LET'S GO CIRCULAR! Paving the way for a circular transition of cities

Thematic Article 3 By Dr Eleni Feleki, Lead Expert May 2024

MAINSTREAMING CIRCULAR ECONOMY CRITERIA IN UNUSED BUILDINGS

THE SUCCESSFUL CASE OF RIGA







Co-funded by the European Union Interreg

LET'S GO CIRCULAR! Paving the way for a circular transition of cities

Contents

Abstract2
Background Information
Reuse of buildings and open spaces: The cases of Viskali and open markets
Talent in Viskali
Traditional open markets in transformation to serve circular economy: The cases of the Central Market and Vidsemes Market7
Who said it is an easy task to transform old buildings and municipal open areas? 8
The role of the City in the transformation of the building sector, using the circular economy approach
Riga: a City that tests circular criteria in public procurements for the transformation of the building sector, serving also for urban social cohesion
The two stages of the circular economy procurement procedure10
Digital tools and infrastructure to link supply of materials with demand12
Start small, think big: How to succeed by daring to fail – The role of FREE Riga12
Limitations and drawbacks12
Raising interest at national level13
From 2021 to 2024: Evolution of the material exchange point in Riga and changing of the game with the involvement of the private sector
Digital tools to link supply and demand of materials: Digital platform supporting R- strategies14
Similar platforms16
Riga's Sustainable Energy and Climate Action Plan16
Assessment of the environmental impact of public events and mitigation measures 17
Closing remarks
Acknowledgments



Mainstreaming circular economy criteria in unused buildings: The successful case of Riga

Abstract

Riga, the capital and largest city of Latvia, stands as a pivotal economic and cultural hub in the Baltic region. This thematic report delves into the city's ambitious transition towards a circular economy, focusing on strategies and development plans at both national and local levels. Key national initiatives include Latvia's Action Plan for the transition to a Circular Economy (2020-2027), the National Energy and Climate Plan (2021-2030), and the State Waste Management Plan (2021-2028). Locally, Riga's Sustainable Development Strategy 2030, the Riga Development Programme 2022-2027, and the Sustainable Energy and Climate Action Plan until 2030 are instrumental in guiding the city's sustainable transformation.

The report highlights the innovative reuse of buildings and open spaces, exemplified by Viskali, a creative community hub. Viskali fosters social innovation by providing a space for over 150 entrepreneurs, activists, and scientists to collaborate, reflecting the principles of social and circular economies. The document also examines the potential of open markets to shift public perceptions towards circular economy practices.

A significant portion of the report is dedicated to the role of procurements in promoting circularity within the construction sector. It emphasizes the necessity for digital tools and infrastructure to effectively link supply and demand, thereby preventing material accumulation and facilitating the reuse of resources. The establishment of digital platforms, such as the recently launched tool for supporting R-strategies, is pivotal for enhancing information flow and promoting sustainable habits among citizens.

Riga's Sustainable Energy and Climate Action Plan (SECAP), featuring 112 measures across various sectors, aims to reduce CO_2 emissions, improve energy efficiency, and mitigate climate impacts. Challenges remain, particularly in data availability and private sector involvement, but ongoing stakeholder consultations and the development of support mechanisms are addressing these issues.

Overall, Riga's efforts in transitioning to a circular economy and achieving climate neutrality are marked by innovative strategies, community engagement, and great change of play thanks to the catalytic collaboration with private sector (like Nomales Clean-R)

and NGOs (like FREE RIGA, Green Liberty, Zero Waste Latvia) the integration of advanced digital solutions. This report provides a comprehensive overview of these initiatives, illustrating Riga's role as a leader in sustainability within the Baltic region.

Background Information

Riga is the capital and largest city of Latvia. The city lies on the Gulf of Riga at the mouth of the Daugava river where it meets the Baltic Sea. Riga's territory covers 307.17 km². Home to 614987 inhabitants¹, the city accounts for a third of Latvia's total population (45% male and 55% female). Riga is the largest city in the Baltic states, and one of the key economic and financial centres, though its population has decreased from just over 900000 in 1991. Notable causes include emigration, low birth rates and urban sprawl. Roughly half of all the jobs in Latvia are in Riga and the city generates more than 50% of Latvia's GDP as well as around half of Latvia's exports. The biggest exporters are in wood Technologies, food products, Information and beverage manufacturing, pharmaceuticals, transport and metallurgy. Riga Port is one of the largest in the Baltics with a potential for future growth. Tourism is also a large industry in Riga.

Strategies and local development plans at national level:

- Latvia's Action Plan for the transition to a Circular Economy 2020-2027
- National Energy and Climate Plan 2021-2030
- State Waste Management Plan 2021-2028

Strategies and local development plans at local level:

- Riga Development programme 2022-2027
- Sustainable Development Strategy of Riga 2030
- The Sustainable Energy and Climate Action Plan of the city of Riga until 2030
- Integrated Action Plan for Transition to a Circular Economy in the Construction Sector in Riga City Municipality 2022-2027
- Streets' redesign plan Street typology quidelines

¹ Beginning of 2023, Source: Central Statistical Bureau of Republic of Latvia

According to the <u>Baseline study</u> that has been developed in the frame of the 'Let's Go Circular!" network, **Riga's ambition is to be the leader and pull the topic of circular economy forward, at national level**.

Moreover, Riga's ambition is **to develop a zero-waste plan** and focus on reduction and better separation of source of household waste, food waste, biowaste, and reduction of napkins and other hygiene products.

In terms of infrastructure, **Riga envisions the construction of eight new waste sorting points** and focus on electronics as well.

According to Alise Pizika, Advisor in the field of Climate Neutrality, "We need to work with circular economy and sustainability with both hands. It is time to work with the waste producers, not with the ones that use waste".

In the above sense, Riga acknowledges the links and trade-offs between circular economy and climate neutrality and envisions to swift people from driving car and enhance micro-mobility. There is the ambition to have a low emission zone, to decrease the pollution in the city centre, working by 2027.



Reuse of buildings and open spaces: The cases of Viskali and open markets

Talent in Viskali

Viskali is a community created by people that design their solutions for a better life according to their own philosophy. Viskali is established at the cross roads between five micro districts. It is the largest creative community house in Latvia, uniting more than 150 entrepreneurs activists, public figures, scientists, free radicals that live, work and interact.



The association FREE RIGA (NGO) opened the doors of Viskali at the end of 2019, offering more than 200 rooms, a concert hall and a green outdoor area.



Previously, the Faculty of Mechanical Engineering, Transport and Aeronautics of Riga Technical University was located there.

By concluding a 25-year lease agreement with Riga Technical University, the goal in Viskali is to create a social innovation incubator, putting the improvement of the quality of life for everyone at the center. People are carrying out their activities based on their values and the principles of the social and circular economy.



The independent users of the premises staying and working in Viskali organize workshops for artists and craftsmen, entrepreneurs, scientists and creative people. Exhibitions are held in Vislaki and there is also a place for free exchange of goods.



More information by: Zane Ruģēna, FREE RIGA Association, zane@freeriga.lv

Traditional open markets in transformation to serve circular economy: The cases of the Central Market and Vidsemes Market

Currently, the City of Riga is implementing the following projects at the Central Market of Riga:

- Rail Baltica + public infrastructure + private investment areas
- A new development strategy for the whole market territory
- Mindful (climate-responsive, resilient) renovation strategy and pilot initiatives such as EU-funded MULTICLIMAT (REA + Rigas nami + KTH Royal Institute of Technology a.o. partners)

The pilot initiatives in historical, open markets, include circular demolition pilot, in collaboration with Riga Energy Agency and Universities; a multimodal and combined transport point will start in 2030 and a temporary market and transport point will be implemented 2024-2030.



Moreover, in Vidzeme Market, which is an outdoor, late-night market, serving as a community centre where food-related businesses operate, the ongoing projects are:

- Development of a strategy
- Mindful (climate-responsive, resilient) renovation strategy
- Collaboration with stakeholders at the municipality



Who said it is an easy task to transform old buildings and municipal open areas?

Transforming old buildings and municipal open areas is not an easy task. There are several challenges and obstacles, such as the quality of existing building stock, the coordination between the different stakeholders, funding, competences and competition. Also, the fact that these markets include historical buildings, introduce challenges related to time and size. Finally, the fact that these places are dynamic in their use and include a new user every day, is added on the challenges that need to be faced.

The role of the City in the transformation of the building sector, using the circular economy approach

In 2020, Riga introduced an Integrated Action Plan, in the frame of the URGE: Circular building Cities, financed by URBACT III. The actions that had initially been included have evolved since then. The actions that are included currently in the Integrated Action Plan of the City focusing on the building sector are listed below. Some of them have already been implemented.

- 1. Introductory circular economy course in higher education
- 2. Guidelines for seven audiences
- 3. Capacity building programmes for employees of Riga municipality

- 4. Development of the municipal material exchange point
- 5. Documentation for green procurement including circular economy criteria
- 6. Construction/ Renovation/ Dismantling of buildings following circular economy principles
- 7. Agreement on necessary regulatory improvements and market incentives at the local level
- 8. Establishment of the Riga Energy Agency circular economy unit
- 9. Create data monitoring framework for circular economy measurement in the built environment
- 10. Material flow analysis
- 11. Stimulate efficient use of office space

Riga: a City that tests circular criteria in public procurements for the transformation of the building sector, serving also for urban social cohesion

Through the participation of Riga and in particular of the Riga Energy Agency (REA) in two Action Planning networks financed by the URBACT programme, the City has gained significant experience in public procurements in the building sector.

The procurement for the re-construction of a building with circular economy criteria is described here.

It is a degraded five-story dormitory-type building with a basement, of a total area of 4586,4 m², commissioned in 1970 and not used for the last 10 years. The reconstruction of the building aims to create new municipal rental apartments for large families, day-care centre for persons with severe mental disorders and day-care centre for children from social-risk families.

Therefore, the aim of the investment is twofold: a) serving for climate goals and b) social inclusion. Overall, the investment will:

- Set the basis for new construction practices in the municipality and beyond (sustainable renovation of multi-apartment buildings, strengthening the renovation wave, ventilation and sustainable heat supply solutions)
- Develop a model building for sustainable and socially responsible construction
- Develop a role-model procurement(s)



There is a long list of requirements that are included in this procurement:

- Self-sufficient energy supply (on-site production)
- LCC and LCA for the building (for the 30-year period)
- Sustainability assessment using Level(s) framework
- Material passport
- Circular materials and solutions
- Non-hazardous materials
- High indoor comfort
- Application of ISO 20887
- Use of BIM

The two stages of the circular economy procurement procedure

1st stage of the tender

Anyone can apply and qualification criteria are announced:

- Annual financial turnover (EUR without VAT) during the last 3 financial years is at least EUR 100,000 each year.
- Experience in the development of at least 2 equivalent projects within the last 10 years among:
 - (a) the construction or conversion of a multi-apartment residential or public building; (b) a total indoor area of at least 3 000 m²; (c) the building design has provided for outdoor improvement solutions
 - the design energy performance is equal to or less than 50 kWh/m² per year (class A), in at least one of the projects meeting the above requirements

Moreover, appropriate and demonstrable licenses for the professional graphic program are needed. At least two licenses in architectural design programs, such as: Autocad, Archicad, Revit, etc., of which at least one is Archicad, Revit or equivalent is needed.

A team of 12 experts needs to be in place: Construction project manager; Head of Architectural Solutions; Head of Building Structures; Head of Heating, Ventilation, Climate Control Systems; Head of Power Supply; Head of Water Supply and Sewerage; Head of Fire Safety Measures; Temporary Energy Performance Certificate Expert; Head of Amenities; Landscape architect; BIM Coordinator; Building energy efficiency expert. One person can hold a maximum of 3 roles.

Finally, a project management system needs to be in place, a file registration system (data storage, backup copies and secure external data exchange).

Criterion Max points Α Qualification of leading specialists: 47 Head of Architectural Solutions (9) Head of Building Structures (9) (12) Head of Heating, Ventilation, Climate Control Systems (12) Head of Amenities В Architect's energy efficiency competence 14 С Additional education of specialists 7 D Project management system 7 Е Previous cooperation of the team of experts 10 15 F Prize-winning places in design competitions and other competitions Total: 100

As for the evaluation criteria these are listed below:

At this first stage, applicants do not see the technical specifications yet and they are asked to submit the necessary documents addressing the qualification and evaluation criteria.

2nd stage of the tender

Only the top 5 shortlisted applicants of the 1st stage are invited to participate and a dialogue about the technical specification is being held with the shortlisted applicants, including discussion about covering sustainability aspect, as the Municipality envisions it – can suppliers meet the Municipality's vision?

Following this dialogue, the final version of the technical specification is announced. Participants submit their final offer, including a financial offer

Evaluation criteria at this second stage are depicted below:

Price = 40 points

o A sum of design costs and author supervision costs

Cooperation Plan for the experts' team = 20 points

- Cooperation of involved experts, customer, and other representatives of participating institutions a structure diagram and description of methods
- Plan and methods for achieving energy efficiency

- Risk management, problem-solving and quality assurance plan and methods
- Detailed schedule (12-15 months), which includes the development of parts and sections of the project, coordination with the customer

Sketch and concept of architectural solutions = 40 points

• A sketch and its description that reflects how the applicant plans to implement the dismantling and adaptability design in one of the day centres, with the intention of placing apartments in its place in the future

Source and more information by: leva Kalnina, kalnina.ieva@riga.lv

Digital tools and infrastructure to link supply of materials with demand

Start small, think big: How to succeed by daring to fail – The role of FREE Riga

Until 31 August 2021, FREE RIGA association installed and managed the first exchange point for building materials in Riga, at its premises at Viskalu street 36. The main findings lead to the introduction of guidelines for the establishment and operation of such exchange points elsewhere.

Limitations and drawbacks

During the implementation of the small-scale activity in the frame of the URGE:Circular building cities action planning network, several limitations and difficulties were revealed and the managers had to adapt to the situation and change the initial settings. For example, the initially planned inventory of materials that would be available at the exchange point's website, proved unfeasible due to the wide variety of materials. There was an intention to also set up temporary repair services, a rental point, organise workshops, but such possibilities were explored without practical implementation, both due to the limitations of the pandemic and to the need to provide the premises with appropriate adaptation and safety instructions, which required for additional investments. However, these limitations did not hamper the establishment and operation of the materials' exchange point that led to upscale the initiative and raise awareness at national level.

Raising interest at national level

The small-scale activity received great public recognition through Riga Energy Agency and FREE RIGA information channels, but did not reach a very wide audience at first. Later, nationwide media such as Latvijas Radio 1 and TV3 were involved, as well as Riga's largest house manager, Rīgas namu pārvaldnieks LLC, which placed information about the



exchange point for building materials and repair tools at the monthly management invoices, delivering it to 100,000 mailboxes. During the trial, the exchange point gradually gained more and more public response. At least two months after the closure of the exchange point, residents continued to call the exchange point, wanted to use its services, and expressed the need to keep the exchange point permanently.

From 2021 to 2024: Evolution of the material exchange point in Riga and changing of the game with the involvement of the private sector

Following the successful example presented above, opening and showcasing a circular economy resource centre that would be a space for community gathering (place for exhibitions related to the circular economy and environmental themes, as well as space for various events such as workshops, seminars, and classes) and also for workshops (area to repair, refurbish and maintain household items), became the aim of the City of Riga. This has been communicated to the City's stakeholders and game change players, especially belonging to the private sector.

Today, the small-scale activity that was born in the frame of URGE: Circular building cities, has evolved through the catalytic action taken by "Nomales" – Clean R. Today, the construction and demolition waste sorting point and first permanent construction material exchange point established in Latvia is operating in Riga city, by "Nomales" – Clean R.



In order for the construction material exchange point to operate effectively and avoid having materials pilling, there are a lot of needs that have very well and early been acknowledged. For example, there is a need for a transparent Information Technology tool (platform), to link supply and demand. This led to the introduction of Riga's digital platform supporting R-strategies, presented below.

Digital tools to link supply and demand of materials: Digital platform supporting R-strategies

The circular economy concept cannot be served as effectively as possible, if there is lack of Information flow, to link supply with demand. If so, materials will keep pilling in material exchange points and in other facilities where citizens can find goodies for reuse.

In order to serve this need a <u>digital platform supporting R-strategies</u> towards a fully circular economy has been established with a national coverage. The platform has been developed by Zero Waste Latvia, in the frame of the Life project "Waste to Resources".



It is a unique, **one stop platform**, that serves the following purposes:

- Provision of information on the possibilities of repairing goods, renting, exchanging things and other circular services throughout Latvia and things for re-use that are already available addressing people's needs
- Bridging citizens (customers) and organizations that offer goods, services and activities that replace the purchase of new things
- Promotion of the transition to a circular economy
- Facilitation of citizens to form more sustainable habits
- Collection of data for <u>reporting on reuse</u> in accordance with Directive 2008/98/EC of the European Parliament and of the Council

Through the digital platform, information is provided on the following products and services: Rental of active recreation equipment, Bicycle rental, Car rental, Musical instrument rental, Rental of event equipment, Construction goods rental, Rental of other household goods, Outdoor gyms, Libraries, Office equipment rental, Exchange of things, Refilling of drinking water, Book exchange, Exchange of garden items, Outdoor stands for repair and maintenance of bicycles, Trade of used goods, Antiques, works of art, Repair of shoes and leather goods, Clothing repair, Textile care and rental, Repair of household appliances, Repair of computers and their equipment, Repair of smart devices, repair of mobile phones, Repair of household accessories, furniture and garden equipment, Tuning and repair of musical instruments, Repair of watches and jewelry, Car maintenance and repair, Motorcycle maintenance and repair, Bicycle repair.

The plaform has a searching feature and the user can select the product or service of interest and find it also on the map.

By using such a platform, the Municipalities, Riga included, benefit as they promote information about circular economy services not only to the citizens but also to other local authorities in Latvia.

The platform can be used free of charge for the purposes of catalogue, advertising and reservation system.

In terms of future plans, the partnering up with community places, co-working places, sharing and circularity centers across Latvia is foreseen, as well as cooperation with Interreg, Erasmus+ and other programmes where services or goods are made available for re-use. The platform is ready to be shared internationally with partners and projects in other countries. In the second phase of the platform development in late 2024, improvements for UX, information filtering, visual design and and add-on function to reserve items, are foreseen. The ultimate challenge is to be able to calculate CO_2 saved thanks to the use of the platform.

Similar platforms

- <u>https://www.tournevie.be</u> tools, workshop and training by volunteers (Catalog)
- <u>www.inlimbo.brussels</u> give away stuff by volunteers of Flemish community (Catalog)
- <u>https://www.kaputt.de/</u> instructions to repair electronic devices on your own, or finding a professional, by start-up with employees (Map, instructions)
- <u>https://zwf.fi/zero-waste-kartta/</u> map of services (ZW food, repair, thrift), maintained by volunteers (Map)
- <u>https://lisboalixozero.zerowastelab.pt/#map/</u> map of services (zero waste food, repair, thrift, exchange, libraries, sharing), by Zero Waste Lab as a Erasmus+ project and other funds (Map)

Source and more information by: Evija Ozola – Ozoliņa, Zero Waste Latvija, lietovelreiz@zerowastelatvija.lv

Riga's Sustainable Energy and Climate Action Plan

The journey of Riga towards climate neutrality is supported by several commitments listed below:

- Climate Neutrality Commission in 2020
- Paris Climate Declaration "Cities Leading the Way to Climate Neutrality" in 2021
- Renewed Covenant of Mayors commitments to reflect the latest evolutions of the EU policies in 2021
- EU Mission "100 Climate-Neutral and Smart Cities by 2030" in 2022

Riga's Sustainable Energy and Climate Action Plan" (known as SECAP) includes 112 measures, 7 subject groups and involves many different players. Some examples of measures include clean energy for heating supply, procurement of 100% RES for municipal needs, renovation of multi-apartment buildings, mitigation of street flooding during heavy rain fall, creating of a climate neutral Riga 2050 platform and elimination of political obstacles and barriers, review and development of new support mechanisms.

Currently, Riga faces challenges in the transport sector that generates 42% of the total CO_2 emissions in the city, in the housing sector that is the major energy consumer and important CO_2 producer, despite the fact that the share of RES in the city's district heating system was 41% in 2022-2023. A participatory process is ongoing with more than 200

stakeholders involved in co-creation workshops within the elaboration of the Climate City Contract.

Among the challenges in the elaboration of the Climate City Contract are: data availability, involvement of private sector and financing of measures. Currently, the first draft of the Climate City Contract has been elaborated and the second round of consultations with involved stakeholders is expected in spring 2024. The next steps include approval by politicians and submission for approval by the European Commission.

Assessment of the environmental impact of public events and mitigation measures

The Green Liberty NGO has been greatly involved in the assessment of the environmental impact of public events and mitigation measures. A testbed for the application of the environmental impact methodology has been provided by the Song and Dance festival and by Riga marathon.



The carbon footprint of the Song and Dance festival in 2023 was $1963 \text{ tCO}_2\text{e}$ in a total of 40.560 participants (~50 kgCO₂e), decomposed as follows:

- Catering: 60% of total emissions (consumed lunches: 44% and left overs 33%, snacks 14% and additional catering coffee, water: 9%)
- Waste: 18% of total emissions (emissions from left overs: 71%, municipal waste:29%)
- Transport: 16% of total emissions
- Energy: 3% of total emissions (generators 80%, electricity 20%)
- Materials 2% of total emissions (refillable water bottles, amber lip balm, manuals, participant bags)
- Accommodation: 1% most of the participants stayed at schools, families, hostels

Source and more information by: janis@zalabriviba.lv

Closing remarks

The thematic article underscores the collaborative efforts and strategic planning that are propelling Riga towards a sustainable future. The city's ambitious goals for 2030, encapsulated in its Climate Action Plan and various development programmes, are a testament to its commitment to circular economy principles and climate neutrality. The transition to a circular economy in Riga is characterized by the reuse of buildings and spaces, the strategic role of procurements, and the implementation of digital tools to streamline the flow of materials.

The success of initiatives like the Viskali community hub and the establishment of digital platforms for resource exchange showcases the potential of innovative approaches to urban sustainability. These efforts not only contribute to environmental conservation but also enhance social cohesion and economic resilience within the city.

Acknowledgment is given to the numerous stakeholders, including public officials, private sector partners, and community members, whose contributions have been vital in shaping and advancing these initiatives. The participatory process, involving over 200 stakeholders, highlights the importance of inclusive and collaborative planning in achieving sustainable development goals.

The report concludes by emphasizing the need for continuous adaptation and responsiveness to emerging challenges, particularly in data management and stakeholder engagement. The anticipated approval of the Climate City Contract by the European Commission marks a significant milestone in Riga's journey towards sustainability. As the city progresses, the lessons learned and best practices developed here can serve as a model for other urban areas striving to balance economic growth with environmental stewardship.

In summary, Riga's strategic approach, innovative projects, and community-driven initiatives collectively illustrate a robust pathway towards a circular and climate-neutral future. The city's proactive stance and comprehensive planning provide a solid foundation for achieving long-term sustainability and setting a benchmark for other cities in the region and beyond.

Acknowledgments

This thematic article has been produced in the frame of the Let's Go Circular! Action Planning Network, financed by the URBACT Programme and led by the City of Munich. Project coordinator: Barbara Bühler-Karpati. Project managers: Larissa Kiesel and Wibke Borngesser.

All project partners have contributed with input in the frame of the transnational exchange meeting, hosted by the Riga Energy Agency.

Special thanks to Mr. Viesturs Zeps, elected Councillor, Head of Riga Municipality Housing and Environment Committee who kindly welcomed the Let's Go Circular! partners in the transnational meeting in Riga and Mrs Ieva Kalnina, Let's Go Circular! local project coordinator. Special thanks also to the FREE RIGA NGO and especially Mrs Zane Rugena for hosting the group in Viskali and for moderating the community of practice.

LET'S GO CIRCULAR! Paving the way for a circular transition of cities







Co-funded by the European Union Interreg