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Implementation of Circular Economy Principles in the Local Government Environment

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Abstract
In today's world, where growing environmental problems such as climate change, excessive resource consumption, and waste production are becoming increasingly urgent, new strategies for sustainable development are being sought. One such strategy is the circular economy, which represents an alternative to the traditional linear economic model based on the "take, make, throw" principle. The circular economy aims to minimise waste and maximise the reuse of resources, thereby contributing not only to environmental protection but also to economic efficiency and social inclusion. In the presented manuscript, we examine the importance and potential of the circular economy in local governments, with an emphasis on the municipality of Čaňa. The aim is to examine how this sustainable model can be implemented at the local level, improve waste management, identify challenges and opportunities for optimisation, and propose concrete measures for transitioning to a more efficient economy. The research aims to develop a sustainable model tailored to the specific needs and capacities of the municipality under study, taking into account existing resources and infrastructure. The aim is to subsequently design a waste collection and treatment system that maximises recycling and reuse of materials, minimises negative environmental impact, and promotes economic efficiency and social justice. With this approach, the research results presented in the manuscript not only contribute to theoretical knowledge about the circular economy but also provide practical guidelines for municipalities and cities seeking to transform their economies towards sustainability. By addressing this topic, the manuscript highlights the significance of the local level in addressing environmental issues and promoting sustainable development, thereby contributing to a deeper understanding of the opportunities and challenges associated with implementing a circular economy in practice.

Keywords
Circular economy, self-government, collection yard, waste, municipal waste.

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Introduction

Contemporary society is characterised by an enormous consumption based on the extraction of huge volumes of natural resources, their transportation across half the planet, their subsequent processing using advanced technologies, the production of products, and their redistribution to different corners of the world. These products often end up as waste after use - either in the wild or, in the best case, disposed of in incinerators or landfills. This consumption model, known as the linear economy, is proving to be highly destructive and unsustainable in terms of social, economic, and ecological consequences (Inštitút cirkulárnej ekonomiky, 2025).

In response to various economic signals, such as the increasing costs of extracting raw materials and the challenges associated with environmental protection and waste management, the first steps towards improving the relationship between human activities and the environment were taken in the late 1970s, through initiatives by scientists, non-profit organisations, and citizens themselves. Energy efficiency has become a key priority in the wake of the oil crisis, resulting in increased energy efficiency and more pragmatic approaches in this area. The concept of sustainable development was first introduced in 1988 by the Brundtland Commission in its report to the United Nations, defined as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (UN Documents). Discussions on climate change and demographic developments have highlighted the limitations of natural resources and the irreversible damage caused by human activities. Globalisation has intensified the interconnectedness and dependencies of the global economy, making it impossible to find individual solutions at the local level. The European Union, for example, has responded to environmental challenges by adopting stricter environmental regulations, which in some cases have led to companies relocating to regions with less stringent environmental protection. Global governance and rules could offer solutions, although their implementation seems unlikely in the near future. The European Union has focused on the circular economy as a response to these challenges. The growing awareness of the limitations of the linear economic model has sparked interest in creating a new, sustainable economic system that provides the necessary goods and services for an increasing number of people without increasing the consumption of primary raw materials and the amount of waste. The transition to this new model requires investment in change. The circular economy, although not yet perfect, has already been successfully tested by some companies and has received EU approval. In December 2012, the European Commission presented the "Manifesto for a Resource-Efficient Europe," highlighting the necessity of transitioning to a more efficient use of resources in the context of global pressure on resources and the need for economic regeneration (The European Green Deal, 2020). Implementing the circular economy requires a fundamental paradigm shift that encompasses all social and economic activities, differing from previous attempts to collect waste or selectively increase energy efficiency. The circular model focuses on maximising the value of products for as long as possible and minimising waste. Resources should be kept in the economy until they can be reused. A circular economy could not only prevent the loss of valuable materials but also support the emergence of new businesses, create jobs, and improve the quality of life by fostering a safer and healthier environment. Implementing circular economy principles brings three key benefits. Primarily, valuable materials are protected from loss. The adoption of circular measures effectively reduces expenses and dependence on suppliers from non-EU countries, which also stimulates the growth of new business initiatives and job creation. It is estimated that increasing resource efficiency by 30% could generate more than two million new jobs by 2030. Strategies such as eco-design, reuse, and waste minimisation have the potential to save up to 8% of the annual turnover of European companies. Ultimately, the circular economy has a positive impact on quality of life by fostering the development of an environmentally sustainable economy, thereby contributing to a safer and healthier environment (The European Green Deal, 2020; Bonciu, 2014).

The European Union is well-positioned to transition its economy towards a sustainable circular economy. This process is also supported by the active participation of other countries and global organisations in promoting the idea of a circular economy. The global initiative "Circular Economy 100" plays a significant role, bringing together companies, innovators, academic institutions, and regional actors to accelerate the transition to a circular economy. This platform aims to support the transition process in a threefold way (Ellen Macarthur Foundation, 2013):

- enabling collective solutions to challenges,
- providing a space for knowledge sharing,
- offering access to the most effective strategies and practices that help companies to rapidly advance the implementation of the circular economy and adapt it to their business model.

The EU has adopted ambitious policies to promote the circular economy, including the 'European Green Deal', which aims to make Europe a climate-neutral continent by 2050. This goal is to be achieved, among other things, through resource efficiency and a transition to a clean circular economy. The agreement also includes the allocation of €1 trillion in investments, financed by the EU budget and public and private sources, complemented by additional measures to support investment and provide technical assistance for investors in selecting sustainable projects (UN Documents; The European Green Deal, 2020). For the circular economy to penetrate the

consciousness and practices of both producers and consumers, as it represents an innovative and often unfamiliar approach, it is crucial to understand it correctly.

The basic pillars of this theory are (Ellen Macarthur Foundation, 2013):

1. Transition from consumer to user: In the circular economy, it is expected that companies will be interested in recovering materials from products after they have lost their value to the customer. This change could encourage customers to return products at the end of their life.
2. Zero waste: The aim is to minimise the amount of waste thrown away, as it can be reused in various ways, such as reusing, repairing, or recycling. The basic idea is to work with materials that have already been used at least once, rather than adding new raw materials to the production process.
3. Sustainable industrial cycle: For true sustainability, the energy that drives this cycle must come almost exclusively from renewable sources. This would not only reduce the risk of resource depletion and fluctuations in energy supplies but also reduce production costs.
4. Two categories of industrial materials: In the circular economy, we distinguish between disposable (biodegradable, such as paper or fabric) and durable materials (technical, such as metal, glass, or plastic, which can be easily recycled). Products should be designed to fall into one of these categories, allowing for reuse or natural decomposition. More complex objects should be designed to be decomposed at the end of their life and then properly sorted according to these criteria for further use.

Waste production is a growing problem, both globally and within local communities. If waste is not managed properly, it can have irreversible consequences for the environment and people. It is essential that recycling, effective waste sorting, and, above all, waste prevention are key elements in the process of a society's sustainable development (Caldwell, 2023). According to the legislation of the Slovak Republic, specifically Act No. 79/2015 Coll. on waste and amendments and supplements to certain acts, waste is defined as any movable thing or substance that its owner decides to remove, intends to get rid of, or is legally obliged to do so (zakonypreludi.sk, 2015). In this regard, the amendment to Act No. 460/2019 Coll. introduces an important extension to this definition, stipulating that a material should be considered waste only if its components are not recyclable or there is no possibility of their further use. This legislative change sets out the criteria for when waste ceases to be waste as a result of recovery or recycling processes, including the following conditions:

- a specific use must be found for the item or substance,
- there must be a market or demand for the item or substance,
- the item or substance must meet all technical standards and requirements for the specific use that apply to products,
- it must not have a negative impact on the environment or human health (zakonypreludi.sk, 2019).

In this way, waste is transformed from a product, item, or substance that is no longer suitable for further use into a potential resource. In nature, waste serves as a source of food, fertiliser, or reactant in ecosystems, while materials created by human activity often exhibit high resistance and long decomposition periods. It is therefore crucial that governments and legislation define and classify waste based on its potential risks to the environment and human health, ensuring its effective treatment and minimising its impact on the planet (MOOC).

Given the growing amount of waste and its diversity, the existence and effective functioning of collection yards are essential for achieving the goals of sustainable development. Their role in the waste processing process is invaluable, as they help protect the environment, support the recycling industry, and improve the quality of life in society (Šimková et al., 2023).

A collection yard is a facility for the collection of municipal waste and small construction waste established by a municipality or an association of municipalities and operated by a municipality, an association of municipalities or a person who has concluded a contract with a municipality or an association of municipalities for this activity; the operation of a collection yard requires the consent of the competent state waste management administration body (Tauberova et al., 2022; Begáni et al., 2025). At a collection yard, natural persons may hand over small construction waste, bulky waste, waste whose collection at a collection yard is permitted by this Act, and separately collected components of municipal waste within the scope of sorted collection established in a generally binding regulation of the municipality (zakonypreludi.sk, 2015). Collection yards serve as places where the public can drop off their household waste. These facilities, run by local authorities, often provide recycling options for a variety of waste types, including green waste, metals, glass, and other materials (Seňova et al., 2024). They are also designed for items that are not suitable for the regular local collection system, such as bulky waste.

In continental Europe, we encounter several forms of collection:

- Container stands for sorted waste: They concentrate containers for the most common types of recyclable household waste, such as plastic, paper, glass, metal cans, and others. They are conveniently located to be easily accessible on foot, often near transport hubs, squares, or shopping centres. The colours of the containers can vary according to the type of waste and are adapted to local regulations.

- Waste collection yards: In addition to household waste, these facilities specialise in the collection of large waste items such as furniture, construction waste, and compostable garden waste, and in some cases also specific types of waste such as chemicals. Residents can bring their waste here in person; the services are usually provided free of charge, and the facilities have set opening hours and are supervised by staff.
- Waste collection stations: Mainly for scrap metal and other recyclable materials such as paper and glass. These stations have been in operation for longer than modern recycling centres and can coexist with free systems, allowing people with lower incomes to collect and sell waste.

This creates a variety of channels for efficient waste treatment and recycling, promoting sustainable behaviour and reducing environmental impact (Mochorovská and Tóthová, 2023).

Materials and Methods

Several city districts in Košice offer their residents the opportunity to dispose of various types of waste in their collection yards. In some places, it is possible to leave almost everything, while in others, only biodegradable waste is permitted. However, collection yards are intended only for citizens with permanent residence in Košice. Suppose a natural person, as the owner of a property, does not have a permanent residence in the city, upon entering the collection yard. In that case, they must prove this by a decision of the tax administrator, the City of Košice, which determines the local fee for municipal waste. Since the examined municipality, Čaňa, does not have its collection yard and there is none in the immediate vicinity (see Fig. 1 and Fig. 2), the residents of the municipality are forced to transport waste that is not collected by the company providing garbage collection services to Košice for a fee (kosice.sk). The creation of a collection yard would create conditions for a complete service for managing selected types of waste, which is expected to reduce the overall amount of mixed municipal waste, as well as reduce the proportion of waste exported to so-called black landfills. This situation highlights the need to expand waste collection services beyond the main urban areas to enhance the accessibility and sustainability of waste management in the region (KOSIT.sk). The circular map of Košice and Čaňa (Fig. 1) was created based on a project aimed at integrating the circular economy into everyday practice. The circular map is a useful tool for finding accessible and sustainable options for shops or services. It is an online map, or rather a virtual platform, where residents of a given city can find various businesses that will help them on their path to sustainability and thus support the circular economy. At the same time, the map is constantly updated in cooperation with residents of individual cities and municipalities. In this case, the circular map illustrates Košice's approach to waste minimisation, highlighting various collection points and recycling services throughout the city. These initiatives demonstrate the city's and its residents' commitment to a more responsible approach to waste and recycling (Henčeková, 2024; Kovalčík et al., 2021).

On the circular map below, we can see that various places in Košice help residents create less waste, as citizens have seven collection yards available for placing other types of waste that, due to their nature or shape, cannot be placed in municipal waste containers or sorted with the components. They serve for professional and, in particular, ecological management of various types of waste. The collection yards are primarily used for bulky waste, small construction waste, and waste containing hazardous substances. The map also shows electronics stores (4 in number), where people can hand in their electronic waste, used batteries, and accumulators. The submitted electrical waste and used batteries are processed at a designated facility. The ecological processing of old electrical appliances yields secondary raw materials that will be used to produce new products (for instance, ferrous and non-ferrous metals, precious metals, plastics, glass), further conserving natural resources and protecting the environment (water, air, soil) from pollution by hazardous substances such as freons and heavy metals (nay.sk). Slovnaft gas stations (5 in number) are also marked, where used cooking oil is collected. The oil is then further processed, recovered, and used as a component in biofuel for diesel fuel. If cooking oil ends up in the sink after use, it clogs the sewer, and its smell attracts rodents. The biofuel component from used cooking oil significantly reduces greenhouse gas emissions (slovnaft.sk). There are also places where you can dispose of used toothbrushes (18 in number); these include various dental clinics and toothbrush shops. If a toothbrush is thrown into a plastic container, it usually ends up in a landfill, where it will decompose for hundreds of years. Brushes are usually made of several types of plastic, but no one separates them in our country, so instead of recycling, they end up in a landfill or incinerator (curaprox.sk).

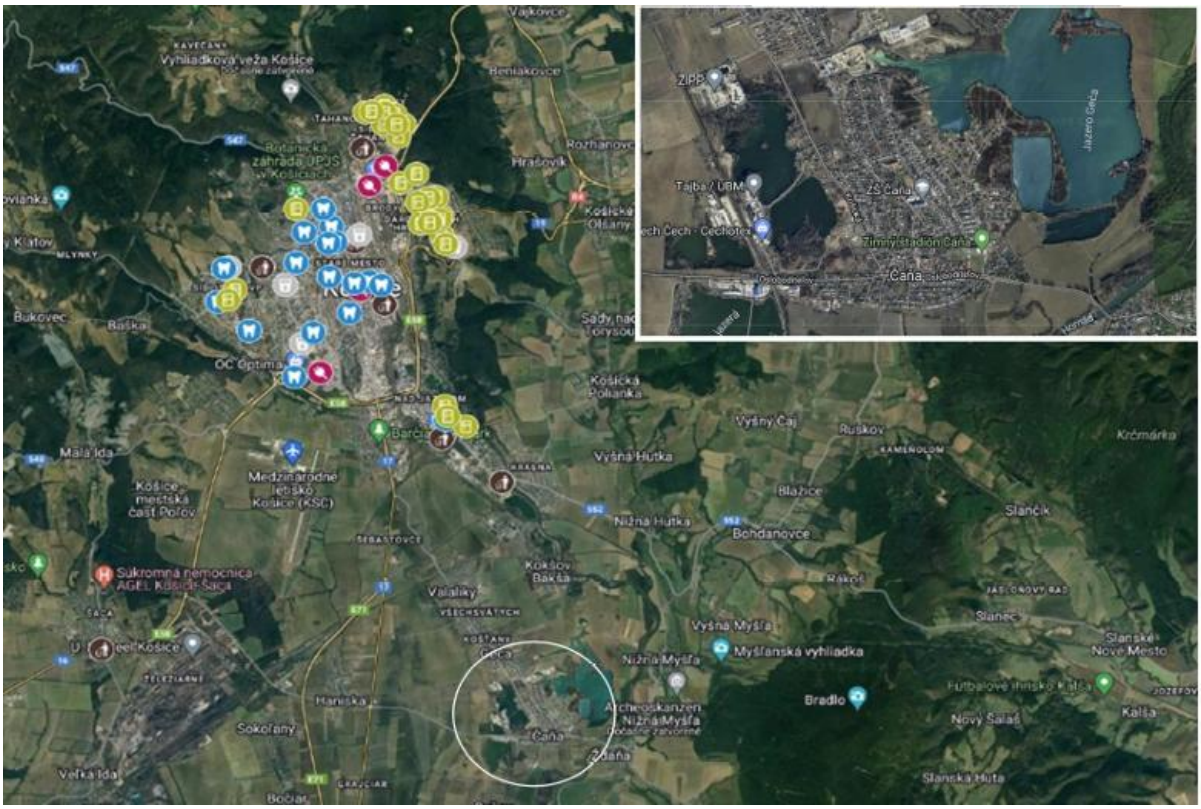

Fig. 1. Circular map of the study area and self-government (incien.sk, 2025)

Fig. 2. Circular map legend

Finally, we can see the most numerous group, which consists of collection containers for textiles and footwear (27 in number), located in housing estates where the largest number of residents is concentrated. A textile container is an exterior container that serves the residents of a given municipality 24 hours a day, providing them with essential services. It is currently the most common way of collecting usable textiles. The container is placed at the already used stands of other containers for sorted waste, or near collection yards. It is essential to position the container in a manner that facilitates the collection of usable textiles as easily as possible for citizens. Each container has a sensor to monitor the level of filling, which prevents the containers from overflowing and, consequently, textile waste from being generated in the surrounding area. Thanks to these sensors, only full containers can be emptied effectively (ekocharita.sk). Analysis of the map reveals the absence of collection yards in the Čaňa area and its surrounding areas, which contrasts with the infrastructure available in Košice. The establishment of a collection yard would bring significant benefits to the citizens of Čaňa and the surrounding areas, providing a centralised location for efficient waste sorting and recycling. This step would not only contribute to reducing the volume of waste sent to landfills but also promote the sustainable management of natural resources and raise awareness of the importance of recycling.

Results and Discussion

Within the framework of waste management, municipal waste in the municipality of Čaňa is collected in 110-litre waste containers and is removed twice a month. The municipality currently collects paper, glass, plastic, and

TetraPaks through bag collections. The municipality also collects hazardous waste, electrical waste, tires, and oversized waste at specified intervals and regularly cleans black dumps at its own expense. The municipality, following Act No. 79/2015 on waste and amendments to certain acts, as well as with Decree 371/2015, which implements certain provisions on waste and Decree 373/2015 on the extended responsibility of producers of specific products and the management of specific waste streams, would like to solve this problem by building a Collection Yard. Figure 3 shows the production of municipal waste in the municipality of Čaňa, providing data on the amount of different types of waste produced in 2021, 2022, and 2023, expressed in tons.

Mixed municipal waste - its amount gradually increases from 777,754 tons in 2021 to 802,533 tons in 2023. An increase in population, increased consumption, or insufficient waste separation may contribute to the increasing trend.

Plastic - here we see a decreasing trend from 86,323 tons in 2021 to 71,564 tons in 2023. This decrease may be a consequence of the Slovak Republic adopting several legislative measures aimed at reducing the use of single-use plastic products, which are a large source of plastic waste. Bans and restrictions on certain types of single-use plastic products, such as straws, cutlery, plates, and drinking glasses, are contributing to a reduction in plastic waste. This could also be due to the introduction of a deposit system for plastic bottles and other packaging, which encourages consumers not to throw away packaging but to return it to the recycling system.

Glass - the amount of glass also decreases from 70,770 tonnes in 2021 to 63,225 tonnes in 2023. This decrease may be the result of more effective recycling programs, as well as changes in consumer habits.

Paper - the amount of paper is relatively stable, decreasing only slightly from 83,210 tonnes in 2021 to 79,516 tonnes in 2023. The stability may reflect the balancing effect between digitalisation, which has reduced the need for paper.

Bulky waste - we see a significant increase from 290,520 tonnes in 2021 to 408,600 tonnes in 2023. Such an increase may be due to the increasing consumption and replacement of household equipment such as furniture and electrical appliances, which often end up as bulky waste.

Biodegradable waste - this type of waste also shows an increasing trend, although the total amounts are much smaller compared to other categories, from 0.933 tonnes in 2021 to 1.529 tonnes in 2023. This increase may be due to increased food waste production or better sorting of garden waste.

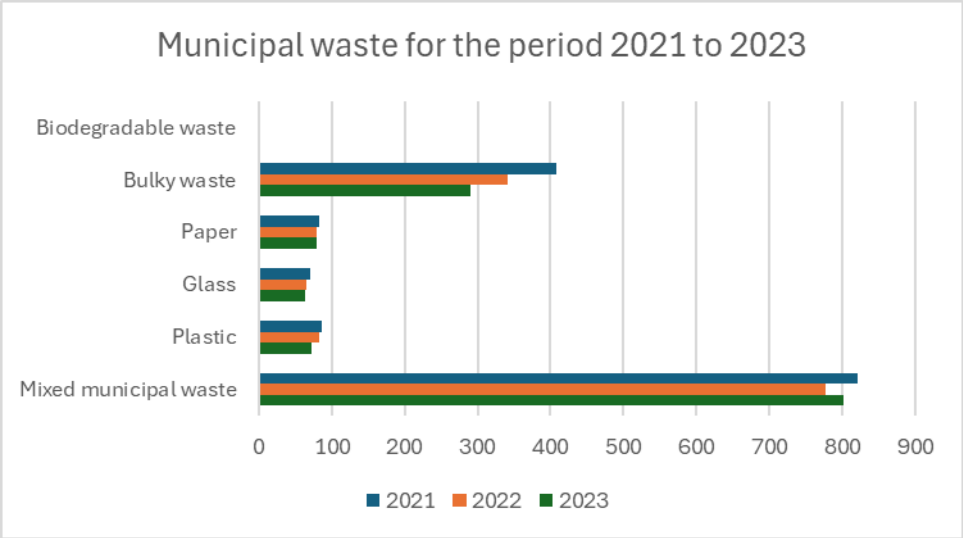

Fig. 3 Municipal waste report for the analyzed period

Waste management in the municipality of Čaňa focuses on effective waste management, minimisation, sorting, recycling, and ensuring the ecological disposal of unusable residues. The main goal is to protect the environment, reduce greenhouse gas emissions associated with waste, and support sustainable community development. A contractual partner provides waste collection and removal in the municipality. It ensures the regular collection and removal of various types of waste, including municipal, mixed, sorted (such as paper, plastic, glass, and metals), and bulky waste. At the same time, attention is paid to the collection of specific categories of waste, such as hazardous waste and biowaste. Residents are encouraged and motivated to sort waste at source thoroughly. The municipality ensures the availability of containers for individual waste fractions and informs residents about proper sorting and the importance of recycling for the environment. Waste management also encompasses educational and awareness-raising activities targeted at the municipality's residents. The aim is to raise awareness of the importance of proper waste management, the importance of recycling, and the possibilities of reducing waste production. Waste management is regulated by relevant laws and regulations that set the framework for the collection, sorting, recycling, and disposal of waste. The municipality ensures that all activities

comply with these regulations and supports initiatives aimed at enhancing waste management. Waste management in the municipality of Čaňa is therefore a complex system that encompasses various activities and measures aimed at achieving efficient and sustainable waste management, thereby protecting the environment and enhancing the quality of life for its residents. A major disadvantage in the municipality is the lack of recycling yards and collection points within it or in its immediate vicinity, where residents could deposit larger amounts of sorted waste, hazardous waste, and other special categories of waste. These facilities increase the efficiency of recycling and minimise the amount of waste ending up in landfills (obeccana.eu).

A suitable location for the construction of a collection yard in the municipality of Čaňa would be the Čaňa WWTP area. This location, suitable for the construction of a collection yard, is situated in the southern part of the municipality, within the built-up area of the extra-urban zone, adjacent to the existing Čaňa WWTP area. The WWTP area in the municipality of Čaňa has a sufficiently large free area, which is currently not used for any specific purpose. The WWTP in Čaňa is in the southern to southeastern part of the extra-urban area of the municipality near the Hornád recipient, in its right-bank basin. The WWTP area is protected from the Hornád by the existing flood control dam. Part of the dam, approx. 700 mm long, serves as an access road to the WWTP. The WWTP area is rectangular, oriented east-west.

The entrance to the area is located on the eastern side, behind which is an operational building connected to the denitrification and nitrification tanks, sludge tanks, and the sludge storage facility of the WWTP itself. In the eastern part, perpendicular to the axis of the WWTP, there are sludge fields formed by a concrete surface of the tub type, with the height of the walls approximately 600 mm around the perimeter. Behind the technological part of the WWTP, there is a free grassy area approximately 21.5 m wide and 39.0 m long. Currently, the land in question is used for temporary storage and handling at the WWTP, as well as for the municipality's needs as a free grassy area. The collection yard for separated municipal waste is designed for the storage and possible sorting of separated waste, which will remain on the premises of the Collection Yard until collection by the contractually agreed processor of individual commodities of separated waste. In cooperation with Act No. 79/215 and Decrees No. 371/2015 and 373/2015, the collection yard serves as the temporary storage facility for separated waste, with subsequent removal by a contractually agreed-upon processor of separated waste, encompassing various types of commodities. The municipality, in accordance with the Generally Binding Regulation on Waste Management and the Municipal Waste Management Program, will collect separated municipal waste within the municipality, which will then be stored at the premises of the collection yard. The collection yard is also intended for the possibility of individual waste separation by the citizens of the municipality. The role of the collection yard, in addition to the municipality's activities in the field of waste collection and treatment, will be to enable individuals and legal entities to hand over their waste to a designated location. The waste collection yard will ensure environmentally responsible storage of waste until the economically necessary amount of each type has accumulated. After the necessary amount has been accumulated, the waste will be transported to facilities suitable for recycling, reuse, or final disposal. The operator of the Collection Yard will handle the disposal, recycling, and reuse of waste in accordance with contractual relationships established with authorised organisations. List of waste collected at the collection yard:

1. Clothing
2. Textiles
3. Edible oils and fats
4. BRO - biodegradable waste
5. Soil and aggregates
6. Bulky waste
7. Small construction waste

The collection yard is designed to handle a maximum of 500 t/year and will occupy an area of 2,800 m² (Fig. 4). After entering the Collection Yard, the waste will be weighed on a weighbridge or a low-profile drive-through scale. Subsequently, the waste will be stored in a container for the respective commodity in the operating hall. In the event of a mixture of commodities, the separated waste will be manually sorted in the operating hall. In the case of construction waste and larger amounts of BRO, these will be placed in an area designated for this waste, where further sorting may be possible, or directly stored in containers designated for the respective commodity. If necessary, the separated components of municipal waste will be further sorted by hand in the collection yard, specifically in the covered area, which includes the operating hall and the equipment warehouse. In the operating hall, commodities such as textiles, clothing, and BRO will be further sorted and stored in containers designated for these specific items. After sorting, individual commodities will be collected in containers ranging from 7.0 m³ to 12.5 m³. Bulky waste, small construction waste, and BRO will be stored in containers with a volume of up to 20 m^3. The edible oil and fat storage will be located north of the entrance to the WWTP area and the collection yard.

The collection yard in the municipality of Čaňa will consist of the following buildings:

- Operating hall and equipment storage
- Handling area

- Administration extension to the operational
- Building of the WWTP
- Edible oil and fat storage shed
- Fencing
- Water supply
- Technical equipment

Fig. 4 Planned layout of the collection yard

Where:
A – biodegradable waste,
B – soil and aggregates,
C – small construction waste,
D – bulky waste,
E – construction waste,
F – edible oils and fats,
G – clothing,
H – textiles,
I – handling area,
J – operating hall,
K – administrative building,
L – weighbridge.

The proposal submitted to the municipality of Čaňa is a contribution to the main goal of waste management in the Slovak Republic until 2025, which is to minimize the negative effects of waste generation and management on human health and the environment, the necessary more fundamental enforcement and compliance with the binding waste management hierarchy to increase waste recycling, especially for the area of municipal waste and

construction and demolition waste following the requirements of the Waste Framework Directive. The municipality will apply the requirement of best available techniques and best environmental practices when building waste management infrastructure. The collection yard will also contribute to the strategic goal of waste management in the Slovak Republic 2021-2025, which is the fundamental diversion of waste from landfilling, especially for municipal waste.

The planned activities of the proposal are in line with the measures to achieve the main objective of waste management:

- increase the level of separate collection for recyclable types of municipal waste, in particular for paper and cardboard, glass, plastics, metals, and biodegradable municipal waste,
- increase the recycling of construction and demolition waste, including backfilling activities, and thus improve the level of awareness of residents and all entities operating in waste management about the necessity and possibilities of collecting, reusing, and recycling waste, as well as the use of products produced by recycling by introducing effective and generally accessible information systems and conducting local and national information campaigns.

Having a collection yard in a municipality such as Čaňa brings several advantages that align directly with the above aspects of effective and sustainable waste management. The collection yard is a key part of the infrastructure for proper waste treatment, and here are the reasons why it would be of great benefit to the municipality of Čaňa:

Improving waste sorting - the collection yard provides residents with a place where they can sort waste even more efficiently. It expands the sorting options to include specific fractions that are not normally collected directly from households. This leads to higher recycling rates and a reduction in the amount of waste going to landfills.

Accessibility for special categories of waste, such as hazardous waste, electronic waste, bulky waste, and other specific categories, requires special handling and processing. The collection yard centralises these services, thereby reducing the risk of environmental contamination.

Promoting environmental awareness and a responsible approach to waste, the collection yard can also serve as an educational point where residents can learn more about the importance of recycling and proper waste management. This raises awareness of environmental issues and promotes sustainable behaviour in the community.

Reduction of greenhouse gas emissions - by effectively sorting and recycling waste in the collection yard, the need for waste incineration and the amount of waste sent to landfills will be reduced, ultimately leading to a decrease in methane and other greenhouse gas emissions.

Economic benefits - increased recycling can bring economic benefits to the municipality in the form of sales of recycled materials. In addition, it reduces the cost of transporting waste to distant landfills or incinerators.

Improving the image of the municipality - the introduction of modern and efficient waste management systems, such as a collection yard, enhances the municipality's image as a responsible and sustainably oriented community. This can increase the municipality's attractiveness to new residents and visitors.

Reduction of illegal dumping - by having a collection yard available, residents have less reason to illegally dump waste, which contributes to a cleaner and healthier environment.

Given these benefits, establishing a collection yard would be a crucial step towards improved waste management, enhanced environmental protection, and supporting sustainable community development.

Conclusion

The implementation of circular economy principles in the local government environment presents a complex challenge as well as an opportunity for enhancing the environmental, social, and economic well-being of municipalities and cities. In this paper, we focus on the research results, specifically the analysis, design, and potential benefits of establishing a collection yard in the municipality of Čaňa, to support the circular economy and increase the rate of waste recycling.

The research results showed that introducing a collection yard can significantly contribute to increasing the recycling rate, reducing environmental burden, and improving the awareness and involvement of residents in the waste processing process. This approach not only supports environmental goals but also strengthens the social and economic aspects of the local community by creating job opportunities and supporting sustainable development. As a result of the analyses conducted as part of this research, we can deduce that the municipality of Čaňa and similar local governments should continue to implement and develop circular economy strategies, taking into account the specific needs and opportunities of their local environment. It is essential to promote awareness and educational programs that increase citizens' understanding and motivation for proper waste sorting and recycling.

The submitted manuscript, which presents the results of the research conducted, confirms that the circular economy is not just a concept, but a feasible strategy that brings positive results for the environment, communities,

and the economy. The implementation of the collection yard in the municipality of Čaňa could serve as a model for other municipalities in Slovakia and abroad, showing the way to more efficient and sustainable waste processing.

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