

L J U B L J A N A
TOWARDS CIRCULAR
E C O N O M Y





Ljubljana—a Green Miracle at the Heart of Europe



In Ljubljana, the commitment to the sustainable development of our city was made already in 2007 because we firmly believe that this is the only way to ensure that we, and more importantly, our younger generations, enjoy a high-quality urban life in a green, well-preserved, safe and supportive environment with well-preserved nature, clean air, water and other relevant aspects.

In 2016, Ljubljana earned the prestigious title of European Green Capital, which gives us great pride. This was just the start of our success story, which has brought us numerous international awards and put our beautiful city on the global map of leaders in the field of sustainability and circular development.

Our circular story was first presented internationally at the Eurocities conference held in Ljubljana in 2017. Since then, we have continued to build upon our efforts as part of the Ellen MacArthur Foundation and organisations like EUROCITIES, ICLEI and OECD while simultaneously carrying out numerous other activities and projects aimed at strengthening Ljubljana's profile as a green, well-preserved, safe and circularly-oriented European capital.

The year 2021 brought yet another remarkable success: European Best Destinations ranked Ljubljana in first place among the Best Green Capitals in Europe. The award is a confirmation of the excellent work so far, and it also gives us momentum for many more new activities aimed at ensuring that Ljubljana remains a leader and a herald of a bright future.

In addition, Ljubljana is a leader in sustainable tourism—yet another area of triumph for us, as we hold the title of the European Best Destination of 2022. This title has been awarded to us by travellers from all over the world and it is a great honour for us to receive 92% of the votes from other countries. This demonstrates that the voice of our city travels far. In addition, as stated by the European Best Destinations organisation, our green miracle at the heart of Europe hosts not only tourists but also delegations of mayors, environmental advisers and urban planners who wish to see the extraordinary Ljubljana with their own eyes.

We work best when we work together. Excellent results could not have been possible without the citizens, businesses, non-governmental and other organizations in our city; therefore, all our projects in the field of circular development in Ljubljana strive to include in the dialogue and co-creation within the broadest possible circle of stakeholders.

We live in challenging, even momentous times and it is more important now than ever to develop and build on circular principles in all areas of life. This is the only way we will be able to achieve a high quality of life for all citizens in a green, well-preserved, clean, safe, supportive, tolerant and friendly Ljubljana, the most beautiful city in the world!

Zoran Janković

Mayor of the City of Ljubljana



LJUBLJANA'S CIRCULAR POTENTIALS 2021–2027 WITH A PERSPECTIVE ON LJUBLJANA, CIRCULAR CITY 2045



Introduction

Circular Ljubljana – For Whom and Why?

The underlying idea of a circular economy is to maintain value in the production and consumption cycle for as long as possible. However, in contrast to a linear economy where the »take-make-dispose« model is applied, the value chains in a circular economy are designed to make the most of the resources, focussing on careful and rational use. The new circular economy models revolve around reuse, repair, refurbishment and sharing, maximizing the efficiency of (re)used resources, which is underpinned by the proper design and crafting of services and products, as well as circular processes driving production and consumption. This means a transition from waste management to resource management, with the ultimate goal being »zero wastek«. **Acting within planetary boundaries, City of Ljubljana's aim is the well-being of all people, by integrating economic, environmental and social aspects.**

Circular solutions should be accessible in terms of location and price; incorporating principles of safety, locality and transparency, they should embrace innovation and creativity to support the quality of life. In fact, circular models encourage coming up with solutions within interdisciplinary groups by engaging users, their implementation being greatly boosted by the digitalisation of the workflow and services.

Circularity is thus an “old-new” way of living and doing, a natural state, inspired by nature's cycles and regeneration. Humans, having lost touch with nature, have forgotten that we are an intrinsic part of it. The circular economy is a tool to help us become more attuned to the natural cycles and their limitations, to redesign our development plans and innovations to match a sustainable development model that will allow us to retain a high quality of life.

OECD reports reveal that if we continue production and consumption at our current rate, we would need two and a half planets by 2050. As such, it's imperative that we change how we act and behave, and this need for change was further underscored by the covid-19 pandemic that zeroed in on the urgency of transitioning to a sustainable economy. **Amidst the pandemic, city life has been undergoing dramatic changes,** challenging the advantages of urban environments, and putting access to nature, free movement, security and belonging at the top of our values list. The European Green Deal, the Circular Economy Action Plan, the Recovery Plan and the New European Bauhaus are the cornerstones of the European framework for promoting green, sustainable, circular development in countries and cities.

Despite the changes and new challenges presented by the current state of affairs, the quality of life in Ljubljana remains high, owing to the city's manageable size, green areas, potable water and other elements necessary for a good quality of life. Living in a city, we understand the importance of upholding key values. Adhering to principles of a circular economy will help us protect and strengthen them. Also, we understand that a circular economy can only take off if everyone – the citizens, businesses, non-governmental sector, educational and research institutions and government structure – are included in it through their daily choices and decisions. By working together and connecting, we can cut down on waste, mitigate adverse effects on the environment, and centre our efforts on extending the life cycle of products and materials. **We fully embrace the circular lifestyle in which the city as an ecosystem and the City of Ljubljana (hereinafter: COL) play a crucial part as the forces driving these processes.**

Once we've recognized that the transition from a linear to a circular economy is possible if the **principles of the circular economy are integrated into the daily life of the citizens, visitors and those who work, create and invest in the city,** we can take individual ownership for their implementation and proceed to implement them in our day-to-day lives.

Circular Ljubljana = an ecosystem supporting quality of life



Ljubljana, a Circular City

In this Perspective on Ljubljana, Circular City 2045, the city is viewed in terms of an ecosystem enabling good quality of life. It is the circular use of spaces that allows us to position strategic projects so that they match the principles of the circular economy. Spatial planning needs to consider meeting needs based on the carrying capacity of the planet. A spatial plan defining how and under what conditions resources can be used must consider material flows in the city and how to effectively close them. Renovating buildings is given priority over new-build construction. Construction is prioritized on brownfield sites that can accommodate transitional uses until construction, e.g. setting up urban culture sites, which provide a space for experimentation, building and testing of new ideas.

This document addresses three levels:

- **Umbrella vision of the city until 2045 (underway)** – consistency across all of COL's strategic documents, and their compatibility with EU and national legislation, to achieve optimum synergies and effective performance;
- **Strategic guidelines** incorporating circular principles – link with the City Administration's Code for Sustainable and Circular City Management (**underway**);
- **Concrete activities in the 2027 perspective** and guidance for monitoring their implementation – an open process allowing the inclusion of various players to create closed loops for selected areas.

The aim of this document is to support Ljubljana on its journey towards a circular transformation by involving the widest range of stakeholders, their existing practices, innovation potentials and specific initiatives. More than 80 players have been invited to take part in the preparation of this document, sharing their suggestions and co-designing the emerging value chain through their attendance at workshops, interviews or written initiatives.

An important part of the document Ljubljana, Circular City 2045, is the **journey of how this document came about and how it's being implemented**. Concrete activities outlined in the 2027 perspective especially promote ongoing upgrading, evaluation and adapting to the circumstances, but most of all, including those whose knowledge and practices can boost specific value chains and increase their respective efficiency.

The circular economy model depicted in the figure below calls attention to the entire resource management cycle – from the design and production/adaptation to distribution to re-use and repairs, and in the final stages to proper collection and recycling and residual waste management.

The Environmental Protection Programme, the Mobility Strategy and the Zero Waste Strategy address the elements of the presented scheme, while throughout the COL level, the spotlight is on innovation, reuse and sharing, with the latter two specifically singled out as strategic priorities.



Environmental Protection Programme





A view to 2045

Ljubljana's Circular Vision

As a circular, **carbon-neutral city by 2040**, Ljubljana will monitor the impact of its activities on the environment, support transparent action and interdisciplinary cooperation, and strengthen environmental health factors. Fostering public-private partnerships, the city will also encourage cooperation between various stakeholders towards long-term sustainability goals. Its process implementation will rely on digitalisation. The city will seek to consolidate its pioneer status with regard to innovation and the introduction of new, circular business models, and set out to create the right conditions for the development of new competencies and green jobs. Its residents and visitors will be empowered every day to make sustainable, circular choices, whilst being aware of the scarcity of natural resources – from sharing and re-use models to the use of recycled materials, zero packaging and so on. Ljubljana aims to successfully strengthen and advance the potential of the local environment. A zero-waste society will emerge from the close and effective cooperation between the stakeholders involved. On a global scale, Ljubljana will be a role model of habitat conservation – for the benefit of the people, animals and plants. An **ecosystem** will be cultivated in which **creativity** and **innovation** act as the driving forces of connection and co-creation between stakeholders in the pursuit of systemic solutions that simultaneously address the challenges of the economy, society and the environment.

Steps Towards Realising the Circular Vision

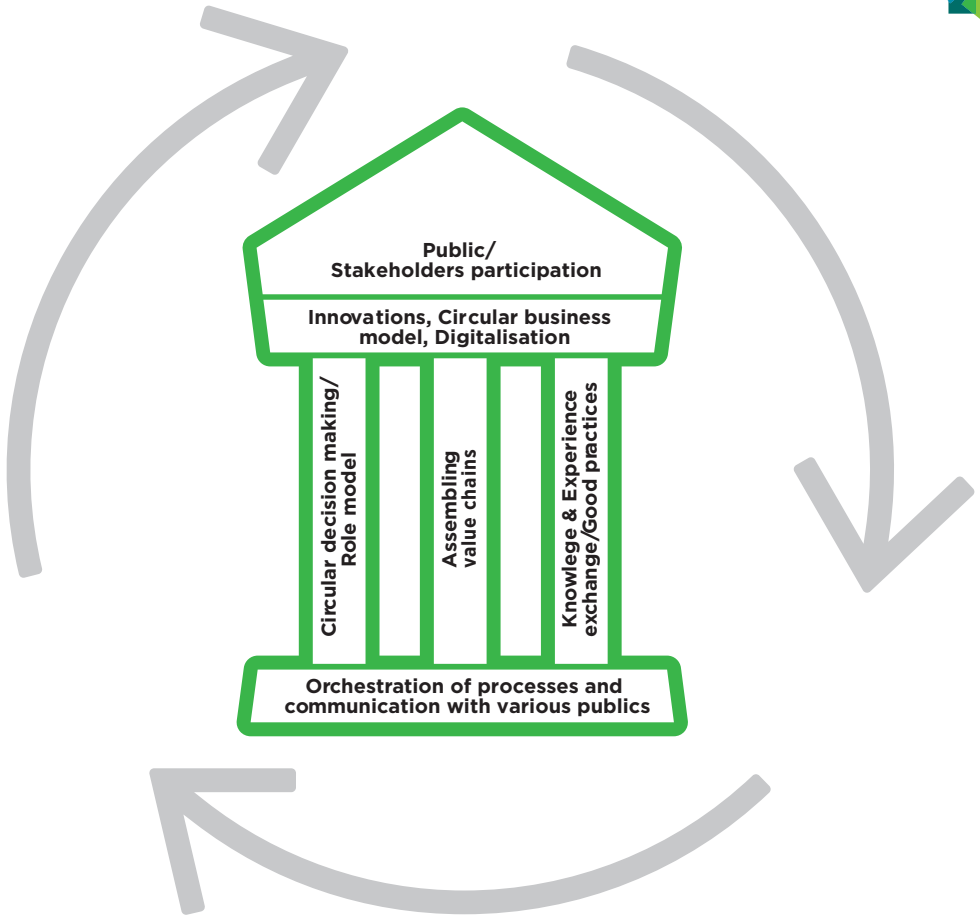
In preparing the activities for the 2021–2027 period, **we draw on specific mass flows and the necessary infrastructure, habit-changing actions, education, public procurement and so on. We incorporate sustainable development goals (SDG)** that provide a blueprint for the well-being for everyone, highlighting the interdependence and interconnectedness of activities. With a special focus on Goal 12 entitled “responsible consumption and production”, we promote operating within planetary boundaries by following the principles of the circular economy, which necessitates adapting existing business models and consumption habits.

The **City Administration's Code for a Sustainable and Circular City Management** is underway as yet another arrow in our quiver of empowering people in COL's Big City Family to include sustainability and circularity criteria in their decision-making, and thus fostering the ambitious vision of Ljubljana as a circular capital on a daily basis.

Schematically, a circular Ljubljana can be depicted as a “town hall” that rests on a systemic approach to circular transformation and **coordinating processes and communicating with various publics. Three pillars** emerge from this foundation:

- Circular decision-making that **sets a good example**;
- Assembling new **circular value chains**;
- The exchange of **knowledge and experience**, and the transfer of best practices.

Horizontally, all three pillars are interlinked by innovation, new circular business models and digitalisation, with **public and stakeholder involvement** as **the roof**. There is a continuous exchange and interplay between these interdependent elements, **their stability hinging on how well they play off each other.**



A circular vision of Ljubljana is a model that seeks out an equilibrium between design and innovation, implementation and evaluation, inclusion and communication. The uniqueness of Ljubljana's circular transition lies in its openness for the influx of initiatives proposed by various stakeholders whilst also being able to incorporate them into its strategic development projects and push for concrete implementation through action plans. Particular attention is paid to the fact that **circular solutions are conceived in collaboration with representatives from creative industries**, giving rise to imaginative, aesthetically sophisticated and pleasing designs; the New European Bauhaus initiative highlights this aspect of a green, circular transition. In Ljubljana, **creativity and circularity** are intertwined and further underscored in the circular vision for the city.

Another success factor is **fostering cooperation with international partners**. In Ljubljana, we are strategically partnering primarily with those who are circular frontrunners, i.e. well on their way to implementing the circular economy. Together, we design breakthrough topics and pioneering projects in the field of circularity; we are less engaged in programmes aimed at cities that are just embarking on a circular journey. Our most **notable international strategic partners** are Eurocities, ICLEI Circular Cities, the Ellen MacArthur Foundation – CE100 and the Zero Waste Network.



Strategic Documents as Building Blocks of a Vision

Ljubljana builds its circular transformation systematically and comprehensively by considering the long-term development vision of the city in its pursuit of sustainability and circularity, as well as relevant strategic supporting documents. Circular economy topics are incorporated into emerging strategic documents and included when amending current strategies. This amplifies the synergies across the areas, fosters cooperation between various stakeholders and, as a result, increases efficiency and positive effects, including financial ones. The cornerstones of the 2045 vision are:

a) COL Municipal Spatial Plan

The fundamental strategic objectives of the spatial development of the COL revolve around preserving and fostering the spatial, natural and cultural values of the city and the wider COL area, which create the city's identity and potentials for the city's qualitative development and the quality of life in it. Against this backdrop, **we favour the renovation or replacement of deteriorated buildings over the construction of new ones**, while not fully excluding new builds.

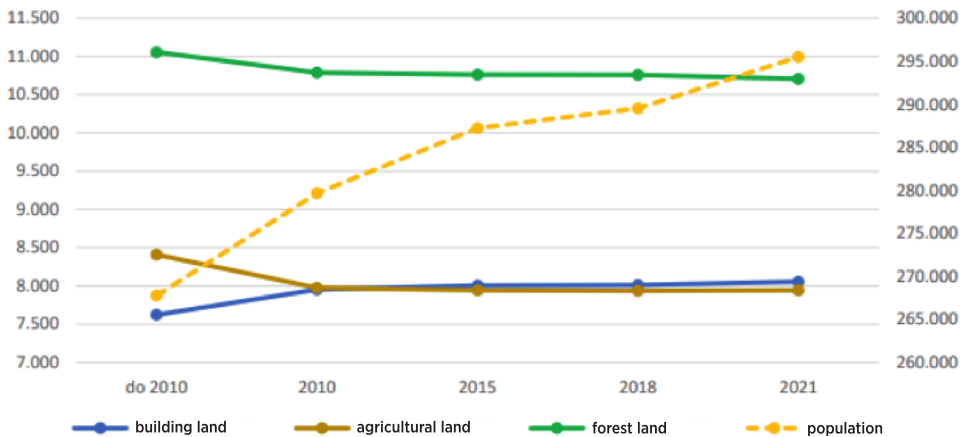


Chart: Selected zoning changes during the period considered.

Source: Environmental report on the fourth amendments and changes to the City of Ljubljana Municipal Spatial Plan

The fourth amendment of the Municipal Spatial Plan is underway, which foresees 42.93 ha of new building land.

As a rule, the COL Municipal Spatial Plan – Strategic Part, as a long-term plan, is not subject to amendments, while the COL Municipal Spatial Plan – Implementation Part, which is a medium-term plan, is amended and revised every three to four years. Even when zoning new building land, for example from agricultural land, other plots are re-zoned back to agricultural land to make up for it. This helps us keep the share of green areas at a steady 75% (forest, agricultural land, parks and waters).



b) COL Environmental Protection Programme 2021–2027 (underway)

A strategic document, the Environmental Protection Programme is based on the state of the environment, addressing **top-priority environmental challenges** and defining actions needed to achieve the municipality's strategic objectives. The first Environmental Protection Programme in Ljubljana was adopted back in 2007, with a third currently underway. Over time, the priority areas in the programmes have changed slightly; some have been given a stand-alone strategy document or have been incorporated into other strategies. For the 2021-2027 period, the top environmental priorities remain **water and nature**, with two areas, namely **climate change and partnerships**, having been newly added.

c) COL Rural and Urban Agriculture Development Strategy 2021–2027

In the field of rural development and urban agriculture, the COL's top objective is to **ensure food self-sufficiency based on responsible natural resource management**, especially water and land, in order to **ensure a degree of food security in the event of unforeseen global events**. In particular, the strategy addresses the relationship between demand and supply, and is anchored in building a responsible society that understands the importance of all things local, conservation of the environment and natural resources, and is aware of the importance of a circular economy. The models presented cover different parts of rural development and urban agriculture and accommodate the development of various activities, ranging from the preservation and development of the social potential of rural areas to empowering the rural population to remain in the countryside, thus creating a living space and a green hinterland for the city with all its geographical and societal and sociological elements.

d) Ljubljana Urban Forest Development Strategy 2020–2045

With respect to urban forest development, the COL's chief goal is to provide responsible and effective urban forest management, which, by engaging relevant target groups, will **take forest management to the next level in terms of quality and content**. The strategy outlines seven priorities for urban forest management in Ljubljana:

- ensuring a healthy living environment;
- providing opportunities for leisure and recreation and promoting sustainable tourism;
- providing opportunities for education and lifelong learning;
- preserving nature and cultural heritage;
- creating a favourable environment for forest owners, NGOs;
- promoting a circular economy; and
- developing integrated management.

e) COL Local Energy Concept (underway)

Within the COL Local Energy Concept, the goal is to ensure a reliable, secure, competitive and sustainable energy supply to facilitate the transition to a low-carbon society, thus creating an environment that is conducive for the necessary activities and investments, and also to provide **quality energy services for citizens and the economy**. The Local Energy Concept gives a detailed analysis of energy products and energy use by customer group that makes it possible to identify the main issues and bottlenecks in the supply and use of energy in the municipality.



f) COL Cultural Development Strategy 2020–2023, with guidelines until 2027

An important aspect driving the cultural development of the COL is the creative industry. Recent years saw the emergence of many new organizations, initiatives and spaces in the creative field within the COL, driving the development of Ljubljana's creative network. In terms of public-private partnership, over the last decade, the COL has been **tapping into the development potential of its districts by promoting and supporting a number of partner projects**, such as Knjižnica REČI (library of things), Vodnikova domačija (cultural venue), CK Španski borci (cultural centre) and the Ljuba and Drago Mobile Youth Centre. At the same time, the COL pursues a long-term plan to expand the cultural scene beyond the city centre through its own institutions: Ustvarjalni Center Švicarija, Kino Šiška, Tobačna 001, RogLab, Galerija Cukrarna and Palača Cukrarna; finally, the COL supports the creative sector through the non-profit rental of 100 offices and workspaces to NGOs.

g) Tourism Development Strategy for Ljubljana and the Ljubljana Region 2021–2027

This strategy seeks to **position Ljubljana as the world's leading and most creative urban destination for a sustainable lifestyle**. Introducing a range of new content, the strategy focuses on creating innovative tourist experiences and attractions, increasing the average length of stay in the destination, increasing the daily spend of tourists and integrating tourism with other important areas. The key idea behind drawing up the strategy was to ensure that the **tourism strategy's central document not only considers visitors but also the city's residents**. It's the citizens who co-shape the city and it's the citizens who are its best ambassadors, and it is therefore crucial that their attitude to tourism remains positive. Tourism development needs to be able to accommodate the coexistence between visitors and city residents and go hand-in-hand with improving the latter's quality of life. The initiatives in the strategy are designed to **divert tourism flows away from the city centre and to relieve the pressure on the environment in the area**. Moreover, the strategy puts forward a number of sustainable initiatives, such as Ljubljanski zajtrk (Ljubljana Breakfast), zero-waste efforts, tourism without single-use plastics, green concierge and others.

h) Sustainable Urban Mobility Plan of the Ljubljana Urban Region

In 2018, the first comprehensive mobility plan for the development region was prepared. As innovative strategic document, it draws on the real needs of the region as a whole, tackling specific challenges of sustainable mobility.

The common goal is to implement integrated mobility with a well-functioning public transport system and the development of safe, high-quality infrastructure for pedestrians and cyclists. As space is becoming an increasingly valuable resource, prudent use of space is essential. For several years now, measures for conserving the region's natural assets, increasing its competitiveness and ensuring an environment that is both healthy and high-quality have been promoted through a range of activities and joint projects, such as the introduction of new bus connections with suburban municipalities, the P+R network, inter-municipal cycling connections and sustainability measures adopted by the COL (closing the city centre and part of Slovenska cesta to personal transport, free rides with the Kavalir EVs, the BicikeLj bicycle-sharing system, the introduction of yellow bus lanes, the Urbana smart city card, etc.)



PILLARS OF SUSTAINABLE MOBILITY	STRATEGIC OBJECTIVES
PILLAR NO. I: Walking and cycling	<ol style="list-style-type: none">1. Good connections with the network of cycling routes2. A higher percentage of journeys made by bicycle3. Improved intermodal points for pedestrians and cyclists
PILLAR NO. II: Public transport	<ol style="list-style-type: none">4. Upgrading the public infrastructure for public transport5. The modernisation of the public transport vehicle fleet6. Improving the management system of public transport
PILLAR NO. III: Motorised transport	<ol style="list-style-type: none">7. Optimised car traffic8. Comprehensive regulation of stationary traffic9. More safety and less pollution of towns with emissions and noise
PILLAR NO. IV: Freight transport and logistics	<ol style="list-style-type: none">10. Effective (transit) freight transport with as little impact on the local population as possible11. Design of sustainable logistics in urban centres12. Promotion of modern and environmentally-friendly logistics centres
PILLAR NO. V: Sustainable mobility planning	<ol style="list-style-type: none">13. A more coherent and focused management at various levels (vertical and horizontal)14. Sustainable mobility planning coordinated between various areas (transport, spatial, economic, etc.)15. Education, raising awareness and public participation16. Improving financing conditions and rational use of resources

i) COL Waste Management Development Strategy 2014–2035 (Zero Waste)

COL was among the first cities in Slovenia to join **Zero Waste Slovenija**, and is the **first and only European capital in Zero Waste Europe**. By adopting the Zero Waste Strategy, the COL is fully committed to the waste management priorities identified in the 9R scale. The point is, wherever possible, to divert waste away from landfills and incinerators, or try and reduce the amount of waste sent there to a minimum. **Zero Waste is all about creating a stable and safe environment that promotes sustainable development, the greening of business activities, fostering social cohesion and raising awareness to create responsible consumers.** To achieve this, it's a prerequisite to redefine the concept of »waste« and to realize that at the end of the day, wasting resources is costly and inefficient. In view of this, **the starting points of the COL Zero Waste Strategy are:**

- reducing the use of primary resources;
- preventing waste at the source;
- reusing;
- closed-loop recycling in as many material flows as possible.



Applying the 9R principles

1 | Refuse

2 | Reduce

3 | Re-use

4 | Repair

5 | Refurbish

6 | Remanufacture

7 | Repurpose

8 | Recycle

9 | Recover

The 9Rs are considered in the design of new circular business models and solutions, **the two most preferred options – refuse and reduce – being at the top of the waste management scale.** This direction is in line with the previously mentioned SDG 12, which emphasises the importance of responsible production and consumption and provides the basis for deciding whether a product should even be produced at all or whether an alternative solution can be found, e.g. sharing. These principles dovetail directly with the City Administration's Code for a Sustainable and Circular City Management, which promotes practices that are higher up on the 9R scale.

In designing value chains that could turn the vision of Ljubljana as a circular city into a reality, **we've made sure to integrate the 9R scale into the circular economy model.** The underlying principle is to always seek out solutions that are in line with the highest principles on the 9R scale and to find partners that can pave the way to such models and have the right set of competencies, knowledge, resources and practices to make them possible.

Problem-solving takes place systemically and comprehensively. We follow developments and national guidelines and keep up with the current (crisis) situation to respond promptly and proactively. As the future concession holder for the obligatory state commercial public incineration service for mixed municipal waste that cannot be reused or recycled, we deem thermal treatment to be an interim solution toward a zero-waste society. However, with regard to the 9R scale, this is a non-permanent initial solution. We are committed to keeping the transition process moving to higher positioned principles and the responsible management of all available resources.

In fact, Ljubljana has been **practising the integration of top-down and bottom-up** principles for many years now. Also endorsed by the EU, this trend is all about maximum stakeholder involvement, maximum dialogue and maximum co-creation, and it is thanks to the long practice of fostering this type of cooperation between the city's leadership and the citizens that Ljubljana is able to share its experiences and the results stemming from this open dialogue.

A Selection of Existing Circular Practices in COL's Big City Family

Through implementing practices related to a circular economy, **Ljubljana's aim is to reduce its carbon footprint**, i.e. to reduce CO₂ and other greenhouse gas emissions and in turn help reduce the pollution



of our planet. Wishing to set an example for the city's residents, the COL has been making efforts to establish and **promote good practices in the field of the circular economy for several years.**

The principles and commitments implemented by Ljubljana **in terms of circularity** can be summarised as follows:

- renting instead of buying;
- service instead of a product;
- sharing instead of ownership; and
- industrial symbiosis.

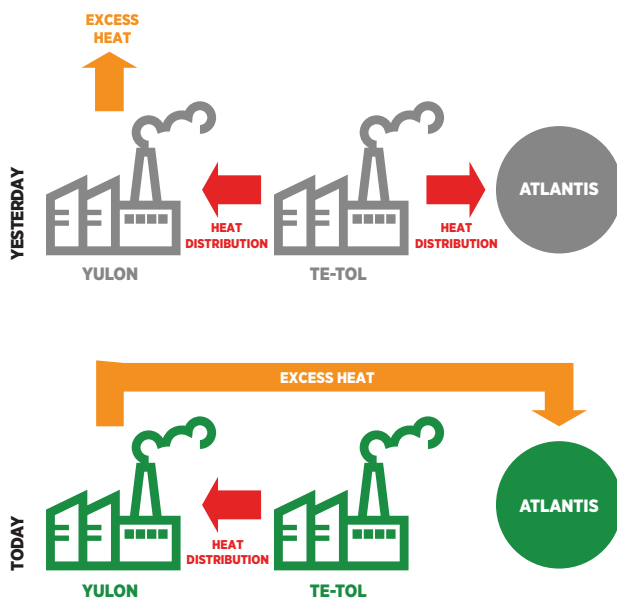
In terms of **sustainable resource management**, **harvested rainwater** is used for cleaning roads and watering flowers in hangers across the city centre.

Since 2013, 59 municipally-owned buildings have undergone energy renovation, and we've also been implementing solutions to use waste heat. For example, in the Tivoli Ice Hall, waste heat from the cooling system is used to heat the sanitary water, to heat the water for the ice resurfacers, and to dry and heat the hall, changing rooms and offices.

Introducing new technologies, such as state-of-the-art water purification systems in swimming pools, is an important step toward reducing water consumption. Waste is converted into raw materials for recycling or fuel (e.g. from coal combustion, after being processed in the Ljubljana Regional Waste Management Centre (RCERO Ljubljana)), whereas power is (co-)generated in the production of electricity in the Ljubljana CHP Plant, biological waste is processed in RCERO Ljubljana and landfill gas from waste decomposition is harvested.

EXAMPLE: Ljubljana already boasts two examples of industrial symbiosis in relation to waste heat use. The energy company Javno podjetje Energetika Ljubljana uses waste heat from the pharma company Lek for district heating, while the Atlantis Water Park gets its heat from the nylon fibre manufacturer AquafilSLO (formerly Yulon).

Source: BTC d.d.





We make sure to choose sustainable gifts (no plastic packaging, locally produced where possible, made from natural materials, and holding environmental certificates) and to **promote low-food-mile systems/green supply chains** by sharing the contact details **of local food producers**, we promote **environmentally friendly packaging** (e.g. biodegradable bags at the market) and **promote sustainably organized events and packaging-free shops** (e.g. the Bert vending machine). COL holds public tenders in which NGOs and individuals are transparently selected to **occupy municipally-owned premises rent-free**. The municipality rents out 408 spaces, covering 33,000 square metres in total, free of charge for culture (NGOs and freelancers), social services and the protection of the most vulnerable residents of the municipality, and provides 280,000 free use hours per year in various sports facilities for different sports clubs.

EXAMPLE: The EU project APPLAUSE – from harmful to useful with citizens' led activities has **generated 65 ways of processing the biomass of invasive alien plants**, which pose one of the biggest threats to biodiversity, **into useful products** (e.g. paper, dyes, coatings, plant protection products, 3D composites, etc.).



Credit: Pulp and Paper Institute

The promotion of walking and cycling: In 2021, **the city's bike-sharing system (Bicikelj) recorded more than 52,500 users, i.e. roughly 17% of Ljubljana's population**, with an active annual subscription, the highest since the system took off in 2011. Two electric bicycles for transporting goods are already in use by the city administration and the Mladi zmaji public institution, and we are already considering implementing more sustainable deliveries across the city centre (the EU project Urban Logistics Management Strategy).

Electric car-sharing is also on the rise. In Ljubljana, the car-sharing network includes **more than 200 vehicles at 34 public and 51 private sites**.



In 2021, the **EV Klinko Kavalir** was introduced to shuttle passengers free of charge in the area of the **University Medical Centre Ljubljana (UKC Ljubljana)** and the **Institute of Oncology Ljubljana**. To make public transport as user-friendly as possible, a direct city bus line was launched on 1 June 2021 to ease the commute for the staff of the University Medical Centre Ljubljana and Institute of Oncology Ljubljana. The Kavalir EV also provides free rides around Žale Cemetery. As of 2021, 87 of the 216 city buses run on methane. In addition to Klinko Kavalir and six Kavalirs, there's another EV in use to collect cash from Urbanomat ticket machines across the city, and another in the form of the Urban EV street train.

EXAMPLE: Currently, the **city centre is served by six electric vehicles (named Kavalir) with drivers**. Each Kavalir can carry up to five passengers at a time and the rides are free. Their low speed means that you can hail (and step off) wherever you like.



Credit: Nik Rovani

Sharing is also facilitated by **setting up exchange markets, libraries of things and clothes, and re-use centres**.

We **reuse** asphalt, road signs, building materials and furniture. Decommissioned city buses are repurposed: the seat covers can be used to make pet baskets and slippers.



EXAMPLE: Decommissioned city buses have been converted into a mobile youth centre, classrooms for children at the Ljubljana Shelter (Zavetišče Ljubljana) and a new public space in Kašelj.



Credit: JZ Mladi zmaji

In 2020 Ljubljana collected 69.5% of municipal waste separately. We are making the switch to one of the **most sustainable hygiene papers** on the market (paper towels and toilet paper), made from recycled composite milk and juice cartons.

EXAMPLE: Annually, **more than 20,000 tonnes of organic waste gets processed in RCERO Ljubljana.** In the process, the separately collected organic waste is turned into compost of the highest (first) quality, which can be used for gardens and fields. In 2020, biogas production from the biological treatment of (all) municipal waste amounted to almost 8 million m³.



Credit: JP VOKA SNAGA



Embarking on a Shared Journey to a Circular Urban Lifestyle

The city's ambition is to present circular solutions to its citizens and other people who co-create the city's distinct vibe in a way that is **clear, easily accessible and easily recognisable**. The goal is to get them involved in **co-creating a lifestyle that will be increasingly circular by 2045**, which will feed back into their interest to move the city and its offer towards circularity.

Below are some of the initiatives that are set to be carried out with the city's various partners in 2021–2027 and upgraded in line with the development of infrastructure and amenities:

- The City Administration's Code for a Sustainable and Circular City Management – support and commitment of employees to circular decision-making. Project promoter: Circular Economy Manager;
- Circular challenges for decision-makers and other associates – implementing circular practices and designing new ones across COL's Big City Family. Project promoter: Circular Economy Manager;
- Putting in place a land recycling indicator in the COL – supporting the re-use of space. Project promoter: Department of Urban Planning, Office for Digitalisation;
- Setting up construction waste recovery – as a measure to reduce illegal dumping sites in the environment and to develop new cover materials. Project promoter: Department for Environmental Protection;
- Implementing the provisions of the Decree on Green Public Procurement in conceptual designs for the construction and renovation of public buildings. Project promoter: Office for Development Projects and Investments;
- Developing life cycle assessments for new constructions and renovations of public buildings. Project promoter: Office for Development Projects and Investments;
- Regular meetings for circular practices – a hub for information, education and creativity with an annual programme of activities and topics to promote circularity. Project promoter: Circular Economy Manager;
- Fostering the involvement of creative minds in the design of circular solution – products, spaces and services – to make them aesthetically pleasing and attractive to users; hold up circularity as a trend that becomes a mainstream lifestyle. Project promoter: ROG Centre;
- Promoting green jobs – education and exchanging good practices and craftsman skills between generations, such as jobs in repair shops and maintenance, extending the life cycle of products. Project promoter: ROG Centre;
- Digitalisation and the circular economy in relation to business and industry – training and mentoring for SMEs (including start-ups). Project promoter: Technology Park Ljubljana;
- Designing a map of swap shops, borrowing shops, repair and recycling facilities – providing communication support for the promoters of circular practices in the city and strengthening their profile and involvement in the lives of citizens. Project promoters: Circular Economy Manager, Office for Digitalisation;



- Designing and holding the annual Reuse Festival (Festival ponovne uporabe) on the waterfront in front of the ROG Centre – an annual event to bring together existing circular actors to forge new connections and partnerships, and raise the profile of the circular efforts of the city. Project promoter: ROG Centre;
- Pilot project for modular housing construction by the City of Ljubljana Public Housing Fund in functionally degraded areas – a case of space and building planning incorporating circular economy principles aiming to provide a good quality of life. Project promoter: the City of Ljubljana Public Housing Fund;
- Putting in place an incentive system at the city level – connecting “green” providers who provide access to circular, green products and services in return for circular, informed actions by citizens. The system will be integrated into the overall incentive scheme of the City of Ljubljana. Project promoter: Circular Economy Manager, Office for Digitalisation.



Priority Action Areas 2021–2027

In order to make the vision of a circular city a reality, it's crucial to tap into the process of identifying potentials that could be fostered and upgraded through appropriate support mechanisms and concerted action toward bringing the economy and society as a whole systemically closer to the principles of circularity. On this journey, we promote both technological and social innovation, and are above all devoted to the continuous engagement of various stakeholders in achieving our goals.

Based on the analysis of the status quo and trends, COL's potential for impact and its collaboration with different stakeholder groups, we have mapped out, verified and argued the merits, together with the stakeholders, of focusing on the following **four complementary and inter-linked priority areas**:

- **Plastics** (single-use) – circular solutions to cut down the use of plastic packaging (single-use) and plastic products;
- **Food waste** – preventing food waste and using food waste as a valuable resource;
- **Textiles** – reducing textile waste and promoting the re-use of clothing; and
- **Electronic and electrical equipment** – increasing the sharing and re-use of electrical and electronic equipment.

The schemes outlined below sum up the **strategic objectives** for these selected areas, the specific **challenge they address and the associated activities** geared toward achieving the defined objective, in line with the Circular Economy scheme. A horizontal activity, **green public procurement** makes it possible to pursue green circular objectives at the level of partner selection based on specific criteria for partner evaluation. This is followed by **COL's operational objectives** and an overview of the **activities** designed to get us there.

The operational objectives presented directly relate to the competencies of the COL; **meanwhile, in the workshops, we have pinpointed a broader set of objectives (strategic goals) whose implementation falls under the remit of other stakeholders working together with the city.** Against this backdrop, we encourage everyone involved to proactively engage and use their competencies and resources to build on the presented strategic objectives.



STRATEGIC OBJECTIVE: Reducing the Use of Plastic (Single-Use) Packaging and Plastic Products

In 2019, Slovenia generated almost 292,000 tonnes of packaging waste, accounting for 27% of all the municipal waste generated in that year. Of this, 42% was generated by households and 58% by the production and service industries. The majority of household packaging waste, specifically 66%, consisted of mixed and plastic packaging (a large part of the plastic packaging waste is collected together with mixed packaging waste and with other types of packaging waste); 23% was glass packaging, 10% was paper and cardboard packaging, only 1% was wooden packaging and less than 1% was other types of packaging waste (metal packaging, textile packaging, etc.). (Source: Statistical Office of the Republic of Slovenia)



THE COL'S OPERATIONAL OBJECTIVES:

- In 2027, the amount of single-use packaging from households and service industries in the COL will drop by at least 15% compared to 2019;
- In 2027, all COL's public institutions will be included into the local municipal material recovery cycle for tetrapak cartons;
- By 2027, the share of separately collected packaging at sporting events (indoor and outdoor) with more than 500 visitors will increase by at least 50% compared to 2019.

Activity	Promoter	Time-frame	Financial resources required	Performance indicator
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PLANNING

Establishing a mechanism to analyse the types of plastic waste across COL's Big City Family	VOKA SNAGA public utility company, Circular Economy Manager	2022	€	Data on plastic waste in COL's Big City Family
Only co-financing events that are free of plastic products and single-use plastic packaging	Ljubljana Tourism organization	Continuous task	€€	Number of events free of plastic products and single-use plastic packaging organised by Ljubljana Tourism organization
Updating the Sustainable Events Manual (Priročnik za organizacijo trajnostnih prireditiv)	Marketing Manager	2023	€	Updated Sustainable Events Manual
Implementing tourism-related promotional campaigns against single-use plastics	Ljubljana Tourism organization	2027	€	Number of tourism-related promotional campaigns against single-use plastics
Compiling and publishing a list of packaging-free shops	Circular Economy Manager, Office for Digitalisation	2023	€	Published list of packaging-free shops
Training and mentoring SMEs (including start-ups) to ease their transition to the circular economy through digitalisation (circular design and retaining value)	Ljubljana Technology Park	2027	€	Training at least 3 SMEs by 2022 in the framework of the Circular4.0 project – Interreg Alpine Space, and another 5 by 2027

USE/SHARING

Implementing promotional campaigns against plastic bags among caterers and retailers in the COL	City Manager	2027	0	Number of caterers and retailers taking part in the COL campaign against plastic bags
Installing new drinking fountains, based on proven needs and considering the installation capabilities	VOKA SNAGA public utility company	2027	€€	Number of drinking fountains within the COL
Implementing tap water promotion campaigns in secondary schools and universities	VOKA SNAGA public utility company	2027	€	Number of tap water promotions in secondary schools and universities

€ procurement value not subjected to the Public Procurement Act provision; €€ = public procurement value estimated up to EUR 500,000; €€€ = public procurement value over EUR 500,000

Activity	Promoter	Time-frame	Financial resources required	Performance indicator
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USE/SHARING

Setting up the Green Lab inside the ROG Centre – promoting the development of green technologies and bio-based materials as alternatives to plastics, e.g. the extraction of materials from micelles	ROG Centre	2023	€€	Green Lab launched in the ROG Centre
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RE-USE/RECYCLING

In the premises of the COL, allowing only vending machines that also allow personal reusable cups	Department for Real Estate	2022	0	Number of beverages dispensed in personal reusable cups
Adding a provision to the Decree setting out that it is mandatory to use reusable packaging at public events in the COL	Department for Commercial Activities and Traffic	2027	0	Amended Decree
Implementing an EU project involving the setting up of a facility for washing reusable packaging, and a pilot project to standardise and reduce the amount of single-use plastic packaging at food delivery companies	Circular Economy Manager, City Manager	2027	€€	An operational facility for washing reusable packaging within COL
Setting up a recycling facility in the ROG Centre – outfitted with the appropriate machinery to recycle plastics used for 3D printing and textiles. The recycling facility will also be outfitted with machines for processing single-use plastics	ROG Centre	2023	€€	Recycling facility set up in ROG Centre
Promoting the establishment of a takeaway system for reusable packaging within the COL	Circular Economy Manager	2027	€	Number of ads/posts
Launch of the Ljubljana Breakfast 2GO system, connecting hotels, restaurants and accommodation providers to supply them with environmentally friendly breakfasts and packaging	Ljubljana Tourism organization	2023	€	Number of partners involved in the Breakfast 2GO system
Encouraging tourists to drink tap water (map of drinking fountains around the city), the purchase of water bottles and the “Ljubljana Bottle” (TIC, shops), welcome gift in hotels, water bottle vending machines – communicating with all stakeholders	Ljubljana Tourism organization	Continuous task	€	Number of activities aimed at encouraging tourists to drink tap water

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Activity	Promoter	Time-frame	Financial resources required	Performance indicator
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SEPARATE COLLECTION

Set up the infrastructure and effective communication with visitors to increase the share of separately collected packaging at major sporting events	VOKA SNAGA public utility company and Šport Ljubljana public institute	2027	€€	Share of separately collected packaging at major sporting events
Using containers made of 100% recycled plastic for the collection of packaging waste in the public service for the collection of packaging waste	VOKA SNAGA public utility company	2027	€	Share of containers made of 100% recycled plastic

GREEN PUBLIC PROCUREMENT

Promoting the joint procurement of hygiene paper (toilet paper, towels) from recycled waste beverage cartons (tetrapak) in COL's Big City Family	Office of Public Purchasing	2027	0	Number of members in COL's Big City Family involved in the joint procurement of hygiene paper (toilet paper, towels) from recycled waste beverage cartons (tetrapak)
Carrying out annual training courses on public procurement and, through them, informing public institutions about the option of purchasing cleaning products in refillable packaging	Office of Public Purchasing	2027	0	Number of members from COL's Big City Family who buy refillable cleaning products

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STRATEGIC OBJECTIVE: No Food Waste

In 2019, a resident of Slovenia generated 1.3 kg of food waste per week on average, which is 67 kg per year. In Slovenia in 2019, half (50%) of the food waste or almost 69,900 tons originated from households, almost a third (31%) or 44,400 tonnes stemmed from catering and other food-serving activities (e.g. in schools, kindergartens, hospitals and retirement homes), a tenth (10%) or about 14,450 tonnes from food distribution and food shops (due to transport damages, improper storage or expired use-by date), and just under a tenth (9%) or just over 12,100 tons from food production (including primary food production). (Source: Statistical Office of the Republic of Slovenia)



THE COL'S OPERATIONAL OBJECTIVES:

- In 2027, households in the COL will discard at least 80% less organic waste in their mixed municipal waste container compared with 2019;
- In 2027, public kindergartens and primary schools in the COL will cut down their food waste by at least 80% compared with 2019.

Activity	Promoter	Time-frame	Financial resources required	Performance indicator
PLANNING				
Set up a joint record of food waste in public institutions of the COL	Circular Economy Manager	2023	€	Record of food waste across public institutions of the COL
Raising the awareness of the staff in public institutions regarding food/meal planning in terms of quantity and quality	Department for Environmental Protection	Continuous task	€	Number of staff in public institutions involved in quantity and quality food/meal planning courses
Educating about circular food consumption in the Cookery Lab and Green Lab in the ROG Centre	Department for Environmental Protection ROG Centre	Continuous task	€	Number of training courses held in the Cookery Lab and Green Lab in the ROG Centre
Posting a list of available household meal-planning apps on the COL website	Circular Economy Manager	2022	0	List of available household meal-planning apps on the COL website
Implementing campaign for raising awareness about and minimising plate food waste in tourism (hotels and restaurants)	Turizem Ljubljana organization	Continuous task	€	Campaign implementation and number of external partners involved
Training and mentoring SMEs (including start-ups) to ease their transition to the circular economy through digitalisation (circular design and retaining value)	Ljubljana Technology Park	2027	€	Training of least 3 SMEs by 2022 in the framework of the Circular4.0 project – Interreg Alpine Space, and another 5 by 2027

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Activity	Promoter	Time-frame	Financial resources required	Performance indicator
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USE/SHARING

Explore the possibility of renting out the COL's empty facilities for food production	Department for Real Estate	2023	0	Report on empty facilities suitable for food production
Compile and publish the sites where food surpluses are generated	Circular Economy Manager, Office for Digitalisation, City Manager	2023	€	Map of sites where food surpluses are generated
Empowering food providers to reduce food prices at the end of the business day	City Manager	2027	€	Number of food providers offering reduced-price meals at the end of the business day
Set up food production infrastructure in the residential neighbourhoods operated by the City of Ljubljana's Public Housing Fund	City of Ljubljana's Public Housing Fund	2027	€	Number of neighbourhoods operated by the City of Ljubljana's Public Housing Fund with food production infrastructure
Introducing the weighing of food waste in primary schools by involving pupils	Pre-School Education and Schooling Department	2027	€	Number of primary schools weighing food waste
Promoting organic gardens in kindergartens and schools	Pre-School Education and Schooling Department	Continuous task	€€	Number of kindergartens and primary schools with an organic garden

RE-USE/RECYCLING

Promoting composting in public facilities	Pre-School Education and Schooling Department	Continuous task	€€	Number of public facilities with composting
Raising awareness and educating citizens about composting and the use of food scraps – Cookery Lab and Green Lab in the ROG Centre	ROG Centre	2023	€€	Number of activities on the topic of composting and the use of food waste
Exploring the possibility of using surplus food from events for new meals	Turizem Ljubljana organization	2022	€	Report

SEPARATE COLLECTION

The separate collection of cooking oil: annually promoting and carrying out several separate collection campaigns for cooking oil in public areas	VOKA SNAGA public utility company	Continuous task	€€	Amount of cooking oil collected
The separate collection of garden waste: looking into the possibility of becoming involved in the EU CEL.KROG programme (recycling)	VOKA SNAGA public utility company	2024	€	Possibilities of recycling garden waste
Raise awareness and educate on the proper separation of bio-waste to produce quality compost (bio-waste without plastic bags, compost without microplastics)	VOKA SNAGA public utility company	Continuous task	€	RCERO quality compost

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Activity

Promoter

Time-
frameFinancial
resources
required

Performance indicator

GREEN PUBLIC PROCUREMENT

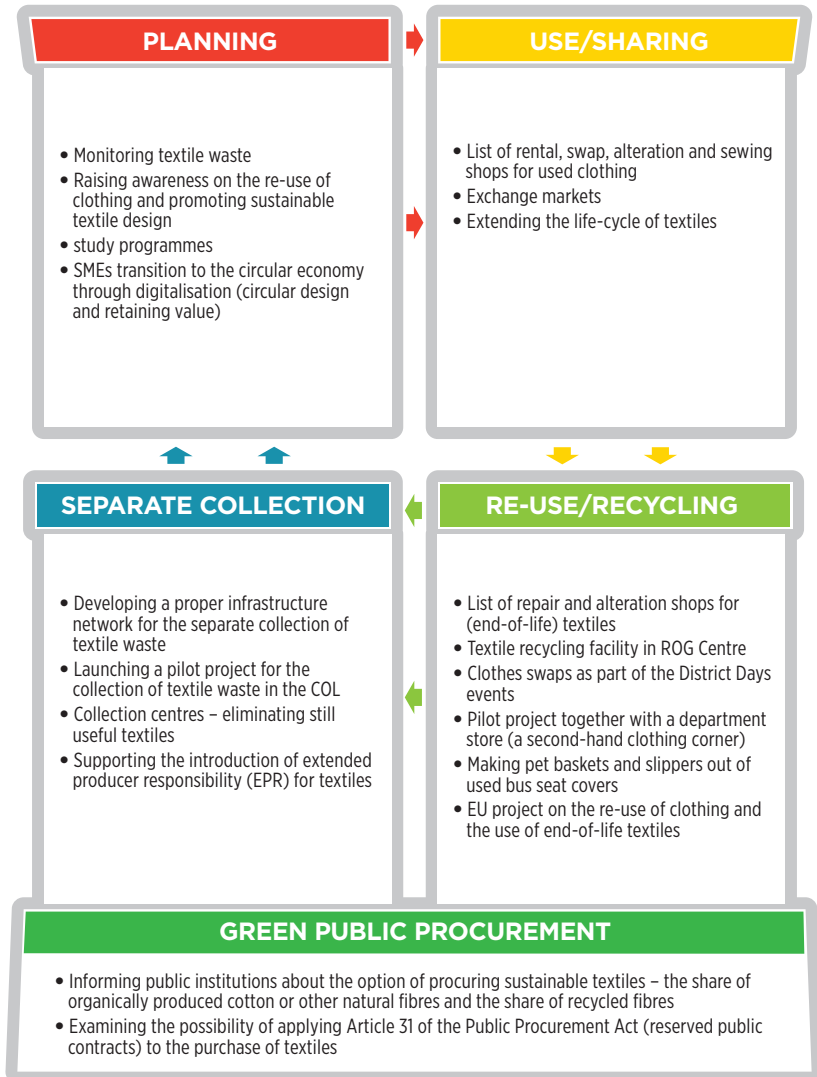
Promoting the procurement of locally grown foodstuffs across public institutions via short food supply chains (highlighting the possibility of applying an exemption from the provisions of the PPA, and the option of excluding sets of foodstuffs from the public procurement notice, and promoting the procurement of food from quality schemes beyond the mandatory share set out in the Decree on Green Public Procurement in the area of food procurement).	Office of Public Purchasing, Department for Environmental Protection	2027	0	Number of public institutions applying the exemption from the PPA, the option of excluding sets of foodstuffs, or procuring food from quality schemes beyond the mandatory share set out in the Decree on Green Public Procurement in the area of food procurement
Collecting and promoting best practices in food procurement across public institutions	Department for Environmental Protection	2025	€	Number of best practices with regard to food procurement in public institutions

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STRATEGIC OBJECTIVE: Minimising Textile Waste and Increasing the Reuse of Clothing

Regarding the total use of primary raw materials and water in the supply chain for consumption in the EU, the textile industry represents the fourth highest pressure category after food, housing and transport, and the fifth-highest greenhouse gas emission pressure category (Source: European Environment Agency Report, 2019). In 2019, Slovenian households discarded 1,299 tonnes of clothing and 309 tonnes of textiles. (Source: Statistical Office of the Republic of Slovenia)



THE COL'S OPERATIONAL OBJECTIVE:

- In 2027, at least 50% of household textile waste in the COL will be collected separately.

Activity	Promoter	Time-frame	Financial resources required	Performance indicator
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PLANNING

Establishing an analysis mechanism regarding textile use across COL's Big City Family	Circular Economy Manager, Office for Digitalisation	2023	€	Textile use data across COL's Big City Family
Raising awareness on the re-use of clothing and promoting sustainable textile design	ROG Centre	2023	€€	Number of activities carried out in the field of the re-use of clothing
Supporting sustainable textile design study programmes through signed letters of support for EU projects or membership in advisory boards	Circular Economy Manager	2027	0	Number of documents supporting study programmes in sustainable textile design
Training and mentoring SMEs (including start-ups) to ease their transition to the circular economy through digitalisation (circular design and maintaining value)	Ljubljana Technology Park	2027	€	Training of at least 3 SMEs by 2022 in the framework of the Circular4.0 project – Interreg Alpine Space, and another 5 by 2027

USE/SHARING

Compiling and publishing a list of clothing rental shops	Circular Economy Manager, Office for Digitalisation	2023	€	List of clothing rental shops published
Establishing exchange markets in selected facilities operated by the City of Ljubljana's Public Housing Fund	City of Ljubljana's Public Housing Fund	2027	€	Number of exchange markets in the facilities operated by City of Ljubljana's Public Housing Fund
Setting up exchange markets for various items ("izmenjevalnice reči") across 30 Big City Family sites	Circular Economy Manager	2027	€	Number of exchange markets for various items across COL's Big City Family
Compiling and publishing a list of second-hand shops	Circular Economy Manager, Office for Digitalisation	2023	€	List of second-hand clothing shops published
Design recommendations for extending the life cycle (use) of textiles (work clothes, sheets, tablecloths, etc.) across COL's Big City Family	Circular Economy Manager	2023	€	Recommendations for extending the life cycle (use) of textiles (work clothes, sheets, tablecloths, etc.)

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Activity	Promoter	Time-frame	Financial resources required	Performance indicator
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RE-USE/RECYCLING

Compiling and publishing a list of people mending and recycling textiles	Circular Economy Manager, Office for Digitalisation	2023	€	List of people mending and upcycling textiles published
Establishing a textile recycling facility in the ROG Centre (with a screen-printing workshop)	ROG Centre	2023	€€	Textile recycling facility set up in the ROG Centre
Facilitating a clothes swap as part of the District Days event	Circular Economy Manager, Office for Local Self-Government	2023	€	Number of clothes swaps held as part of the District Days event
Launching a pilot project together with a department store to set up a second-hand clothing corner	Circular Economy Manager	2025	0	Second-hand clothing corner set up in a department store
Engaging in the Sustainable Community for Youth Employment – to promote the swapping of trendy clothes among young people	Circular Economy Manager	2027	€	Number of young people attending promotional events about trendy clothing swaps
Making pet baskets and slippers out of used bus seat covers	Public company Ljubljanski potniški promet d.o.o.	2023	€	Number of pet baskets and slippers produced
Applying for an EU project on the re-use of clothing and the use of end-of-life textiles	Circular Economy Manager	2027	€€	EU project on textiles implemented

SEPARATE COLLECTION

Setting up 85 above-ground extended waste containers by 2027 operated by the public service – textile waste container with fullness sensor	VOKA SNAGA public utility company	2027	€€€	Number of extended above-ground waste facilities with the collection of textile waste
Setting up 14 mini collection centres across the COL	VOKA SNAGA public utility company	2027	€€€	Number of mini collection centres across the COL
Launching a pilot project for the collection of textile waste in the COL	VOKA SNAGA public utility company	2022	€	Amount of textiles collected separately
Establishing a system for eliminating still useful items – textiles – at COL's collection centres, within the framework of the implementation of the public waste collection service.	VOKA SNAGA public utility company	Continuous task	€	Amount of collected, still usable, textiles in the COL collection centres
Supporting the introduction of extended producer responsibility (EPR) for textiles	VOKA SNAGA public utility company	2025	€	Regulatory EPR for textiles

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Activity	Promoter	Time-frame	Financial resources required	Performance indicator
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GREEN PUBLIC PROCUREMENT

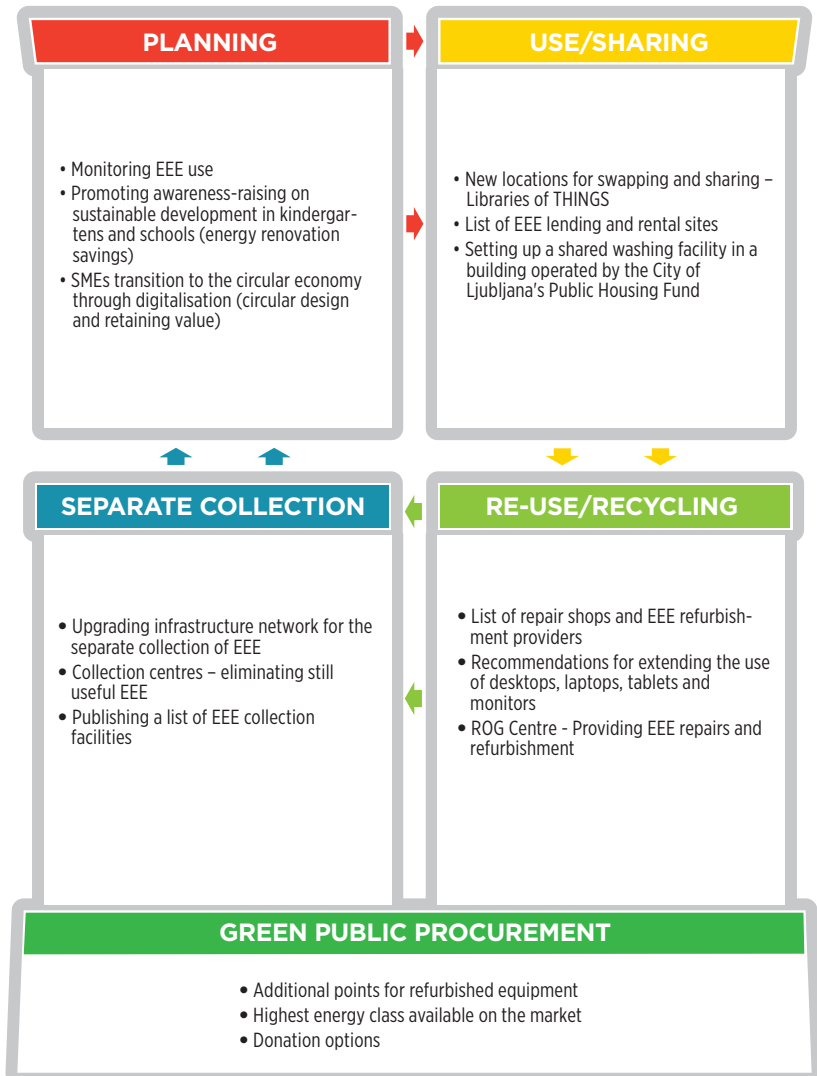
In the context of annual training on public procurement, public institutions should also be informed about the option of procuring sustainable textiles – the share of organically produced cotton or other natural fibres and the share of recycled fibre	Office of Public Purchasing	2027	0	Number of members across our COL's Big City Family buying sustainable textiles
Examining the possibility of applying Article 31 of the Public Procurement Act (reserved public contracts) to the purchase of textiles	Office of Public Purchasing, Circular Economy Manager	2022	0	Report

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STRATEGIC OBJECTIVE: Increasing the Sharing and Re-Use of Electrical and Electronic Equipment

Electrical and electronic equipment (EEE) remains one of the fastest-growing waste streams in the EU, with a current annual growth rate of 2%. It is estimated that less than 40% of e-waste is recycled in the EU (Source: Circular Economy Action Plan, European Commission, 2020). If properly disposed of, 90% of EEE waste can be recycled. The average Slovenian household buys 35 kg of new EEE per year, while only 12 kg of waste from EEE is collected. (Source: ZEOS, d.o.o.)



THE COL'S OPERATIONAL OBJECTIVES:

- In 2027, the COL will collect at least 75% of the weight of electrical and electronic equipment annually purchased by the average Slovenian household in a year; and
- In 2027, a minimum of 50% of desktops, laptops, tablets and monitors, landline and mobile phones, photocopiers and multifunction devices, as well as household appliances across our COL's Big City Family will be purchased on a refurbished or rental basis.

Activity	Promoter	Time-frame	Financial resources required	Performance indicator
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PLANNING

Establishing a mechanism to analyse EEE usage across our COL's Big City Family	Circular Economy Manager, Office for Digitalisation	2024	0	EEE data across our COL's Big City Family
Promoting awareness-raising on sustainable development in kindergartens and schools (energy renovation savings)	Pre-School Education and Schooling Department	2027	€€	Number of workshops held for kindergartens and primary schools
Training and mentoring SMEs (including start-ups) to ease their transition to the circular economy through digitalisation (circular design, optimal use and maintaining value)	Ljubljana Technology Park	2027	€	Training of at least 3 SMEs by 2022 in the framework of the Circular4.0 project – Interreg Alpine Space, and another 5 by 2027

USE/SHARING

Setting up new EEE sharing sites: establishing three libraries of things across the COL – in youth centres	Circular Economy Manager	2027	€	Number of new EEE sharing sites
Enabling the ordering items in libraries of things at at least 20 sites across our COL's Big City Family	Circular Economy Manager	2027	0	Number of sites within our COL's Big City Family where items can be ordered from libraries of things
Promoting libraries of things on COL channels and at District Days events	Circular Economy Manager, Office for Local Self-Government	Continuous task	€	Number of posts/article on the topic of libraries of things
Compiling and publishing a list of EEE lending and rental sites	Circular Economy Manager, Office for Digitalisation	2023	0	List of EEE lending and rental sites published
Implementing a pilot project about setting up a shared washing facility in a building operated by the City of Ljubljana's Public Housing Fund	City of Ljubljana's Public Housing Fund	2027	€	Shared laundry in the City of Ljubljana's Public Housing Fund facility

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Activity	Promoter	Time-frame	Financial resources required	Performance indicator
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RE-USE/RECYCLING

Compiling and publishing a list of repair shops and EEE refurbishment providers	Circular Economy Manager, Office for Digitalisation	2023	0	List of repair shops and EEE refurbishment providers published
Designing recommendations for extending the use of desktops, laptops, tablets and monitors	Office for Digitalisation	2022	0	Recommendations for extending the use of desktops, laptops, tablets and monitors
Providing EEE repairs and refurbishment in the ROG Centre	ROG Centre	2023	€€	Number of EEE repairs and refurbishments in the ROG Centre

SEPARATE COLLECTION

Setting up 85 above-ground extended waste containers operated by the public service – small household appliances container with fullness sensor	VOKA SNAGA public utility company	2027	€€€	Number of extended above-ground waste collection facilities for the collection of small household appliances
Establishing a collection point for the selected types of WEEE across 40 sites across our COL's Big City Family	VOKA SNAGA public utility company	2027	€€€	Number of sites across our COL's Big City Family with a collection point for selected types of WEEE
In the COL collection centres operated by the public waste management company, establishing a system for the separation of still useful items – EEE	VOKA SNAGA public utility company	Continuous task	€	Amount of collected WEEE still in use in the COL collection centres
Publishing a list of WEEE collection facilities	VOKA SNAGA public utility company	2022	0	Published list of WEEE collection facilities
Promoting and implementing a separate WEEE collection campaign every year in public areas together with WEEE collectors	VOKA SNAGA public utility company	Continuous task	€	Number of separate WEEE collection campaigns carried out in public areas

GREEN PUBLIC PROCUREMENT

Stipulating that for each procurement pertaining to electrical and electronic equipment, additional points for refurbished equipment should be among the criteria	Office for Digitalisation, public companies	Continuous task	0	Share of electrical and electronic equipment refurbished
Stipulating that every procurement pertaining to electrical and electronic equipment must indicate as a condition the highest energy class available on the market	Office for Digitalisation, public companies	Continuous task	0	Share of electrical and electronic equipment in the highest energy class
Launching an initiative to change the legislation on depreciated fixed assets – to include a donation option	Circular Economy Manager, Office for Digitalisation	2022	0	Change in the legislation on depreciated fixed assets

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Timeline – Milestones on the Circular Journey

- 2002:** Launch of the separate collection of glass, packaging and paper and cardboard
- 2006:** Launch of the separate collection of organic waste
- 2007:** Outlining the Ljubljana 2025 Vision
- 2010:** Adoption of the City of Ljubljana Municipal Spatial Plan
- 2013:** Adoption of the Electromobility Strategy in the City of Ljubljana
- 2014:** Adoption of City of Ljubljana's Waste Management Development Strategy for the 2014–2035 Period (Zero Waste)
Adoption of the Environmental Action Programme for the City of Ljubljana 2014–2020
- 2015:** Adoption of the Sustainable Urban Strategy of the City of Ljubljana (2014–2020)
Construction of Ljubljana Waste Management Centre (RCERO Ljubljana)
- 2016:** European Green Capital 2016
Joining the Circular Cities network (an initiative of the Ellen MacArthur Foundation)
- 2017:** Hosting the Eurocities Annual General Meeting in Ljubljana on the topic of circular economy
Adoption of the Sustainable Urban Mobility Plan of the Ljubljana Urban Region
Launch of the EU project APPLAUSE (Urban Innovative Actions)
- 2018:** Adoption of Sustainable Urban Mobility Plan of the Ljubljana Urban Region
Creating the position of Circular Economy Manager
- 2019:** Signing the New Plastics Economy Global Commitment (an initiative of the Ellen MacArthur Foundation)
Signing an agreement calling for using less plastic cutlery across Slovenian municipalities (initiative of the Association of Municipalities of Slovenia)
- 2020:** Start of co-chairing of the EUROCITIES Working Group on Waste
Signing the European Circular Cities Declaration
Adoption of the Tourism Development Strategy for Ljubljana and Ljubljana Region 2021–2027
Adoption of the Cultural Development Strategy 2020–2023, with guidelines until 2027
Joining the Waste Wise Cities campaign (a UN initiative)
Joining the Ljubljana Reuse Park (initiative of the Ljubljana Reuse Centre, SURFACE project)
- 2021:** Adoption of the Ljubljana Urban Forest Development Strategy 2020–2045
Adoption of the City of Ljubljana's Rural and Urban Agriculture Development Strategy 2021–2027
Preparation of the Environmental Protection Programme for the City of Ljubljana 2021–2027
Preparation of the City of Ljubljana's Local Energy Concept
Kick-off of the EU project PSLifestyle (Horizon 2020)



Sources and References

- ICLEI - Circular cities declaration <https://circularcitiesdeclaration.eu/cities/ljubljana>;
- UNEP & Ellen MacArthur foundation - The New Plastics Economy Global Commitment <https://www.newplasticseconomy.org/assets/doc/Global-Commitment-2020-Progress-Report.pdf>;
- Interreg project SURFACE – signing the Local agreement on the joining and adoption of a discussion forum for supporting the communication of local recommendations for the development of local and regional waste prevention plans & strategies in a follow-up agreement on cooperation in setting up a Smart Re-Use Park in FUA Ljubljana;
- OECD - Report on The Circular Economy in Cities and Regions <http://www.oecd.org/regional/the-circular-economy-in-cities-and-regions-10ac6ae4-en.htm>;
- UrbanDNA&Imperial College Business School – Circular Cities for Sustained Post-COVID Recovery;
- Transition to a Circular Economy in Slovenia; Mandated by the European Commission (DG REGIO) Expert Support Dr Bernard Gindroz – ppt;
- Roadmap circular resource efficiency management plan_v6. https://ec.europa.eu/futurium/en/system/files/ged/roadmap_circular_resource_efficiency_management_plan_v6.pdf;
- Kažipot prehoda v krožno gospodarstvo Slovenije https://static1.squarespace.com/static/5b97bfa236099baf64b1a627/t/5c63f4bc9b747a36d2955eb3/1550054676638/kazipot_SLO_26apr_FINAL.pdf;
- Sustainable Business in a Modern Society (p. 17–34). https://www.fakulteta.doba.si/upload/brosure/trajnostno_poslovanje_v_sodobni_druzbi_-_monografija_doba_fakultete_2019.pdf;
- Amsterdam Circular 2020-2025 Strategy <https://www.shareable.net/5-ways-to-achieve-circular-development-on-the-local-level/>;
- CIRCULAR ECONOMY IN TRAVEL AND TOURISM, <https://static1.squarespace.com/static/5b97bfa236099baf64b1a627/t/5ef9b8707097fa7586a31b7a/1593424097575/Circular+Economy+in+Travel+and+Tourism.pdf>;
- CIRCULAR CITIES PROGRAM POLAND, Executive Summary, Gdansk – Lublin – Krakow, Circular Cities Program: Executive Summary (metabolic.nl);
- Summary of the first workshop “Ljubljana’s Circular Potentials 2021–2027” for stakeholders, 13 May 2021, Circular Change (pdf);
- Summary of the second workshop “Ljubljana’s Circular Potentials 2021–2027”, 18 June 2021, Circular Change (pdf);
- Response to the comments on the strategic document “Ljubljana’s Circular Potentials 2021–2027 with a Perspective on Ljubljana, Circular City 2045”, received for public hearing, November 2021



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