about the Zero Waste Cities Certification and the benefits that zero waste in general can bring to communities;
- To engage and promote our positions in public consultations set by the national government, increasing our advocacy on zero waste in key national level discussions about this issue;
- To work more effectively together with the organisations and groups that are part of the ZW Cyprus Alliance, organising common actions and events to promote positive impacts towards zero waste in our country.



Number of Zero Waste Cities
in country: 3

Portugal

Written by Ismael Casotti Rienda
ZERO

In Portugal, the context surrounding national policies on waste has been shifting from a malfunctional system that lacked action, to a rather unpleasant and hostile posture from the Ministry of Environment.

Although large-scale decisions haven't been taken yet from the legislative point of view, there is a very steady trend to focus future policies on some worrying areas, including:

- Greater emphasis on calculation methods that artificially increase the recycling rate
- Co-mingled waste collection systems rather than door-to-door ones,
- Harmful treatment methods such as pyrolysis and gasification.

A number of municipalities are starting to show concerns about waste issues, acknowledging that door-to-door will require higher budget expenditure but it is the next necessary step to accomplish meaningful results.

The municipalities we are working with are in the challenging phase of either just starting to implement their door-to-door collection system (yet excluding organics) or just planning to start in late 2022. In the case of São João da Madeira, the waste separately collected in the area where door-to-door collection is applied is double the amount in the remaining areas of the municipality, showing a positive ground for a soon-to-be expansion to the whole territory.

Guimarães has already started the door-to-door collection of bio-waste in the historic centre of the city, combined with multi-material (packaging) and residual waste. Another interesting case is the AMCAL system (association of 5 municipalities) where only Alvito has been under the door-to-door scheme from 2019, but the other 4 have recently undergone the shift even if results are not available yet. We are expecting positive data to come back showing the impact of these policies soon, but we are aware that adding bio-waste will be the biggest challenge for these 4 municipalities. However, the construction of a composting plant for the MSW company looks like an investment in the right direction.

One of the main victories for ZERO was being able to suggest to the previous government a very reasonable proposal for the decree on waste prevention, reduction and reuse. The proposal was approved, and although it is still in the first implementation stages (despite the intentions of the current government to cancel it), it may kickstart reuse systems in Portugal. We believe that despite the lack of political will to carry this forward, companies have the right mindset to start adapting to it.

Portugal

Some Portuguese municipalities are now starting or boosting their door-to-door collection. They will be a small group, yet they will be outperforming the majority that still fights to reach a shamefully low 20% of separate collection. We expect to soon have more data on how the door-to-door collection works, how (and if) it is accepted by the society, and which results it is going to produce on the regional level.

Waste generation and collection, Portugal, 2021

Name of city	Total MSW generation (per capita, kgs)	Separate collection rate (%)	Residual waste generation (per capita, kgs)
Guimarães	445	15.0 %	371
São João da Madeira	478	18.5 %	390
Vila de Rei	377	22.3 %	293



Greece

Written by Elena Oikonomou,
ECOREC

Number of Zero Waste Cities
in country: **1 (Tilos Island) &
2 others in the process.**

Over the past year, we have seen several good practices for Greece that have been implemented in these municipalities:

Skiathos municipality, like all Greek islands, faces unique waste management challenges that include seasonal waste generation fluctuations, a lack of available waste management facilities and waste transport issues. However, Skiathos is one of the few Greek island municipalities that has already implemented a separate collection system for recyclables. Moreover, Skiathos is taking steps in addressing the issue of marine and beach pollution by improving waste management at the island's beaches and through participation in the "Mediterranean CleanUp" Project by Enaleia, for the collection of marine plastics and used fishing gear.

In Skiathos, they are currently facing the problem of drinking water deficiency. In order to address the reliance on bottled water and the subsequent large generation of single-use plastic waste, the island is developing a network of public water fountains/refill stations. For example, during the peak tourist season (from May to October 2021), it was calculated that more than 880,000 water bottles were imported to the island. The first three water fountains have been installed in the city of Skiathos and the use of the public fountains is expected to save thousands of plastic water bottle waste each year.

Tilos, a small remote island of just 899 inhabitants, started its zero waste journey in 2021. In collaboration with Polygreen, a company which focuses on providing circular solutions in waste and resource management, the municipality of Tilos has set the goal of becoming the first truly zero waste island. Within a year, through the Just Go Zero project, waste management in Tilos transitioned from heavy reliance on landfilling to achieving 88,2% separate collection and permanently closing the island's landfill. The project has focused on optimising the existing local infrastructure and waste management system to achieve maximum material recovery with minimum environmental impact, combining this with strong initiatives to engage the local community in waste prevention measures.

Waste generation and collection, Greece, 2022

Name of city	Total MSW generation (per capita, kgs)	Separate collection rate (%)	Residual waste generation (per capita, kgs)
Tilos	274.123	88,21%	34.221

Vari Voula Vouliagmeni, a municipality located in the Athens Riviera and one of Athens' most popular daytime destinations, has been setting ambitious waste management goals for the past couple of years and is among the best performing municipalities in Greece. Following the rolling out of various door to door and separate collection pilots, including the separate organics collection. VVV is also about to roll out the first PAYT scheme in Greece, developed as part of the LIFE Integrated Project Circular Economy Implementation in Greece.

In 2022, the status of municipal waste management at the national level has not changed significantly. Though progress has been made on separate collection, such as the implementation of separate organics collection and increase in recycling by some municipalities, for a large number of municipalities long existing waste challenges remain unresolved.

Local reuse centres and separate collection hubs, as well as composting and recycling facilities, are still much needed in several regions and areas (e.g. remote mountain areas, islands) in order to divert waste from final disposal, especially landfilling and to prevent the development of incineration facilities in the future. Similarly, Greece needs to move more towards an integrated and cohesive national, regional and local prevention planning system, as the framework for waste prevention remains incomplete.

For ECOREC, the priority in 2023 is to help municipalities define, design and achieve their zero waste goals and to promote sustainable waste management, waste prevention and better zero waste practices. In order to achieve our goals, and to address extensive landfilling without relying on alternate final disposal methods, local zero waste policies are required with a focus on prevention, along with a continued effort to improve municipal separate collection and recycling. Therefore ECOREC will continue supporting municipalities in integrating prevention and reuse initiatives into their local waste management policies, and in engaging local communities in participating in a zero waste management model.



Slovakia

Written by Lenka Beznáková and
Branislav Moňok,
Friends of the Earth - SPZ

Number of Zero Waste Cities
in country: 2

During this year, Friends of the Earth - SPZ has cooperated intensively with the city of Partizánske (21,176 inhabitants) on the introduction of a system for managing biowaste. For households living in apartment buildings (14,299 inhabitants), the city designed, tested and helped introduce a system of food waste collection.

This takes place in 10-litre baskets, which are collected directly from the door of flats in apartment buildings, twice a week. Each household receives compostable bags for free as needed. An electronic registration system at the household level is used for collection. Friends of the Earth - SPZ constantly monitors the situation in Partizánske, carrying out analyses of the purity of kitchen biowaste and of the mixed waste, evaluating the results and advising the city on further steps to improve things.

The results are positive. In the first year of kitchen biowaste collection, 60% of households were involved in the collection, with 46 kg collected per inhabitant involved in the system and an average contamination rate of 0.07%. For families in larger houses, Friends of the Earth - SPZ designed, tested and helped with the introduction of a program to support home composting. Every household has the obligation to compost its own biowaste, and each one who attended a composting training received a composter from the city. Twice a year, the city organises the collection of garden waste and residents can also bring this waste to the collection yard 6 days a week.

In 2022 we also prepared a proposal for community composting in the development of apartment buildings (1st stage) for the City of Nitra (77,610 inhabitants). This contained an information campaign programme for residents, a proposal for a suitable size of community composters and the determination of their exact location, as well as offering house inspections. In the course of the year, the City of Nitra has successfully set up community composting sites, whilst we have participated in the training for residents on the rules of community composting and participated in discussions with residents. 40 community composting sites have already been created, which serve 2,400 households. Every 2 weeks, 2 city employees check the composting process. In 2023, the project will continue with another stage of growth to reach more households.

Waste generation and collection, Slovakia, 2021

Name of city	Total MSW generation (per capita, kgs)	Separate collection rate (%)	Residual waste generation (per capita, kgs)
Partizánske	418,95	37,28	262,22
Košeca	364,69	56,29	126,45

From July 1, 2021, the obligation to introduce the separate collection of kitchen biowaste for municipalities came into effect in Slovakia, with the exception of municipalities that recover waste for energy (this includes Slovakia's largest cities – Bratislava, Košice, Prešov). This made this obligation effective from January 1, 2023. Although these municipalities tried to push the date back, efforts by our organisation pushing for separate collection succeeded. It turned out that the impacts of the introduction of the collection of kitchen biowaste (food scraps) for Slovakia in the first year of its duration are significant: 85.37% of the population in Slovakia participates in some of the 3 systems of collection offered:

- Food waste collection from households in urban areas (45.72 %)
- The joint collection of kitchen and garden biowaste (17.86 %)
- Home composting (36.43 %).

The long-term lobbying of Friends of the Earth – SPZ in the area of prepayment of beverage packaging ended with the law's introduction from 1 January 2022. In this first year, 70% of beverage packaging was collected, as we aim for 90% of PET bottles as mandated by the EU Single-Use Plastics Directive. This measure freed up space in the waste infrastructure for other types of plastics and metals, containers/bags for collection are not overcrowded, and there is more space on the sorting lines. It also helped to increase the rate of sorting of plastics in Slovakia.

In Slovakia, there is still strong investor lobbying for the construction of waste incinerators. These companies can pay for any advertisements, articles, videos in the media, and thus the public is bombarded with information about how waste incinerators will save the inhabitants of Slovakia from dangerous landfills. Our organisation is the only organisation in Slovakia that openly and directly opposes the construction of waste incinerators. Together with our partners, we provide decision-makers with evidence on the negative impacts of incinerators. we release information campaigns, participate in discussions and meetings, work with threatened communities and the general public, and offer legal advice to affected communities.

Friends of the Earth – SPZ consider two activities to be our greatest success in 2022:

1. The widespread implementation of the national obligation to observe an adequate delivery distance, in the case of sorted collection of selected components of municipal waste from households.



Distribution of bio baskets in Partizánske

Already in 2020, Friends of the Earth - SPZ managed to develop a proposal and implement the so-called adequate delivery distance, the aim of which was to improve the availability of sorted waste collection for all households through a "door to door" system. However, as the dates for the entry into force of the adopted provisions approached, resistance grew from municipalities, producers and collection companies, who requested the cancellation/postponement of the dates.

2. The development of documents and subsequent enforcement of the proposal for a legislative provision prohibiting the provision of single-use light plastic bags and very light plastic bags for the purchase of goods or products. An exception will be possible only in the case of using compostable material. The proposal is currently in the approval phase as part of the amendment to the Waste Act.

In 2023, Friends of the Earth - SPZ will focus on the promotion and professional support provided as part of the Zero Waste Cities programme in Slovakia. We are organising the 1st nationwide Zero Waste Cities conference in Partizánske and will professionally help with the preparation of zero waste strategies for cooperating cities and municipalities, such as continuing with the next stage of introducing community composting in Nitra. We will continue offering expert advice for municipalities on the correct management of waste towards zero waste, mainly on the introduction of the collection of biodegradable kitchen waste, on composting and the introduction of fees for the bulk collection system. After the pandemic, we can now finally begin fully implementing professional seminars and workshops, public lectures on waste-free households, home and community composting, etc. This year, the pressure of investors to build waste incinerators in Slovakia is increasing, so we will continue the campaign entitled "Stop incinerators".

Montenegro

Written By Emina Adrovic,
Zero Waste Montenegro

Number of Zero Waste Cities
in country: 1

The Municipality of Gusinje is committed to becoming a zero waste city. It has formed a Zero Waste Advisory Board, which is actively involved in the development of the strategy and decision making process. The municipality will implement a five-stream kerbside waste collection starting in 2023. Furthermore, 50 home composters have been distributed to households and local restaurants, together with a practical brochure on how to properly compost.

Over 100 volunteers joined the recent local cleanup, strengthening the community's knowledge and awareness on the topic, as well as showcasing real commitment to the zero waste journey. Gusinje has just started its zero waste journey in 2021, therefore the impact of waste prevention actions is yet to be measured. However, 10% of the population has directly participated in the zero waste educational workshops and the majority of citizens are now familiar with the zero waste hierarchy and the mechanisms for implementation of the best practices

At the national level, Montenegro is in the process of pre-accession to entering the EU, therefore, the country has adopted most of its legislation in compliance with this membership. However, Extended Producer Responsibility is yet to be implemented, which is slowing down our country's ability to transition towards zero waste.

In 2022, Zero Waste Montenegro expanded its network of volunteers, now counting 445 registered volunteers. The organisation has built capacities to continue implementing the Zero Waste Cities program with more expertise. For example, this year, the national Zero Waste Cities coordinator became a certified Zero Waste Trainer with Zero Waste Europe. During the year, Zero Waste Montenegro organised 20 educational workshops for elementary and high school students, raising awareness on waste reduction, reuse, composting and recycling. We will continue to build on this work in the coming year.

Our general priorities for the next year include connecting with more municipalities, continuing to build our capacity to deliver zero waste, which we can then subsequently pass on to city officials. We will continue advocating for EPR and DRS legislation at the national level, and raising awareness on waste reduction. In the Gusinje Municipality, the priority is to build the right infrastructure in place and kick off the kerbside collection system.

Waste generation and collection, Montenegro, 2021

Name of city	Total MSW generation (per capita, kgs)	Separate collection rate (%)	Residual waste generation (per capita, kgs)
Gusinje	98,75	0	98,75

Austria

Written By Evelyn Rath
Zero Waste Austria

Number of Zero Waste Cities
in country: **5 in the process.**

In 2018, the Austrian city of St. Valentin passed a municipal resolution to reduce single use plastics. This was the basis for St. Valentin and four other municipalities (Ennsdorf, Ernsthofen, St. Pantaleon-Erla, Strengberg) to begin jointly implementing common zero waste measures, organised within the framework of the association “westwinkel”.

Within this area, single-use bags are no longer offered and a guideline was implemented to reduce single-use plastics for events and festivals. Moreover, the municipalities support any initiative for the reduction of single-use plastics. In 2022, we saw our support for these municipalities intensify, with the Mayor of St. Valentin championing reuse as part of BFFP’s [#WeChooseReuse campaign](#), where she spoke with Vice-Presidents of the European Commission on the need to embed ambitious reuse targets within the upcoming PPWD revision.

These practices at the local level helped lay the ground for a national ban on plastic straws and other single use products, as a result of Austria’s transposition of the EU SUP directive. There is also the forthcoming Austrian policy for beverage packaging, which will require, by 2025, that a deposit return scheme (DRS) for single use plastic bottles and cans be implemented, as well as a binding quota for reusable beverage packaging in supermarkets by 2024.

As Austrian municipalities are organised in waste management associations, single municipalities have limited influence on their waste management. However, in 2023, Zero Waste Austria aims at being the central contact point in Austria for any municipality interested in the Zero Waste Cities Certification. As for the only concrete project, in St. Valentin and its suburban municipalities, the focus is at the moment on intensive communication with businesses and mayors to increase understanding of the importance of reducing waste. The next step will be to prepare some easy to implement waste reduction measures for small businesses and companies.

Waste generation and collection, Austria, 2020

Name of city	Total MSW generation (per capita, kgs)	Separate collection rate (%)	Residual waste generation (per capita, kgs)
St. Valentin incl. 4 suburban municipalities *	392	62%	N/A

* Ennsdorf, Ernsthofen, St. Pantaleon-Erla, Strengberg



Zero Waste Best Practices

Spotlight on reuse

At ZWE, we will continue to support municipalities embed reuse at the core of the zero waste strategies in the coming years.

This chapter looks at just a small group of European cities which have been some of the first to test and introduce various reuse models within their communities, with the results being less waste, reduced costs and a more active network of sustainable local businesses created.



REPAIRED
ITEMS

Spotlight on reuse

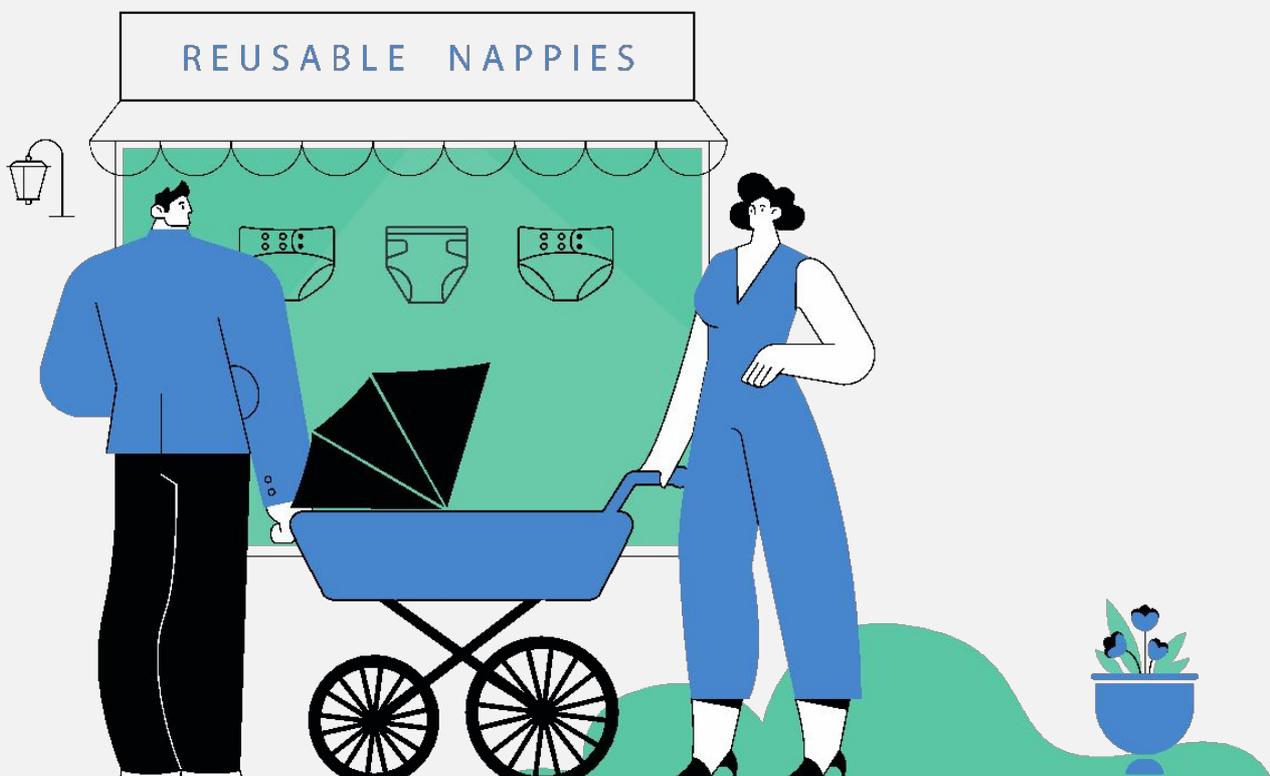
Our Zero Waste Cities model is built upon the foundation of a strong collection system which leads to high recycling rates and far lower residual/mixed waste volumes sent for landfill and incineration. We have seen huge success in this area, with hundreds of our municipalities now separately collecting 80% and above of their municipal solid waste.

However, looking at the data from across Europe over the past decade and more, total waste generation remains stubbornly high. Despite ambitious legislation in place by the EU and our growing network of zero waste cities implementing solutions on the ground, we are still consuming far too many resources to live sustainably within safe planetary boundaries.

This is why we have decided to focus this year's spotlight on reuse models and systems, to celebrate cities who have decided to take immediate steps within their jurisdiction to install policies that ban single-use items and foster greater use of reusable alternatives. Municipalities have a wide array of tools and policy-levers at their disposal to help tackle waste generation as a whole. This chapter highlights five good examples of how European municipalities of different sizes have taken it upon themselves to try and install a reuse culture locally, most often by targeting food and beverage packaging first.

Today there is still a lack of understanding within Europe on what it takes to design and implement a reuse system, and for what products. There is a huge amount more that can be done by European municipalities, yet confidence and knowledge remains too low, given the urgency and scale of the challenges we face.

We know that the solution to plastic pollution lies in creating systems that do not generate waste in the first place. However, industry, media and policy making still put their focus on waste collection and recycling. In the past years, Zero Waste Europe has created the Reuse Vanguard Project (RSVP). RSVP aims to put reusable systems in the centre of the solutions agenda and create the conditions for these systems to get to scale in key, pre-identified, market segments - takeaway food and drinks; beverages and e-commerce. The RSVP project's overarching goal is to substantially scale up reusable packaging solutions for take-away drinks and food and beverages in Europe. We are working with our partners in 6 European cities - Berlin, Paris, Rotterdam, Barcelona, Gent and Leuven, to pilot new reuse models and create a blueprint for cities. RSVP has already resulted in the creation of the first European advocacy group for the reuse industry ('New ERA' for New European Reuse Association).



Tübingen's tax on single-use packaging

In January 2022, the German city of Tübingen took the pioneering steps of implementing a city wide tax on single-use plastic items, which formed just one part of a wider strategy to foster reuse within the city. Tübingen is a city in the south-west of Germany, sitting centrally within the state of Baden-Württemberg. It has a population of 90,000 on average, with a third of these being students from the city's university.

The original idea for the tax came from the current city council, who wanted to tackle the persistent high volumes of street litter generated and left in public spaces, the majority of which came from single-use food and beverage containers. The city calculated that each year it spent on average 700,000 Euros cleaning up and disposing waste within public spaces, while further analysis by city officials uncovered that 70% of the waste collected in public bins was single-use packaging.

Tübingen receives some but not a sizable amount of tourists each year, most notably in the summer. Yet because this is not a substantial amount, it was clear to the city council that local citizens were the ones who were mostly generating this waste, and therefore meaningful action could be taken quickly to try and tackle the issue.

Tübingen's tax is innovative and groundbreaking for a city to introduce within its borders, as it focuses on the prevention of waste, rather than simply on better recycling or cleaning operations. The tax adds an obligatory 50 cents (0.5 Euro) onto all single-use packaging for food and beverages, as well as a 20 cents addition for single-use cutlery. The maximum amount of tax that can be placed on a single meal is limited to a maximum of 1.50 Euros.

The cost of the tax is put on the consumption of each item. This means that an additional cost must be paid by businesses for every single-use packaging item or cutlery once it has been sold. It is then up to each business to decide whether they pay these extra costs themselves, or pass them onto the consumer, for example by adding a 10 cent charge onto the cost of a takeaway meal if it requires plastic cutlery.



Efforts to encourage reuse in local businesses. Labels translate to “ in your hands to choose reuse” and “reuse instead of single-use”.

Tübingen, Germany

In this way, it becomes cheaper to use reusable packaging, instead of continuing to incentivise single-use packaging, which the costs of disposing are paid by the public instead of the businesses responsible for the production of this waste. The tax is only placed on food and beverages that are consumed immediately. Therefore this includes only warm foods (e.g. fries) and drinks (e.g. coffee) as well as ice cream bowls/cups. If the business opts to sell this food or drink in reusable packaging instead of single-use, then no extra cost is incurred. This is an important incentive and one which other cities keen to replicate the tax should follow.

Businesses must be provided with alternatives and solutions, rather than just be forced to pay the extra charges without other options. City officials state that in January 2022 alone, the data from analysing the public waste bins showed a decrease in waste of approximately 15%. In 2023, data from all of 2022 will be collected and published, showcasing the impact of the tax on waste reduction.

The city supplemented the tax with further actions to support businesses transition to reusable alternatives, by providing subsidies for dishwashers and directly connecting them with companies who have the equipment and infrastructure already set up for reusable packaging. The subsidy programme created by the city to accompany the local tax was designed to provide businesses with financial support to transition to either one of the existing pool systems, or create their own reusable packaging, as well as subsidising the cost of a business installing its own cleaning infrastructure.



[More information and details on Tübingen's innovative tax can be found in our case study.](#)

The subsidy programme offered the following benefits to local businesses:

- The city would pay up to 100% of the costs (maximum 500 EUR) to a local business that would use one of the reusable packaging systems operated by the private companies mentioned before in this case study;
- The city would pay up to 50% of the costs (maximum 500 EUR) to a local business if they decided to create their own reusable packaging for cups and bowls;
- The city would pay up to 50% of the costs (maximum 1000 EUR) to a local business if they wanted to install a dishwasher to clean the reusable cups and bowls they would receive from customers.

There is also an obligation for businesses wishing to operate within a public event, building or space, to only offer reusable options for takeaway food and beverage packaging.

In March 2022, the regional court of Baden-Württemberg ruled that the city's plastic packaging tax was invalid, after the local McDonalds franchise holder brought a court case against the city. Since then, the city has appealed this decision and at the current time of writing, the tax is still being implemented whilst the legal proceedings continue to be debated.



Reusable packaging embedded in existing business models in local restaurants and cafes, Tübingen.

Reuse only at the Gentse Feesten

The 'Gentse Feesten' (Ghent Festival) is a 10 day, city wide festival in Ghent (Belgium) that's organised in July every year. 2022 was the 177th edition of the festival, receiving an approximate 1.6 million visitors across the 10 days. The hugely popular festival has been experimenting with reusable cups for beverages since 1996, and made them obligatory in 2018. The 2022 example shows a best practice model of implementing reusable alternatives for both beverages and food packaging, with staggering results.

Reuse has long been a focus for both the city of Ghent and the wider Flanders region. Since 2017, it was legislated that food vendors cannot use pure plastic or aluminium packaging, only paper and cardboard were allowed. Then in January 2020, the region of Flanders mandated against the use of single-use cups, bottles and cans, unless Flemish cities and businesses could prove that at least 95% of these items were going to be separately collected for recycling. Since the start of 2022, the region of Flanders went one further and prohibited the use of disposable catering materials (cutlery and plates) by any Flemish local authority within public events and spaces.

As outlined in the local police regulation for the festival, **single-use cups are now totally prohibited**. In addition, since 2021 single use cups are prohibited for all events in public areas within Ghent. This law applies to both the temporary vendors that arrive for the festival, and in the permanent terraces of existing businesses that are based within the designated festival area. The city of Ghent finalised the cost, at 1 euro, as the mandatory minimum price for the deposit on reusable cups used during the festival. The cups (used in 10 out of the 14 areas) can be returned at any of the bars within the festival or at the designated collection points throughout. The city of Ghent also provides subsidies to local businesses participating in the festival, helping to build a network of return points and the use of a harmonised system.

The reusable cups were used in an almost city-wide system, which enhanced the consumer experience and resulted in a **return rate of 95%**. Furthermore:

- 10 out of 14 festival areas used the same cup system, whilst some also combined it with reusable glasses
- 13 out of 14 festival areas accepted the return of cups used by the overall system
- 8 festival areas had specific return locations for cups that were open till at least 30 minutes after the bars closed

However, in practice, not all types of cups were accepted smoothly everywhere, which created confusion for visitors and employees. The ongoing diversity of cups and systems used within the festival created some friction and confusion, especially the unbranded cups that were used by existing restaurants alongside the quasi-uniform system promoted at the festival. These unbranded cups were problematic as they look similar to the ones introduced in the reusable system of the festival vendors, resulting in deposits being falsely reimbursed at certain businesses.

Reuse of food containers

As well as introducing a reuse system for cups, the Ghent Festival also introduced a shared reuse system for takeaway food consumed on site. The packaging consisted of just one type of black plastic (polypropylene) containers, with a deposit of 1 euro passed onto consumers. The containers could be returned to all vendors that were participating in the shared system, which was clearly communicated with large signs at each vendor. Some vendors, outside of the 2 areas that used the shared system, also introduced their own system and reusable items.

Meals served with reusables containers included burgers, pizzas, fries, rice dishes, dumplings, taco, pancakes, falafel, salad and ice creams. At festival food stalls, the only disposable items that could be offered were paper napkins, edible packaging, and wooden forks or toothpicks. Existing restaurants in the city that operate all year round were exempt from this requirement and were allowed to issue all types of disposable items.

The participating food vendors rented reusable boxes and cutlery from a local company, paying a rental fee (20%) and a washing fee (80%). The washing fee was charged to businesses only for containers used or opened. All participating vendors could wash the bowls themselves, but every used item was washed afterwards at the rental company's facility.

The application of reusable tableware on this scale and within an open environment provides some valuable insights: Good communication was shown to be key in ensuring successful participation from festival visitors; Simplicity and uniformity in the system (e.g. the harmonisation of containers used, communications and return points) was proven to reduce confusion for both customers and participating vendors, as well as facilitating better operational procedures within the system;

Enforcement of the rules is still necessary, at least at the start. For example in 2022, six participating vendors still issued disposables during the first days of the festival. They were temporarily closed down until they switched to reusables the same/next day;

- A large portion of the waste generated during the festival comes from the permanent restaurants that exist in the city all year round. Therefore, it is valuable to include these businesses in the policy measures, just like the obligation for reusable cups for all vendors within the festival area.
- This shows the advantage of establishing a reuse system throughout the year so that the existing restaurants get accustomed before the peak time of the summer festival;
- The return rate for reusable tableware at the festival was 89.2%.

Results

The uniform reusable tableware system for takeaway food and optimisation of the existing reusable cup system resulted in a staggering **40% waste reduction per visitor** compared to the previous full edition in 2019. In total, there was a **reduction of 20 tonnes in the collected waste**, despite a 62% increase in visitors. Compared to previous years, the **total costs** for the city related to waste management were also **reduced by 12%**. These costs include staff (-9%), vehicles (-20%), and waste processing (-14%). In total, 440 hours of cleaning was avoided in 2022 compared to 2018.



Reusable cups used at festival, Genste Festeen

Hamburg's waste preventing public procurement

In January 2016, the Senate of Hamburg passed the resolution “Green Procurement Guidelines of the Free and Hanseatic City of Hamburg”, or Green Procurement Guidelines for short.

Hamburg is a major port city within the north of Germany, with a population of nearly 2 million. The city's annual procurement volume falling within the scope of the Environmental Guidelines is approximately €250 million, with a huge amount of potential waste reduction savings identified by the city, who wanted to “send a strong signal to the market to deliver products and services that protect natural resources and benefit the environment.”

As a result of this resolution approved in 2016, it has been mandated that procurement done by public institutions and agencies in Hamburg takes into account environmental aspects within all tendering and contracting procedures. Importantly, the policy includes lifecycle costs in the evaluation of tenders for products of common items with a long lifetime of use, such as vehicles or printers. The city developed a structure for procurers to calculate life cycle costs, adding a new layer of consideration from just the lowest price towards tenders which offer the most environmental positive impacts.

In order to support city officials, the passed resolution also included a 150-page guidelines catalogue of criteria that defines ecological standards for goods to be procured by the city, from printer paper, light bulbs and cleaning agents to wall paint and company cars. This has been subsequently updated in recent years with new, improved guidance for public authorities within the city.

Examples of the criteria used in Hamburg's procurement decisions now include life-cycle costs, reparability and recyclability, packaging, climate impact and resource consumption. In addition to price, these factors may now be taken into account as a binding element when awarding contracts. The Environmental Guidelines also contain a negative list of products that the administration may no longer purchase or use in future, which include things such as coffee makers with aluminium capsules and plastic water bottles.

Following the ban on single-use bottles in public buildings – including those eligible for deposit returns – more sustainable, waste-preventing alternatives such as drinking-water fountains and jugs are now provided within public institutions. Reusable cups were introduced in several public institutions, which has saved up to 675,000 single-use plastic cups a year.

The impact of this initiative is not only felt on waste reduction, but also through positive social impacts on communities in Germany and across the world. For example, Hamburg's procurement law also references the International Labour Organization's (ILO) core labour standards. In 2017, the city mandated that only fair trade coffee could be provided at its internal events, a measure which affected contracts for the supply of about 8 tonnes of coffee. In addition, as of 2020, the city's public companies will be obligated to do sustainability reporting following the criteria of the German Sustainability Code (DNK) and make the reports publicly available. The DNK is a reporting tool that provides support with establishing a sustainable development strategy and sustainability reporting, including green procurement.

'Let's bring back smart' in Geneva

The Swiss city of Geneva is now going ahead with a ban on single-use plastics that was confirmed in its new waste law as of September 2022. The city passed the law which will result in single-use plastic eventually being banned, including these items found in restaurants (including in their delivery services), vendors offering takeaway food & drink and company canteens, as well as during all public events. From the 1st January 2025, single-use plastic plates, cutlery, cups and meal boxes can no longer be used. Between now and then, the city is supporting the actors affected by this decision to switch to reusable and bulk alternatives.

The new waste law was a positive step further in the fight against plastic packaging waste, which according to the Swiss Federal Office for the Environment, costs 107 million Francs per year for Swiss municipalities and public transport companies. It built upon previous legislation that the city had enacted, including the banning of several single-use plastic items at public events and in public spaces, such as in open markets and terraces.

The city of Geneva has recognised that legislation alone will not have the impact it desires, and has embarked on a series of initiatives to help support consumers and individuals transition over to reuse. This is centred around the creation of a deposit-based return system for reusable containers at local food & drink providers, 'Emportons Malin!'

The system is very simple to use. To get started, the city of Geneva is providing the local population with several hundred reusable boxes free of charge (within the limits of available stocks), which can be found at several info points around the city. Citizens can bring their clean containers to any participating store in the city, which can be seen via the online map that's available. Consumers pay a deposit of 10 francs that's added for reusable food containers and 5 francs for reusable cups. The service is also available via an app operated by reCircle, where people don't have to pay the deposit, but instead get it deducted from their credit card if they haven't brought back the container within a week.

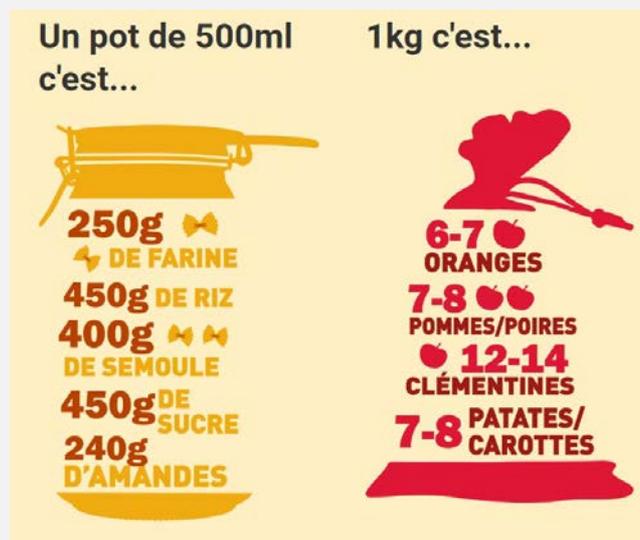
'Emportons Malin' is a project that was designed by the Geneva state waste department and SIG, a big energy/electricity company in the region, with the aim of helping achieve the city's target of reducing incinerated waste by 25% by 2025. SIG and the city offered the following incentives to participating businesses:

- The offer to pay the first 12 month subscription fees for them – CHF 150 (or CHF 75 if they do a trial period of 3 months and give up after this time)
- A free coaching session of 30-45 minutes with Zero Waste Switzerland to inspire them to a) adopt the reusable containers and b) get tips on how else they can reduce their waste (and therefore save money, given that businesses have to pay by weight now for the waste they dispose of)
- A free 2hr awareness raising session with their clients in the restaurant and in front of the restaurant to try and get them to adopt the new habit of buying their meal on deposit
- A priority visit from the SIG to identify other options to reduce their energy/electricity costs (all cafes, takeaways and restaurants will eventually get this over the next years, but if they take up this initiative, they will get it first).

Citizens can also bring their own containers to stores, which must be accepted unless it is deemed to present a hygiene risk by not being clean enough. The majority of users in the city use the provided reusable containers though, which are offered by the company [reCircle](#). ReCircle offers containers in polybutylene terephthalate (PBT) with added glass fibres, whilst the lids are made of polypropylene (PP). Two different coloured containers are provided. One is a purple / aubergine colour, and these containers are suitable for hot food, meaning they can be reheated in the microwave and in the oven, for a maximum of 5 min, up to 160°C. The second group of containers are transparent and they are suitable for cold dishes mostly, as they can be heated as well but only up to 100°C.

To participate in the scheme, businesses pay a yearly subscription of CHF 150 to the Geneva waste agency, which can increase if dishes are broken. Businesses must also buy the number of containers they want, set at CHF 9 per dish or CHF4 per cup. There is little financial risk here for the participating entities, because if they decide to stop using the system, reCircle will buy the dishes/cups back at the same price. The main barriers facing the businesses in the scheme is mostly the lack of proper space to stock the containers and wash them. One way to get around this would be for greater investment in a system that had either more collection / drop-off points located around the town to return the reusable packaging, with other partners responsible for the logistics of washing and delivering these containers back to participating businesses.

Supported by our member Zero Waste Switzerland, the city also hosts [a dedicated website encouraging citizens to bring their own containers to do bulk shopping](#), reducing their packaging waste. The website contains several tips on how to do this, [a map](#) showcasing where they can find shops offering bring-your-own packaging and helpful equivalents of container sizes and the food they could contain. See the below graphic as an example of the comparisons provided.



An example of the awareness raising done within this project, showcasing how many goods could be collected in bulk when individuals bring their own containers

Citizens can return their container at any participating business, as restaurant owners are required to wash the containers in a professional washing machine to maintain hygiene standards. The Uber Eats platform within the city also allows for restaurants that already offer reusable tableware in their establishment to use them in their delivery. The return of these dishes can be done at any time in any of the participating businesses.

We still await concrete data to measure the impact these measures have had on waste reduction in the city. However, with 132 restaurants and cafes now offering reusable packaging alternatives, we can already identify positive behaviour changes towards reuse and away from single-use, which we can expect to translate into concrete results with less packaging waste being generated by the citizens of Geneva in the coming years.

Le Pari(s) du Zéro Plastique

Inspired by the city winning the rights to host the Olympic Games in 2024, the city of Paris has enacted a broad plastic reduction strategy to remove all single-use plastics from the city by the time of this major sporting event.

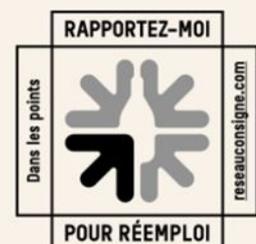
Data from previous years estimated that, in Paris, 348kgs of plastic waste was produced per year, per inhabitant in the Parisian territory (55% of which comes from industry and construction). Therefore the city decided urgent action was needed and prioritised tackling single-use plastics as part of their wider zero waste strategy, which includes concrete actions such as:

- The elimination of plastic in canteens and nurseries
- A network of water fountains in public spaces
- Development of a deposit return system for several items
- The end of all single-use plastic purchases in the markets of Paris.

As well as identifying several areas where the city itself can take meaningful steps to reduce plastic waste within its immediate sphere of influence, it has developed an awareness raising strategy in order to mobilise positive actions from a wider network of stakeholders within the city. This is led by the city showcasing a number of good practices on how local stakeholders are meaningfully implementing actions to prioritise reuse products and systems over single-use items.

The best practices from the city-wide strategy include:

- A calculator tool which can be used by restaurants to precisely model the costs it would take to transition to reusable alternatives. The tool looks at the washing, collection and deposit costs required, based upon the profits and costs each restaurant generates.
- A catalogue offered by the organisation Reseau Consigne who work in partnership with the city, showcasing which businesses offer reusable alternatives and what kind of products
- A library of good practices that are being implemented within the Paris region, with clear accessible information. By also providing the relevant contact details for each initiative, the library helps inspire others to implement similar policies and acts as a connection-point to encourage greater collaborations and knowledge-sharing between the relevant actors.
- Zero waste events guide, specifically targeted for sporting activities and sports clubs
- Green key label for hotels
- Provision of a “Return me for reuse” (originally “Rapportez-moi pour réemploi”) logo for all entities involved in the reuse of packaging. The purpose of the logo is to enable consumers to better identify reusable packaging that’s placed on the market.



The “return me for reuse” logos for reusable packaging that can be used by any entity in Paris which follows the specific rules and guidelines set by Reseau Consigne.

What's Next

For municipalities in Europe, at the macro level the cost of living and energy crises combined will undoubtedly remain a top priority, as central banks and national governments implement measures to try and cool inflation, with any potential negative economic impacts from higher interest rates taking hold. This will continue to have substantial knock-on effects for local authorities and their ability to transition to zero waste.

With tighter public budgets, adopting new measures or ring fencing new budgets for zero waste measures may be harder to justify. However, given [the array of economic benefits](#) available to municipalities who adopt a zero waste strategy, this should not remain a barrier for those interested in making progress. Whilst some initial upfront investment is needed to fund new infrastructure, results from our zero waste cities (available via our [reports](#) and [case studies](#)) show the savings that can be made within a city's total waste management budget that arise from a more efficient recycling system and less waste needing to be sent for disposal.

To conclude this report, we have identified 3 key priorities for cities regarding resource management in the upcoming year. Each priority will ask important questions of municipalities, the answers to which will truly define their commitment to sustainable resource management and ultimately zero waste. Each priority is at a crucial moment in time, with the decisions made by European municipalities today having far-reaching effects for our future ability to reach our circular economy goals.



How to collect and treat organic waste

A continued priority for cities that must be mentioned is organic waste. It has been a priority for most European municipalities for several years, if not decades, with the percentage of organic waste still found in many municipalities' mixed waste at around 30-50%. Yet in 2023, the proper collection and treatment of organic waste will come into focus like never before due to the forthcoming deadline for EU member states to separately collect bio-waste from the start of 2024.

With this deadline soon to be in force, we see an increasing trend of municipalities taking a short-term approach by opting for the cheapest and easiest option to meet this requirement – which often is the introduction or continued use of large, open street bins. [As our recent report shows, these models of separate collection are in fact ineffective and more expensive when compared to door-to-door collection systems, proven in a range of different European contexts.](#) When separated at the household level, supplemented further by either support to encourage home or community composting, or alternatively by a central composting / anaerobic digestion plant, municipalities can take advantage of several benefits that this subsequently brings to the entire waste system.

More organics that are separately collected means much less residual waste sent to incineration, which often incurs a heavy fee, or landfill, which can result in large quantities of toxic methane emissions. Furthermore, if organics are separated and not found in other bins, notably the dry recyclables, this results in a far higher quality of these materials being sent for recycling, thus providing greater potential economic revenues from their sell-on to the secondary materials market.



[Read our report on optimising biowaste collection in various contexts here.](#)

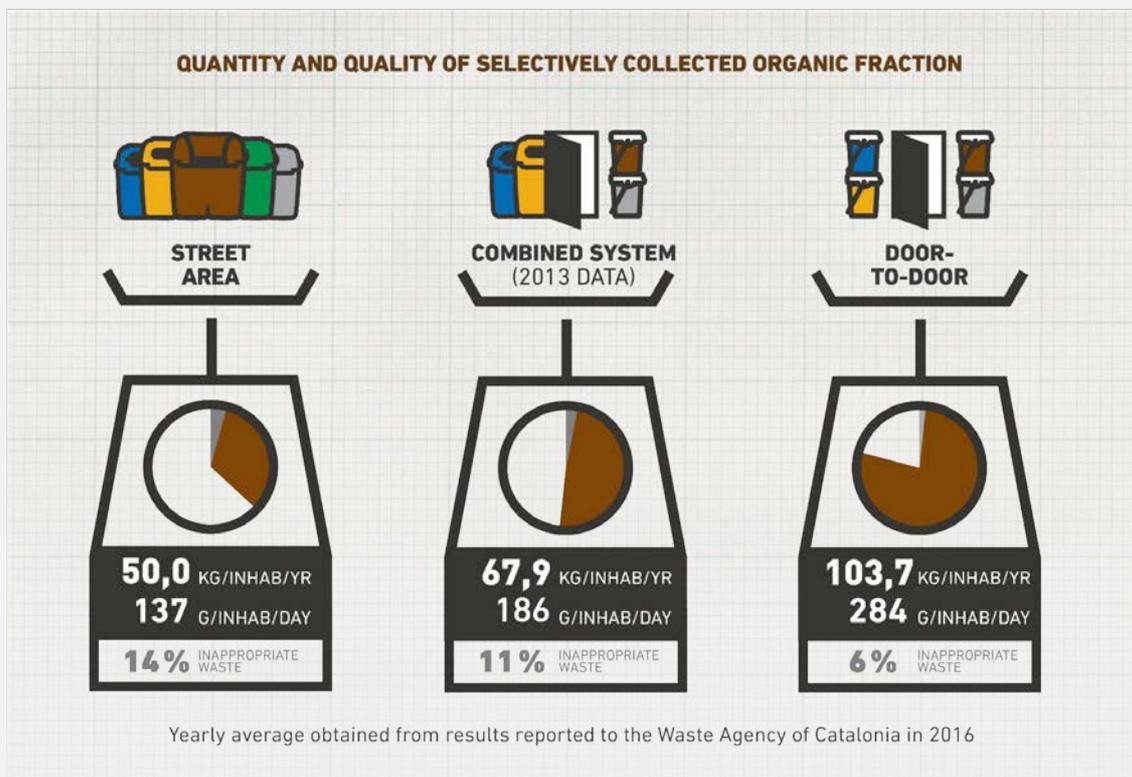


Organic Waste

Proper treatment of organic waste, such as composting, can have far-reaching benefits for the local community, ranging from increased fertiliser available to local farmers/businesses and subsequently, healthier local soil.

Whilst the benefits are clear and unquestionable, municipalities still face several challenges to either set up an effective organics management system or optimise existing ones that have been in place for years. Our research shows, backed by evidence from our network of zero waste cities, that with the right education and communication, households and businesses can easily adapt their waste separation habits to vastly improve the amount of organics collected. Even in difficult contexts, such as multi-storey apartment buildings, policies can be introduced to deliver high quality results. In the example illustrated in the graphic below, the provision of a small organic bin per apartment coupled with a larger bin found in a common area for all apartments in the building has proven to be effective. This model has been effective in a wide range of municipalities - from the Slovakian capital Bratislava, to rural Welsh municipalities and urban ones in Catalonia alike.

With the upcoming deadline to collect organics separately, coupled with the fact that residual waste generation remains stubbornly high in most countries, installing an effective organics collection and management system should be a top priority for European municipalities, given the positive results that can be achieved in a short span of time and that are felt throughout the entire system.



Source: Waste Agency of Catalonia, 2016

How burning waste for energy is one for the past

The energy crisis, sparked by the war in Ukraine, has left many governments (both national and local) scrambling to secure energy supplies for the foreseeable future. Governments want to reduce the risks to their citizens that the halting of Russian oil and gas could potentially have on their ability to heat homes, power businesses and more. For proponents of waste-to-energy incineration, this has been an ideal situation to exploit. The waste management industry has claimed that incineration and co-incineration could be deployed more widely than is currently the case, with claimed benefits for climate change and fossil fuel consumption. **Our recent report disproves that notion comprehensively. It shows that waste-to-energy only dispels 1.1% of the EU27 consumption of Russian gas.**

The claimed potential for energy from incineration and co-incineration to displace energy derived from fossil fuels imported from Russia mainly concerns gas. Incineration is used to generate electricity and/or heat, and it is gas, as opposed to oil, that plays the more important role in the supply of electricity and heat. The EU is heavily dependent on imports for its gas. EU production of gas is more or less the same as the EU's exports, so that imports equate, more or less, to the quantity of gas available for final consumption in the EU.

Using data from Eurostat, the report estimated the amount of gas that might be displaced by incineration under the unrealistic assumption that all electricity and all derived heat produced in 2020 was displacing energy from gas. This considers all incinerated waste, whether renewable or non-renewable in origin, and whether municipal or not. The total amount of gas displaced by electricity production would equate to around 1.9% of total current demand for gas. Derived heat produced from waste equates to a further 1.8%



Burning waste

The current energy crisis means that some “unpalatable” decisions for those campaigning for greater progress to tackle climate change and transition to zero waste may need to be taken in the short-term; it makes no sense to allow short-term perturbations, however large, to derail Europe’s plans to decarbonise energy.

The evidence showcasing how incineration is not compatible with our climate and circular economy goals is ever-increasing. For example, another recent ZWE report clearly outlines the lack of efficiency for energy production that many European incinerators have. **Incineration is frequently considered a low carbon, sometimes even renewable (even if only partially), source of energy. It is neither.** Especially when generating electricity only, typical efficiencies of generation compare poorly with those of coal fired electricity generating plants, and even worse when compared with combined cycle gas turbines. Our latest report highlights that:

- **The efficiencies of EU incinerators are appallingly low, in the mid-20’s % in the best cases.** This compares with figures of around 35% for coal-fired generation, and 55% for combined cycle gas turbine (CCGT) plant).
- The low generation efficiency of incineration means that GHG per unit of electricity is almost double those associated with natural gas generation.

Building or extending existing capacity for such incinerator plants may seem like a good idea today, as it keeps a seemingly positive source of energy open. However, as the data proves, it would bind municipalities together with an expensive, dirty, low-effective energy generator and importantly, it would lock municipalities in for the continued need for waste to be generated for decades to come.

Today there is a clear choice available to municipalities in regards to sustainable waste management options. Mixed waste sorting techniques and technologies are readily available now and can help municipalities drastically improve their capture rates, thus removing harmful plastics and organic materials out of waste sent for landfill and incineration. This is what we are calling ‘Mechanical Recovery and Biological Treatment’, MRBT for short. It is a simple concept that can deliver immediate results. By adding greater sorting facilities, advanced through new technologies, for the mixed waste that has not been sorted for recycling, a far greater volume of recyclable materials can be captured and prepared for recycling. Then, by further adding capacity to biologically stabilise the remaining fraction of waste, municipalities have a readily available tool to reduce the total volume of waste sent for final disposal and the wider environmental impacts this has on our climate. When complimented by a door-to-door separate collection system done beforehand, these systems have the potential to achieve at least 80-90% collection rates for municipal solid waste.

As public opinion and subsequently the legislative picture moves society progressively towards fulfilling the goals of the circular economy and a net-zero society, the role of waste-to-energy can play no part in this transition. Building or extending capacity of such plants now would leave municipalities in a dire situation for years to come, both financially and environmentally. There is now a clear alternative option on the table for cities. By introducing MRBT plants, which can easily and cheaply be added to existing MBT ones, municipalities have a clear policy option to dramatically increase recycling rates and reduce the total volume of mixed waste, bringing with it huge benefits for the environment and for the budgets of municipalities.



An illustration of a woman with dark hair, wearing a blue patterned top, holding several blue and white bottles. To her left, there are two blue signs on a black post. The top sign is a rounded rectangle with the text 'BIKE SWAP'. The bottom sign is a long arrow pointing right with the text 'BOTTLE DEPOSIT SYSTEM'. The background is a light blue grid pattern.

BIKE SWAP

BOTTLE DEPOSIT SYSTEM

The need for better local data

As the old saying goes, in order to know where you're going, you need to know where you're coming from. When it comes to waste management, in order to set ambitious but realistic targets, access to good quality data to help set these goals and monitor progress towards them is an absolute must have. Without this, municipalities are working in the dark without a light to guide them in the right direction.

Yet despite the known benefits, there continues to be a stubborn lack of quality data existing at the local level on waste management. This is down to several different reasons, often working in parallel with one another but which differ in every context. These include the lack of internal capacity to capture the data, a lack of transparency by the private recycling companies or waste handlers, the continued flows of waste being exported and imported that mean mis-reporting or over-reporting of the true local numbers, as well as a lack of knowledge of what data to collect or how best to organise this.

The challenge for municipalities is clear - to organise their systems and stakeholders in an effective way so that data flows freely, with this data being disaggregated and disseminated in accessible formats that empower local stakeholders. Although a few free-access databases are available on a national level in Europe, waste information is still hard to find on a regional and municipal level. For example, the only information available on [Eurostat at the NUTS-2 level](#) (basic regional level) is about the number of waste facilities per type and their overall capacity. Moreover, [data collection is de-centralised](#) and one of the biggest barriers preventing positive action on a European scale towards zero waste is the lack of standardisation in terms of calculating and presenting figures. For example, data on the treatment of waste in some regions and countries, is not even a requirement of municipalities.

ZWE has begun advocating for the need of a European local waste reporting standard to be elaborated, as well as the better enforcement of the new EU recycling calculation methodology. Yet whilst there remains no harmonised reporting standard across the EU, local municipalities can look to our [Zero Waste Cities Certification criteria](#) to form the basis of a plan on what indicators they should be measuring within a zero waste strategy.

The need for better data also provides several opportunities to create digital tools that can be shared with citizens, helping empower them to introduce waste prevention behaviours into their lives. Cities often store waste data in their drives or on inaccessible cloud systems, but they struggle to find the resources and tools to visualise this data in easy-to-understand, comparable ways. There is an opportunity gap for developing a database that can be continuously improved by the addition of new, accurate data, leading to the development of a historical dataset for each city that can show seasonal and annual changes. This platform should be publicly available and easy for citizens and academics to learn from it, so that households can track their own data (e.g. to understand their annual waste fee within a PAYT system, as is the case with the Italian waste company Contarina) but also do so whilst understanding the broader changes happening at the city level. One example of this is Helsinki, which has the Circular Economy watchdog. The city is continuously collecting and improving data on around 30 indicators to measure the transition towards a circular economy, made available to the public in a visually accessible way.

Finally, cities should take it upon themselves to embed requirements within all of their tenders and contracts for the need of regular, accurate data reporting. Whether it's businesses operating reusable cups in public events or if it's a private company operating a local MBT plant - in both circumstances, municipalities have the jurisdiction and right to require their contractors to properly collect data on their operations.

Better understanding of the total volume of materials that do and do not get recycled or the total costs of these operations, are just two examples of where data can significantly improve understanding, and consequently impact, at the local level.

Without a priority placed on better data collection and management, municipalities will continue to remain in the dark about their waste management performance. In a time when governments and citizens are calling for more ambitious action, and in a time where digital technologies provide for easy, affordable data visualisation and analysis tools, municipalities have the right incentive and capabilities to act on this.



Conclusion

As laid out in [our recent manifesto](#), we believe that the European project as we know it, one that was built after the second world war, has run out of steam. It is no longer fit to serve the needs of the people and our planet.

This is why we propose that, instead of aiming to repair a broken system, the EU launches a new compass for European integration based on resilience, sufficiency, and wellbeing for all. A just and inclusive Europe built on respect for ecological limits and human rights.

Fortunately, our zero waste cities model provides municipalities a tangible framework to follow to fulfil this vision. Our model provides greater resilience to communities who are less open to shocks in the global market, by having resources kept within smaller community or regional loops. Zero waste cities also help connect citizens more with one another, providing platforms such as repair cafes and community compost sites where different generations and expertise can come together to work on improving the local area. Zero waste cities also reduce our demand for new resources and energy, by creating systems that preserve what we already have, whether it's materials or organic nutrients.

This report has been written to showcase the progress being made by our zero waste cities towards our shared vision of a resilient, sufficient and wellbeing centred Europe. There is still a long road ahead of us to achieve these lofty goals, and many municipalities within our programme face stubborn challenges on their path to becoming zero waste. Yet we hope that this report, with its stories of the zero waste champions leading action on the ground and the benefits these are bringing, can inspire hope and positive change in your community. We and the entire zero waste cities network will be here to help you in any way we can during your journey.



Acknowledgements:

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Furthermore, we would like to acknowledge the support received from colleagues at GAIA, as well as representatives from several municipalities and companies who have shared their data to be included in this report. We thank you for your support and continued leadership on this issue.

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Zero Waste Europe is the European network of communities, local leaders, experts, and change agents working towards the elimination of waste in our society.

We advocate for sustainable systems and the redesign of our relationship with resources, to accelerate a just transition towards zero waste for the benefit of people and the planet.



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