

THE STORY OF SĂLACEA

CASE STUDY

#12

The small county of Sălacea in Romania tells a remarkable Zero Waste success story, establishing itself as a best practice that can be replicated in rural communities across Romania.



"Our one-thousand-year-old town was built and developed by our ancestors with hardship and sacrifice. If we do not change our current habits, we will end up destroying our precious heritage by poisoning the last drop of water and filling the lands with trash. Our main goal is to take responsibility and act while there is still time to provide a livable place for our children and future generations."

Béla Horváth Mayor of Sălacea

FOREWORD:

Having a surface of 238,397 km² and a population of nearly 20 million, split evenly across rural and urban communities in 42 counties, comprising of 265 cities and over 15 000 villages, Romania produced around 5 million tonnes of waste and recycled only at a rate of 13% in 2016.

Sălacea is located in the North-West part of Romania, with a population of 3,181 consisting of Hungarian, Romanian and Roma ethnicities. Although significant amounts of funding have been invested in waste management infrastructure throughout Romania over the last 10 years, the results have been delayed and progress has stalled, with reasons varying from inefficient and outdated infrastructure to the lack of proper education and sanctions for citizens.

Before the implementation of their pioneering door-to-door collection system, Sălacea had less than 1% separate collection and recycling rates. These low rates were a consequence of both the standard waste collection approach, which used a dual-stream collection system, and

due to the low involvement of citizens in the decision making process. Out of 1,000 households, only 84 (8.4%) sorted their waste, while nationwide there were no incentives in place to encourage separate collection or recycling, with residual waste being collected twice as often as recyclable waste.

Today, Romania ranks among the top countries in Europe for its low waste generation, with only 261 kg of waste per capita produced on a yearly basis, the lowest in Europe according to a 2017 report by Eurostat.

By comparison, northern European countries generate almost double the amount of waste. In 2017, for example, in Sweden it was 452 kg, whilst Luxembourg produced 609 kg of waste per capita.



STARTING THE JOURNEY TO ZERO WASTE

In February 2018, the authorities of Sălacea officially committed to starting their journey towards Zero Waste. Inspired by new legislation at the EU and nationally which set ambitious recycling targets, Sălacea began their zero waste journey by setting a number of key goals to be achieved by 2020:

- 50% drop in waste generation
- 100% waste sorting
- 90% product repair, reuse and recycling
- Close to 0% landfilling and co-incineration

In partnership with Zero Waste Europe and Zero Waste Romania, the authorities in Sălacea began their official Zero Waste Cities certification process which included a number of pivotal steps to meaningfully engaging the community in their Zero Waste journey and to ensure the process was ambitious but conducted effectively. An initial kick off meeting was organised with the Mayor of Sălacea and key partners to identify the appropriate Zero Waste measures and targets, which also included the establishment of a Zero Waste working group formed by the waste operators, municipality representatives, several non-governmental organisations and experts.

In order to better understand the changes that needed to be applied to the existing waste collection system, in March 2018 Zero Waste Romania (ZWRo) facilitated a field trip to Rogno, Italy. The city of Rogno is the same size as Sălacea and prides itself with a performant door-to-door collection system, so it provided a perfect opportunity to learn and share best practices on Zero Waste measures.

Following this trip, the Zero Waste

working group in Sălacea created a comprehensive plan with detailed requirements, responsibilities and targets that was signed off by the Mayor. The plan outlined how partners would continue to monitor and review the available data, as well as the mandatory criteria necessary to be implemented in order for the community to achieve their targets and **become a Zero Waste certified municipality.**

The Zero Waste Cities certification system is an independent, third party assessment and certification standard based on the established Zero Waste methodology.

The scheme addresses key environmental, social, circular, and economic objectives that have large-scale impact on communities. In Romania, this process is being monitored and managed by Zero Waste Romania. The Zero Waste methodology is based on the Zero Waste best practices implemented in nearly 400 cities across Europe, part of the Zero Waste Cities Network coordinated by Zero Waste Europe.

SORTING SYSTEM MAKEOVER

One of the biggest contributing factors to waste prevention and increase in recycling within Sălacea was the complete transformation of the sorting and separate collection systems. The street bins and containers were removed and replaced by a complete door-to-door separate collection system on five streams, including biowaste - the first of its kind for Romania.

The key to the success of this switch lies with the engagement of local stakeholders within the community, including principally 'Eco Bihor,' a regional operator for a sorting and treatment plant who managed to

partner with the Sălacea local waste operator, Ave Bihor, to join forces and give a complete makeover to the existing sorting system. Technical support and advice from a range of stakeholders and experts, including the University of Oradea, also contributed to the successful creation and dissemination of the new collection system.

For example, initially the mayor was convinced that the cardboard and paper waste streams were close to nonexistent, because of the preconception that the locals were either burning or reusing cardboard and paper waste. However, during the initial monitoring stage, the waste operators identified around 8% of cardboard and paper in the waste generated. Recognising this, Eco Bihor worked with the Mayor to help prioritise paper and cardboard waste, changing the new collection system from a three to five stream one.

IMPACT OF THE NEW COLLECTION SYSTEM

- **Total waste generated fell from 106.7 tonne to 47.93, a drop of 55%.**
- **Waste that went to landfill dropped from 105 tonne (98%) to 26.3 (55%).** This included 16% of non-recyclable waste obtained after MBT and 39% residual waste collected from households.
- **Separately collected waste rose from 1% to 61%, 47.21%** of which was recyclable packaging and non-packaging waste. This was transported to the local sorting station (Ave Bihor) in order to remove any potential contamination and to better sort it for a higher quality recycling material. Whilst the remaining 13.89% was biowaste and was handled as open air composting at the Eco Bihor station.
- Waste that was sent to **recycling rose from 1% to 40%.**
- 5% of residual waste was eliminated via co-incineration, with a target of reducing the amount co-incinerated waste to 0% by 2020.
- Rates of local **citizen engagement increased from 8.4% to 97%.**

The results of the pilot programme (May - July 2018), were compared with the waste quantity collected during the three months before the beginning of the programme.

The table below showcases the different streams of waste composition in Sălacea before, throughout and after the introduction of the new collection system between December 2017 and April 2018. The data clearly highlights a drop in residual waste and the increase in recycling streams as the pilot scheme is implemented.

The table also showcases which waste streams local citizens are producing more of, which can be used to advise and guide the Zero Waste Working Group in the development of future plans and steps as the municipality continues its journey towards zero waste.

For example, Biowaste consisting of biodegradable garden and kitchen waste amounts to a total of 42% of the household waste generated, whereas construction waste including earth, ashes and stones, are at 28%. In the case of the dry, recyclable stream, the data indicates plastics and especially PET as the leading recyclable waste type (68%), while textiles scored lowest (3%).

WASTE PREVENTION

As outlined in Zero Waste Europe's Masterplan, the prevention of waste in the first place is a crucial determining factor for cities to consider as they begin their Zero Waste journey. In Sălacea, waste prevention was encouraged through the creation of an urban mining centre. The centre, which was open and advertised to the local community, facilitated the collection, repair, reuse or/ and recycling of several resources, including construction and demolition waste, hazardous waste, furniture, tires, batteries and textiles.

Recognising the need to financially incentivise the new separation system, citizens were given the choice of whether to opt-in or out of a new tax to pay for the local waste management services. In the previous system, every person paid 5 lei (1€) per month for the waste management services. With the new system, the citizens who did not agree to join paid a higher tax of 10 lei/month. For those who did join, the tax remained the same as before. This could be considered a simple, first step, towards a pay-as-you-throw (PAYT) system and was proven to encourage separate collection.

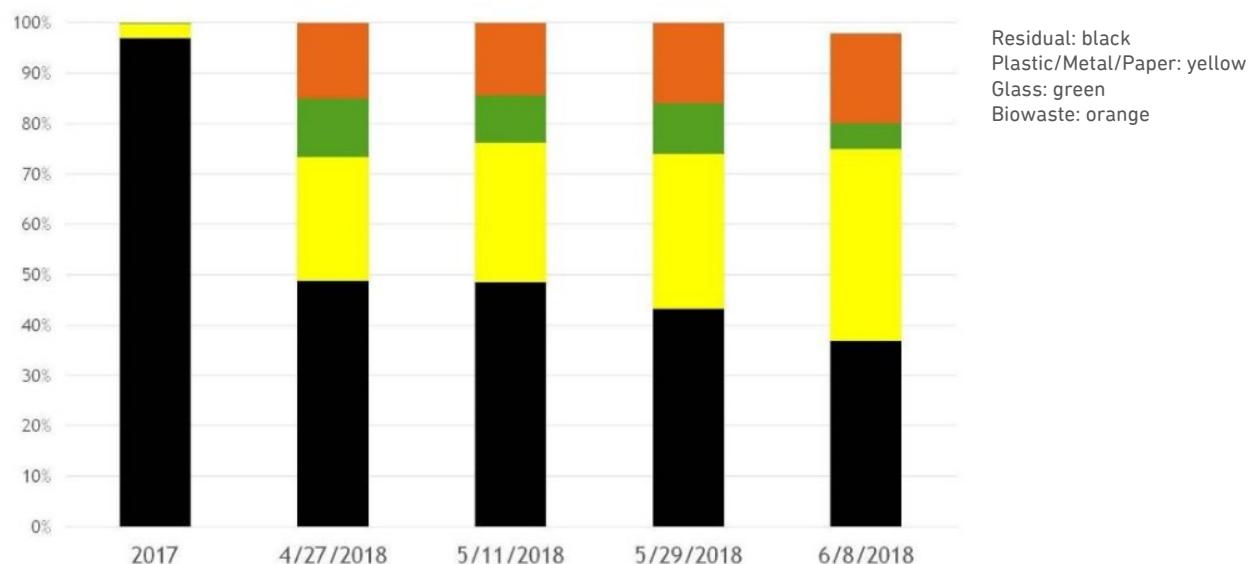


Table 1: Waste composition in Sălacea before, during and after the introduction of the pilot separate collection system, showing a clear reduction in residual waste as the system is implemented.

SUCCESSFULLY ENGAGING THE COMMUNITY

A comprehensive four weeks education programme, led by the community leaders and outlined as a compulsory factor by the Zero Waste Working Group at the beginning of this process, was implemented before the start of the new collection system. This was led by key community figures such as the mayor of Sălacea, the school director, the priest, as well as representatives from Ave Bihor and Eco Bihor, who together joined forces to lead on implementing this intensive educational programme by connecting with local community members personally through existing spaces such as the church, in schools, local pubs and at the local cultural center.

Communication was essential for the success of the new collection system. The waste collector used multilingual stickers on all the bins, in all the three languages spoken in the area: Romanian, Hungarian and Gypsy. Local volunteers, who were trained to answer citizens' questions on the new system, also distributed separate collection kits containing bins and bags, as well as information materials to guide and assist residents implement the new system. This open and transparent

method of communicating helped build trust within the community and ensure immediate and efficient participation from local residents, witnessing an outstanding increase in citizens' involvement from 8.4% to 97% in the new five streams collection system.

This increase in community engagement is also evident in the growth of home composting within Sălacea, which played a major role in the reduction of total generated waste with over 400 home composting units distributed to local residents. Gaining the necessary political support from key decision makers in Sălacea, specifically the Mayor, was a key element of the success of the pilot and came from the successful methods used to engage with the community. The face-to-face meetings and events held with the mayor and top management operators had the highest impact on the citizens commitment and involvement in the programme.

However, Sălacea's experience highlights the need for a long term approach and the creation of a continued feedback loop with the community throughout the implementation of a municipality zero waste strategy. Citizens initially continued to use large 120 litre black containers for their residual waste, despite this bin being clearly

re-labelled with a green sticker for the separate collection of glass. The habit of throwing the residual waste in a higher volume container was hard to break and people did not feel motivated to use the smaller 40 litre black bin specially designed in the new system for residual waste, which was meant to incentivise the locals to do more sorting and produce less residual waste.

Through a combination of economic incentives to use the smaller bin, continued education and engagement with the community, it has been recommended that the older, larger 120 litre containers won't be included when the collection system is replicated in the future across Romania.

Meanwhile, the street dumpsters that everyone could access were used by private companies although having no contract with the waste operator and hence not paying any sanitation fee.

Engaging all members of the community on this topic led to these unsecured publicly accessible dumpsters being eliminated and new contracts being signed with the local waste operator, creating a fairer situation for all in the community.



LEADING THE WAY ON BIO-WASTE

One of the most important achievements of Sălacea was the separate door-to-door collection for bio-waste, which is turned into compost through an open-air process and sold as flower fertilizer/soil in Hungary and Romania by the operator Eco Bihor.

This makes of Sălacea the first and, so far, the only municipality in Romania that composts bio-waste collected through door-to-door collection from almost all of its inhabitants.

Regarding biowaste, the purity of the stream collected via the door-to-door system was of 93.43%, a quality appropriate for composting. The only issue was that some citizens did not trust the robustness of the paper bags provided by the waste operator to sort biowaste, which resulted in some cases where citizens placed the paper bags in an extra plastic bag, to make sure that the content would not drip.

Learning from this, new measures were implemented aimed at increasing the quality of the education given to the locals regarding the new system, highlighting the importance

of continued community engagement and feedback from citizens to improve the system, making it more efficient and accelerate progress towards zero waste.



"Being the director of a waste management company and a landfill operator for 15 years has made me wonder: what will I leave my children as a heritage? At first glance, the answer is a mountain of waste near Oradea, which they will have to manage better than I did. Yet, through the implementation of this unique pilot project in Romania, we have proved that our generation can also pioneer impactful changes that are necessary in the field of environmental protection."

Zoltán Pászta, CEO Eco Bihor

CONCLUSION

Despite the reluctance and skepticism that the implementation of a five stream door-to-door separate collection system would work in Eastern Europe, the system has been proved to be extremely successfully, showing significant results within only three months.

Due to the success of the pilot project, the mayor of Sălacea has decided to not only continue with its

implementation but also has adopted plans to increase its efficiency further, optimising the system in order to reduce waste that goes to landfill as close to 0% as possible.

If Romania is going to achieve its 2020 recycling targets, as set out by the European Union, then the ambition and drive set out by the community in Sălacea must be matched across the country.

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

We empower communities to redesign their relationship with resources, and to adopt smarter lifestyles and sustainable consumption patterns in line with a circular economy.

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