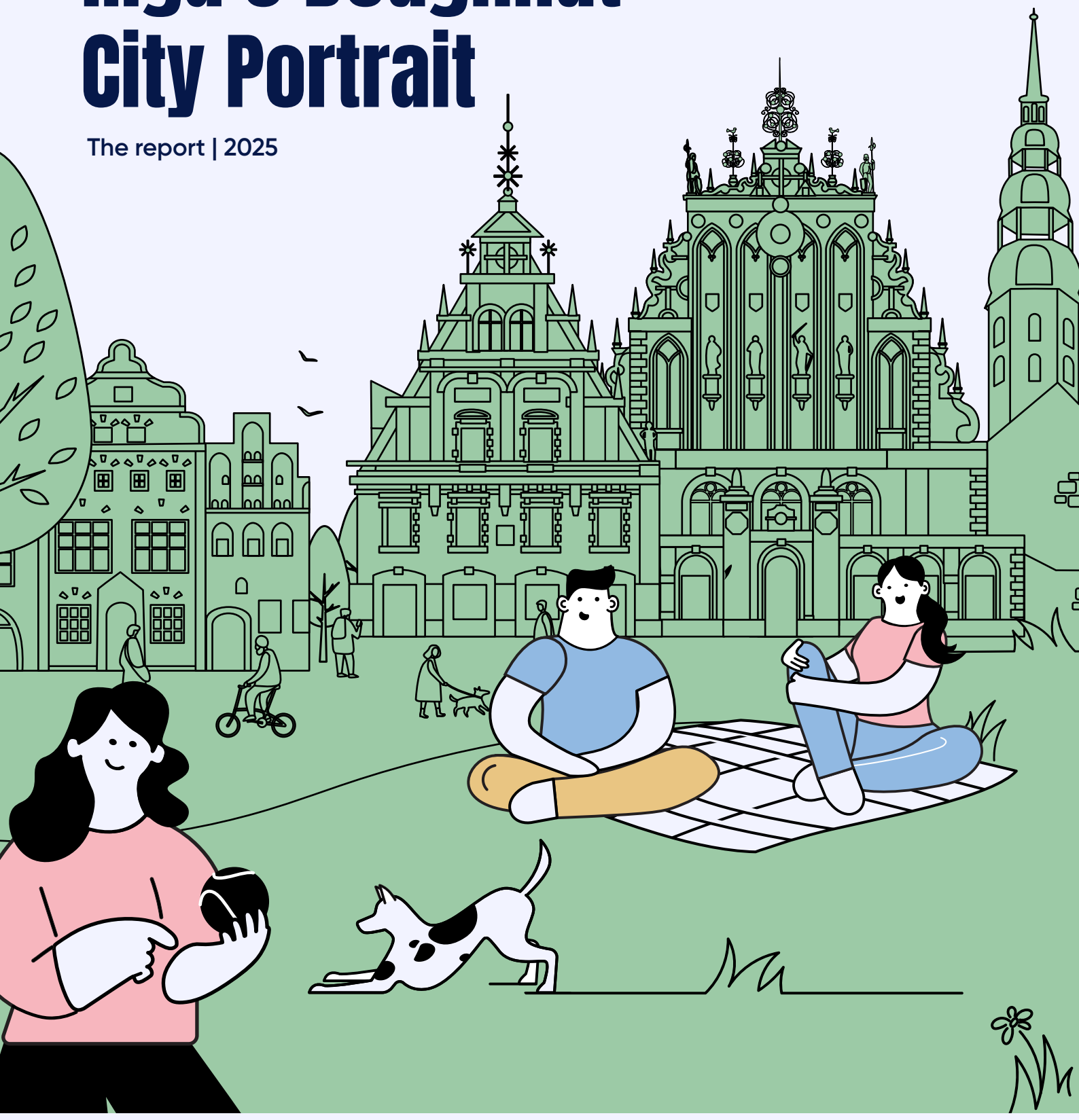
RĪGA

Riga's Doughnut City Portrait

The report | 2025



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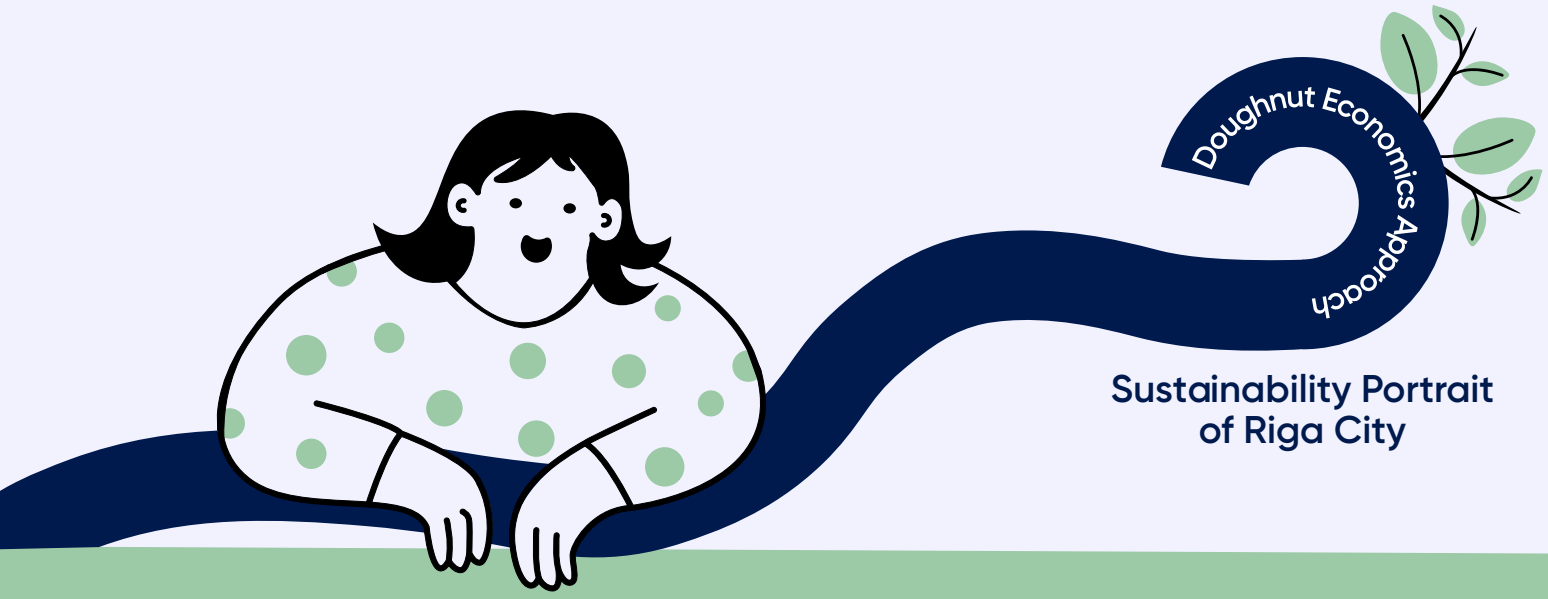

Sustainability Portrait
of Riga City

Authors

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Linguistic version

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List of abbreviations

CH_4 - Methane
CO_2 - Carbon Dioxide
CO_2 eq - Carbon Dioxide Equivalent
CPI - Corruption Perceptions Index
EaP - Eastern Partnership
EI tool - Ecosystem Intelligence Tool
EU - European Union
GHG - Greenhouse Gas
HFC/ HCFC - Hydrofluorocarbon
IPCC - Intergovernmental Panel on Climate Change
NEET - Not in Education, Employment, or Training
NetZeroCities (NZC) - NetZeroCities
NGO - Non-governmental Organization
N_2O - Nitrous Oxide
NO_2 - Nitrogen Dioxide
OECD - Organisation for Economic Co-operation and Development
ODP - Ozone Depletion Potential
OMS - Operational Management System
SECAP - Riga City Sustainable Energy and Climate Action Plan 2022–2030
SF_6 - Sulfur Hexafluoride
SNMI - Sustainable Nitrogen Management Index
UN - United Nations
UNEP - United Nations Environment Programme

1. Introduction

1.1. The Doughnut framework

Welcome to the Riga Doughnut City Portrait! This report applies the Doughnut Economics framework to examine the city and explore how it can become a thriving and sustainable place for everyone. Imagine Riga as a leader in environmental regeneration, biodiversity, social equity, and well-being.

The Doughnut Economics framework, conceptualised by economist Kate Raworth, serves as a compass for human prosperity in the 21st century. Its distinctive shape—a two-ring doughnut—symbolises the balance between essential human needs and the planet's ecological limits. The inner ring represents the social foundation, ensuring that no one falls short of life's essentials, such as food, housing, education, and equality. The outer ring signifies the ecological ceiling, which must not be exceeded to prevent harm to the planet's critical systems, including the climate, biodiversity, and oceans. The space between these rings—the Doughnut—is where humanity can thrive, meeting social needs without surpassing environmental limits. Beyond these rings lie human deprivation and ecological degradation: shortfalls occur within the inner ring, while overshoots take place beyond the outer ring.

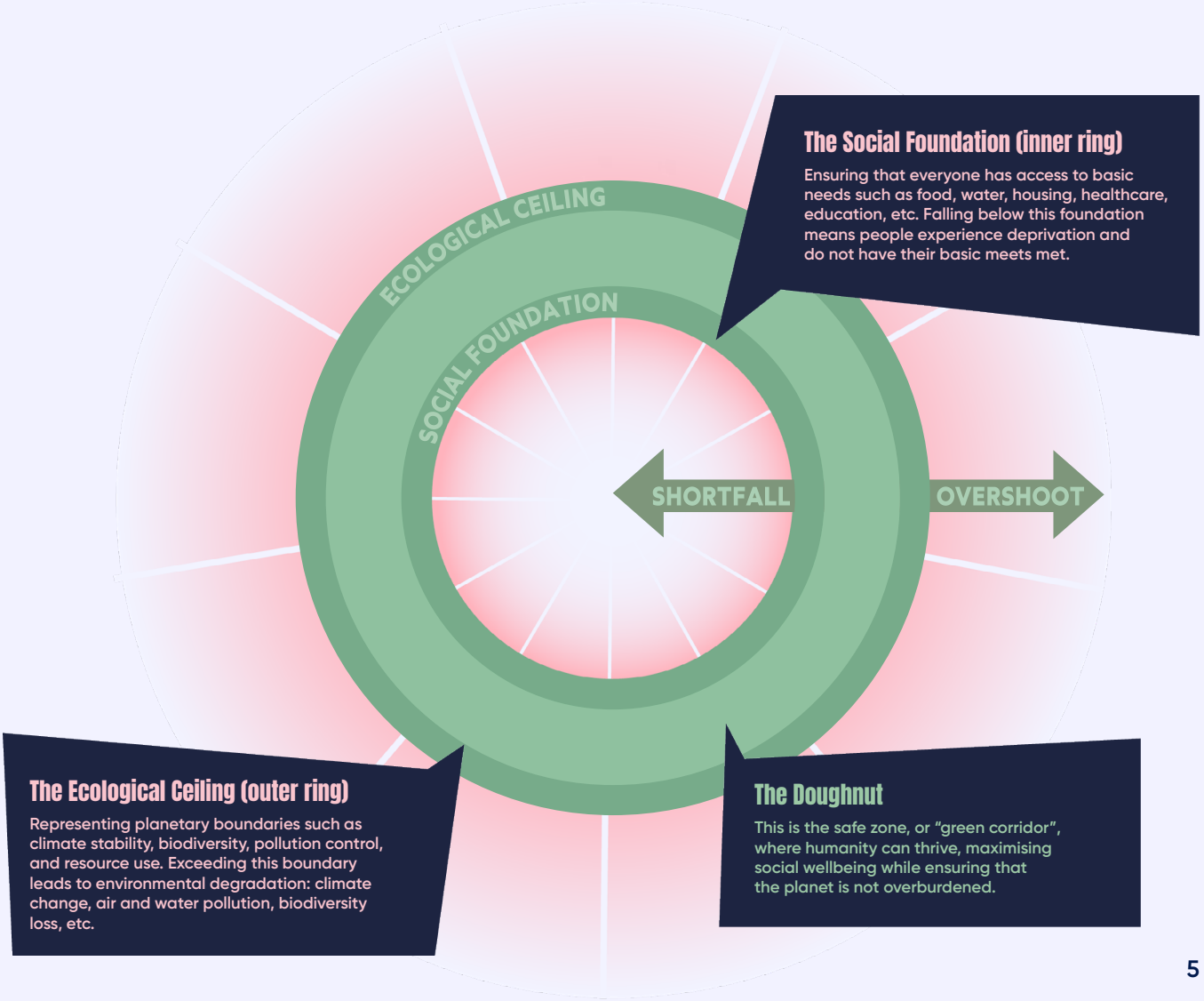
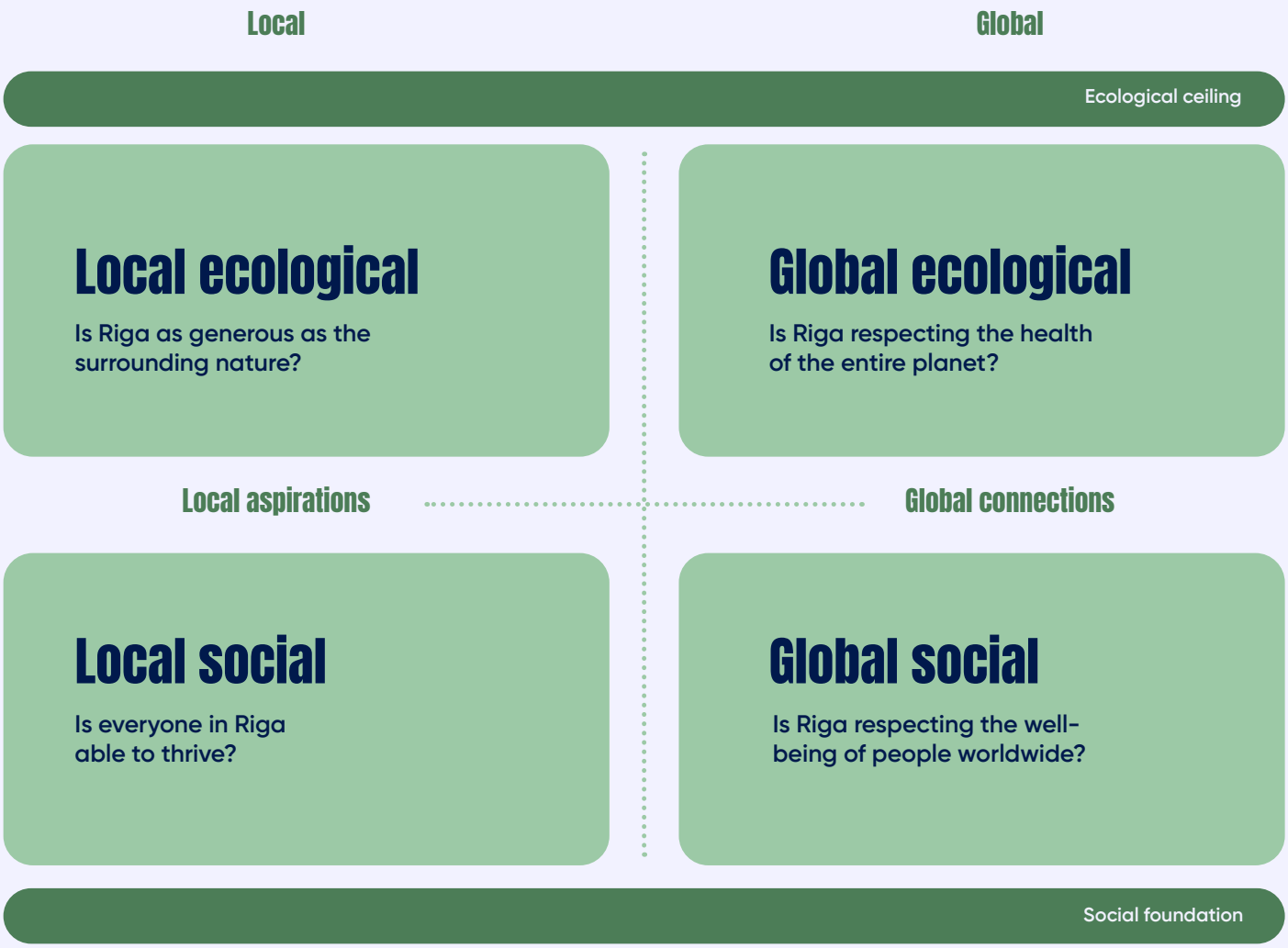
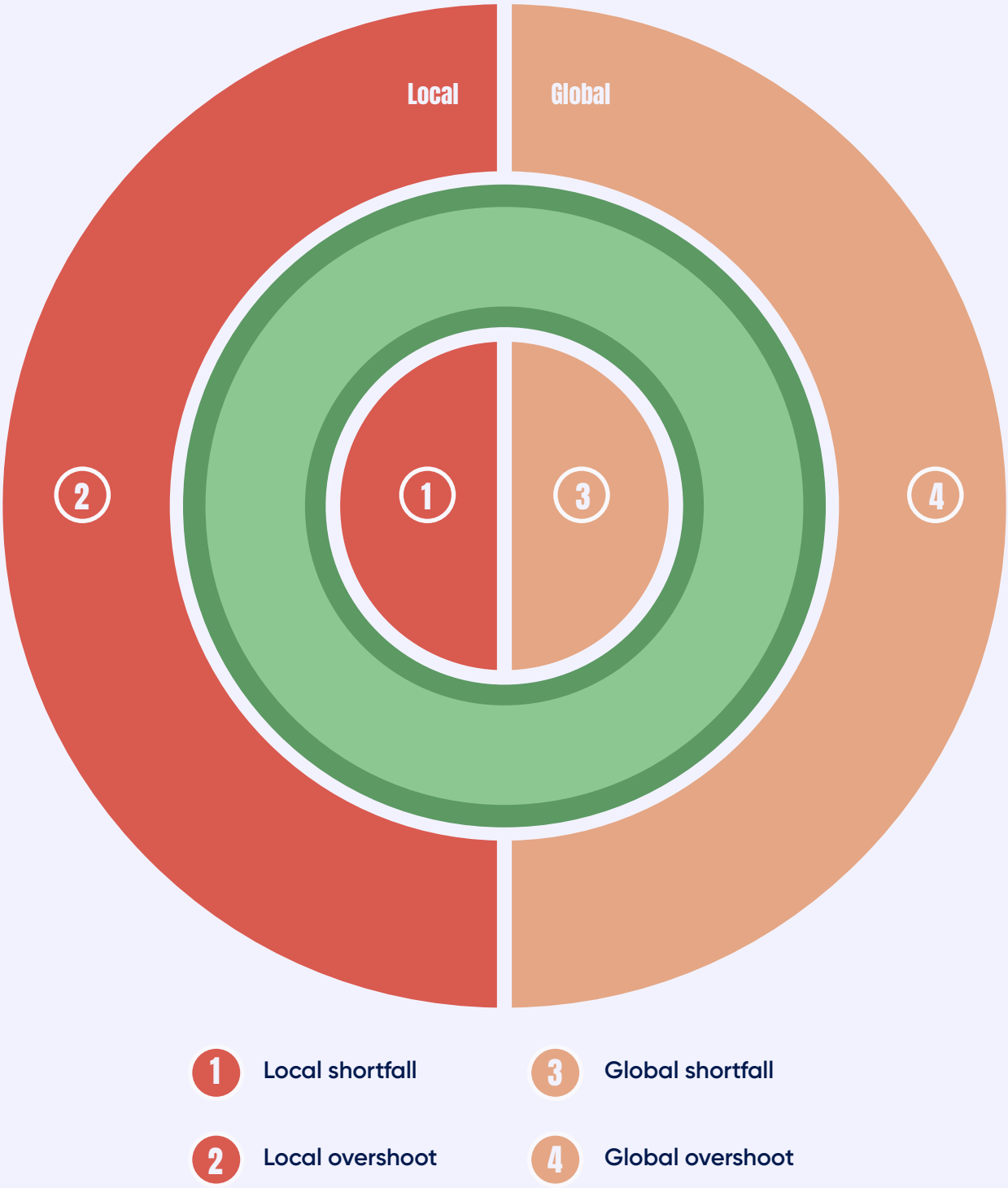


Figure 1. The 4 lenses of the Doughnut framework



We incorporated both local and global lenses into the Riga Doughnut City Portrait, illustrating the situation in Riga as well as the international impact of local actions. The Doughnut is divided by a symmetry axis, enabling a comparison of both viewpoints. The left side represents the local perspective, highlighting issues of social deprivation (see figure below, zone 1) and ecological degradation (zone 2), while the right side reflects the global perspective, showing social (zone 3) and ecological (zone 4) issues.

Figure 2. The Doughnut City Portrait's structure



1.2. Riga's commitment to climate action

Cities play a crucial role in achieving the European Green Deal targets, which call **for a 55% reduction in emissions by 2030 and full climate neutrality by 2050.** As part of its transition towards a sustainable and climate-neutral future, Riga Municipality, along with several other European cities, has joined the **EU Mission on Climate-Neutral and Smart Cities** ('100 Climate-Neutral and Smart Cities by 2030'). These cities serve as hubs for experimentation and innovation, enabling all European cities to follow suit by 2050. Achieving this ambitious goal requires systemic changes across multiple sectors, with strong citizen engagement and participation.

The NetZeroCities (NZC) project, through the Pilot Cities Programme, serves as the primary implementation platform for the EU Mission. The initiative aims to accelerate CO_2 emissions reductions through innovative solutions and systemic changes, reinforcing cities like Riga in their commitment to climate resilience and sustainability.

In 2024, Riga began implementing the 24-month-long NetZeroCities Pilot Cities Programme – Cohort 2 project, "A Doughnut Economics Approach to Sustainable Decarbonisation and Citizen Engagement" (SEED), in collaboration with the NGO Green Liberty. The project is funded by the European Union's Horizon 2020 research and innovation programme. During this initiative, the city will pilot the Doughnut Economics concept by developing the Doughnut City Portrait—an inclusive, innovative, and participatory framework designed to accelerate decarbonisation while balancing environmental and social considerations.

The Doughnut framework provides a broader perspective on decarbonisation, ensuring that efforts to reduce emissions align with both planetary boundaries (represented by the "ecological ceiling" or outer ring of the Doughnut) and social foundations (the inner ring, which ensures that basic human needs are met). This approach emphasises a participatory process, involving communities and stakeholders in shaping climate policies and solutions. This report presents an initial quantitative and qualitative analysis of Riga's current state, providing a foundation for future discussions and citizen participation.

By applying the Doughnut Economics framework, we introduce a new model that positions decarbonisation within a broader socio-environmental context, using a data-driven approach. By integrating emissions reduction goals with social and participatory strategies, the project takes a crucial first step towards ensuring that climate action is holistic, equitable, and impactful, emphasising the urgency of decarbonisation while ensuring it remains inclusive.

2. Methodology

This section first describes the general structure of the report, covering the four main lenses, associated dimensions, and indicators. Next, it explains the steps to build Riga's Doughnut Portrait:

- Selecting indicators
- Extracting recent data
- Setting thresholds
- Evaluating the levels of deprivation/degradation

2.1. General structure

The report focuses on the four lenses of the Doughnut. The first two lenses examine Riga's local situation, while the last two illustrate the city's global impact. Each lens has its own dimensions, outlined below.

Table 1. The four lenses of Doughnut and associated dimensions

Lense	Description	Associated dimensions
1. Local social	This lens examines the social conditions of Riga's residents and the social deprivations they experience. Additionally, it encompasses the municipality's social policies, strategies, and targets.	• food • water • health • mobility • education • housing • energy • income and work • connectivity • social equity • equality in diversity • culture • community • political voice • peace and justice

2. Local ecological	This lens presents Riga's ecological situation, highlighting ongoing environmental degradation, the current state of the city's ecosystems, and ecological projects in development.	• addressing air pollution • fostering biodiversity • carbon storage • cycle water • harvest energy • regulate the temperature • build and protect soil • enhance wellbeing
3. Global social	This lens provides an overview of Riga's impact on the well-being of individuals worldwide, highlighting the deprivations the city accentuates. We primarily focus on the deprivations linked to imports reliant on global supply chains that violate human rights and undermine basic social access. We recognise that local consumption patterns have a significant impact on global social conditions, particularly working conditions. There is a social responsibility to prevent exploitation and ensure fair wages, safe working conditions, and ethical production practices everywhere. This lens also presents Riga's local initiatives aimed at protecting the rights of individuals around the world.	The global social dimensions mirror the local social ones, providing a comparative perspective: • food • water • health • education • housing • energy • income and work • social equity • equality in diversity • culture • community and networks • political voice • peace and justice

4. Global ecological	This lens outlines Riga's contribution to global ecological issues. It can impact global ecosystems both through local pollution and by indirectly contributing to environmental harm through its imports. This lens also highlights Riga's efforts to prevent further environmental damage on a global scale.	• climate change • ocean acidification • chemical pollution • excessive fertiliser use • water withdrawals • land conversion • biodiversity loss • air pollution • ozone layer depletion

Dimensions consist of a set of indicators that shape their structure. These indicators fall into three types, each corresponding to a different element of the dimension. The first type, status snapshot indicators, appears in the deprivation/degradation assessment table. The second type, activity monitoring indicators, are featured in the zooming in/out section. The third type, response indicators, are presented in the policy highlight box.

Table 2. The 3 types of indicators and their locations within the dimensions

Type of indicator	Description	Location
1. Status snapshot	These indicators form the foundation of our analysis to assess whether a dimension reflects human deprivation or ecological degradation. They indicate whether we fail to meet basic needs or exceed ecological limits, revealing overshoots and shortfalls within the dimensions.	The status snapshot indicators always appear at the beginning of each dimension, within a table that evaluates human deprivation or ecological degradation.
2. Activity monitoring	These indicators assess the quality of social or ecological conditions. Unlike status snapshot indicators, they do not directly identify deprivation or degradation but provide additional context to enhance our understanding. They often track activities and behaviours.	Most dimensions include activity monitoring indicators in the zooming in or zooming out section.
3. Response	These indicators reflect actions taken by the municipality to improve a situation within a given dimension. They present selected policies, strategies, and projects.	A few dimensions feature significant response indicators in their *policy highlight* box.

2.2. Selecting indicators

To build Riga's Doughnut City Portrait, our first step was selecting indicators. We followed different strategies based on the three types of indicators:

1. To identify *status snapshot* indicators, we asked the key question: "Does Riga meet essential needs or respect ecological limits?". We pinpointed the indicators that provide answers to this question. For instance, the question for the local *education* dimension was: "Do residents have access to basic education?". We identified indicators that can answer this question, such as the *availability of services from municipal general education institutions*. Additionally, we selected indicators based on previous Doughnut cases. For example, inspired by the Doughnuts of Barcelona, Brussels, and Melbourne, we included indicators related to school dropout rates.

2. Next, to identify activity monitoring indicators, we sought those that provide additional context on a dimension. For example, in the education dimension, an indicator was tertiary education participation, which reflects the level of education of Riga's residents. This information complements the status snapshot indicators, offering deeper insight into access to basic education. We categorised activity monitoring indicators as positive, mixed, or negative to highlight the progress and challenges within a dimension.

3. Finally, when relevant, we included response indicators in the policy highlight. These indicators present the municipality's selected strategies, policies, or projects.

Figure 3. Indicators from the local social education dimension

Key question: Do residents have access to a basic education?

Indicators: Availability of the municipal general education institutions' service, school abandonment rates
Location: Table on education assessment

Indicators: Satisfaction with the education institutions quality, tertiary education participation, lifelong learning
Location: Zooming in section

Indicator: Number of educational events organised in Riga's educational institutions
Location: Policy highlight box

2.3. Data collection

After selecting all the indicators, we collected the most recent data available for each. **The majority of indicators came from the past two years**, and, overall, covering the period from 2018 to 2024.

The first source reviewed was the municipality's direct monitoring data. The municipality annually monitors the implementation of the city's development planning documents, the Riga Sustainable Development Strategy 2030 and the Riga Development Program 2022-2027. This involves collecting data on the monitoring indicators defined in these documents and assessing their progress. The data sources for these indicators include statistics, annual resident surveys, and information provided by municipal departments, institutions, and companies. This municipal data contributed to all types of indicators, with response indicators relying exclusively on it due to their focus on municipal actions.

Desk research was then used to fill the data gaps for status snapshot indicators and activity monitoring indicators. The following table presents the main sources we used to collect data for the indicators. When local data was unavailable, particularly for the global lenses, we referred to national data. Since Riga accounts for about one-third of Latvia's total population, we assumed its trends would align with national trends. We filled in data for every indicator and avoided gaps to get a general sense of each dimension. At times, we relied on calculations with a high margin of error. In the assessment tables, we always indicate when uncertainty is high.

Table 3. Main sources for indicators

Sources	Associated lenses
Municipality's direct monitoring	local social local ecological
Ecosystem Intelligence tool[1] (EI)	local ecological
Central Statistics Bureau of Latvia[2]	local social global social global ecological
Local agency and governments Riga Energy Agency, Latvian Ministries, etc	local social
Eurostat[3]	local social global ecological
European Institutions and data portals European Commission, European Institute for Gender Equality, etc	local social global social
International institutions OMS, UNEP, UN Sustainable Development Group, SDG Index, etc	local social global social

[1] https://www.ecosystemintelligence.com/

[2] https://stat.gov.lv/en

[3] https://ec.europa.eu/eurostat

2.4. Setting thresholds

After defining the status snapshot indicators and collecting data, the next step is to set thresholds for each indicator. When an indicator surpasses a threshold, it signals deprivation or degradation. We set the thresholds using rationales, which we applied consistently (see the table below).

Rationales are based on ethical limits, proposing what would constitute an unacceptable situation. Therefore, we made assumptions and choices to define what is ethical and acceptable. **We encourage readers to view the thresholds as a starting point for discussion, rather than rigid limits.** There is a margin for error and room for adjustments. Nevertheless, we consider the final result to be relevant, as our assessment ultimately relied on qualitative analysis, supported by local expertise.

Table 4. Rationales behind fixed thresholds

Status snapshot indicators	Threshold	Rationale explanation
Satisfaction survey indicators	70%	We often used opinion surveys on essential services to assess how well Riga meets basic human needs. We assumed that high satisfaction indicates zero deprivation, so we selected a satisfaction level of 70%. We did not choose a higher percentage because dissatisfaction from some residents does not necessarily indicate deprivation; it may also reflect concerns or personal preferences.
Ecosystem Intelligence indicators	50%	We used the Ecosystem Intelligence[4] tool to measure ecosystem services in Riga. These services are the benefits provided by the environment to residents, such as temperature regulation or carbon storage. For each service, we compared Riga's performance to a "reference" level, which consists of highly performing conditions similar to the natural state of the land before Riga was built. We suggest that degradation occurs when the current situation falls below 50% of the reference level. This indicates a gap of more than half in ecosystem services compared to what the land would have provided before Riga. We chose this threshold by cross-checking with other indicators and found that when it falls below 50%, the city appears to experience environmental degradation. However, we note that the data's credibility is low, so we ask the reader to consider it as indicative rather than a definitive assessment.
Unmet essential needs indicators	0%	These indicators directly point to deprivation, such as food insecurity or energy poverty. Therefore, any number above zero shows deprivation. We assess the level of deprivation based on whether the number is approaching zero (indicating near-zero deprivation) or higher (ranging from moderate to high to emergency levels).

[4] https://www.ecosystemintelligence.com/screening-module

Access to services related to essential needs indicators	95%	We consider there should be universal access to services related to essential needs. For instance, to avoid deprivation, every resident should be connected to centralised water systems. A 5% margin accounts for situations where alternative solutions can satisfy residents' essential needs outside of the service under consideration. For example, residents might also rely on private or local systems for water. Therefore, we consider deprivation to start when fewer than 95% of the population has access to services related to their essential needs.
Standardised international indicators	International/ EU averages or International/ EU/Latvian legal limits	These indicators are used internationally and provide a standardised measure, allowing for a comparative approach. For example, a widely used, standardised measure is life expectancy. When Riga falls below international or EU averages, we consider there to be deprivation. Additionally, some indicators must comply with international, EU, or Latvian legal limits, such as pollution levels. If an indicator exceeds these limits, it also signals deprivation.
Shortcomings in services related to essential needs indicators	5%	These indicators highlight issues with services that fail to fulfil basic needs. For instance, this could include inadequate accommodations within the housing dimension. We consider deprivation to start when more than 5% of the population experiences this issue, where it can become systemic. Below 5%, the difficulties encountered are likely to be temporary or due to exceptional service unavailability.
Share of imports from countries known for unethical and environmentally harmful practices	10%	Local consumption patterns can lead to significant environmental and social harm globally. For example, fast-fashion consumption is often linked to exploitative labour, primarily affecting women, and contributes to water pollution, particularly through dyeing processes. To address these kinds of deprivation and degradation, we identified imports from products reliant on harmful supply chains. We then flagged countries with inadequate regulations and known abuses. We aimed for the share of imports from these countries to be minimal, setting a 10% threshold. If the share exceeds this, we could say Riga heavily relies on exporters with poor reputations, potentially contributing to deprivation and degradation. We did not choose a lower percentage because our analysis is simplistic and categorises production from entire countries without considering regional nuances. Thus, to avoid a black and white perspective, we allowed for a 10% margin, within which products from these countries might still meet fair working conditions and respect the environment.
Number of deaths related to Riga's consumption patterns	0	We consider that no death should be linked to Riga's consumption patterns, such as premature deaths caused by pollution or dangerous working conditions, both of which are linked to Riga's imports.

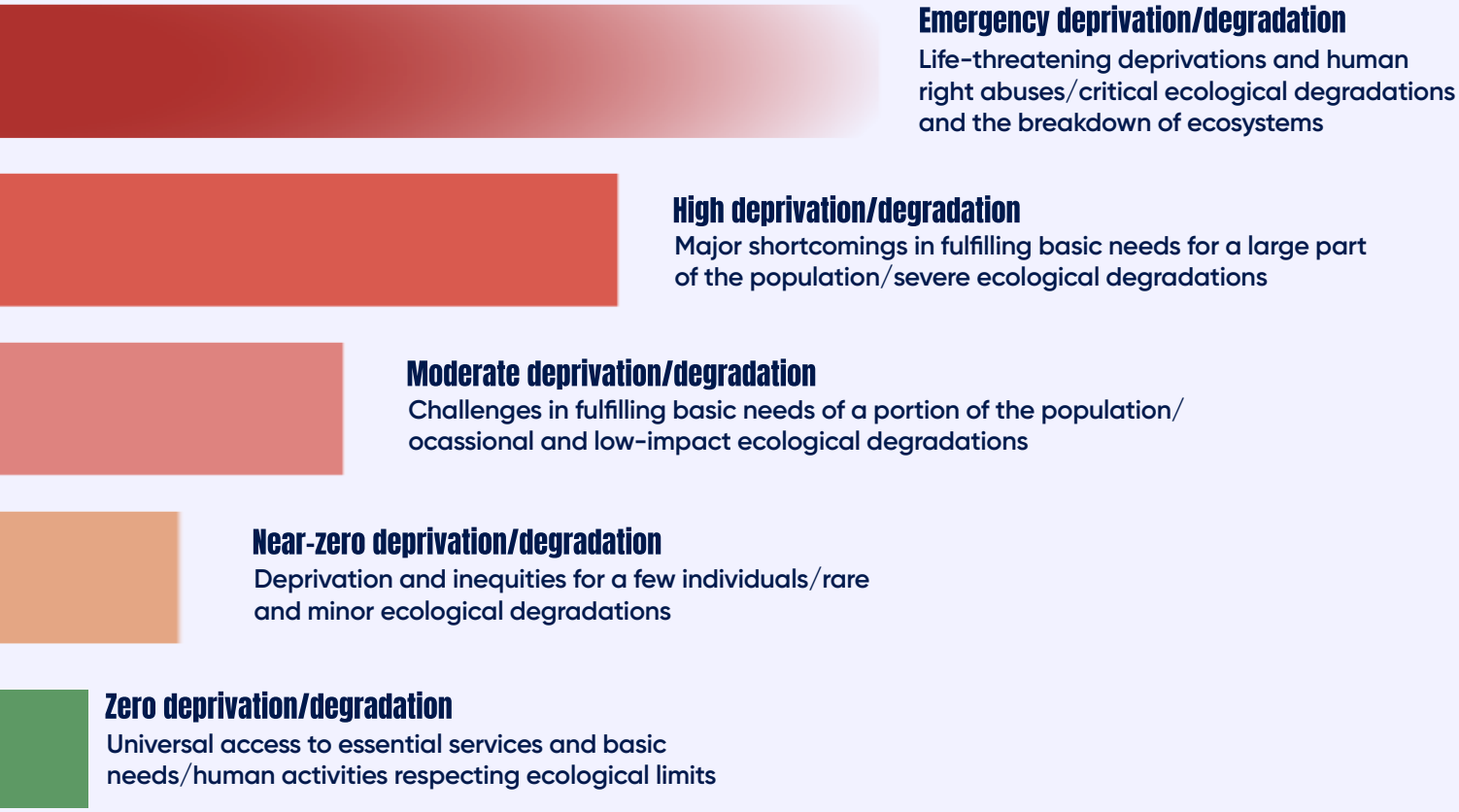
Score indicating deprivation or degradation	8/10 or 80%	This score ranges from 0 to 10 or 0 to 100, where 0 represents ideal conditions and 10 or 100 indicates the worst. We assumed a score above 8 or 80 signals a problematic situation. For example, regarding Latvia's share of imports from countries classifi ed under the "group grievance category" in the Fragile States Index, we consider a score exceeding 8 to be a poor score, highlighting deprivation for communities worldwide. We combined this with a 10% threshold for the "share of imports from countries with unethical or environmentally harmful practices." This means deprivation occurs if more than 10% of imports come from countries scoring over 8 in the group grievance category. Please note that the score in some indicators is used oppositely, where 0 represents the worst and 100 the best situation (e.g., in the Phosphorus Index). In these cases, it is clearly stated within the indicator description.

In the local social lens, right under the thresholds, we presented Riga's targets. The municipality chose targets to be achieved by 2027. Unlike deprivation thresholds, these targets align with a limited timeframe and must be realistic. Deprivation thresholds, on the other hand, represent a more general objective, not bound by time, though aiming to be achieved as soon as possible.

2.5. Evaluating the levels of deprivation and degradation

To determine deprivation or degradation within a dimension, we analyse if the indicators surpass their thresholds. When a dimension has a single indicator, we can immediately tell. Deprivation or degradation occurs if the indicator exceeds the determined threshold. For dimensions with multiple indicators, we first check if any indicator signals deprivation or degradation. If at least one does, we classify the entire dimension as experiencing deprivation or degradation. This is because indicators do not cancel each other out. **There is no compensating effect** where a positive indicator offsets one that highlights an issue. We then assess the severity of the deprivation or degradation.

Figure 4. The 5 levels of human deprivation and ecological degradation



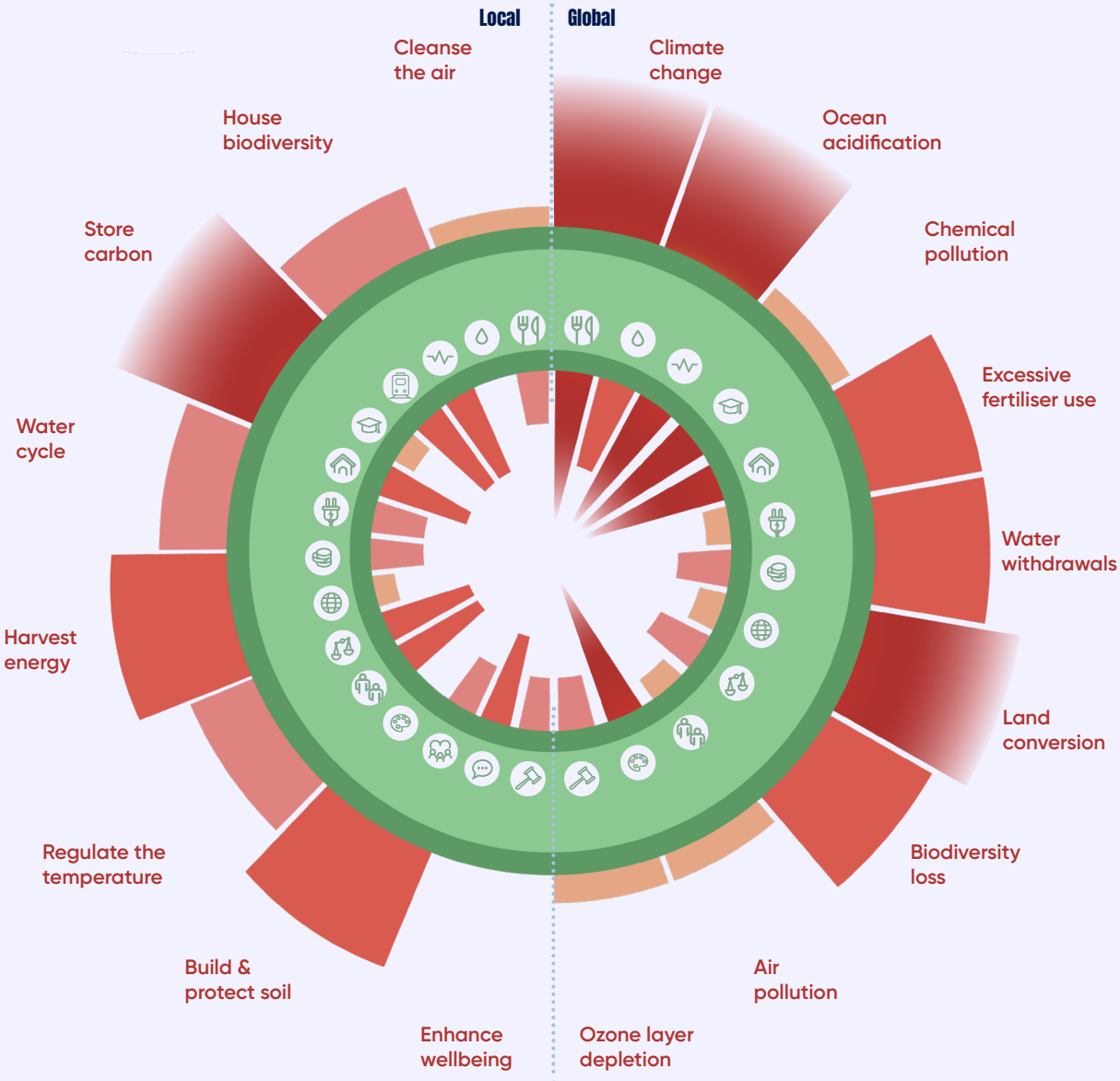
The scale of deprivation and degradation comprises **five levels,** serving as a framework to assess the extent of the issue. The levels indicate how widespread, severe, and systemic the issue is. In addition to referencing the scale and examining the indicators, our scientific and local expertise guided the selection of levels. It is important to note that this scale should not diminish the significance of addressing any deprivation or degradation, regardless of their level. Even when the impact affects only a few individuals or causes minor environmental damage, we should not overlook such issues.

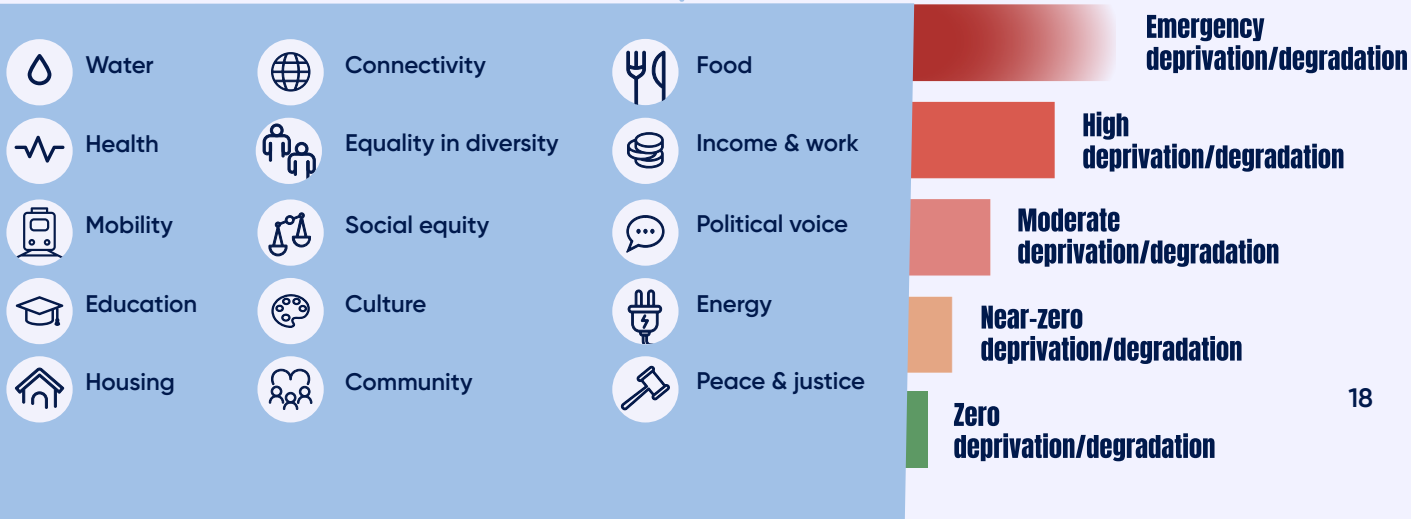
3. Riga Doughnut City Portrait

3.1. Overview of Riga Doughnut City Portrait

This section presents the **Riga Doughnut City Portrait snapshot,** illustrating the city's social and environmental situation and impact through four interconnected lenses. These lenses highlight the city's degradation (environmental harm) and deprivation (social inequalities), helping the residents of Riga, policymakers, companies, and organisations align their actions with ecological limits and the social well-being of all.

Figure 5. Riga Doughnut City Portrait





From Riga's City Portrait, it is clearly evident that **in more than half of the dimensions, both the human and ecological thresholds are surpassed**, with some dimensions showing signs of emergency degradation and deprivation. We are facing an emergency situation across several ecological dimensions, such as climate change, ocean acidification, and land conversion, which is expected due to the climate crisis. Similarly, global social needs are also being severely deprived. Unfortunately, **Riga's consumption patterns appear to jeopardise basic aspects of human life around the world**, including health, food security, education, housing, and political freedom.

Overall, most of the negative impacts are seen within the **global context**, where **more than half of Riga's impacts fall within high or emergency levels.** This is deeply tied to the global nature of our consumption patterns, which fuel global warming, biodiversity depletion, and social inequalities across the world. Our imports often come from countries where goods are produced at lower prices than if they were sustainably, ethically, and locally sourced. Such severe global impacts reveal the truth of our overconsumption of resources in Riga and Latvia, sharing a very similar profile with many other European and American countries. The impacts are disproportionately felt across the planet, often most severely in the Global Majority countries, urging us to rethink and change the way our society defines what constitutes a 'good living'. This calls for radical rethinking of our current economic paradigm of unlimited growth. The Doughnut Portrait helps us understand that our economy is embedded within both social basic needs and the planet's boundaries and cannot be seen as separate from them.

There are also multiple categories within the local context that indicate negative impacts and untapped potential for Riga, such as carbon storage, local energy harvesting, and protecting the soil. The social situation of Riga and its citizens clearly reflects that **many lack access to decent healthcare, housing, decent work and income, as well as reliable transportation.** Furthermore, the results show **that political considerations, social equity, gender equality, and the inclusion of different racial and LGBTQ+ minorities remain too low** (just as within global consumption chains) and could be much improved. These aspects highlight the potential for significant improvements that Riga can provide to both its citizens and the nature within the city.

A few categories do present a **positive picture**—local air pollution levels are relatively safe, as is the drinking water, and there is suffcient access to green spaces to support the well-being of locals. Further, there are almost no issues in keeping the citizens connected to energy, internet and other services and there are enough opportunities for people in Riga to enjoy cultural activities.

The following sections delve into the details of each lens, presenting the indicators, the rationale behind each threshold, and the levels of deprivation and degradation we assessed. First, we examine the local lenses (on the left side of the Doughnut Portrait): **"3.2. Local social"** and **3.3. Local ecological**. Then, we explore Riga's global impact (on the right side of the Doughnut Portrait) in sections **3.4. Global social** and **3.5. Global ecological**.

3.2. Local social

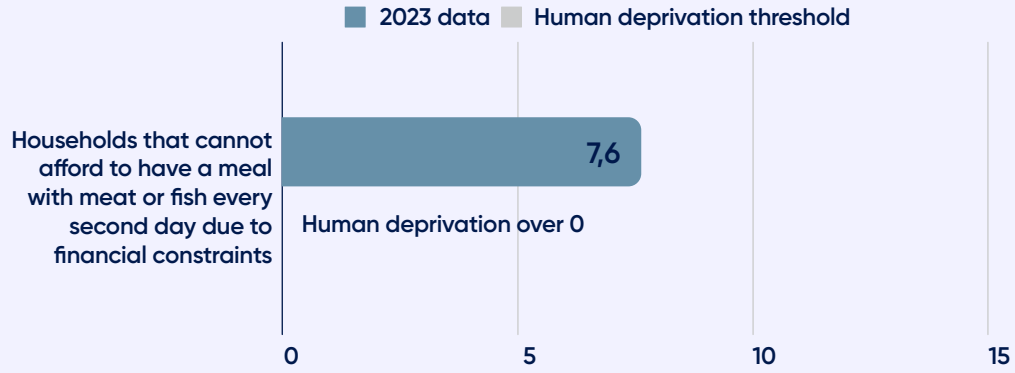
This section explores the local social lens, outlining the human deprivations residents experience and their extent while providing an overview of Riga's social conditions. Additionally, it presents the city's targets and the municipality's social policies.

Food

Table 5. Riga's food deprivation assessment

Can residents afford an adequate and varied diet?	
Indicator	The percentage of households unable to afford a meal with meat or fish every second day due to financial constraints. This indicator highlights economic barriers that prevent families from accessing protein-rich foods. It specifically reflects financial hardship rather than personal dietary choices (such as vegetarianism or veganism) and can indicate food insecurity.
Human deprivation threshold	Ideally, food insecurity should be close to zero, ensuring all households can afford adequate nutrition, including meat or fish.
Recent data	In 2023, 7,6% of Riga's population couldn't afford such a diet, which indicates a significant part of the population experienced some kind of deprivation. Source: Central Statistics Bureau of Latvia, Table NNN010
Riga snapshot	**Moderate deprivation** A portion of the population faces financial barriers that impact their ability to meet basic nutritional needs.

Figure 6. Food indicator: current situation and human deprivation threshold (in %)



Zooming in

There is much room for improvement in ensuring that residents have a balanced diet:

- Low vegetable and fruit intakes: In 2022, only 45.9% of the Latvian population consumed fresh vegetables 6 to 7 days a week and 30.6%consumed fruits and berries 6 to 7 days a week.

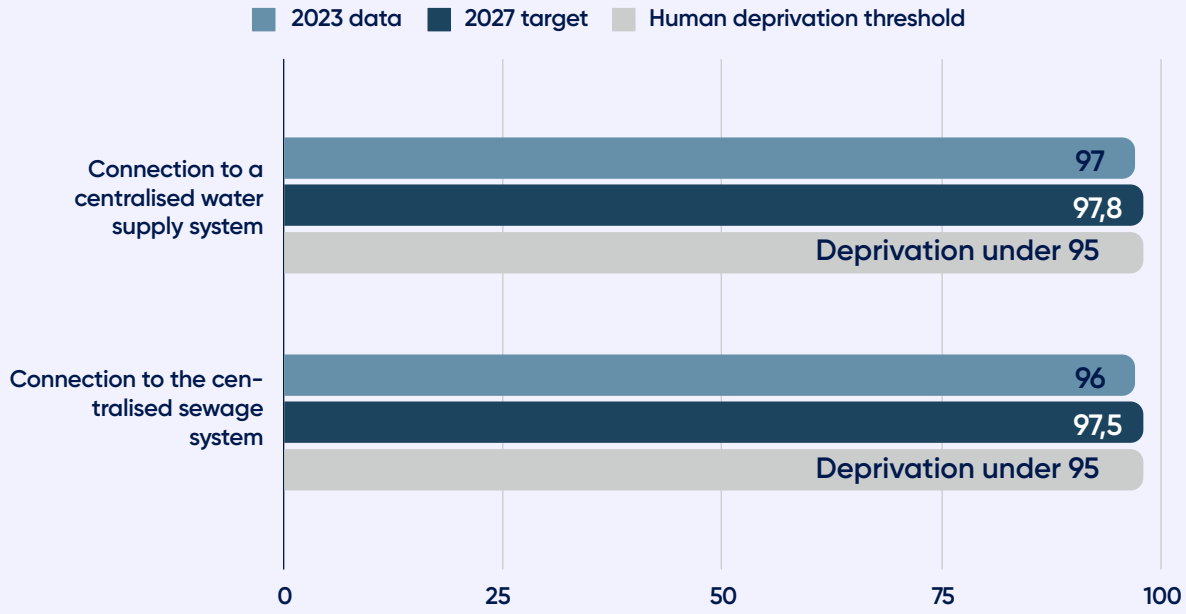
- Overweight among young people: The proportion of overweight or obese adolescents in Riga is concerning. In 2018, 23% of male adolescents and 18% of female adolescents were overweight.[5]

Table 6. Riga's water deprivation assessment

Do residents have access to clean water for their daily needs?		
Indicator	The percentage of residents connected to a centralised water supply system. It reflects the availability of reliable, regulated, and safe water sources for the population.	The percentage of residents connected to the centralised sewage system. It indicates access to water for household and sanitation needs while also ensuring a clean water cycle.
Human deprivation threshold	To prevent a lack of access to water, the ideal scenario would be for all residents of Riga to have access to the centralised water supply, approaching full coverage. However, areas not connected to the central supply may still have access to clean water. For this reason, we consider that if over 95% of residents are connected, there is no water deprivation.	To maintain a clean water cycle and meet residents' needs, Riga should aim for full connection of all residents to the centralised sewage system. However, some areas may not be connected to the central supply yet still meet residents' needs. Therefore, we consider that if over 95% of residents are connected, there is no water deprivation.
Recent data	In 2023, 97% of the population were covered, which is close to full coverage. Source: Municipality's direct monitoring	In 2023, 96% of residents were connected to the centralised sewage system, which is close to full coverage. Source: Municipality's direct monitoring
Riga snapshot	**Zero deprivation** Based on the indicators and local expertise, there appears to be no deprivation in access to clean water.	
Riga's 2027 target	The city of Riga aims to expand its coverage and has set a target of 97.8% by 2027.	By 2027, the goal is to reach 97,5% connection.

[5]https://statistika.spkc.gov.lv/pxweb/en/Health/Health__Veselibu_ietekm%C4%93josie_paradumi/VIP030_veselibas_paradumi_dzimums_vecuma_grupa.px/

Figure 7. Water indicators: current situation, 2027 targets, and human deprivation thresholds (in %)



Zooming in

+ Water quality: Based on measurements conducted by the main freshwater provider and treatment facility, the water quality in Riga is high and safe for consumption. However, issues may arise at the individual building level in areas where legacy water pipes still exist and have not been renovated.

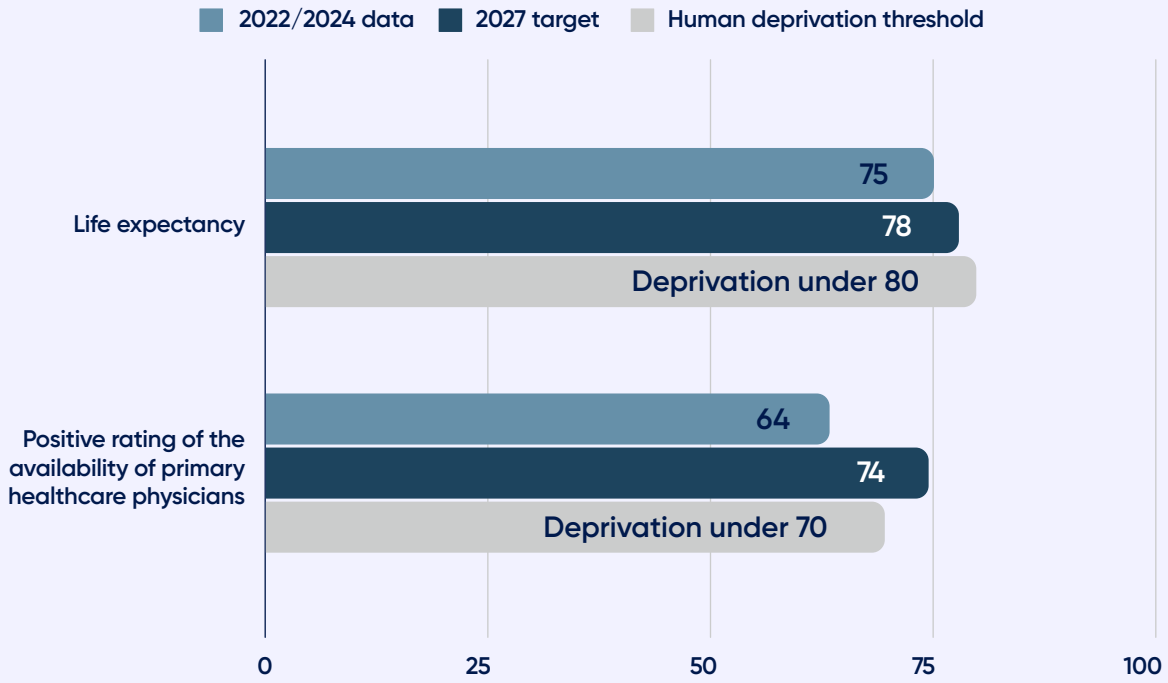
Health

Table 7. Riga's health deprivation assessment

Do residents have access to primary healthcare and the opportunity to maintain good health?		
Indicators	Life expectancy This is a standardised international indicator commonly used to assess the general health of a city.	The residents' ratings on the availability of primary healthcare physicians. This reflects the accessibility of basic healthcare services in Riga.
Human deprivation thresholds	Surpassing the global average of 73 years, as reported by the World Health Organization, suggests favourable living conditions. However, Riga must also be assessed within its local context. If its life expectancy is significantly lower than that of comparable regions—such as the European Union average of 81 years (2023) or the OECD average of 80 years (2021)—it would indicate healthcare challenges. Therefore, a life expectancy below 80 years may signal health deprivation.	A positive rating from over 70% of residents would suggest that the majority feel their healthcare needs are being met in terms of availability.
Recent data	In 2022, the average life expectancy in Riga was 75 years. While this exceeds the global average, it remains below the European Union and OECD averages. Many European countries surpass this figure by as much as 10 years, indicating significant deprivation in terms of life expectancy. Source: municipality's direct monitoring, Eurostat[6]	In 2024, only 64% of residents gave a positive rating regarding the availability of primary healthcare physicians. This falls below the threshold, suggesting that the healthcare system does not fully meet the basic health needs of all residents. Source: municipality's direct monitoring
Riga snapshot	**High deprivation** The overall healthcare system exhibits dysfunctionality, as evidenced by a lower life expectancy than in surrounding countries. Additionally, a portion of the population faces challenges in accessing basic healthcare services.	
Riga's 2027 targets	By 2027, the municipality aims to increase average life expectancy to 78 years.	By 2027, the municipality aims to increase residents' satisfaction with the availability of primary healthcare services by 10%, reaching 74%.

[6] https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240503-2

Figure 8. Health indicators: current situation, 2027 targets, and human deprivation threshold (in years and in percentages)



Zooming in

The health situation in Riga presents a mix of positive and concerning trends:

+ Seropositive cases: There has been a notable decrease in the number of seropositive cases, dropping from 180 in 2018 to 101 in 2022, indicating some progress in managing HIV in the city.

+ Sports and Recreation: By 2024, 75% of residents gave a positive rating for sports and active recreation opportunities in their neighbourhoods. This reflects a high level of satisfaction with available recreational facilities and sports activities, contributing positively to the population's overall physical and mental health.

+ Decline in Excessive Alcohol Consumption: Excessive alcohol use among the working-age population (aged 15–74) has decreased 27 from 40% in 2018 to 33% in 2022, suggesting improvements in public health related to alcohol consumption.

- Increase in Smoking Rates: Smoking rates have risen. The proportion of daily smokers increased from 12% to 15% among women and from 31% to 38% among men between 2018 and 2022. This concerning trend may require greater attention in public health strategies.

- Deteriorating Mental Health: The percentage of respondents reporting symptoms of depression increased from 32% in 2018 to 36% in 2022, highlighting a growing mental health challenge.

Policy highlight

The Riga City Municipality developed the Public Health Guidelines for 2022–2027, but it has not yet been approved. At the national level, the Public Health Guidelines for 2021–2027 have already been adopted.

The goal of this public health policy is to improve the health of Latvia's population by increasing the number of years lived in good health, preventing premature mortality, and reducing health inequalities.

By 2027, the following goals are set to be achieved:

- Extend the number of healthy life years by four years for men and three years for women, reaching 55 years for men and 57 years for women.

- Reduce the rate of potentially lost life years by 15%, achieving 5,700 per 100,000 inhabitants.

- Increase the average life expectancy at birth by 1.8 years for men and 1.2 years for women.

Mobility

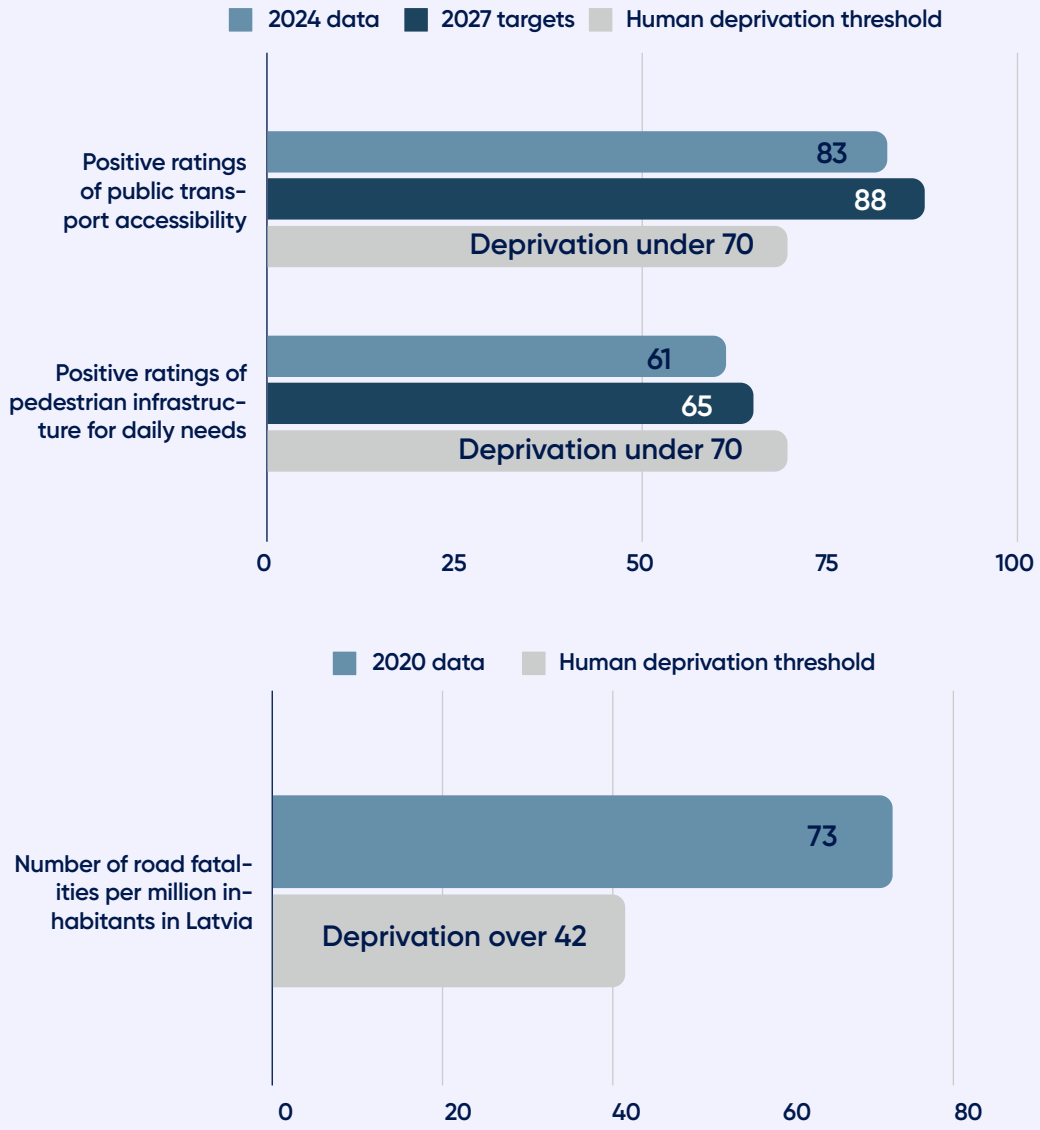
Table 8. Riga's mobility deprivation assessment

Can residents easily access public transportation, travel on foot, and experience a safe transportation environment?			
Indicators	The resident ratings of public transport accessibility. This measures whether public transport in Riga is accessible to all residents.	The resident ratings of pedestrian infrastructure for daily needs. This reflects how well Riga's transport system enables residents to walk for essential activities.	The number of road fatalities per million inhabitants in Latvia. This indicator provides insights into road safety in Riga.
Human deprivation thresholds	A positive rating from over 70% of residents indicates accessible public transport.	A positive rating from over 70% of residents suggests that walking for daily needs is feasible.	The European average for road fatalities per million inhabitants is 42. If Latvia significantly exceeds this number, it is considered a deprivation in road safety, which also applies to Riga.

Recent data	In 2024, 83% of residents rated the accessibility of public transport positively. This high level of satisfaction indicates that the system provides good overall accessibility. Source: municipality's direct monitoring	In 2024, 61% of residents gave a positive rating for pedestrian infrastructure for daily needs, suggesting that a small portion of residents face difficulties travelling on foot. Source: municipality's direct monitoring	In 2020, Latvia had the second-highest number of road fatalities per million inhabitants among the 27 EU countries, with a rate of 73. Source: Eurostat[7]
Riga snapshot	**High Deprivation** Riga has highly dangerous roads and presents some challenges for pedestrians.		
Riga's 2027 targets	By 2027, the municipality aims to increase the accessibility rating to 88% satisfaction.	The municipality seeks to have 65% of residents rate pedestrian infrastructure positively for daily needs by 2027.	No related-target.

[7] https://road-safety.transport.ec.europa.eu/document/download/2128f321-9667-4af9-8b3c-bfcfe39fa20a_en?fi lename=erso-country-overview-2023-latvia_0.pdf

Figure 9. Mobility indicators: current situation, 2027 targets, and human deprivation thresholds (in percentages and absolute numbers)



Zooming in

Riga's transportation system presents both strengths and challenges:

+ Public transport quality: 76% of residents gave a positive rating to the service quality of public transport, indicating a generally favourable view of its reliability and efficiency. This is reflected in the modal split, where public transport is one of the preferred modes of transportation.

+/- Modal split: There is a heavy reliance on private cars and public transport in Riga. The modal split in 2022 shows that 44% of residents use cars as passengers, 39% rely on public transport, 10% are pedestrians, and 4% use bicycles. Despite the low rate of cycling, 62% of residents rated bicycle travel positively, indicating some satisfaction with the options available for cycling.

- Dissatisfaction with transport infrastructure: Only 43% of residents positively assessed the quality of transport infrastructure in the city.

- High level of car accidents: Riga recorded 8,768 car accidents in 2023. The municipality aims to reduce this number to fewer than 6,365 by 2027.

Policy highlight

In 2023, 72% of the city's public transport fleet consisted of low-emission and zero-emission vehicles. This reflects the city's strong commitment to environmental sustainability. Additionally, municipal investments in traffic infrastructure projects have contributed to an 11% reduction in transport-generated CO_2 emissions.

The Riga City Municipality has set four long-term development goals, including creating a comfortable and safe urban environment that is pleasant for local residents. The strategy places a special focus on the transport sector. Although the movement of pedestrians and cyclists is currently subordinated to car traffic, in the long term, the transport infrastructure must be developed according to the following generally accepted hierarchy, especially in the city core and neighbourhood centres: Pedestrian > Cyclist > Public Transport > Private Car. The goal is to develop Riga as a sustainable metropolis by restricting the entry of private vehicles into the city centre and encouraging local residents to use public transport and cycling.

Riga has the following transport policy documents:

- Transport Development Thematic Plan, 2017 [8];

- Riga Mobility Vision, 2020[9];

- Riga Transport System Sustainable Mobility Action Plan[10].

[8] https://sus.lv/sites/default/files/media/faili/transporta_att_12st_12bas_tmp_paskaidrojuma_raksts.pdf

[9] https://sus.lv/petijumi/rigas-mobilitates-vizija-cela-uz-labaku-ikdienas-dzivi

[10] https://www.rdpad.lv/wp-content/uploads/2019/04/2_MRP_2019_2025_Gala_versija.pdf

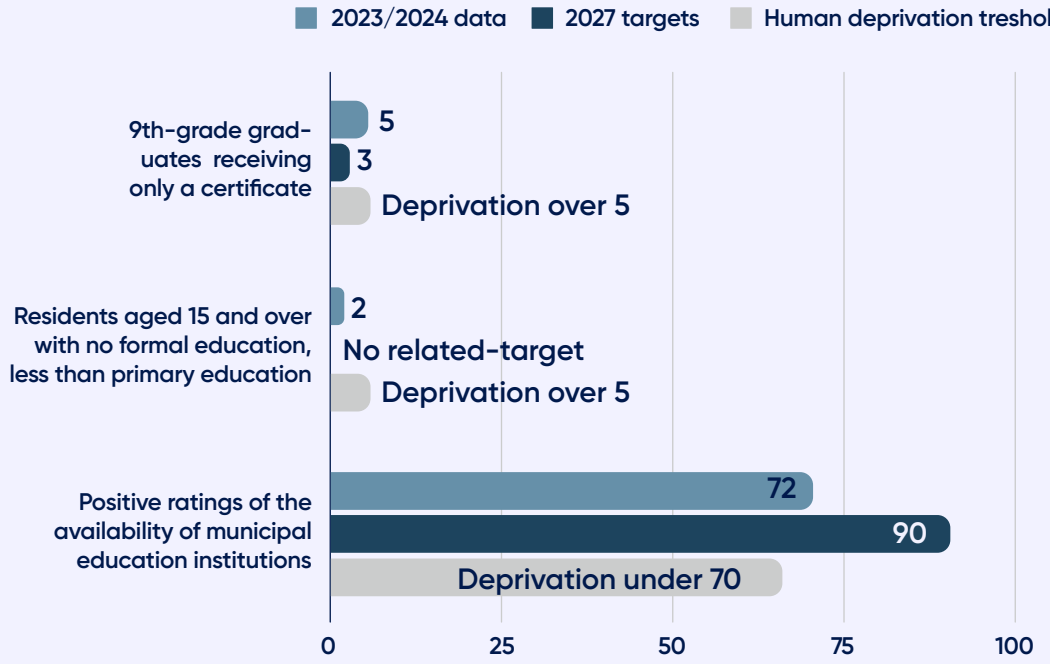
Education

Table 9. Riga's education deprivation assessment

Do residents have access to a basic education?			
Indicators	The percentage of 9th-grade graduates who receive only a certificate, rather than a full diploma. This indicator measures the dropout rate and reflects how well the education system supports students in completing their secondary education. It also highlights shortcomings within the education system.	The percentage of residents aged 15 and over with no formal education or less than primary education. This metric identifies potential issues in providing educational opportunities to all, revealing gaps in the education system.	The resident rating of municipal general education institutions' services in terms of availability. This reflects the accessibility of education for the population.
Human deprivation thresholds	Over 5% of students not completing their secondary education with a diploma suggests potential issues in providing basic education to children. This could indicate challenges faced by vulnerable groups, who are more likely to drop out.	Over 5% of residents with only minimal education may signal barriers preventing access to adequate educational opportunities.	Over 70% of positive ratings suggest that a large majority of the population feels education services are accessible.
Recent data	In 2023, 5% of 9th-grade graduates received only a certificate, placing Riga at the deprivation threshold. This suggests that a minority of residents may be experiencing educational deprivation. Source: municipality's direct monitoring	In 2023, 2% of residents aged 15 and over had only a minimal education level, which is below the deprivation threshold. Source: Central Statistics Bureau of Latvia, Table IZT041	In 2024, 72% of residents rated the availability of municipal education institutions positively, indicating a good level above the deprivation threshold. Source: municipality's direct monitoring

Riga snapshot	**Near-zero deprivation** The educational system is functioning well overall, but some individuals may still experience a degree of deprivation, particularly regarding the completion of secondary education.		
Riga's 2027 targets	The municipality aims to reduce the percentage of 9th-grade graduates receiving only a certifi cate to below 3% by 2027.	No related-targets.	The municipality strives for 90% resident satisfaction with the availability of its education services.

Figure 10. Education indicators: current situation, 2027 targets, and human deprivation thresholds (in %)



Zooming in

The city of Riga presents several areas of improvement within its educational system:

-/+ Satisfactory preschool education but limited availability: In 2020, 78% of parents positively rated the service quality of municipal preschool educational institutions. However, by 2022, only 51% of residents were satisfi ed with the availability of these services, highlighting a gap in access. 34

- Dissatisfaction with the quality of municipal general education institutions: In 2024, only 62% of residents gave a positive rating for service quality, indicating signifi cant dissatisfaction. The municipality aims to increase this to 85% by 2027.

- Low tertiary education participation: In 2023, 42% of the population aged 15 to 64 had higher education. This rate has room for improvement.

- Lifelong learning: In 2024, only 45% of residents gave a positive rating for opportunities to improve their skills through non-formal education courses.

Policy highlight

The number of educational events organised in Riga's educational institutions has been steadily increasing, reaching 718 in 2023. The municipality aims to double this number by 2027, with a goal of organising at least 1 500 events.

The Riga City Municipality Education Ecosystem Development Strategy for 2024–2028 has been developed but not yet approved. The overarching goal of the strategy is to lay the foundation for a broader, collaboration-oriented system created by the municipality to provide residents with the necessary knowledge, skills, and attitudes throughout their lives. This aims to develop a sustainable, high-quality, and innovative education ecosystem in the Riga City Municipality.

Housing

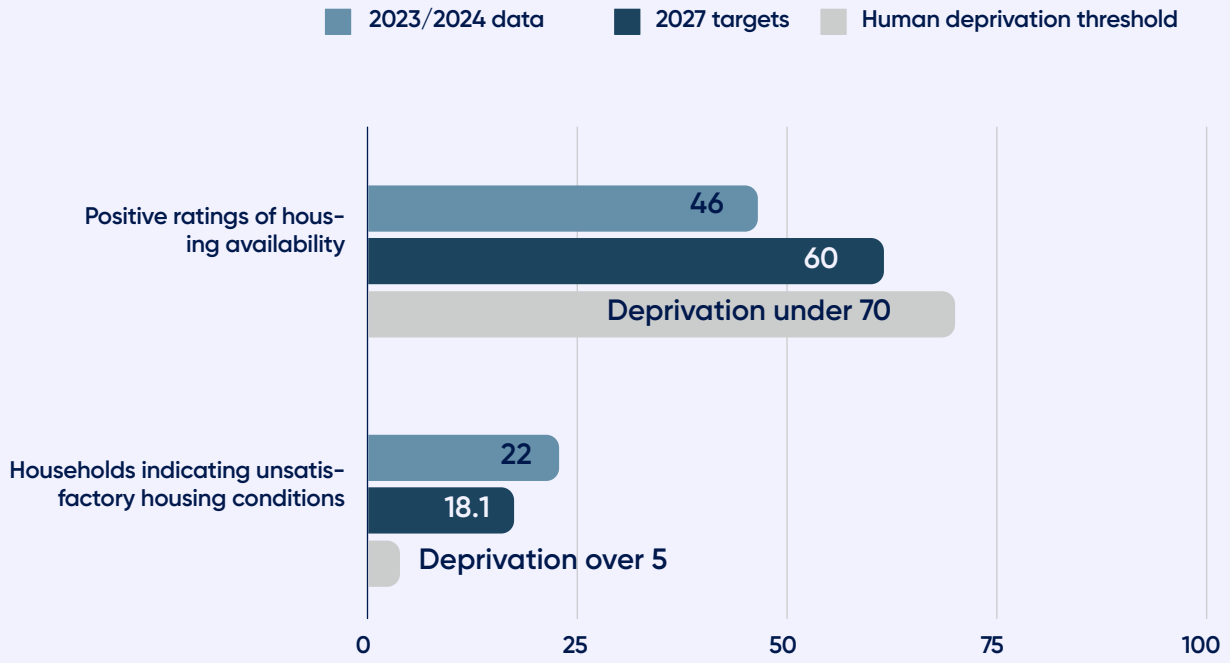
Table 10. Riga's housing deprivation assessment

Can residents access housing and decent living conditions?		
Indicators	Residents' ratings of housing availability in Riga. This indicates potential issues with housing supply.	The proportion of households indicating unsatisfactory housing conditions. This directly reflects the quality of living conditions in Riga and shortcomings experienced in housing services.
Human deprivation thresholds	Over 70% positive ratings would indicate that residents do not struggle to find housing.	The proportion of reported unsatisfactory housing conditions should be below 5%. This would suggest that only a small segment of the population faces temporary or localised housing issues rather than systemic problems.
Recent data	In 2024, only 46% of residents gave a positive rating, signifi cantly below the deprivation threshold. This suggests that most residents face difficulties finding a home. Source: municipality's direct monitoring	In 2023, 22% of households reported unsatisfactory housing conditions, highlighting signifi cant challenges with the quality or adequacy of housing. This is further confirmed by Eurostat, which reported that 41.3% of Latvians lived in overcrowded housing in 2021. Source: municipality's direct monitoring, Eurostat[11]

[11] https://ec.europa.eu/eurostat/cache/digpub/housing/bloc-1c.html?lang=en&lang=en

Riga snapshot	**High Deprivation** A large portion of the population struggles to access adequate housing, particularly in terms of availability and poor living conditions.	
Riga's 2027 targets	The municipality aims for 60% of households to be satisfi ed with the housing availability in 2027.	The 2027 target of Riga is to go below 18,1% reported unsatisfactory housing conditions.

Figure 11. Housing indicators: current situation, 2027 targets, and human deprivation thresholds (in %)



Zooming in

Housing in Riga presents a challenging picture:

+/- Municipal housing assistance: The number of individuals and families receiving municipal housing assistance has declined from 489 in 2020 to 241 in 2023, indicating a signifi cant reduction in support. However, a positive trend is that fewer people require assistance, as the number of individuals and families registered for support has fallen from 2,724 in 2021 to 1,860 in 2023. The municipality aims to further reduce this number three times – to 500 by 2027.

- Resident dissatisfaction with housing quality: In 2024, only 44% of residents rated the quality of housing in Riga positively, highlighting a pressing need for improvement.

- Degraded buildings: In 2024, Riga had 859 ruined housing units, representing 0.3% of the estimated 325,000 housing units in the city. While most of these are vacant buildings, they pose public safety risks due to hazardous conditions. Some are occupied by homeless individuals or extremely poor residents who cannot afford to relocate.

Policy highlight

Riga is implementing several policies to improve living conditions and safety: The city aims to renovate 1,400 multi-apartment buildings through support programmes by 2027, enhancing the quality of the houswing stock. The municipality plans to co-fi nance and implement 215 hazard prevention projects in residential buildings by 2027.

The Riga City Municipality has adopted the Housing Policy Guidelines for 2024–2030. Work is underway, and by the end of 2025, the Smart City Guidelines and Framework for Riga's future development as a smart city will be fi nalised. The goal is to ensure systematic urban development, efficient governance mechanisms, and well-coordinated actions.

Energy

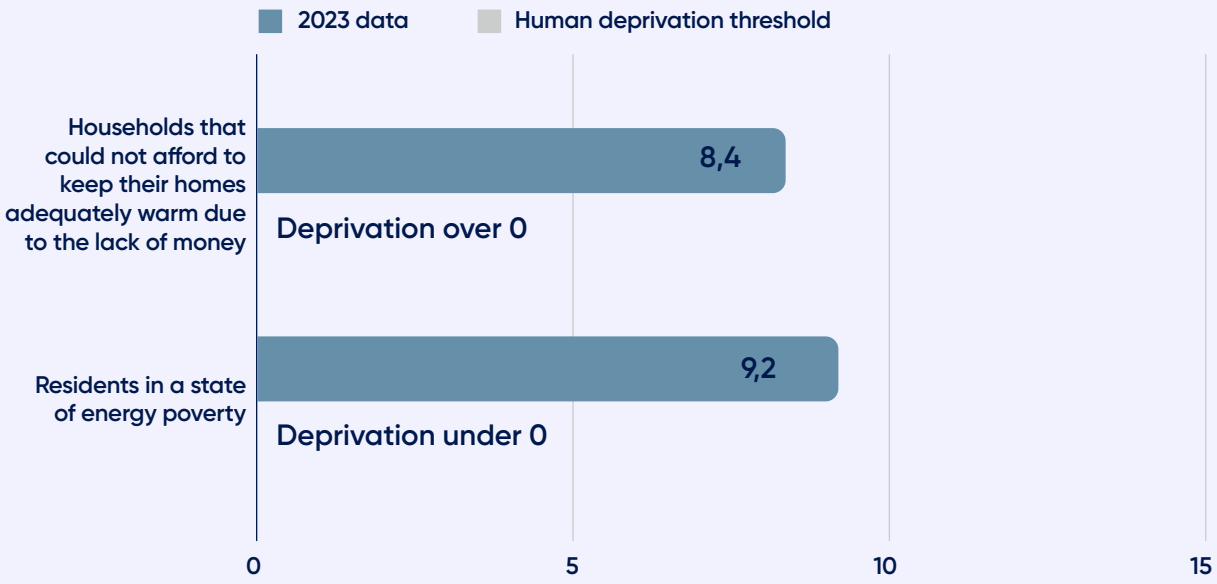
Table 11. Riga's energy deprivation assessment

Can residents afford energy for their daily needs?		
Indicators	The rate of households, which could not afford to keep their homes adequately warm due to the lack of money. This reveals how many households do not have access to sufficient energy for their basic needs due to fi nancial barriers.	The rate of Riga residents in a state of energy poverty. This highlights the proportion of residents struggling with energy costs. Energy poverty occurs when a household must reduce its energy consumption to a level that negatively impacts the inhabitants' health and well-being. It is primarily driven by three underlying root causes: a high proportion of household expenditure spent on energy, low income, and poor energy performance of buildings and appliances.
Human deprivation thresholds	This number should approach zero to ensure that all residents can afford energy for their heating needs.	This number should approach zero to ensure that all residents can meet their energy needs.
Recent data	In 2023, 8.4% of Riga's residents could not afford proper heating, highlighting a deprivation. Source: Central Statistics Bureau of Latvia, Table NNN010	In 2023, this rate was 9.2%, exceeding the deprivation threshold. Source: Riga Energy Agency[12]
Riga snapshot	**Moderate deprivation** A small portion of the population faces challenges in meeting basic heating and other energy needs. Although this issue affects only part of the population, it is essential to address this deprivation.	

[12] https://rea.riga.lv/

Zooming in

- Heat loss in the district heating network: In 2023, the relative heat loss in the district heating network was 403,447 MWh per year, or approximately 13%. This may indicate system maintenance issues. Heat loss also occurs due to the signifi cant lack of progress in building renovations.



Policy highlight

Riga has adopted the Riga State City Sustainable Energy and Climate Action Plan for 2022–2030, which includes goals and measures aimed at reducing energy consumption, mitigating climate impact, adapting to climate change, and reducing energy poverty.

The plan envisions the development of support instruments for reducing energy poverty within the framework of the Renovation Programme for Riga Multi-Apartment Buildings. For instance, it includes direct support for households experiencing energy poverty to help cover renovation costs, provided that the apartment building owners vote in favour of the renovation. This measure aims to encourage households affected by energy poverty to support building renovations and reduce their energy bills in the long run. The municipal government, for example, could cover any increase in the total monthly payment for all expenses combined, if any.

Income & Work

Table 12. Riga's income and work deprivation assessment

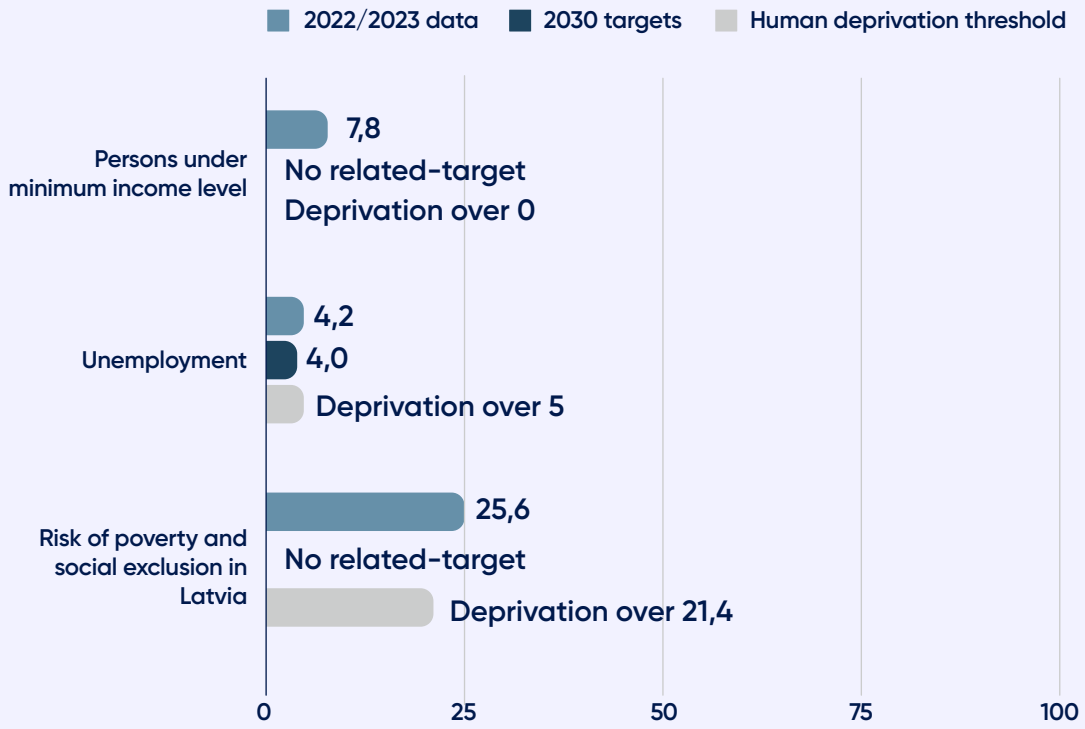
Do all residents have job opportunities and can afford a basic standard of living?			
Indicators	The share of persons below the minimum income level. This indicates the proportion of residents who do not earn enough to cover their essential living costs in Riga.	The unemployment rate at the end of a year. This illustrates the access to job opportunities and shortcomings.	The risk of poverty and social exclusion in Latvia The risk of poverty and social exclusion is determined by three factors: low income, severe material and social deprivation, and very low work intensity in households. It reflects broader socio-economic challenges that extend beyond income alone.
Human deprivation thresholds	This number should be as close to zero as possible, ensuring that everyone has the means to afford a basic standard of living.	An unemployment rate above 5% indicates difficulties in securing stable employment for residents, suggesting that the issue extends beyond individual transition periods and may be a systemic problem.	The European Union average for the population at risk of poverty and social exclusion was 21.4%. A higher risk in Latvia would indicate a deprivation risk, which would likely translate to a higher risk in Riga as well.
Recent data	In 2022, 7.8% of residents were below the minimum income level, highlighting a portion of the population living in poverty. Source: Central Statistics Bureau of Latvia, Table NNM020[13]	In 2023, the unemployment rate was 4.2%, which does not indicate deprivation in employment opportunities. Source: municipality's direct monitoring	In 2023, 25.6% of Latvia's population was at risk of poverty and social exclusion, exceeding the EU threshold by 4.2 percentage points. Source: Eurostat[14]

[13] https://data.stat.gov.lv/pxweb/en/OSP_PUB/START__POP__NN__NNM/NNM020?s=nnm020&

[14] https://ec.europa.eu/eurostat/databrowser/view/ilc_peps11n/default/table?lang=en&category=livcon.ilc.ilc_pe.ilc_peps

Riga snapshot	**Moderate deprivation** Overall, the job market seems to offer sufficient opportunities. However, a small portion of the population lives in poverty or is at signifi cant risk of poverty and social exclusion.		
Riga's targets	No related-target.	The municipality has set a target to reduce the unemployment rate to 4.0% by 2030.	No related-target.

Figure 13. Cultural Indicator: Current Situation, 2030 Target, and Human Deprivation Threshold



Zooming in

+/- Average gross salary of employees in Riga: In 2023, the average salary was €1,706.

+ The consumption of basic necessities: In 2019, the average household spent 49% of its expenditures on basic necessities, allowing for some financial flexibility and leaving income for leisure, savings, and investments.

Policy highlight

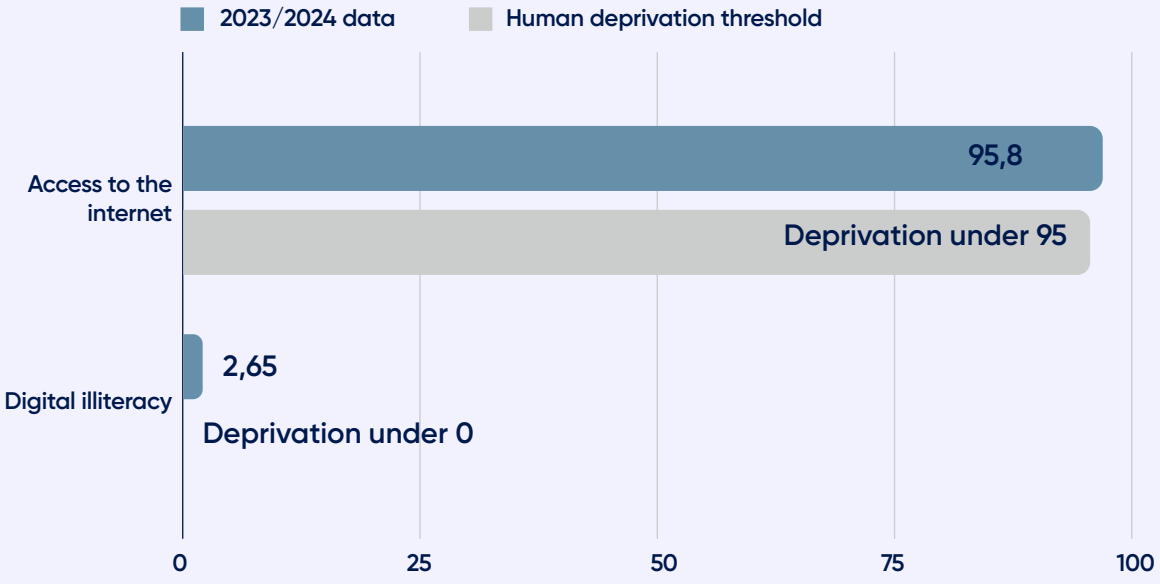
The municipality supports NEET (Not in Education, Employment, or Training) youth. From 2020 to 2022, a total of 595 NEET youth in Riga were engaged in employment, education, or the "PROTI un DARI!" project. While this project ended in 2023, it continues under "PROTI un DARI 2.0," which will run until 2028 across Latvia. The initiative aims to support at least 1,895 young people, with at least 340 participants expected to engage in education or training after completing the programme.

Connectivity

Table 13. Riga's connectivity deprivation assessment

Do residents have access and the skills to use the internet?		
Indicators	The Riga residents' access to the internet. This illustrates their level of connectivity.	The percentage of Latvians with no overall digital skills. This reflects the level of digital literacy in the country and provides an approximate indication of digital literacy levels in Riga.
Human deprivation thresholds	If fewer than 95% of households are connected to the internet, it suggests a deprivation in internet access and highlights connectivity gaps.	Digital illiteracy should approach zero to ensure all residents have the necessary digital skills and can access essential digital services.
Recent data	In 2024, 95.8% of households had access to the internet, indicating good connectivity Source: Central Statistics Bureau of Latvia, Table DLM060	In 2023, 2.65% of the Latvian population had no digital skills. We assume the numbers in Riga are comparable. As this fi gure approaches zero, it indicates a near-zero level of digital deprivation. Source: Eurostat[15]
Riga snapshot	**Near-zero deprivation** Internet access appears to be widely available in Riga, and digital illiteracy is minimal.	

Figure 14. Connectivity indicators: current situation and human deprivation thresholds (in %)



[15] https://ec.europa.eu/eurostat/databrowser/view/ISOC_SK_DSKL_I21/default/table

Zooming in

We observe significant improvements in digital skills and available technologies in Riga:

+ Digital training: Approximately 1,000 general education teachers attend digital skills development courses annually in Riga.

+ New computers for schools: The number of computers less than five years old per 100 students increased significantly, rising from 16% in 2022 to 39% in 2023.

Policy highlight

In 2023, 28% of municipal services were available as e-services on the unified Riga resident portal, with plans to double this by 2027.

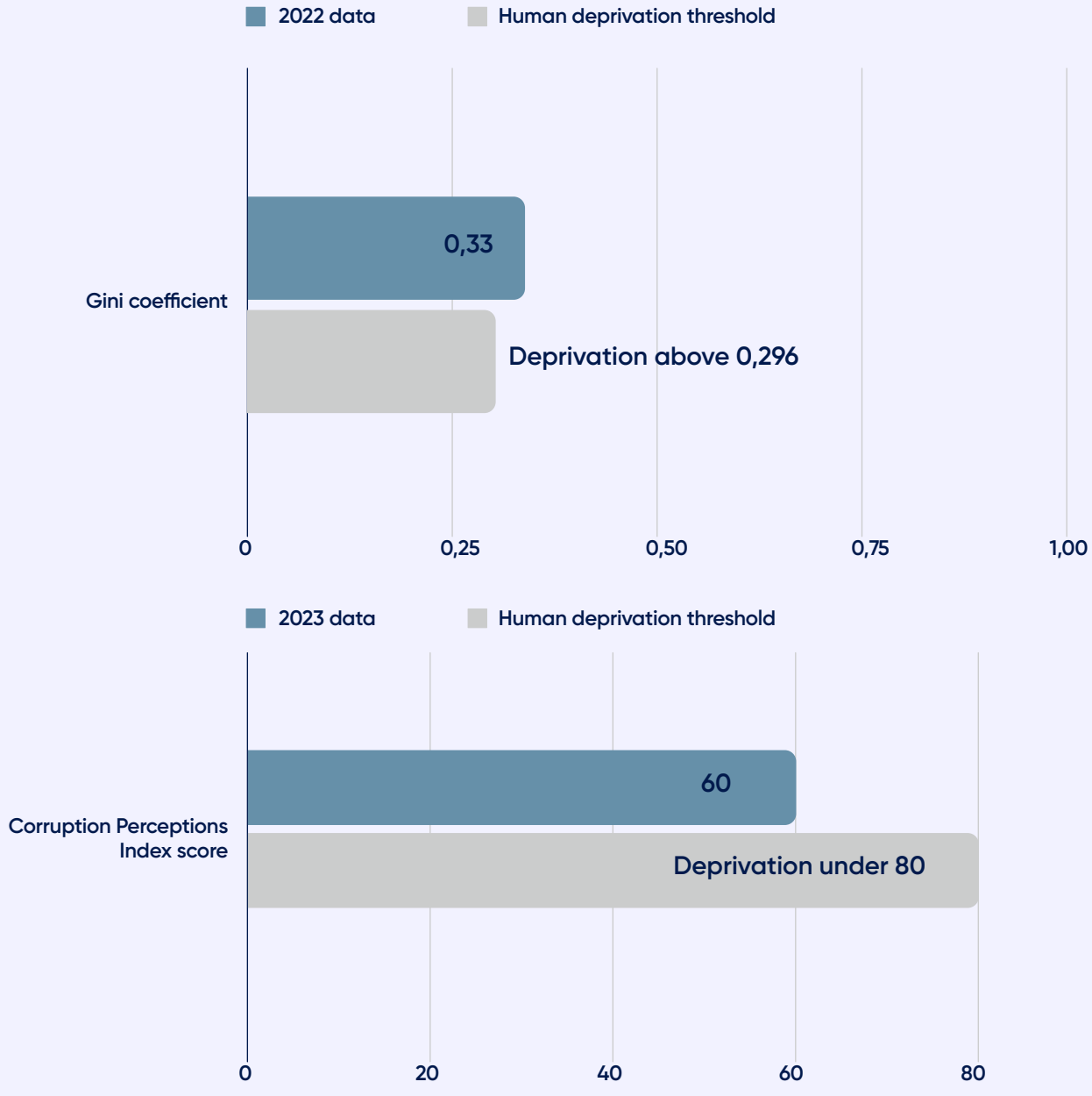
Social Equity

Table 14. Riga's social equity deprivation assessment

Do Riga's residents experience a socially just and equal environment?		
Indicators	The Gini coefficient. This assesses the distribution of income or wealth in a society and indicates existing inequalities.	Corruption Perceptions Index score. This reflects the perceived level of corruption in a country's public sector and serves as an indicator of corruption levels.
Human deprivation thresholds	The Gini coefficient ranges from 0 to 1, where 0 represents perfect equality, meaning everyone has the same income, and 1 represents total inequality, where one person has all the income while everyone else has none. Given Riga's location in Europe, its coefficient should ideally be close to the 2022 EU average of 0.296.	The score is measured on a scale from 0 to 100, where 0 represents highly corrupt and 100 represents very clean. Ideally, corruption should be minimal, tending towards 100. Denmark currently holds the highest score of 90, while the global average is a concerningly low 43, according to Transparency International. Latvia's score should ideally align with the top-performing countries, and a score below 80 suggests significant corruption that could impact neighbouring states.

Recent data	In 2022, Riga's Gini coefficient was 0.33, one of the highest in the European Union, highlighting signifi cant inequalities. Source: Eurostat[16], municipality's direct monitoring	In 2023, Latvia's score was 60, ranking 36th out of 180 countries. This indicates a high level of corruption. Source: Corruption Perceptions Index[17]
Riga snapshot	**High deprivation** Residents experience signifi cant income inequality compared to neighbouring countries, along with a high level of corruption.	

Figure 15. Social equity indicator: current situation and human deprivation threshold (from 0 to 1 and score from 0 to 100)



[16]16https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Living_conditions_in_Europe_-_income_distribution_and_income_inequality

[17] https://www.transparency.org/en/cpi/2023/

Zooming in

+ Recognising the public role in tackling inequalities: in 2024, 60% of residents see social services as an investment in societal well-being. This shows that the majority of people understand their importance and support the creation of favourable conditions for everyone.

- Long wait for social services: In 2023, the average waiting time for social care services was 118 days for individuals without dementia and a shorter time, 60 days, for those with dementia. These waiting periods reflect significant challenges in accessibility and the responsiveness of social services, indicating insufficient capacity to meet demand.

Policy highlight

In recent years, 10 new social service centres have been opened annually, with plans to continue this growth and open an additional 20 centres by 2027.

As society ages and health conditions deteriorate, the number of individuals requiring care increases each year. The number of adult recipients of the "Residential Care" service is expected to grow and reach 17,000 in 2027.

Residential care services are social services designed to assist individuals with functional impairments who, due to age or mental or physical disabilities, are unable to perform daily household tasks and personal care. These services are intended for individuals who either do not have legal caregivers or whose caregivers are unable to provide the necessary assistance due to objective circumstances, allowing them to maintain a safe and familiar environment—their home.

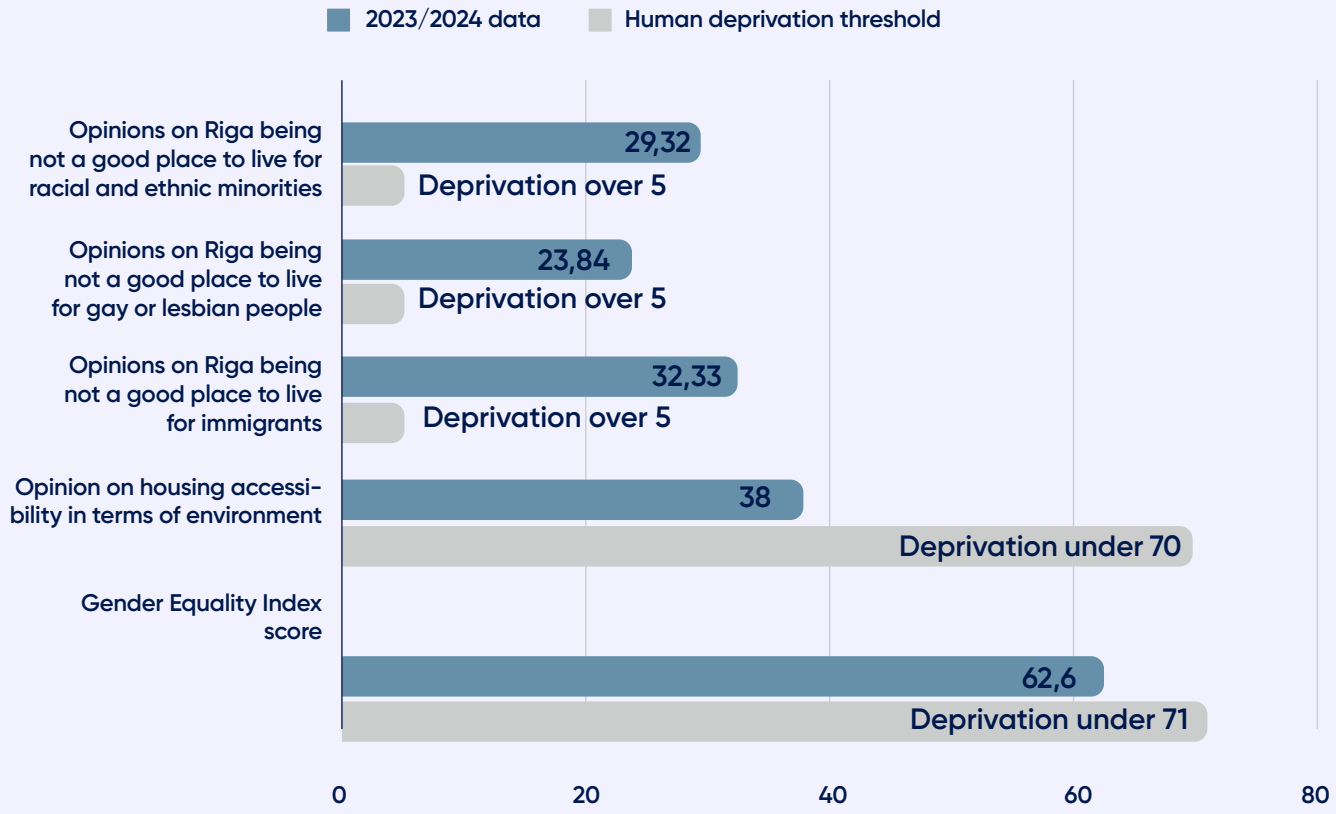
Equality in Diversity

Table 15. Riga's equality deprivation in diversity assessment

Are all residents able to access services and be treated equally, regardless of their ethnic, social, religious background, disability, or sexual orientation?			
Indicators	The residents' perception of Riga as not being a good place to live for racial and ethnic minorities, gay or lesbian people, and immigrants. This is an indicator of social cohesion and inclusivity. It can highlight a shortcoming in Riga's ability to be a welcoming city.	The residents' opinion on housing accessibility in terms of the environment (elevators, ramps, etc.). This reflects how well infrastructure is adapted to the needs of individuals with mobility disabilities.	The Gender Equality Index score. This measures progress towards greater equality. This is calculated at the national level in Latvia but can be associated with the situation in Riga.
Human deprivation thresholds	If more than 5% of residents believe Riga is not welcoming to these groups, this indicates an issue with inclusivity.	A positive opinion rate below 70% suggests signifi cant gaps in accessibility and inclusivity for individuals with mobility disabilities.	The Gender Equality Index assigns the EU and its Member States a score from 1 to 100, where 100 represents perfect equality with no discrimination or disadvantages for women. Ideally, we should aim for zero discrimination and strive to reach 100. We take a more local approach, using the EU average of 71 as a threshold.

Recent data	In 2023, 29.32% of Riga's residents considered the city not a good place to live for racial and ethnic minorities, 23.84% for gay or lesbian people, and 32.33% for immigrants from other countries. This indicates profound issues with inclusivity in Riga. Source: European Commission[18]	In 2024, only 38% of respondents gave a positive rating, suggesting that housing is inadequate in terms of inclusivity and accessibility. Source: municipality's direct monitoring	In 2024, Latvia received a score of 62.6, which is below the EU average of 71. This is a low score, indicating a high level of inequality. Source: European Institute for Gender Equality[19]
Riga snapshot	**High deprivation** There are important daily disadvantage for a large portion of the population (women, individuals with disabilities, lgbtq+, racial and ethnic minorities, immigrants groups)		
Riga's 2027 targets	The municipality aims for more than 85% of respondents to express acceptance for others by 2027.	The municipality has set a target of 33% for 2027.	No related-target.

Figure 16. Equality indicators: current situation, and human deprivation thresholds (in percentage and score over 100)



[18] https://ec.europa.eu/regional_policy/information-sources/maps/quality-of-life_en

[19] https://eige.europa.eu/gender-equality-index/2024/LV

Zooming in

+/- Hate crimes: In 2023, the share of hate crimes was 3.6% in Latvia. A hate crime is a criminal act committed against an individual or group due to their race, ethnicity, nationality, religion, sexual orientation, gender identity, or disability. While this may seem like a low number, it can also be explained by the reluctance to report discrimination. A survey in Latvia[20] revealed that only 28% of people would report incidents of discrimination to the police, suggesting barriers to engage with authorities.

- LGBTQ+ discrimination: In the same survey, 60% of respondents said they would feel completely uncomfortable if their child were in a relationship with a transgender or intersex person, and 53% if their child were in a same-sex relationship. These figures indicate a stigmatisation of LGBTQ+ people in Latvia. Additionally, 75% of people in Latvia who are in a same-sex relationship avoid holding hands with their partner in public[21], confirming this social stigma.

- Domestic violence: In Latvia, 46.5% of respondents[22] believe domestic violence is a family matter and should not be interfered with. Domestic violence is often hidden, and a poll shows that women stay with their abuser due to financial dependence, with 54% mentioning insufficient means to provide for themselves and their children, and 43.6% citing the lack of safe shelter.

Policy highlight

Since 2019, the municipality has adapted 179 apartments for persons with disabilities, with the goal of reaching 465 by 2027. In addition to housing support, Riga addresses domestic violence, with between 400 and 500 inter-institutional cooperation working group meetings held annually to reduce and prevent risks in families. The city also prioritises social integration, having supported 89 projects for new immigrants and 1,200 initiatives for people with special needs in 2023.

[20] https://europa.eu/eurobarometer/surveys/detail/2972

[21] https://fra.europa.eu/sites/default/files/fra_uploads/lgbti-survey-country-data_latvia.pdf

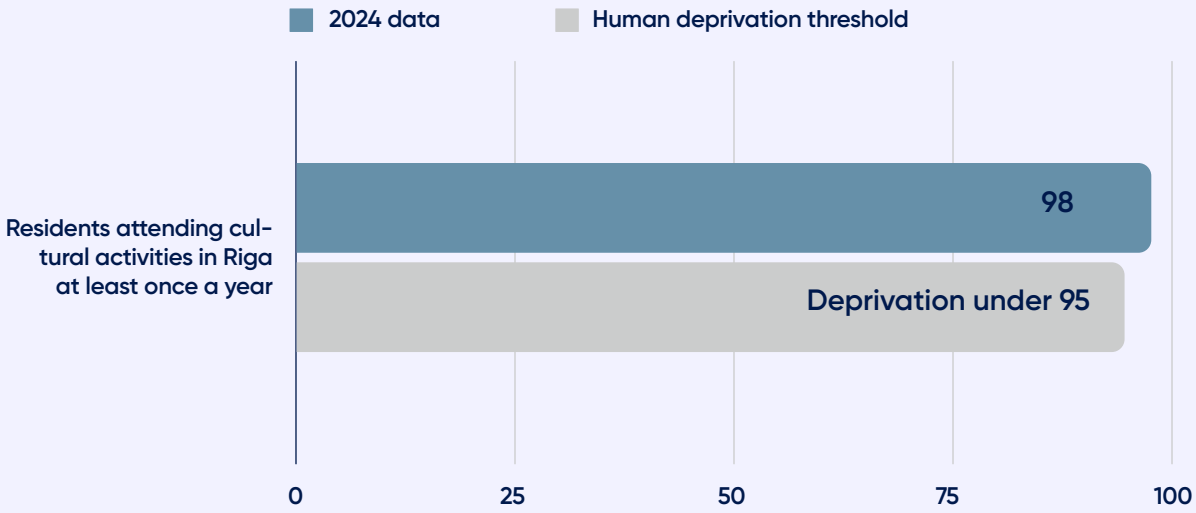
[22] https://marta.lv/en/marta-in-action/domestic-violence/

Culture

Table 16. Riga's culture deprivation assessment

Are cultural activities accessible to all Riga's residents?	
Indicators	The percentage of Riga's residents attending cultural activities in Riga at least once a year. This reflects the access to cultural life in Riga.
Human deprivation thresholds	Access to culture should be universal, approaching full attendance. We acknowledge that some non-participation may result from a lack of interest rather than accessibility issues. Therefore, we set the threshold lower, with a percentage below 95% indicating deprivation.
Recent data	In 2024, 98% of Riga's residents attended at least one cultural event. Source: Survey of Residents on Cultural Offerings in the City of Riga[23].
Riga snapshot	**Zero deprivation** It appears that Riga provides access to cultural life for everyone.

Figure 17. Cultural indicator: current situation, and human deprivation thresholds (in %)



[23] https://georiga.eu/wp-content/uploads/2024/04/Kulturas_piedavajums_Rigas_pilseta_Aptaujas_rezultati_2024.pdf

Zooming in

The relationship of Riga's residents with culture can be described as:

+ A high participation in cultural activities: In Riga, 90% of residents have attended cultural events, with 76% visiting museums, exhibitions, and galleries, and 50% attending music events in clubs, cafes, and creative spaces.

+ A high participation in cultural and entertainment events in neighbourhoods: In 2024, 80% of residents attended local cultural and entertainment events. The municipality aims to increase this participation to above 90% by 2027.

+ A significant share in household spending: In 2024, households in Riga allocated 70% of their total expenditure to recreation and cultural activities.

Policy highlight

In 2023, the cumulative budget spent on foreign film projects attracted by the Riga Film Fund amounted to 10.5 million euros.

The following applications were approved for a co-financing agreement with Riga City Municipality in 2023:

- Cinevilla Films Ltd's applications for "Sisi 3" and "Terra X" to be made in collaboration with Storyhouse Pictures (Germany),
- Tasse Films Ltd's application "The Green Parrot" to be made in collaboration with Panama Film (Austria),
- Tasse Films Ltd's application "After Us, The Flood" to be made in collaboration with Art Films Production (Finland).

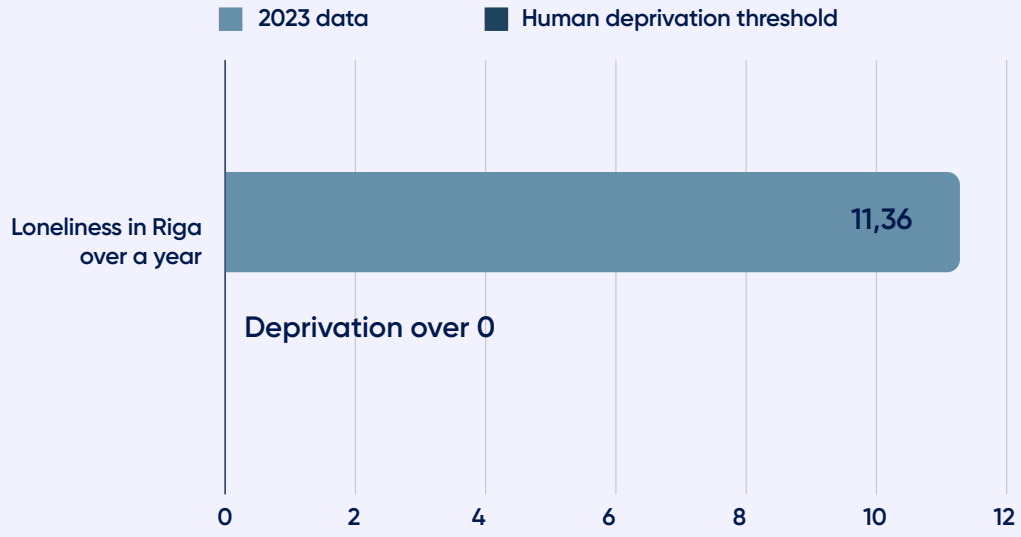
In the same year, Riga had a total of 25 twin cities, partnering with foreign cities to promote cultural, economic, and social ties.

Community

Table 17. Riga's community deprivation assessment

Can residents fulfi ll their basic social needs?	
Indicators	Loneliness in Riga over the past year. This is measured with the question, "How much of the time, during the past 12 months, have you been feeling lonely?" and the answers of "all of the time" and "most of the time".
Human deprivation thresholds	Loneliness experienced frequently should be as close to zero as possible to ensure that all residents have their social needs met and can experience a sense of community.
Recent data	In 2023, Riga recorded a loneliness rate of 11.36%, indicating that some individuals experience isolation and a lack of community. However, compared to other European cities, where the average was around 14%, Riga performs better. Source: Source: European Commission, Survey on the Quality of Life (QoL) in European Cities[24]
Riga snapshot	**Moderate Deprivation** Some individuals, particularly older adults and unemployed groups, experience a degree of isolation. Compared to other European cities, the level of loneliness is low.

Figure 18. Community indicator: current situation and human deprivation threshold (in %)



[24] https://ec.europa.eu/regional_policy/information-sources/maps/quality-of-life_en

Zooming in

Riga shows strong community engagement and numerous local initiatives:

+ Volunteer Engagement: In 2020, 16% of Riga's population participated in volunteer work, indicating a strong sense of community involvement[25].

+ Growing neighbourhood associations and dynamic local communities: The number of neighbourhood associations is increasing, reaching 56 in 2023. Additionally, in 2024, 67% of residents were engaged in their local community and actively participating in neighbourhood life in Riga.

+ Participation in local events and sense of local community: In 2024, 41% of residents attended cultural and entertainment events in their neighbourhoods, and 70% of residents reported feeling a sense of belonging to their neighbourhood.

+ Support to NGOs: In 2022 the municipality supported 50 NGO projects, all of them were implemented.

+/- Rather slow project implementation: A relatively large number of projects (77) were approved under the Neighbourhood Initiative Participation and Sense of Belonging Promotion Competition. The Riga Neighbourhood Residents' Center is carrying out targeted work with representatives of neighbourhood associations, providing information and support in preparing and implementing project applications. In 2023, the percentage of approved projects under this competition was 39%.

Policy highlight

In 2022, the municipality supported 50 NGO projects, all of which were implemented. Additionally, to promote cooperation between residents and the Riga municipality and to ensure the effective participation of NGOs in the decision-making process, since 2013, the Riga municipality and NGOs operating within its territory have joined the renewed Cooperation Memorandum between the Riga municipality and NGOs. To facilitate the implementation of the principles outlined in the memorandum and the achievement of its objectives, the parties commit to carrying out joint projects, including initiatives related to urban development, social issues, environmental protection, and education.

Additionally, the memorandum aims to enhance transparency, openness in decision-making, and the implementation of anti-corruption measures by introducing amendments to relevant Riga City Council regulations.

The municipality supports the following projects:

- Public Integration Project Competition for Non-Governmental Organisations
- Community Initiative Participation and Belonging Promotion Project Competition
- Project Competition for Social Support for Non-Governmental Organisation Operations and Capacity Building
- Project Competition for Social Support for Non-Governmental Organisation Operations and Capacity Building

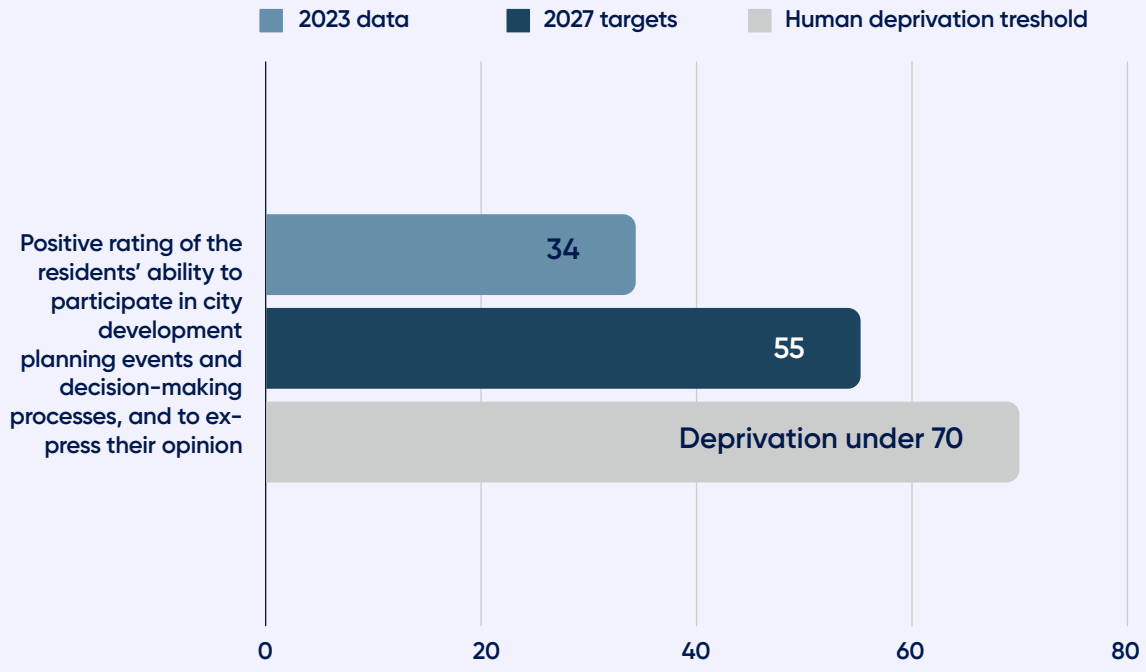
[25] https://apkaimes.lv/wp-content/uploads/2024/01/Petijums_Sabiedribas_integracija_2021.pdf

Political voice

Table 18. Riga's political voice deprivation assessment

Are all eligible voters able to actively participate in Riga's political life?	
Indicators	The resident ratings of their ability to participate in city development planning events and decision-making processes, and to express their opinion. This indicator helps assess the level of citizen participation and reflects the general perception of citizens regarding their ability to make decisions.
Human deprivation thresholds	Most residents should feel they can participate in local decisions and express their opinion. Below 70% of positive opinions may indicate the exclusion of some residents from local decisions.
Recent data	In 2024, only 34% of respondents gave a positive rating of their ability to be included in local decisions, which is very low. Source: municipality's direct monitoring.
Riga snapshot	**High Deprivation** A large group of people struggles to have a political voice and participate in the city's decision-making processes.
Riga's 2027 targets	The municipality aims for the positive ratings to exceed 55% by 2027.

Figure 19. Political voice indicator: current situation, 2027 target, and human deprivation threshold (in %)



Zooming in

In Riga, we observe in 2024:

- Lack of access to municipal information: Only 43% of residents gave a positive rating to the accessibility of information about municipal activities (plans, decisions, etc.)

- Dissatisfaction with municipal work: Only 44% of residents expressed satisfaction with municipal work overall, indicating room for improvement.

- A low voter turnout in municipal and local elections: In 2020, only 41% of voters expressed their voice in local and municipal elections, which is a low participation level. The municipality would like the level of participation to reach 55% by 2027.

Policy highlight

NGO representatives are purposefully informed about the opportunity to participate and collaborate with the municipality within various consultative mechanisms. Since 2021, a Memorandum Implementation Council has been established, where representatives of organisations that have signed the Memorandum can be elected. The aim of the memorandum is to encourage public engagement and active participation in decision-making and implementation within the Riga municipality by developing a lasting partnership between the municipality and NGOs.

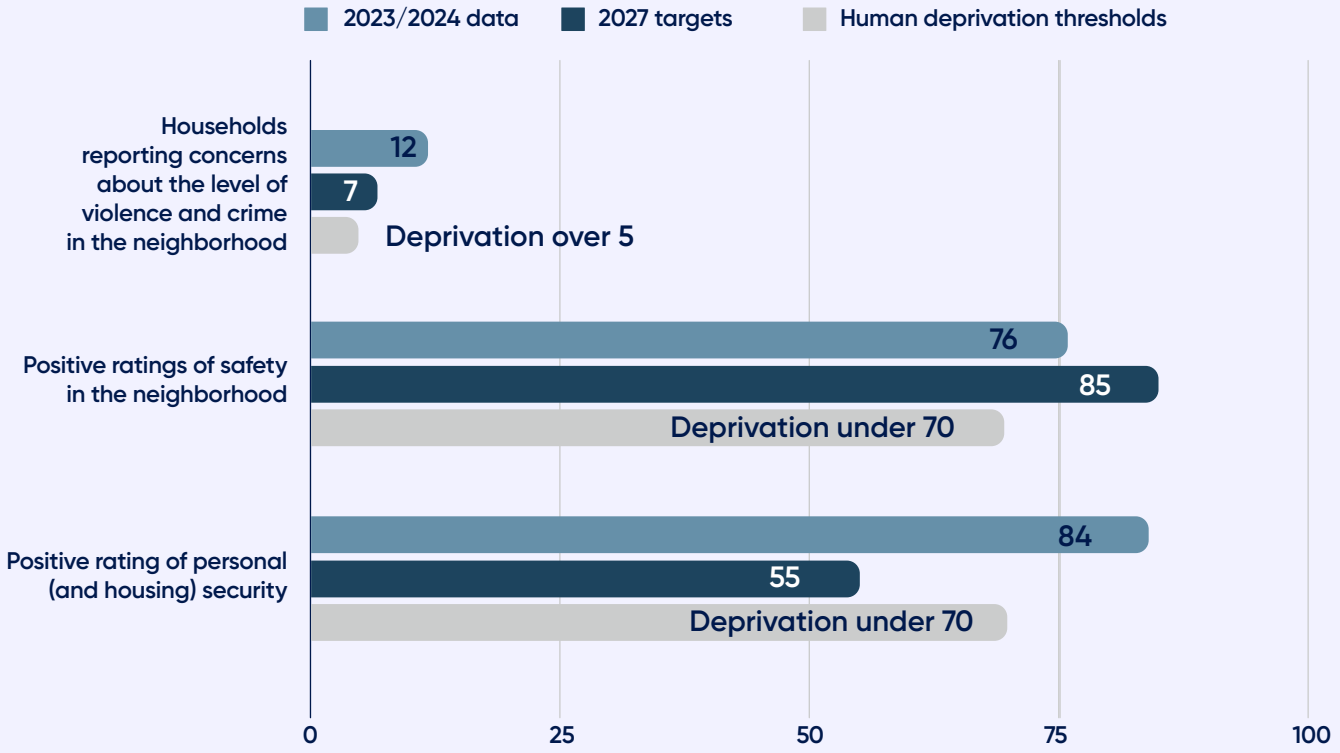
Peace & Justice

Table 19. Riga's peace and justice deprivation assessment

Can every resident feel a sense of safety in their home and neighbourhoods?			
Indicators	The proportion of households reporting concerns about the level of violence and crime in the neighbourhood. This reflects the households' feeling of safety and shortcomings in safety services.	The resident ratings of safety in neighbourhoods. This reflects the residents' feeling of safety in the streets.	Resident rating of personal and housing security. This reflects the residents' feeling of safety at home.
Human deprivation thresholds	If more than 5% of residents express concern about crime and violence, it may indicate potential safety issues.	We consider that below 70% of positive ratings of safety may suggest safety issues in neighbourhoods.	We consider that below 70% of positive ratings of safety may suggest safety issues in their homes.

Recent data	In 2023, 12% of respondents had safety concerns, which indicates that a small portion of residents do not feel safe. Source: municipality's direct monitoring	In 2024, 76% of respondents gave positive ratings to the safety of neighbourhoods. Source: municipality's direct monitoring	In 2024, 84% gave a positive rating to their personal safety and their home's safety. Source: municipality's direct monitoring
Riga snapshot	**Moderate deprivation** A small portion of the population fi nds the level of crime and violence to be worrying.		
Riga's 2027 targets	The city wants this percentage to fall to 7% in 2027.	By 2027, the target is to reach above 85%.	By 2027, the target is to reach above 55%, which has already been achieved.

Figure 20. Peace and justice indicators: current situation, 2027 targets, and human deprivation thresholds (in %)



Zooming in

- **Average police response time:** 8:58 minutes in 2023, which shows a decreasing trend.

- **Mortality from external causes:** 86 per 100,000 inhabitants in 2023, which appears to be quite high. Mortality from external causes includes factors such as transport accidents, drowning, poisoning, intentional self-harm (suicide), violence, excessive exposure to natural cold (hypothermia), falls, smoke, fi re, and flame exposure, among others.

- **Children experiencing bullying:** In 2018, 21% of children reported being bullied by schoolmates.

Policy highlight

The city implemented 268 social correction programs for children and youth in 2023 and aims to increase this number to 330 by 2027.

3.3. Local ecological

This section covers the local ecological lens and addresses the environmental degradations in Riga. It also provides context on Riga's ecological situation and presents the ecological projects currently in development.

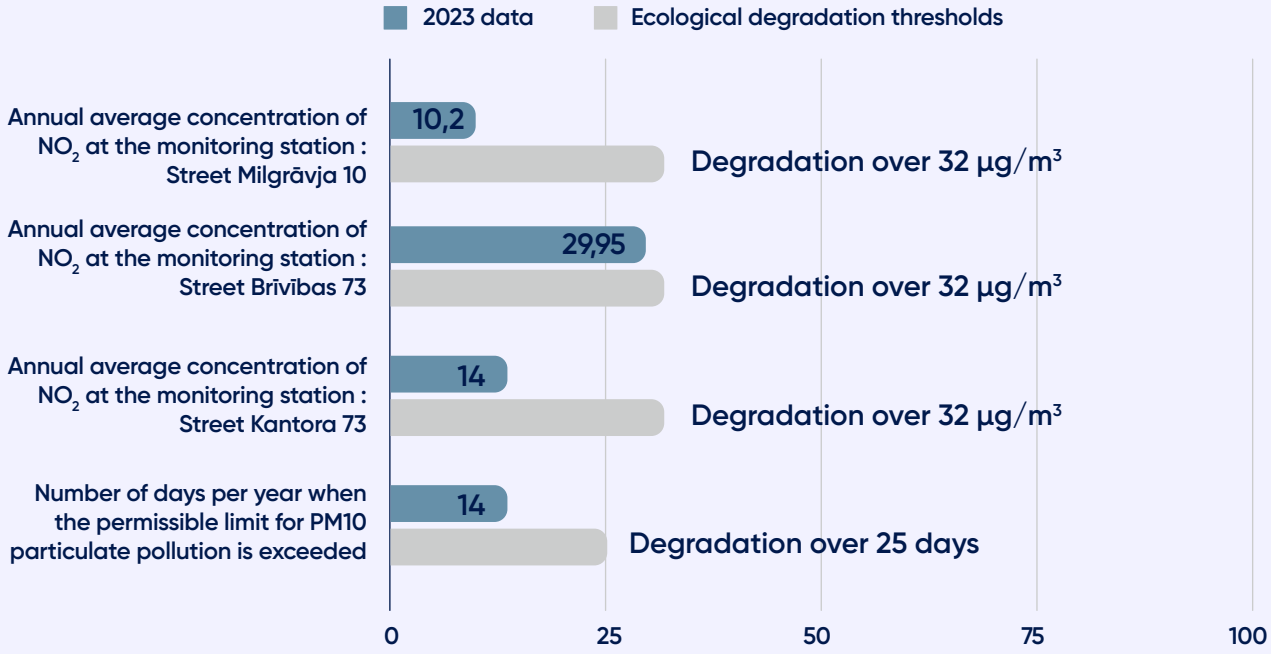
Cleanse the air

Table 20. Riga's air quality degradation assessment

Does Riga maintain good air quality and avoid significant air pollution?		
Indicators	The annual average concentration of NO_2 at the Riga City Housing and Environment Department monitoring stations (3 different stations), expressed in $\mu g/m^3$. NO_2 is a pollutant that contributes to the formation of smogs and fi ne particulate matter. Long-term exposure to NO_2 can cause respiratory problems and impacts the air quality in Riga.	The number of days per year when the permissible limit for PM10 particulate pollution is exceeded (monitoring station at Street Brivibas 73). PM10 is harmful to society and ecosystems and contributes to the formation of smog. Long-term exposure can cause respiratory problems. It indicates the air quality level.

Ecological degradation thresholds	Target value of not exceeding the upper limit of 32 µg/m^3. These are the values provided by the Riga municipality, and the limits are set lower than in the national legislation on pollution standards for safety. However, we should strive for near-zero NO_2 pollution in the long term, as these emissions primarily come from fossil fuels.	Less than 25 days of exceeded PM10 pollution. These are the values provided by the Riga municipality, and the limits are set lower than in national legislation on pollution standards for human safety. While we should strive for near-zero PM10 pollution, it is not entirely feasible, as this pollution also comes from biogenic or other natural sources (e.g., pollen, desert sand, salt from the sea, etc.).
Recent data	In 2023, at all three stations monitoring NO_2 concentration, the upper limit of 32µg/m^3 was not exceeded (Street Milgrāvja 10 - 10,2 µg/m^3; Street Brivibas 73- 29,95 µg/m^3; Street Kantora 73- 14,00 µg/m^3). The annual average concentration of NO_2 in 2023 is similar to the average value of 2022, with no significant changes observed. It should be noted that this value is significantly lower than the limit set for the protection of human health, which is 40 µg/m^3 (the annual average limit for NO_2 concentration). Source: municipality's direct monitoring	In 2023, the permissible limit for PM10 particulate pollution was exceeded during 14 days. The number of days has decreased compared to previous years, which is considered a positive trend. Source: municipality's direct monitoring
Riga snapshot	**Near-zero degradation** While the measured pollution falls within the agreed municipal limits and national limits, there is still non-zero pollution, which varies significantly between different regions of the city, with some areas being more polluted than others. There are only a few measurement stations, so the complete picture remains unclear, especially in areas with higher traffic, such as Kr. Valdemara Street.	

Figure 21. Cleanse the air indicators: current situation and ecological degradation thresholds (in µg/m³ and days)



Zooming in

+/- Latvia air quality ranking: In 2023, Latvia's average air quality ranked as good. While PM2.5 levels exceeded the World Health Organization's annual air quality guideline by 1.6 times, it still performed better than 109 countries worldwide, including several European nations[26]. Emissions of many air pollutants have decreased signifi cantly in recent decades, leading to improvements in air quality across the region. However, concentrations of air pollutants can still be too high and air quality problems persist.

+/- Lack of air monitoring: There is a lack of air monitoring in some particularly traffic-intensive areas throughout the city. As a result, the measurement results do not show the full picture and may underrepresent pollution levels.

- Poor air filtration: Ecosystem Intelligence tool revealed that the "ability of landscape and design features to fi lter and protect people from pollutants emitted or mobilised by wind, vehicles, or other forces" is diminished compared to the reference level.

Policy highlight

The Riga Municipality Air Quality Improvement Action Plan for 2021-2025 has been developed. It includes measures to reduce the emissions of fi ve pollutants: nitrogen dioxide (NO_2), PM10 particles, PM2.5 particles, benzene, and benz(a) pyrene.

The municipality focuses on increasing the share of low-emission and zero-emission vehicles in the city's public transport fleet, which reached 72% in 2023.

Furthermore, to improve air quality and decrease greenhouse gas emissions, the municipality is planning a pilot project for a zero-emission zone in the city centre.

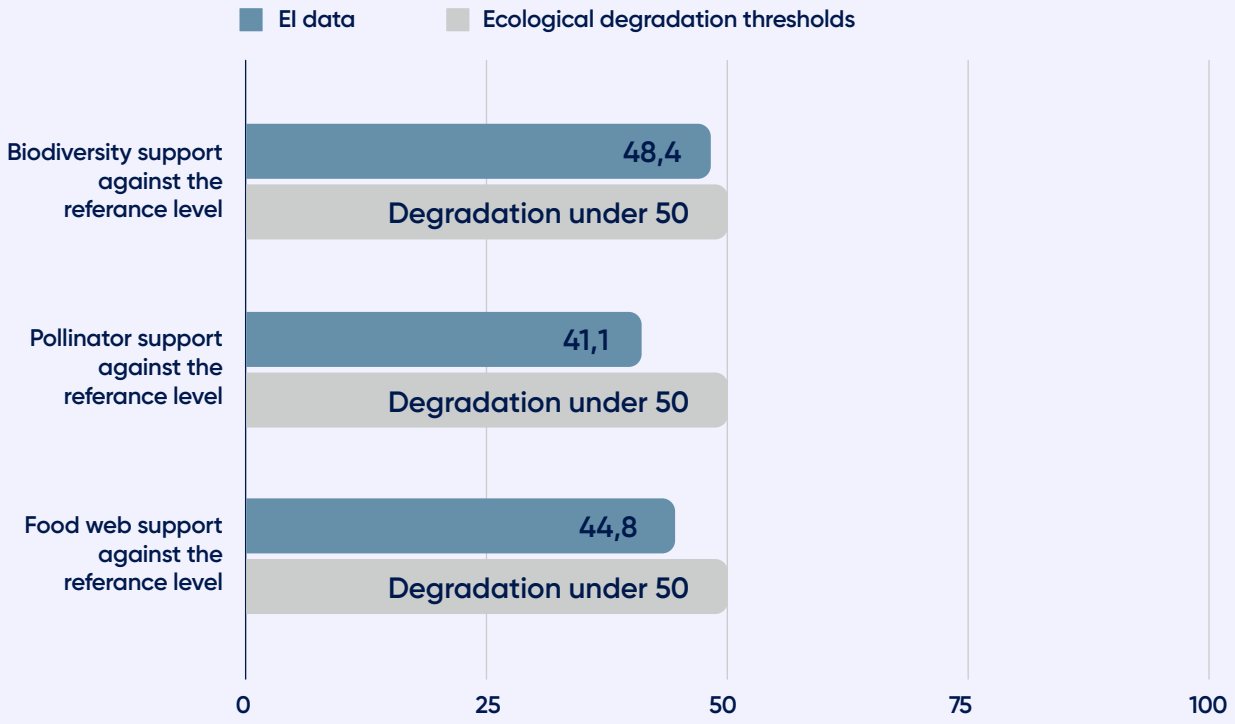
[26] https://www.iqair.com/world-most-polluted-countries

House biodiversity

Table 21. Riga's biodiversity degradation assessment

Can biodiversity thrive in Riga?			
Indicators	Biodiversity support This indicator comes from the Ecosystem Intelligence tool. The biodiversity support is defi ned as "the ability of landscape and design features to support life cycle requirements for a wide range of species groups," including insects, fi sh, amphibians, reptiles, songbirds, raptors, bats, small mammals, large mammals, and plants. It is measured in hectares of land providing this service.	Pollinator Support The Ecosystem Intelligence tool also helped obtain this indicator. It refers to "the ability of landscape and design features to support feeding, breeding, and refugia requirements for important pollinator species." Pollinators are indispensable for maintaining biodiversity and ensuring food production, making this an important indicator of biodiversity.	Food Web Support We also used the Ecosystem Intelligence tool to identify this indicator. It refers to "the ability of landscape and design features to support the ecological food web," which is based on food production and suitable habitats for each level of the food chain.
Ecological degradation thresholds	We consider that degradation occurs when biodiversity support falls below 50% of the reference level, indicating a large gap.	We consider that degradation occurs when pollinator support falls below 50% of the reference level, indicating a large gap.	We consider that degradation occurs when food web support falls below 50% of the reference level, indicating a large gap.
Recent data	The biodiversity support in Riga is 48.4% of the reference level. Although it falls below the threshold, it is very close, suggesting a minor degradation. Source: EI tool	The pollinator support is 41.1% of the reference level, which is below the threshold level, highlighting a notable degradation. Source: EI tool	The food web support reaches 44.8% of the reference level, which is below the threshold, indicating degradation. Source: EI tool
Riga snapshot	**Moderate degradation** In Riga, all the biodiversity indicators fall below the thresholds but remain above 40% of the reference level, indicating a moderate level of deprivation.		

Figure 22. House biodiversity indicators: current situation and ecological degradation thresholds (in %)



Zooming in

+ City meadows: In Riga, the area of meadow habitats amounted to 120 hectares in 2023.

+/- Green connectivity: While Riga has recreational forest areas and a lot of semi-natural habitats in the periphery, there is an overall lack of well-connected green and blue corridors.

Policy highlight

The Riga local government is developing the Riga Urban Environment Greening Plan for 2027-2031. This plan will serve as a medium-term policy planning document with an action plan. The main issues the plan aims to address include preventing stormwater flooding, mitigating the heat island effect, preserving and restoring biodiversity, and ensuring the accessibility of green infrastructure for city residents. The plan will place a strong emphasis on developing green infrastructure within the city and implementing nature-based solutions. It will strategically plan a network of green infrastructure elements that contribute to the strategic goals of the Plan.

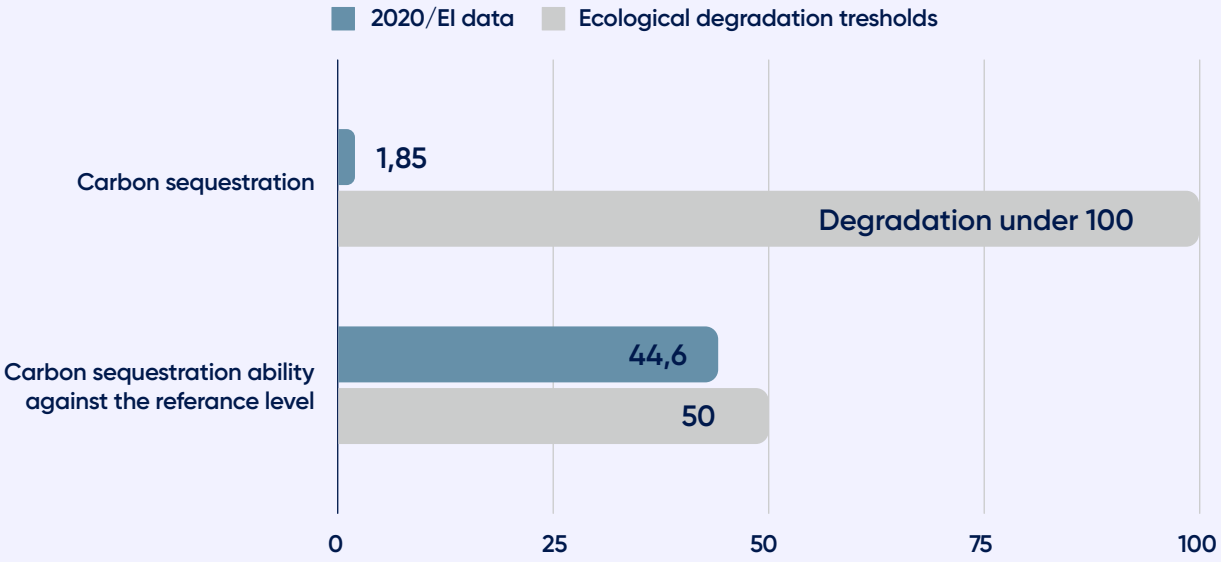
Store carbon

Table 22. Riga's carbon storage degradation assessment

Does Riga offset its local emissions?		
Indicators	Carbon sequestration This indicator is the share of the total released CO_2 that the city can uptake within their own locality.	Carbon sequestration ability This indicator, derived from the Ecosystem Intelligence tool, comprises carbon uptake and carbon storage, which are the carbon flow and stock. Carbon uptake refers to "the ability of the landscape to remove carbon from the atmosphere," while carbon storage is "the ability of the landscape to store carbon as organic matter in soil and plant structures." The indicator is measured in hectares of land providing this service.
Ecological degradation thresholds	To be carbon neutral within the region, excluding consumption-based emissions, Riga's natural areas should sequester as much carbon as is produced by processes happening within the city. Therefore, the uptake should ideally be 100%.	Deprivation occurs when carbon sequestration falls below 50% of the reference level, indicating a large gap.
Recent data	In 2020, the forests of SIA "Rīgas meži" (which oversee the majority of forests in Riga) absorbed only 1.85% of total CO_2 emissions. This means the city is incapable of sequestering the high amount of CO_2 produced, indicating high degradation. Source: Riga's Sustainable Energy and Climate Action Plan 2030[27]	The carbon sequestration in Riga is at 44.6% of the reference, which is below the threshold. It indicates moderate degradation, as it remains close to the 50% limit. Source: EI tool
Riga snapshot	**Emergency Degradation** Carbon sequestration in Riga could be improved and shows signs of serious degradation. Riga is not capable of sequestering almost any of the carbon emissions that are produced within the city. However, considering that nearly half of the population lives in the capital, the surrounding land and the rest of the country play an unaccounted role in uptaking a portion of Riga's emissions.	

[27] https://rea.riga.lv/wp-content/uploads/2024/03/Rigas-igtspejigas-energetikas-un-klimata-ricibas-plans-lidz-2030.-gadam.pdf

Figure 23. Store carbon indicators: current situation and ecological degradation thresholds (in %)



Zooming in

+/- Forests and parks: Riga is rich in city forest areas; however, there are low levels of vegetation in urban areas, particularly in some residential neighbourhoods, which lack urban biodiversity.

+ Mitigation effort in transport: In 2023, municipal investments in traffic infrastructure projects led to an 11% reduction in transport-generated CO_2 emissions compared to 2019 levels.

Policy highlight

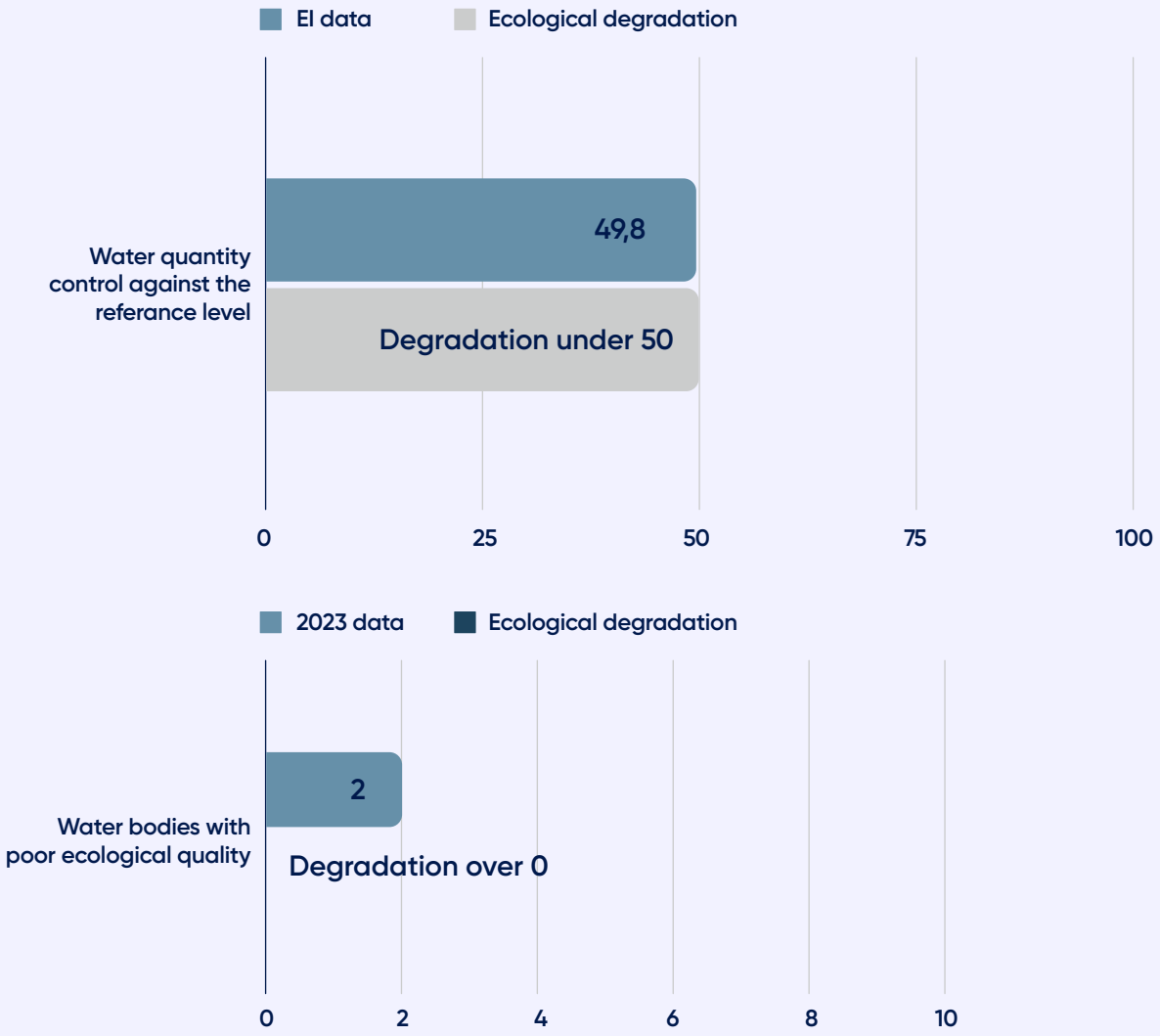
In 2023, the municipality planted 1,754 trees across gardens, parks, squares, and along streets. Additionally, the upcoming Riga Urban Environment Greening Plan for 2027-2031 will contribute to increased carbon storage.

Water cycle

Table 23. Riga's water cycle degradation assessment

Does Riga effectively manage water, preventing flooding and ensuring clean water quality?		
Indicators	Number of water bodies with poor ecological quality. This indicator shows the current quality of waterways and bodies in Riga, indicating potential degradation.	Water quantity control. We used the Ecosystem Intelligence tool to obtain this indicator, which assesses "the ability of the landscape to manage and convey a storm event." It encompasses interception, evaporation, infiltration, and surface storage to evaluate a landscape's capacity for water retention.
Ecological degradation thresholds	There should be no polluted water bodies. Degradation occurs when one or more water bodies have a poor ecological quality.	We consider that deprivation occurs when water quantity control falls below 50% of the reference level, indicating a large gap.
Recent data	In 2023, there were 2 water bodies with poor ecological quality out of 14, indicating water degradation. Source: municipality's direct monitoring	The water quantity control is 49.8% of the reference level, which, when rounded up, meets the threshold, indicating near-zero degradation regarding water retention. Source: EI tool
Riga snapshot	**Moderate Degradation** Overall, Riga's waters are primarily degraded in terms of quality. Riga has two polluted water bodies. However, in other water bodies, the water is safe and not as polluted. The water quantity control is not alarming.	

Figure 24. Cycle water indicators: current situation and ecological degradation thresholds (in percentages and absolute numbers)



Zooming in

- Pollution legacy: Since Latvia's independence in 1991, there has been a signifi cant reduction in nutrient loads from point (e.g., sewage pipes) and nonpoint (e.g., agricultural land) sources, leading to improvements in inland water quality. However, challenges such as eutrophication and water ecosystem degradation remain a priority for the city[28].

- Particulates and nitrogen removal: Using the Ecosystem Intelligence (EI) tool, we assessed the ability of landscape and design features to remove particulates, including sediments and other suspended pollutants, from flowing water or runoff , which helps maintain clean water quality. The tool also evaluates the ability of landscape features to remove bioavailable nitrogen from flowing or infi ltrated water, particularly in the root zone of plants. Unfortunately, the EI tool shows limited capacity for water to remove particulates and nitrogen.

[28] https://pubmed.ncbi.nlm.nih.gov/11697267/

Policy highlight

The city has recently implemented 4 projects to reduce stormwater runoff into centralized sewer systems, with a goal of implementing 20 projects by 2027.

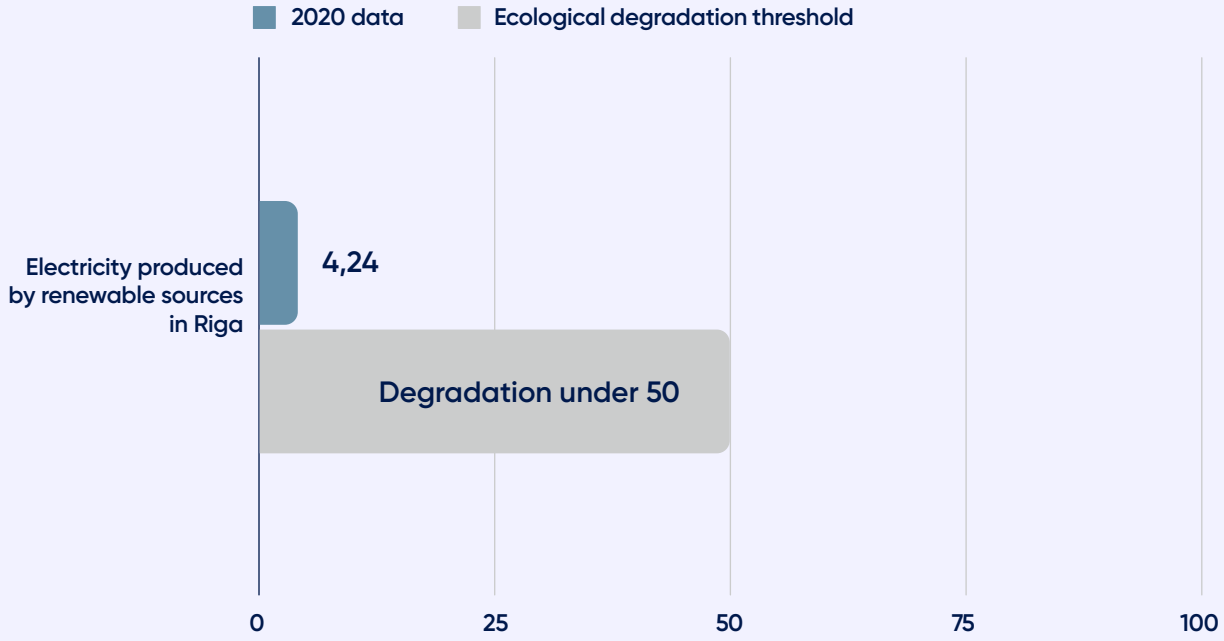
One of the priorities of the Riga Development Programme 2022-2027 is to ensure a high-quality, resilient urban environment that promotes health and well-being. The program places a strong focus on improving water quality.

Harvest energy

Table 24. Riga's clean energy degradation assessment

Does Riga use and produce clean energy in its energy production?	
Indicators	Electricity produced by renewable sources in Riga by type of energy resource. This indicator shows how much we prioritise renewable energy in our energy generation.
Ecological degradation thresholds	Any amount of energy coming from fossil fuels can be considered a degradation of energy harvesting, as it is not extracted locally and is not renewable. Historically, the energy system has been built on fossil fuels, so it is not possible to switch to 100% renewable energy this quickly. Therefore, we identify that signifi cant degradation occurs when more than half of the energy is produced from fossil fuels, which indicates stagnation in the clean energy transition.
Recent data	Electricity produced by cogeneration and solar PV power plants in Riga in 2020 by type of energy resource: Fossil gas: 95.76%, biomass: 3.75%, biogas: 0.44%, solar: 0.05%. However, the latest statistics show that solar energy has increased more than 15 times by 2023, indicating a positive trend for solar energy in the future. The data shows that the majority of electricity produced in Riga comes from fossil sources, demonstrating high degradation. Source: Riga Energy Agency[29]
Riga snapshot	**High degradation** Energy production is the second largest source of CO_2 emissions in Riga and truly renewable sources, such as solar PV and wind energy, are underused. However, there has been a positive trend in solar energy generation in recent years.

Figure 25. Harvest energy indicator: current situation and ecological degradation threshold (in %)



Zooming in

- Lack of support for renewable electricity production: There is no clear and unifi ed strategy for achieving climate neutrality in energy production in the city of Riga that is based on zero-emission technologies. However, government-level support is available for renewable installations.[30]

- Renewable energy in heating: JSC "RĪGAS SILTUMS" is the largest centralised heat supply company in Latvia and the Baltic States, as well as the only heat supply system operator in the administrative territory of the Riga Municipality. The share of renewable resources in the company's fuel portfolio is 54%, heat energy supplied to consumers is 2704 t MWh.[31] Similarly, decentralised heating uses more than 50% of renewable fuels.[32] However, the renewable source is almost exclusively wood biomass, and there are serious concerns about its impact on the climate and biodiversity. [33]

Policy highlight

The municipality implemented 16 environmental, climate, and energy education events in 2023, with the goal of reaching 70 events by 2027.

The Riga City Sustainable Energy and Climate Action Plan 2022-2030 states that the share of renewable energy sources in the city's central heating system is 31%. The goal is to increase this share.

[30] https://ekii.lv/index.php?page%3Dkonkursi_lv%26konkursi%3DEKII-6&sa=D&source=docs&ust=1740045302574574&usg=AOvVaw1LlfC6nGw2V_AhghYnuwj4

[31] AS «Rīgas Siltums» vidēja termiņa darbības stratēģija 2024.-2030.gadam

[32] https://likumi.lv/ta/id/350039-par-teritorialajam-zonam-siltumapgades-veida-izvelei-un-prasibam-siltumapgades-sistemas-iekartu-izvelei

[33] https://www.zalabriviba.lv/pozicija-meza-biomasa-energetika

Regulate the temperature

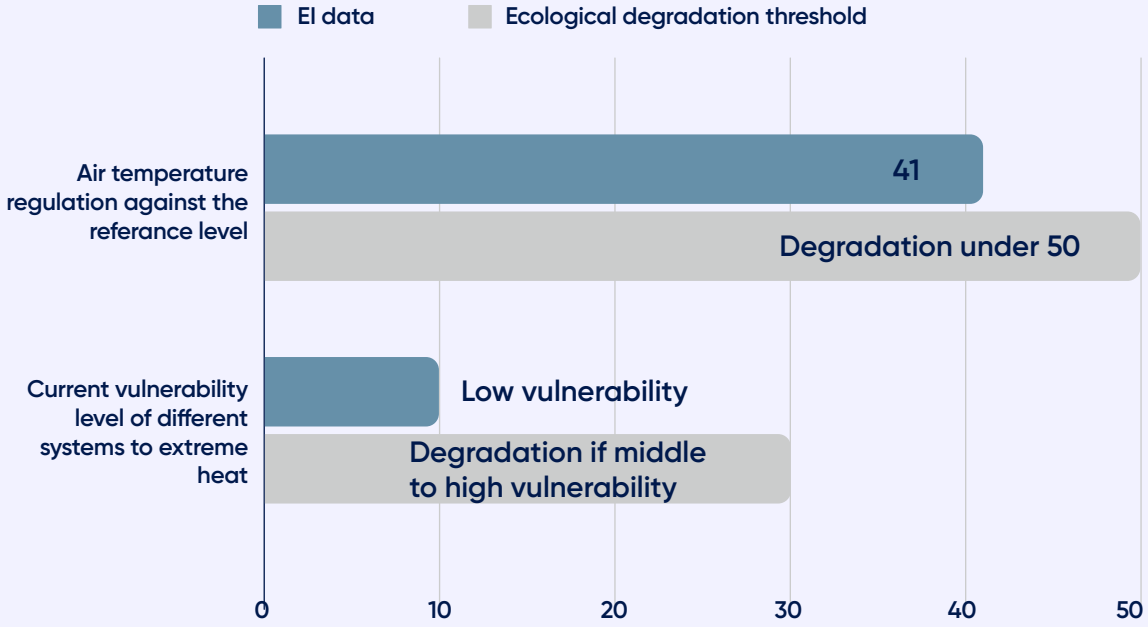
Table 25. Riga's temperature degradation assessment

Does Riga effectively regulate its temperature and adapt to extreme heat?		
Indicators	Current vulnerability level of different systems to extreme heat, according to the municipal Vulnerability Assessment This measures how much heat influences systems such as road infrastructure, demand for cooling in buildings, and loss of productivity levels within society, among others. The Ministry of Environmental Protection and Regional Development has developed Risk and Vulnerability Assessments in six different areas: 1. Health and Well-being; 2. Landscape Planning and Tourism; 3. Biodiversity and Ecosystem Services; 4. Agriculture and Forestry; 5. Civil Protection and Emergency Assistance; 6. Construction and Infrastructure Planning.	Air temperature regulation. We used the Ecosystem Intelligence tool to identify this indicator. It shows the "localised thermal benefi ts provided by shading, evaporative cooling, surface albedo, and other natural conditions that affect temperature within an immediate area".
Ecological degradation thresholds	When vulnerability is deemed by national and municipal experts as 'medium' to 'high', there is a degradation in the ability to regulate temperature, as it indicates risks associated with heat events.	We consider that deprivation occurs when temperature regulation falls below 50% of the reference level, indicating a large gap.
Recent data	The current vulnerability level towards extreme heat events (2022 – 2030) is deemed 'low' by the municipality's experts, based on the fact that signifi cant losses (both material and immaterial) have either not occurred so far, or there is no information available to confi rm this. Source: Riga's Sustainable Energy and Climate Action Plan[34]	The air temperature regulation in Riga is 41% of the reference level, which is below the threshold and indicates moderate degradation. Source: EI tool

[34] https://rea.riga.lv/wp-content/uploads/2024/03/Rigas-igtspejigas-energetikas-un-klimata-ricibas-plans-lidz-2030.-gadam.pdf

Riga snapshot	**Moderate Degradation** In Riga, we observe that temperature regulation is not performing optimally. Currently, the vulnerability to extreme heat is low. However, in the future, this vulnerability may increase as extreme heat events become more prevalent due to climate change.

Figure 26. Regulate the temperature indicators: current situation and ecological degradation threshold (in % and vulnerability levels)



Zooming in

- Heat island effect: In a time-series analysis of the summer months from May to September, covering the years 2009 to 2015, strong evidence was found linking heatwaves to increased all-cause mortality. In Riga, two consecutive days with temperatures between 27°C and 32°C, which occurred 37 times, led to an approximate 10% increase in all-cause mortality compared to non-heatwave days. Heatwaves are associated with deaths from cardiovascular causes, which increased significantly in Riga by 15–26% during heatwaves.[35]

+ Green Infrastructure: The city is enhancing urban green spaces, such as parks and green roofs, to improve air quality and reduce heat absorption.[36]

Policy highlight

For the past two years, Riga has installed free water taps in parks and playgrounds. There are plans to further expand the availability of high-quality drinking water in public spaces so that residents and visitors of Riga can develop a habit of safely using Riga tap water. By the end of 2024, 27 water taps will be installed throughout the city. A newly developed network is especially essential during heatwaves.

[35] https://www.proquest.com/docview/2630509525?sourcetype=Scholarly%20Journals

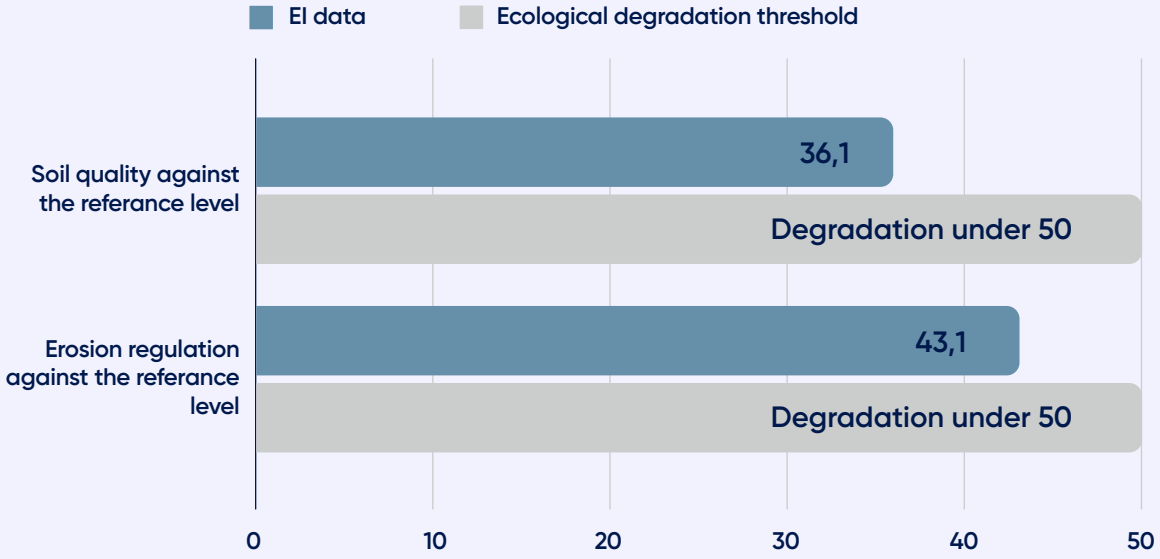
[36] https://eurohealthnet-magazine.eu/green-cities-how-riga-is-paving-the-way-towards-healthier-and-greener-urban-areas/

Build & protect soil

Table 26. Riga's soil degradation assessment

Does Riga maintain high soil quality and control erosion?		
Indicators	Soil quality This Ecosystem Intelligence indicator measures "soil condition, based primarily on soil particle sizes (e.g., combinations of clay, silt, sand, etc.), the ability of organic matter to become incorporated into the soil, and the protection of soil biota".	Erosion Regulation We also obtain this indicator via the Ecosystem Intelligence tool. It presents "the ability of soil to withstand the erosive forces of wind and water, which helps conserve key nutrients and protects water quality".
Ecological degradation thresholds	We consider that deprivation occurs when soil quality falls below 50% of the reference level, indicating a large gap.	We consider that deprivation occurs when erosion regulation falls below 50% of the reference level, indicating a large gap.
Recent data	The soil quality in Riga is 36.1% of the reference, which is below the threshold and indicates signifi cant degradation. Source: EI tool	The erosion regulation in Riga is 43.1% of the reference, which is below the threshold and also indicates degradation. Source: EI tool
Riga snapshot	**High Degradation** Both soil quality and erosion regulation indicate significant degradation in Riga.	

Figure 27. Build & protect soil indicators: current situation and ecological degradation thresholds (in %)



Zooming in

- Industrial Legacy: During the Soviet era, industrial activities resulted in contaminated sites, particularly around former factories, fuel storage facilities, and military bases. Pollutants such as heavy metals, oil, and other hydrocarbons remain in the soil.

- Urban Development: Urbanisation and urban sprawl in Riga have led to soil sealing (paving over soil with impermeable materials like concrete), reducing the soil's ability to absorb and fi lter water. This contributes to soil compaction and the accumulation of pollutants in urban areas.

Policy highlights

The project "Enhancement of sustainable soil resource management in agriculture" (2021-2024) aimed to update the information on Latvian agricultural soil and to obtain information on carbon changes in soil and greenhouse gas emission factors characteristic for the country.

It plans to develop and adopt sustainable resource management decisions for the sustainable management of agricultural land, providing additional information for smart land use.

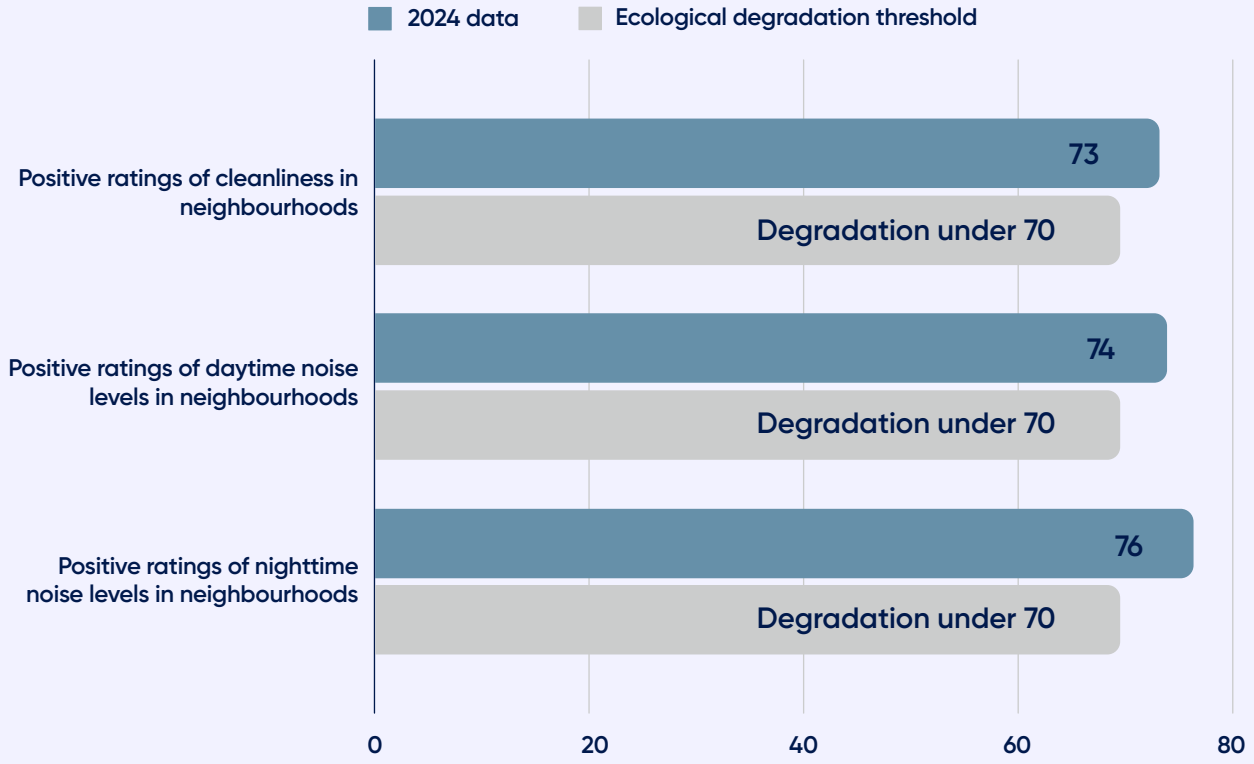
Enhance wellbeing

Table 27. Riga's wellbeing degradation assessment

Is Riga providing an environment that supports wellbeing by maintaining good street hygiene and minimising noise?		
Indicators	Residents' ratings of cleanliness in neighbourhoods. This indicator highlights potential issues with the cleanliness of Riga, which can impact overall wellbeing.	Residents' ratings of daytime and nighttime noise levels in neighbourhoods. Noise levels play a key role in the wellbeing of residents.
Ecological degradation thresholds	Below 70% of satisfaction would indicate potential issues with the cleanliness of Riga.	Below 70% of satisfaction would indicate potential issues with noise levels.
Recent data	In 2024, residents gave 73% positive ratings on the cleanliness of Riga, which indicates no apparent hygiene issues. Source: municipality's direct monitoring.	In 2024, residents gave 74% positive ratings on daytime noise levels and 76% on nighttime noise levels. This is a good rating, indicating no degradation. Source: municipality's direct monitoring.

Riga snapshot	Zero Degradation Residents gave positive ratings for Riga's neighbourhood hygiene and noise levels, so it appears there is no signifi cant overall degradation.

Figure 28. Enhance wellbeing indicators: current situation and ecological degradation thresholds (in %)



Zooming in

+ Satisfaction with the natural environment: In 2024, 80% of residents positively rated the quantity and quality of the natural environment in their neighbourhoods.

+ Satisfaction with daily public space amenities: In 2024, 74% of residents positively rated the amenities in public spaces, such as parks, squares, sidewalks, street greening, benches, and children's playgrounds.

+/- Mixed opinions on the built environment quality: In 2022, 56% of residents positively assessed the overall quality of Riga's built environment, leaving room for improvement in satisfaction.

- Low-performing anthropogenic visual and noise regulation: The EI tool shows how well landscape and natural design features block visual disturbances and anthropogenic noise, improving residents' comfort. The results we obtained indicate low performance in these areas.

Policy highlights

The primary goal of all developed policy planning documents is to improve residents' well-being, starting from the highest hierarchical level, the Riga Sustainable Development Strategy. Two of its four objectives are:

- A skilful, secure, and active society
- A comfortable, safe, and pleasant urban environment for citizens.

Additionally, the Riga Development Programme 2022-2027 addresses these issues.

3.4. Global social

This section examines the global social lens, outlining how the Riga economy contributes to human deprivations and exploitative trends. We then provide a broader overview of these deprivations in the "zooming out" sections, along with local actions to counter them and promote more ethical, responsible behaviours. Occasionally, we highlight the city's policies aimed at preventing human rights abuses internationally and encouraging local responsible consumption. Due to limited data availability and a high margin of error in the calculations, our findings rely on many assumptions. This analysis offers an initial assessment and would benefit from future improvement.

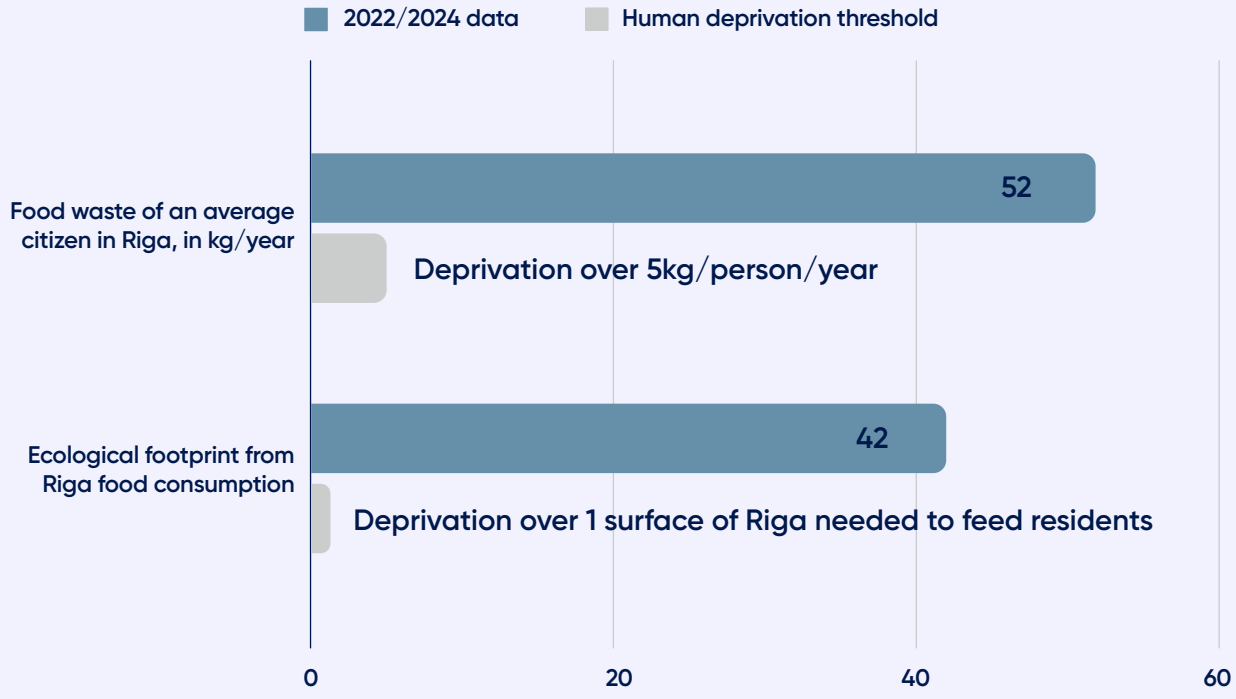
Food

Table 28. Riga's impact on global food deprivation assessment

Does Riga contribute to maintaining global food security?		
Indicators	Food waste of an average citizen in Riga, in kg/person/year Food security is shaped by many complex factors, including poverty and political conflicts. Therefore, focusing only on food waste does not fully reflect Riga's role in the global system or the broader issues of food security. However, food waste is an indicator that can be tracked directly, highlighting local responsibilities in everyday practices. Wasting food often means wasting resources such as land, water, labour, and energy, all of which could be used to feed more people around the globe.	Ecological footprint from Riga food consumption This indicator shows the size of the area required to feed the entire population of Riga.

Human deprivation thresholds	Food waste should remain below a few kilograms per capita and approach zero. If food waste surpasses 5 kilograms per person per year, there is potential for improvement, and efforts should be made to reduce waste.	If the area required to feed Riga's citizens exceeds the size of Riga (approximately 30,400 ha), deprivation occurs. If more land is needed, it indicates that resources are being consumed at the expense of others.
Recent data	According to the latest research, in 2024, the average citizen in Riga produces 52 kg of food waste per year. Source: LIFE Waste To Resources IP, LIFE20 IPE/LV/000014[37]	Calculations[38] based on data from 2022 and 2024 indicate that Riga's food supply requires an area approximately 42 times larger than the size of the city. Source of data for calculation: Global Footprint Network[39]
Riga snapshot	**Emergency deprivation** The latest published data shows that Riga has a significant impact on global food security due to high levels of food waste and food consumption that surpasses global limits.	

Figure 29. Global food security indicators: current situation and human deprivation thresholds (in kg/person/year and surface equivalent of Riga)



[37] https://wastetoresources.kem.gov.lv/jaunumi/2024-gada-atkritumu-sastava-un-apjoma-dati

[38] Cropland 1.78 ha/person; Fishing 0.18 ha/person ; Grazing 0.16 ha/person. The sum of all food-related land use activities constitute 2,12 ha/cap. When multiplied by the Riga population (605 000), it would take 1 282 600 ha to feed Riga's population (territory of Riga is ~30 400 ha)

[39] https://data.footprintnetwork.org/#/countryTrends?cn=119&type=BCpc,EFCpc

Zooming out

- Bio waste generation: In 2024, the bio waste generated (13,977.02 tonnes) has doubled since 2023 and now makes up 8.26% of unsorted household waste.

- Food waste over the total food produced: The Food and Agriculture Organisation of the United Nations states that approximately 17% of all food produced is wasted at the retail and consumer levels. This food could feed more people if utilised efficiently. Additionally, food waste in wealthier countries while people in poorer regions go hungry highlights systemic inequities in the global food system.

- Impact of animal-based food: Evidence consistently suggests that plant-based diets promote both human and planetary health. Reducing large-scale animal-based food production generates environmental benefi ts, as the entire livestock agriculture chain plays a signifi cant role in greenhouse gas emissions, land degradation, and scarcity-weighted water use.[40] Statistics indicate that people in Latvia do not consume sufficient amounts of grains, fruit, and vegetables.[41]

Policy highlights

The State Waste Management Plan for 2021-2028 has been approved, aiming to reduce the disposal of unsorted food waste in landfi lls.

The Riga Development Programme stipulates the need to reduce waste volume, signifi cantly promote waste separation, increase the share of sorted waste, encourage the management of biodegradable waste, and implement the principles of a circular economy.

[40] https://www.frontiersin.org/journals/sustainability/articles/10.3389/frsus.2022.841106/full

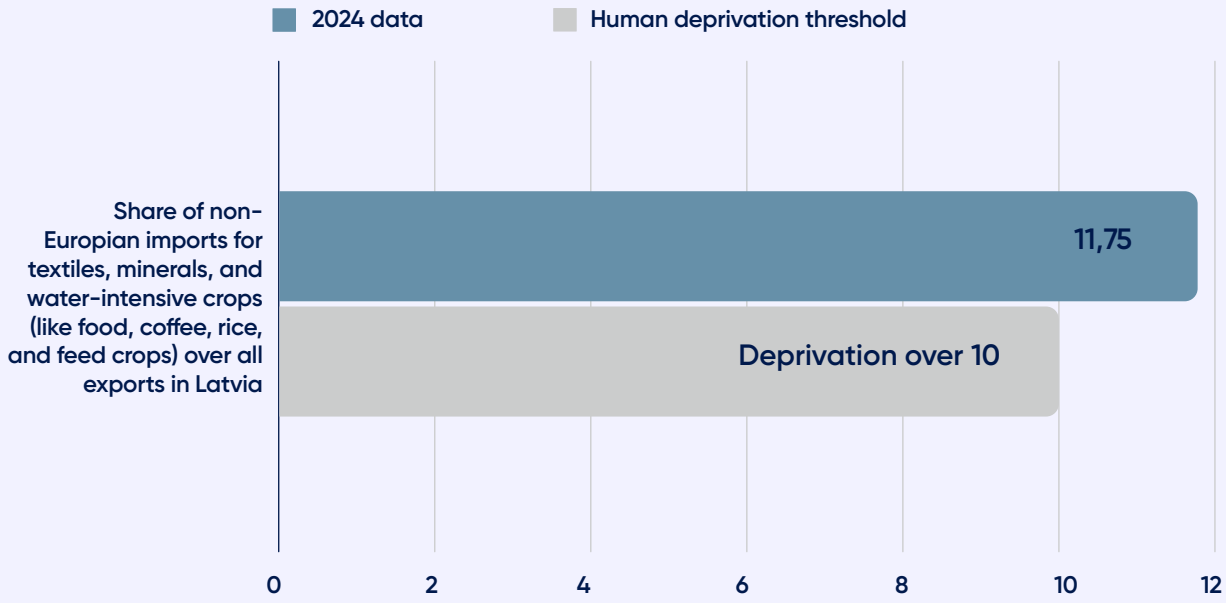
[41] https://www.lsm.lv/raksts/dzive--stils/virtuve/27.11.2023-video-cik-veseligi-ed-latviesi-aizliegtaispanemiens-revide-vienas-gimenes-edienkarti.a533156/

Table 29. Riga's impact on global water deprivation assessment

Is Riga affecting global water resources and contributing to water pollution?	
Indicators	Share of non-European imports for textiles, minerals, and water-intensive crops (such as coffee, rice, and feed crops) over all imports in Latvia. The goods we import, such as textiles, minerals, and crops, can have a signifi cant impact on water resources in their places of origin. By importing products like coffee, rice, and cotton, we also import the water used to produce them. This is known as our "virtual water footprint." These water-intensive imports often deplete freshwater resources in exporting countries. Additionally, the industries producing these goods may not adhere to European ecological standards and often cause water pollution without restrictions.
Human depriva-tion thresholds	The virtual water footprint should remain low, and we should avoid importing products that harm the water resources of other countries. Most imports are not fair trade, which could ensure ecological resource management. Therefore, the percentage of these imported goods should be minimal. If these imports exceed 10%, Latvia is signifi cantly contributing to the depletion of global water resources.
Recent data	In 2023, these imports represented 11.75% by weight[42] of all exports, which ex-ceeds the human deprivation threshold. Source: Central Statistics Bureau of Latvia, Table ATD020
Riga snapshot	**High deprevation** Latvia, and by extension Riga, is indirectly contributing to the depletion and pollution of water resources in the countries from which it imports products. The country participates in a global trade system that harms people's access to water worldwide.

[42] Share of non-European imports of vegetable products (CNII), animal, vegetable or microbial fats and oils (CNIII), mineral products (CNV), textiles and textile articles (CNXI), footwear, headgear (CNXII) (0.76 billion euros, 1.77 billion kilograms) in total imports of Latvia (23.41 billion euros, 15.08 billion kilograms).

Figure 30. Global water resources indicator: current situation and human deprivation threshold (in %)



Zooming out

- Water intensive industries: Water-intensive industries signifi cantly contribute to environmental degradation through the contamination of water resources. Textile dyeing releases harmful chemicals into rivers, while mining operations pollute water with heavy metals. Intensive farming practices also involve the use of fertilisers and pesticides, which degrade water quality and harm ecosystems.

Health

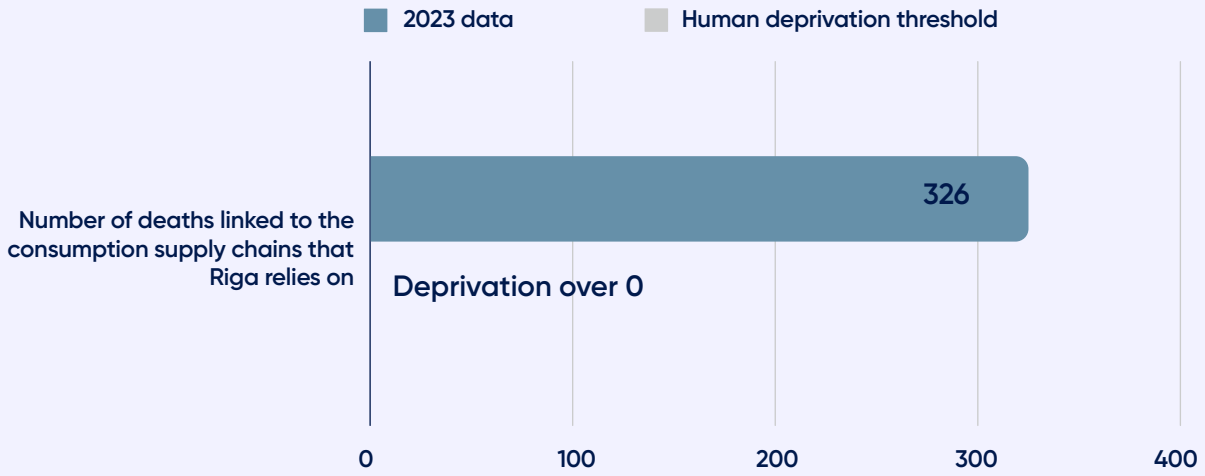
Table 30. Riga's impact on global health deprivation assessment

Does Riga's consumption affect health globally?	
Indicators	Number of deaths related to air pollution linked to the consumption supply chains that Riga relies on. This estimate underscores Riga's responsibility in contributing to premature deaths. Its imports, particularly those linked to air pollution, play a role in these deaths.
Human deprivation thresholds	Riga's consumption should not be associated with premature deaths. This number should approach zero.
Recent data	In 2023, an estimated 326 premature deaths[43] were attributed to high pollution levels traceable to the consumption supply chains that Riga depends on—a concerning fi gure. This calculation has a signifi cant margin of error, as pollution stems from multiple sources beyond factory emissions related to exports. Additionally, our imports were calculated in euro value, which does not directly correlate with pollution levels. Source: UN Sustainable Development Group[44]
Riga snapshot	**Emergency deprevation** Every year, hundreds of people may die due to the supply chains that Riga's consumption relies on, constituting an emergency deprivation. While this indicator has a significant margin of error, it provides an eye-opening insight into Riga's global impact. In addition to air pollution, which contributes to mortality worldwide, dangerous working conditions in factories must also be considered. Ultimately, despite the uncertainties in this health dimension, the fact that our production could result in death already qualifi es it as an emergency.

[43] Calculus: Asia experiences 4.55 million air pollution-related deaths annually. Latvia's imports from Asia, worth 1.68 billion euros (or 0.02152% of Asia's total exports of 7.8 trillion EUR), are estimated to contribute to approximately 326 of these deaths, assuming pollution is proportional to export volume.

[44] https://unsdg.un.org/latest/stories/how-asian-countries-could-save-lives-boost-growth-tacklingair-pollution

Figure 31. Global health indicator: current situation and human deprivation threshold (in numbers)



Zooming out

- Hazardous working conditions in different industries: Workers in factories (textiles, electronics) face risks from unsafe machinery, chemical exposure, and inadequate safety measures. Examples include garment factory collapses, such as the 2013 Rana Plaza tragedy in Bangladesh. Farmers are exposed to toxic pesticides and physically demanding conditions without proper protective equipment. Mining for precious metals used in electronics involves unsafe tunnels, toxic dust, and the risk of mine collapses. Exposure to pollutants in manufacturing industries, such as textile fibres and chemicals, leads to chronic diseases like asthma or silicosis. Contact with harmful chemicals, such as mercury in gold mining or lead in electronics recycling, causes neurological and reproductive harm. Long hours, low pay, and constant pressure to meet production quotas contribute to severe stress and anxiety.

- Unequal risks: Vulnerable groups, particularly women and children, are disproportionately affected in industries like fast fashion, where exploitation is rampant.

Education

Table 31. Riga's impact on global education deprivation assessment

Does Riga's consumption hinder the education of children worldwide?	
Indicators	Number of child labourers in the global supply chains related to Riga's consumption Through imports from countries worldwide, Riga indirectly supports child labour and hinders children's education. Our estimate is based on the assumption that 15% of all goods are produced by child labour in Africa and Asia[45].
Human deprivation thresholds	No child should be working, as this deprives them of education and future opportunities.
Recent data	In 2023, we calculated that approximately 15,000 children were working in the global supply chains supporting Riga-based consumption[46]. This calculation has a high margin of error; however, it suggests that Riga's consumption may be heavily reliant on child exploitation. Source: Central Statistics Bureau of Latvia, ATD020, International Labor Organization
Riga snap-shot	**Emergency deprivation** Child labor violates basic human rights and exploits populations abroad, and the numbers are alarming. This issue highlights a systemic problem that requires urgent action.

[45] International Labor Organization, https://www.ilo.org/publications/major-publications/child-labour-global-estimates-2020-trends-and-road-forward
UNICEF, https://data.unicef.org/topic/child-protection/child-labour/
World Cocoa Foundation, https://worldcocoafoundation.org/
Children's labor is widespread across various sectors globally. Here are rough estimates of their contribution:
·Agriculture: Children produce about 20-30% of global agricultural goods, particularly in crops like cocoa, coffee, and tea.

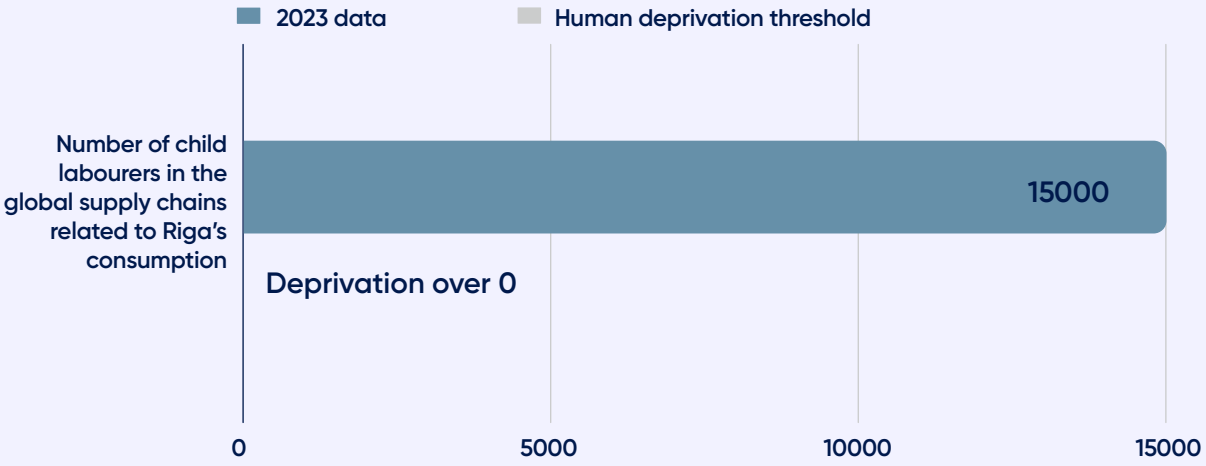
·Mining: Around 5-10% of global production in gold, cobalt, and tin comes from child labor.

·Manufacturing: Child labor accounts for 5-10% of global manufacturing output, especially in textiles and garments.

·Services: Although informal, child labor in services (street vending, domestic work) contributes a significant amount but is difficult to quantify.
Overall, children may produce roughly 10-20% of all goods globally, mainly in agriculture, mining, and manufacturing

[46] Calculation: Total Imports: €23.41 billion (2023).
Agricultural imports: €5.1 billion, assuming 25% involve child labor = €1.275 million.Manufacturing imports: €6.55 billion. assuming 10% involve child labor = €655 million.
Total value of goods produced by children: €1.93 billion.
Estimated number of children: €1.50 billion / €1,000 per child = 1.5 million children globally.
Latvia's Share: Based on population and trade: ~15,000 children involved in goods imported to Riga.

Figure 32. Global education indicator: current situation and human deprivation threshold (in %)



Zooming out

+ Welcoming international students: In 2021, international students accounted for 13% of all students in tertiary education in Latvia, with the top three countries of origin being India, Uzbekistan, and Germany.

- Unethical child labour: Working children often miss out on schooling, perpetuating cycles of poverty. The demand for low-cost products pushes companies to cut costs, often at the expense of workers' rights. Many child labourers are part of the informal economy, making their exploitation harder to monitor or regulate. Globally, children frequently work on farms producing coffee, cocoa, tea, cotton, and sugarcane. For example, the chocolate industry has faced scrutiny for child labour on cocoa plantations.

Housing

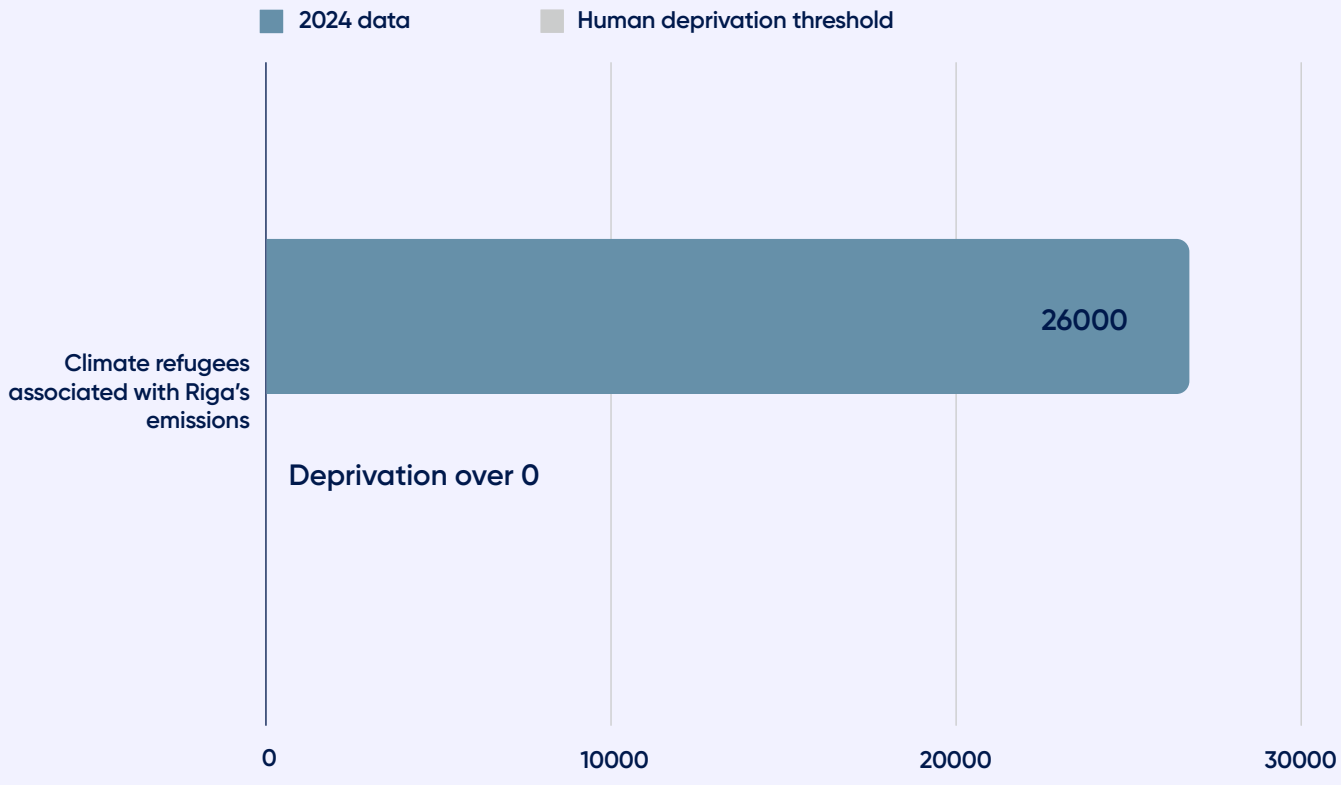
Table 32. Riga's impact on global housing assessment

Does Riga's consumption patterns hinder global access to housing?	
Indicators	Climate refugees associated with Riga's emissions Modern-day global heating stems from human-caused greenhouse gas emissions. Climate change increases the risks of extreme weather events—such as storms, floods, wildfires, heatwaves, and droughts—making them more unpredictable, frequent, and intense. At the same time, rising sea levels, droughts, and drastic changes in rainfall patterns due to higher temperatures can destroy crops and kill livestock, threatening livelihoods and exacerbating food insecurity, all of which can lead to mass displacement.[47]
Human deprivation thresholds	Deprivation occurs if there are any climate refugees linked to Riga's emissions and they are not 'offset' by Riga welcoming climate refugees, directly influencing the global housing struggle.

[47] https://www.unrefugees.org/news/how-climate-change-impacts-refugees-and-displaced-communities/

Recent data	In 2024, approximately 2,600 climate refugees[48] were linked to Riga's emissions, while the number of climate refugees welcomed in the city remains unknown. Assuming that very few, if any, climate refugees have been resettled in Riga, such a high number of displaced people indicates an emergency deprivation.
Riga snap-shot	**Emergency deprivation** Human-caused greenhouse gas emissions exacerbate the climate emergency, forcing people around the world to flee their homes and become climate refugees. Citizens of Riga contribute to high per capita greenhouse gas emissions and, therefore, play a role in modern-day global heating.

Figure 33. Global housing indicator: current situation and eco-logical degradation threshold (in absolute number)



[48] Calculation: Riga emissions ($4MtCO_2$) / global emissions ($50GtCO_2$)=0.008%
RIGA's share of all climate refugees - 32.6M refugees × 0.00008 = ~2600
https://www.internal-displacement.org/global-report/grid2023/

Zooming out

- What are climate refugees? As the global climate crisis worsens, an increasing number of people are being forced to flee their homes due to natural disasters, droughts, and other weather events. These people are sometimes referred to as "climate refugees". [49]

- Housing struggle for Ukrainian refugees: The Ukrainian war led to Latvia's most significant refugee response in its history. By December 2023, approximately 47,000 Ukrainian refugees had registered for temporary protection in Latvia.[50] In this context, surveys and focus groups identified numerous challenges in housing the Ukrainian refugees.[51] High rental costs often exceed incomes, and as a result, refugees are often forced to choose housing that does not meet adequate quality or space standards. Additionally, Ukrainian refugees frequently struggle to access housing benefits when landlords avoid signing official agreements or report lower amounts in contracts. In Riga, landlords are often unwilling to rent apartments to Ukrainians due to a distrust of their ability to pay rent and a fear of sudden departure. This has also led to excessive inspections, such as counting forks and knives during rental agreements.

Policy highlights

The city provides temporary housing for individuals displaced by the ongoing conflict in Ukraine. In January 2024, 3,090 Ukrainian civilians were accommodated through civil protection commissions in municipal-owned housing facilities.

Energy

Table 33. Riga's impact on global energy security assessment

Does Riga contribute to energy security in the surrounding regions and globally?	
Indicators	Proportion of energy imported from countries involved in geopolitical conflicts and tensions Avoiding energy imports from conflict zones is crucial for global energy security. By reducing reliance on countries in conflict (such as Russia, Libya, Nigeria, Iraq, Yemen, South Sudan, Syria, and Venezuela), we can prevent energy from being used as a geopolitical tool and help stabilise energy markets. For example, Russia has been a major energy supplier, and during political tensions like the Ukraine crisis, it has threatened to cut supplies, causing price spikes and shortages in Europe. This reliance on Russian natural gas has long been a concern for EU policymakers, posing a security threat to the region.
Human deprivation thresholds	To prevent depriving global energy security, the share of energy imported from conflict zones or oppressive regimes should be zero. Anything above this threshold indicates deprivation.

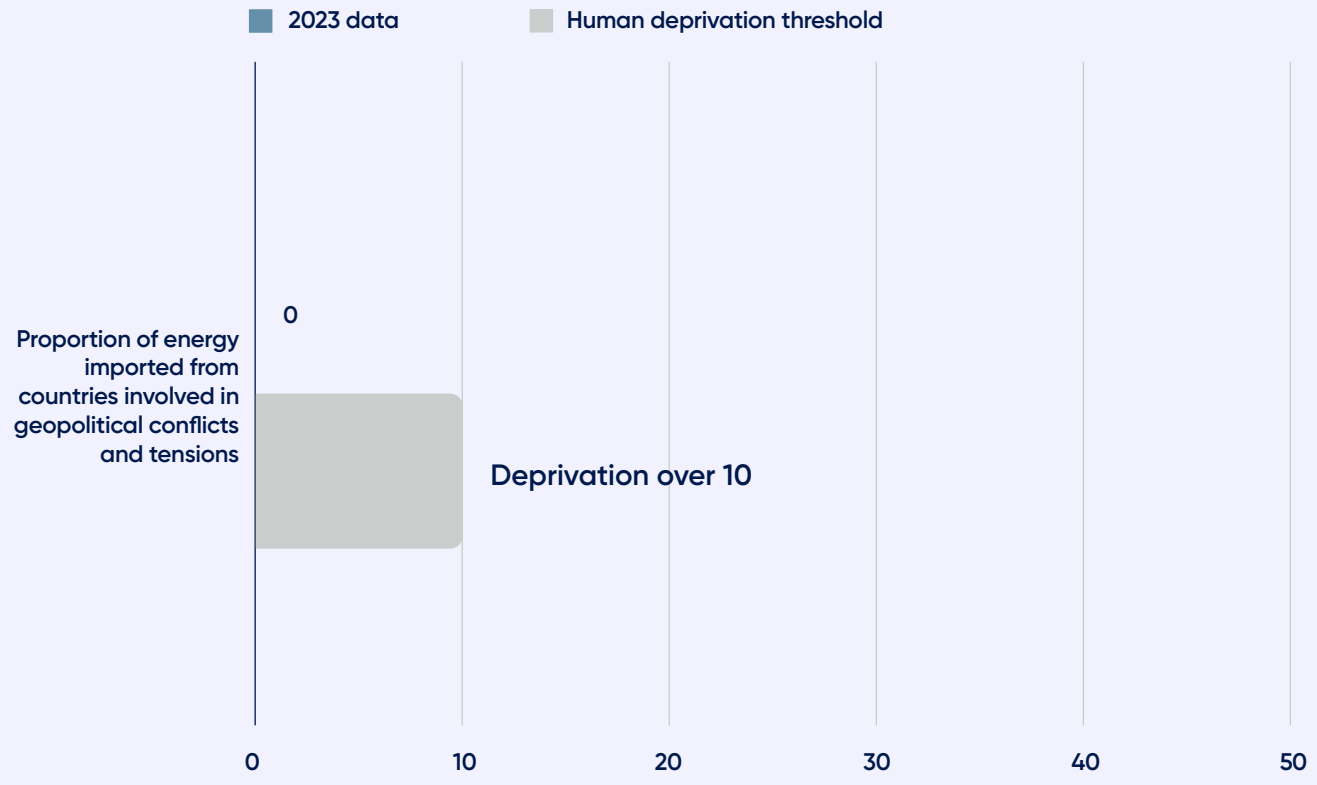
[49] https://www.weforum.org/stories/2021/06/climate-refugees-the-world-s-forgotten-victims/

[50] https://www.unhcr.org/neu/wp-content/uploads/sites/15/2024/01/LATVIA-English-Ukraine-Situation-2024-RRP.pdf

[51] https://providus.lv/wp-content/uploads/2024/09/Providus_research_final_0509-1.pdf

Recent data	Considering the decision of the Baltic states to completely cease imports of electricity from Russia and Belarus starting in May 2022 due to Russia's military actions in Ukraine, electricity imports from these countries were discontinued in 2023, with a ban put in place. The main source of Russian war finance is its minerals, especially energy resources. The volume of these imports in Latvia has dropped significantly due to the ban on natural gas imports. In the first year of the war, Latvia purchased fossil resources from Russia in the amount of more than 800 million euros. However, the ban was partly ignored, as in the first 11 months of 2023, the import reached 176 million euros, with the largest section being liquefied petroleum gas (122 million euros).[52] Even in 2024, Russian gas is still imported into the EU, and possibly Latvia, under disguise, but it has practically ceased. In addition, in 2024, it appears there were no imports of mineral fuels from Libya, Nigeria, Iraq, Yemen, South Sudan, Syria, or Venezuela. Source: AST[53], Exports and imports by countries from the Central Statistics Bureau of Latvia
Riga snapshot	**Near-zero deprivation** Latvia, and by extension Riga, do not directly rely on energy from conflict zones. However, they can still receive energy indirectly through cross-border connections with countries that depend on supplies from conflict-affected regions. Therefore, we can assume that the deprivation caused by Riga's energy imports is near-zero.

Figure 34. Global energy security indicator: current situation and human deprivation threshold (in %)



[52] https://www.lsm.lv/raksts/zinas/ekonomika/21.01.2024-latvija-pern-strauji-audzis-naftas-gazes-imports-no-krievijas.a539765/

[53] https://www.ast.lv/lv/electricity-market-review?year=2023&month=13

Zooming out

- The dark side of LNG: The Latvian natural gas operator has "refocused" the gas market from Russian gas to two LNG (liquefied natural gas) supply hubs: the Klaipeda LNG terminal in Lithuania, and from 2024, the recently opened Inkoo LNG terminal in Finland. However, there are issues related to LNG sourcing. A portion of the LNG provided to the Klaipeda terminal comes from fracked gas in the United States[54], which is linked to environmental and social degradation, as well as oppression of native American people in their lands.

- Addiction to gas in heating: In Riga, there is still a heavy reliance on fossil gas for district heating, without a clear pathway to halt its use even by 2050, the year by which the Paris Agreement aims for climate neutrality.

Policy highlights

Riga Municipality is aligning with EU climate goals through initiatives that enhance energy efficiency, renewable energy adoption, and sustainable urban development. Key focus areas include:

- Climate neutrality commitment: Implementation of the Riga City Sustainable Energy and Climate Action Plan 2022-2030 (SECAP) and participation in the EU Mission: 100 Climate-Neutral and Smart Cities by 2030.
- Renewable energy: Promoting solar, wind, and community-led energy projects to increase local energy independence.
- Energy efficiency and decarbonisation: Retrofitting municipal buildings, optimising district heating, and adopting smart energy systems.
- Sustainable mobility: Expanding electric public transport, cycling infrastructure, and low-emission zones to reduce reliance on fossil fuels and decrease air pollution.
- Citizen engagement: Encouraging public participation, behavior change, and co-creating policies for sustainable energy use.
- Green financing and innovation: Securing EU funding, private investments, and fostering innovation in climate technology and smart city solutions.
- Sustainable prioritization of heat units used in decentralized heating:
Municipality issues permits ensuring synchronization of air quality and RES policy aims, gradually increasing biomass permits, and decreasing fossil gas.[55]

[54] https://www.foodandwatereurope.org/wp-content/uploads/2019/09/Lithuania_FactSheet_2019-final.pdf

[55] https://likumi.lv/ta/id/350039-par-teritorialajam-zonam-siltumapgades-veida-izvelei-un-prasibam-siltumapgades-sistemas-iekartu-izvelei

Table 34. Riga's impact on global income and work assessment

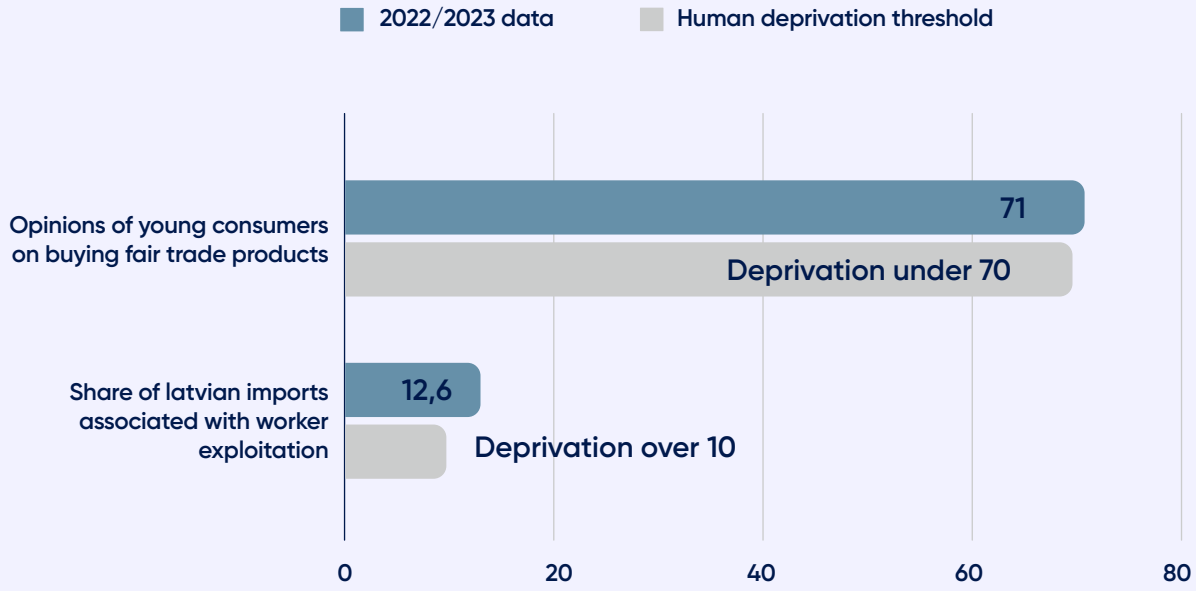
Does Riga's consumption patterns rely on the exploitation of workers around the world?		
Indicators	Opinions of young consumers on buying fair trade products. Fairtrade is the most recognised sustainability label helping farmers and farm workers in developing countries to sell products at fair prices and have decent working conditions. This indicator shows if young consumers (under 19 years old) are willing to ensure, through their future consumption, good working conditions for farmers in developed countries. It relies on the survey question: "Are you ready to buy fair trade products in the future?" The answer indicates the degree of openness to the label and the willingness to make future consumption choices that support decent working conditions for all.	Share of Latvian imports associated with worker exploitation associated Riga consumes products (electronics, apparel, and footwear) manufactured in countries with significant risks of worker exploitation (e.g., Malaysia, Bangladesh, China, and India), although aggregated data on specific brands is not available. The following countries have alerts for poor conditions in the clothing industry: Bangladesh, Cambodia, India, Vietnam, Indonesia, China, Honduras, Mexico, Pakistan, Myanmar, Thailand, Sri Lanka.
Human deprivation thresholds	We believe that most students should be open to incorporating fair practices into their consumption habits to promote good working conditions for all. Therefore, if fewer than 70% of students are willing to buy fair trade products in the future, it suggests an issue with the general acceptance of the label or a lack of understanding of its use and global stakes.	We consider there to be deprivation if the share of such imports exceeds 10%, which would indicate a potential link between Latvia's consumption and workers' exploitation.
Recent data	In 2022, 71% of Latvian students were open to buying fair trade products, which is above the deprivation threshold and shows willingness to make future responsible consumption decisions. Source: Fair Trade survey[56]	In 2023, the share of textile imports from Bangladesh, Cambodia, India, Vietnam, Indonesia, China, Honduras, Mexico, Pakistan, Myanmar, Thailand, and Sri Lanka in Latvia was 12.6% by weight (kilograms). This exceeds the deprivation threshold. Source: Central Statistics Bureau of Latvia, ATD020[57], KnowTheChain[58]
Riga snapshot	**Moderate deprivation** Latvian imports appear to depend on exploitative labor conditions. Considering the margin of error and proximity to the threshold, we assume the level of deprivation to be moderate. Young Latvians seem open to incorporating fairtrade labels in their consumption.	

[56] https://fairtrade.ee/images/materjalid/baltic-youth-research_2022_final-eng.pdf

[57] Total Latvian textile imports are about 0.6 billion kilograms, total textile imports of Bangladesh, Cambodia, India, Vietnam, Indonesia, China, Honduras, Mexico, Pakistan, Myanmar, Thailand, and Sri Lanka are 8.52 million kilograms.

[58] https://knowthechain.org

Figure 35. Global income and work indicators: current situation and human deprivation thresholds (in %)



Zooming out

+ Awareness of Latvian on the link between consumption and living conditions in developing countries: When asked if consumers can influence the lives of people in developing countries through their purchasing behaviours, 64% answered "yes" or "rather yes".

- Low visibility of the fair trade label: Only 18% of Latvian students have noticed the label before, and up to 27% of them find it difficult to spot on store shelves.

- Limited motivation for buying fair trade: When asked about the reasons for buying fair trade products, 43% of students could not identify a reason to purchase them. Furthermore, only 13% would be motivated to buy these products to improve the lives of people in developing countries. In addition, only 13% of students answered positively to buying fair trade products when they had the choice. These responses include always buying fair trade products, buying fair trade products almost every time, and buying one or two fair trade products when possible.

- Forced labour in the world: According to the International Labour Organization (ILO), an estimated 28 million people were forced labourers in 2021.[59] This is a serious violation of human rights, involving practices like abuse of vulnerability, restriction of movement, deception, and withholding of wages. Workers are often subjected to intimidation, physical and sexual violence, and isolation. They may face abusive living and working conditions, excessive overtime, and debt bondage, trapping them in exploitative situations. These practices are most common in industries such as agriculture, textiles, and manufacturing, where vulnerable workers, often migrants, are exploited.

[59] https://www.ilo.org/publications/major-publications/global-estimates-modern-slavery-forced-labour-and-forced-marriage

Social equity

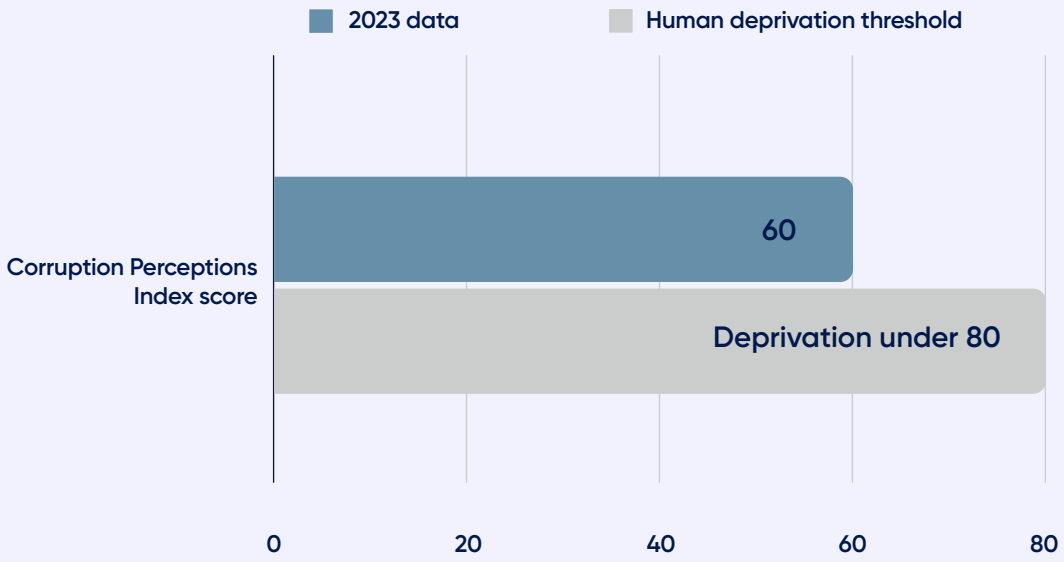
Table 35. Riga's impact on global social equity assessment

Does Riga contribute to the unequal distribution of wealth in other countries through corruption?	
Indicators	The share of Latvian imported goods coming from the most corrupt countries The Corruption Perceptions Index (CPI) shows that corruption is thriving across the world. The CPI ranks 180 countries and territories around the globe by their perceived levels of public sector corruption, scoring on a scale of 0 (highly corrupt) to 100 (very clean). Corruption continues to undermine economic development, erode trust in public institutions, and exacerbate social inequalities. It enables the misallocation of resources, where public funds meant for essential services—such as healthcare, education, and infrastructure—are siphoned off by corrupt officials and elites. This weakens economic opportunities for citizens, particularly in nations where corruption is deeply entrenched. Some of the world's most corrupt countries, according to the CPI, include Afghanistan, Burundi, Chad, Comoros, Democratic Republic of the Kongo, Myanmar, Sudan, Tajikistan, Libya, Turkmenistan, Equatorial Guinea, Haiti, North Korea, Nicaragua, Yemen, South Sudan, Syria, Venezuela, and Somalia. To some extent, Latvia, by importing goods from these countries, supports corruption.
Human deprivation thresholds	We believe that corruption should be minimal, tending to a score of 100. When countries score below 20, we consider their corruption levels alarming. If Latvia imports more than 10% of its goods from these highly corrupt countries, it may indirectly contribute to supporting corrupt economies.
Recent data	In 2023, the share of imports from the 19 countries that have received a score of 20 or less in CPI is insignificant in Latvia's total imports, being 0.03% by weight (kilograms). Source: Corruption Perceptions Index[60], Central Statistics Bureau of Latvia, ATD020[61]
Riga snapshot	**Near-zero deprivation** Latvia's import volume from the world's most corrupt countries is minimal.

[60] https://www.transparency.org/en/cpi/2023/

[61] The total imports of Afghanistan, Burundi, Chad, Comoros, Democratic Republic of the Kongo, Myanmar, Sudan, Tajikistan, Libya, Turkmenistan, Equatorial Guinea, Haiti, North Korea, Nicaragua, Yemen, South Sudan, Syria, Venezuela, and Somalia amount to 2.39 million euros and 4.77 million kilograms; Latvia's total imports are 23.41 billion euros and 15.07 billion kilograms; 0.00477/15.77=0.03%.

Figure 36. Global social equity indicator: current situation and human deprivation threshold (out of 100)



Zooming out

+/- Slow Progress in fighting corruption: Latvia's Corruption Perceptions Index scores are improving, but progress is relatively slow. To accelerate progress, anti-corruption issues should be on the agenda of decision-makers, and a plan for preventing and combating corruption, for the implementation of which both the KNAB and other state authorities are responsible, needs to be prioritised.[62]

Policy highlights

Latvia takes a responsible approach to reducing and eliminating corruption. The Corruption Prevention and Combating Action Plan 2023-2025 has been developed and positively evaluated by the OECD[63].

The Riga City Council Committee on Security, Order and Corruption Prevention has approved the Riga Municipality Anti-Corruption Strategy for 2022-2025.[64]

[62] https://delna.lv/lv/2024/12/18/kadas-ir-latvijas-pretkorupcijas-prioritates-diskusijas-kopsavilkums/

[63] https://www.oecd.org/en/publications/anti-corruption-and-integrity-outlook-2024-country-notes_684a5510-en/latvia_81bdbff1-en.html

[64] https://www.riga.lv/lv/jaunums/rigas-pasvaldiba-izstradata-jauna-pretkorupcijas-strategija-lidz-2025-gadam

Equality in diversity

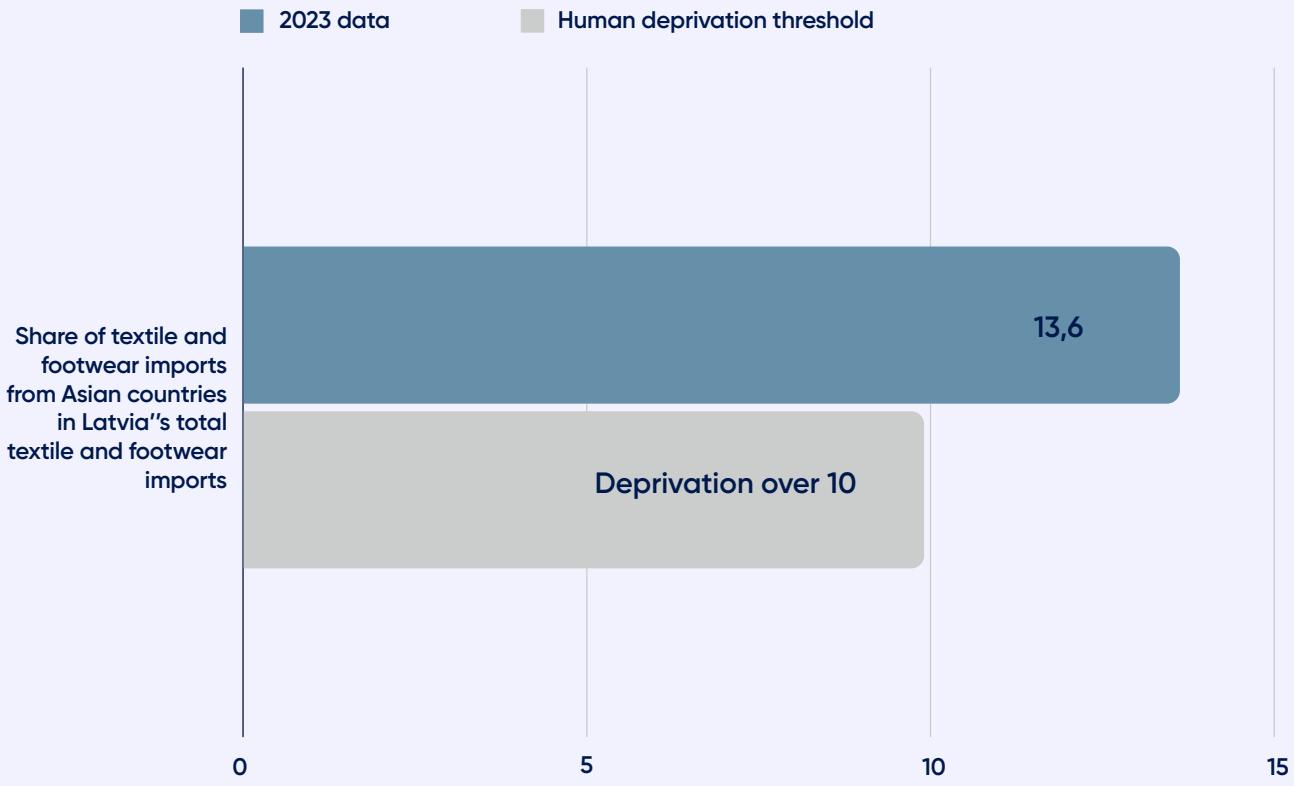
Table 36. Riga's impact on global equality assessment

Does Riga contribute to discrimination against women?	
Indicators	The share of textile and footwear imports from Asian countries in Latvia's total textile and footwear imports. However, the manufacturing process behind these goods is unsustainable, often relying on exploitative labour practices, environmental harm, and significant waste production. The majority of workers in the textile and footwear industry are women, making them particularly vulnerable to exploitation, which further deepens gender inequalities. Latvia imports textiles and footwear from countries typically associated with fast fashion production, but we lack sufficient data to determine what proportion of these imports is fast fashion. Based on a local survey[65], we made an assumption that the share of fast fashion could be quite significant in Latvia.
Human deprivation thresholds	We assumed that a share of over 10% of textile and footwear imports would indicate some reliance on the fast fashion industry in Latvia, which often involves the exploitation of women. To avoid contributing to this exploitation, we aim to limit our imports from Asian countries with weaker regulations and higher rates of women's abuse.
Recent data	In 2023, the share of textile and footwear imports from Asian countries in Latvia's total textile and footwear imports was 13.6% by weight (kilograms)[66], which indirectly points at Latvia's involvement in the exploitation of women through the global supply chain. Source: Central Statistics Bureau of Latvia, ATD020
Riga snapshot	**Moderate Degradation** Latvian imports can suggest Latvia's involvement in the exploitation of women through the textile and footwear supply chain. The margin for error is high, as not all Asian companies exploit women. Therefore, we consider ourselves in a state of deprivation, but given the difficulty in accurately assessing the extent and the data being near the threshold, we categorise it as moderate.

[65] 43% of Latvians admit that the quality of clothing and footwear is important most of the time, although they do not always buy quality clothing and footwear, states the study "An Assessment of Consumers' Textile Product Sorting Habits" in 2022

[66] Latvia's total textile and footwear imports amounted to approximately 73.9 million kg. Imports from Asian countries for these products totaled around 10 million kg, which constitutes a 13,6% share.

Figure 37. Global equality indicator: current situation and human deprivation threshold (in %)



Zooming out

Global supply chains pressure women worldwide. Our imports drive demand, which supports exploitation systems:

- **Gender Pay Gap:** Women earn significantly less than men for equal work across various sectors, and this gap is worsened by gendered roles in the labour market.

- **Fast fashion monopoly:** The global fast fashion market is expected to grow from $106.42 billion in 2022 to $184.96 billion in 2027, at a CAGR of 10.7%.[67]

- **Precarious Employment:** Women frequently work in vulnerable sectors like agriculture and textiles, where they represent 60 to 80 percent of the workforce in light manufacturing globally, as well as 70 percent of the workforce in industrialized agriculture. These women often endure unsafe working conditions[68]. In the informal economy, they endure precarious jobs without social security, labor law protections, healthcare, or minimum wage guarantees. The fast fashion model exacerbates these issues by prioritizing low production costs over employee welfare to mass-produce inexpensive clothing[69].

- **Gender-Based Violence:** Women face not only economic exploitation but also sexual violence, harassment, and intimidation in their workplaces.

[67] https://legitcheck.app/stats/fast-fashion-industry/#12-frequently-asked-questions-about-the-fast-fashion-industry

[68] https://www.bsr.org/reports/BSR_UL_Incorporating_Womens_Health_Workplace_Assessments.pdf

[69] https://webapps.ilo.org/infostories/en-GB/Stories/discrimination/garment-gender#deficits

Community & networks

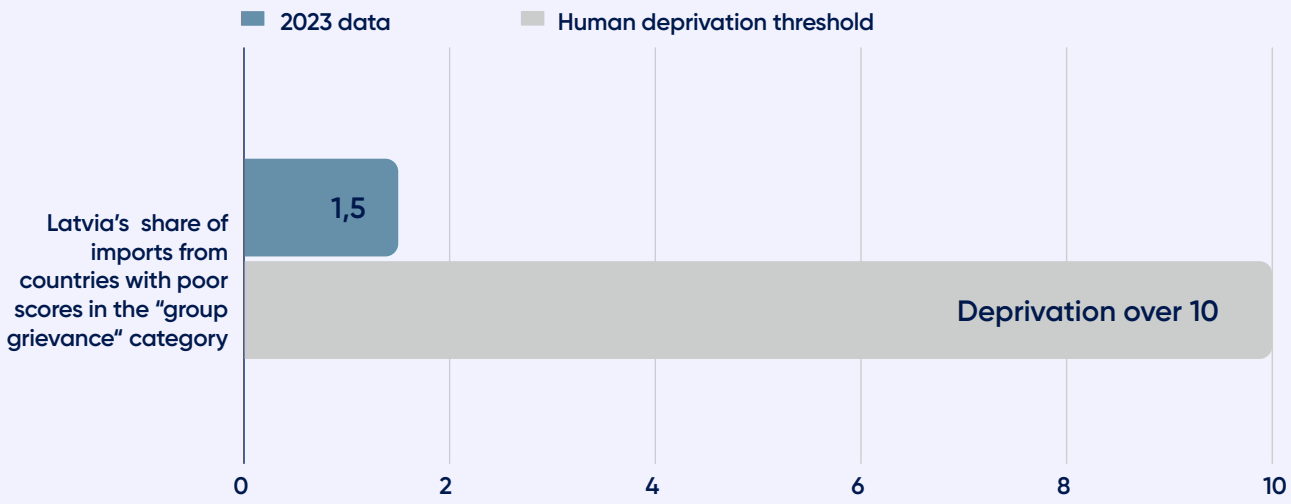
Table 37. Riga's impact on global community and network assessment

Does Riga threaten the existence of communities through consumption patterns?	
Indicators	Latvia's share of imports from countries with a bad score (8.00 or higher) in the "Group Grievance Category" of the Fragile States Index[70]. The Group Grievance Indicator focuses on divisions and schisms between different groups in society, particularly divisions based on social or political characteristics. It highlights the role of these divisions in access to services and resources and inclusion in the political process.
Human deprivation thresholds	We assumed that a share of over 10% of imports from countries with group grievance issues could indicate that Latvia's consumption might have a negative impact on communities globally.
Recent data	In 2023, Latvia's share of imports from countries with a bad score (8.00 or higher) in the "Group Grievance Category" of the Fragile States Index is 1.5% by value (euros) and 1.8% by weight (kilograms). These imports come from 34 countries, with the highest-scoring ones being Sudan, Saudi Arabia, and Bahrain[71]. Source: Fragile States Index, Central Statistics Bureau of Latvia, ATD020.
Riga snap-shot	**Near-zero Degradation** Latvian imports do not appear to be linked to group grievances. However, Latvia may have an indirect impact on deforestation that threatens indigenous communities or contributes to other forms of oppressions, making it impossible to conclude that deprivation is entirely absent.

[70] https://fragilestatesindex.org/global-data/

[71] The total imports of Sudan (Group Grievance Indicator 9.6), Saudi Arabia (9.6), Bahrain (9.5), Myanmar (9.4), Iran (9.4), Congo Democratic Republic (9.4), Bhutan (9.4), Türkiye (9.2), Guinea (9.2), Pakistan (9.1), Guatemala (9.1), Somalia (9.0), Montenegro (9.0), Nepal (8.9), Congo Republic (8.9), Bangladesh (8.9), Yemen (8.8), Syria (8.8), South Sudan (8.7), Rwanda (8.7), Ethiopia (8.6), Angola (8.6), Eritrea (8.4), Chad (8.4), Nigeria (8.3), Mali (8.2), Jordan (8.2), India (8.2), Sri Lanka (8.1), Peru (8.1), Lebanon (8.1), Kyrgyrz Republic (8.1), Morocco (8.0), Afganistan (8.0) amount to 0.35 billion euros and 0.27 billion kilograms; Latvia's total imports are 23.41 billion euros and 15.07 billion kilograms.

Figure 38. Global community and network indicator: current situation and human deprivation threshold (in %)



Zooming out

+ Supporting the free flow of information: Riga has hosted significant international conferences focused on media freedom and the free flow of information. For instance, the Eastern Partnership Media Conference held in Riga addressed issues related to media susceptibility to outside influence and the role of media in ensuring the free flow of information[72]. Participants outlined challenges faced by journalists in EaP countries (Armenia, Azerbaijan, Belarus, Georgia, Moldova, and Ukraine).

+ Fighting fake news: Reliable and secure information is published on official websites, such as sargs.lv.

+ Support global cultural initiatives that promote the visibility of marginalised communities through art, music, and literature. Cultural exchange programs, including festivals and collaborative projects, can help marginalised groups raise awareness abroad and build transnational solidarity.

+ Inclusive events for refugees: The Society Integration Foundation organises various cultural orientation courses and inclusion events for Ukrainian civilians to promote their integration into Latvian society.

- Deforestation and indigenous people: Indigenous groups rely on forests for their cultural identity, subsistence, and economy. Riga's imports of raw materials and consumer products contribute to deforestation in the Global South and other forest-rich areas, threatening indigenous communities. Timber from Brazil and Indonesia often originates from illegal logging in indigenous territories. Deforestation driven by illegal logging forces indigenous communities off their ancestral lands. Imports of soy-based animal feed (e.g., for livestock farming), palm oil, and other products can be sourced from deforested rainforest areas in Latin America, Indonesia, and Malaysia.

- Euroscepticism in Latvia: In 2024, only 68% of Latvians expressed optimism about the EU, while about 27% were pessimistic. Euroscepticism in Latvia is relatively high compared to the EU average of 17%, which can weaken the EU's ability to collaborate and maintain unity. However, this is a political opinion, and some also argue that euroscepticism can help protect local national identities as well.

[72] https://www.eeas.europa.eu/eeas/eastern-partnership-media-experts-meet-riga-shape-future-donor-support_en

Political voice

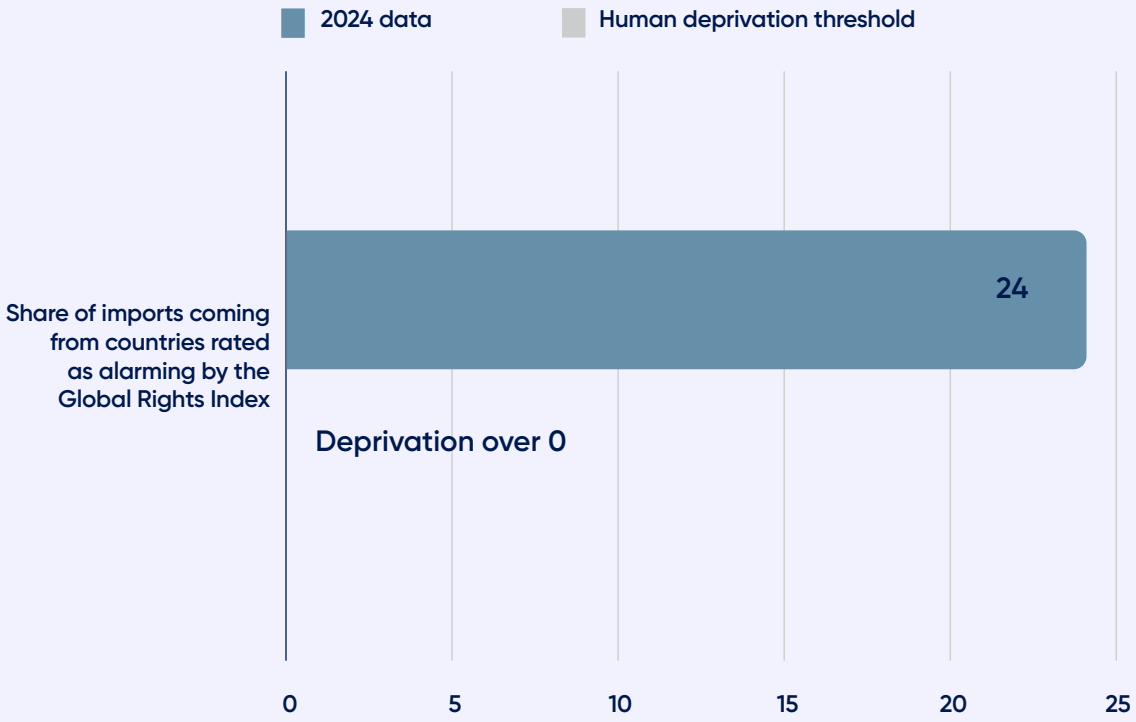
Table 38. Riga's impact on global political voice assessment

Does Riga's consumption indirectly contribute to the suppression of workers' political rights, voices, and freedoms worldwide?	
Indicators	Share of imports coming from countries rated as alarming by the Global Rights Index. The Global Rights Index indicates labour rights violations for workers by countries, in particular the right to freedom of association, the right to collective bargaining, and the right to strike. We have measured the proportion of goods imported to Latvia from countries that are rated poorly on the Global Rights Index. These countries are often governed by authoritarian regimes with a history of civil liberties violations and human rights abuses. Tracking the import share can reveal how Riga's economy is connected to countries with problematic human rights practices, financing governments and business which silence the political voice of citizens and workers around the world.
Human deprivation thresholds	Responsible consumption entails that the share of imports from oppressive countries should be minimal, below 10%, to avoid supporting an economy that prevents citizens from exercising their political rights and freedoms.
Recent data	In 2023, Latvia had 26.8% of its imports coming from countries with an alarming Global Rights Index score, which systematically violates human rights and some where the rule of law is absent. Source: Central Statistics Bureau of Latvia
Riga snap-shot	**Emergency deprivation** Latvia, and by extension Riga, participates via its imports in the deprivation of citizens of their political rights and freedoms at an alarming level. This participation indirectly supports oppressive regimes that threaten human lives.

[74] Total imports from countries rated negatively (ranking 5+, 5, or 4) by the Global Rights Index were divided by Latvia's total imports, based on data from the Central Statistics Bureau of Latvia (ATD020 Exports and Imports by Countries).

[75] https://www.ituc-csi.org/IMG/pdf/2024_ituc_global_rights_index_en.pdf?31226/ce28bb2139c2fe0d4e5f0a36d726ac7334d1c2d9be8b29dd88b4d2b9d89f5654

Figure 39. Global political voice indicator: current situation and human deprivation threshold (in %)



Zooming out

+ International protection for asylum seekers: From 1998 to 2023, 4,142 asylum seekers applied for international protection in Latvia. A total of 521 individuals have been granted refugee status, while 621 individuals have been granted subsidiary protection status. The main countries of origin of asylum seekers in 2023 were Syria, Afghanistan, Iran, India, and Iraq[76].

- Rising political violence level: 2024 experienced a 25% increase in political violence events compared to 2023, consistent with the average yearly rise since 2020[77].

[76] https://www.pmlp.gov.lv/en/statistics-asylum-seekers

[77] https://acleddata.com/conflict-index/

Table 39. Riga's impact on global peace and justice assessment

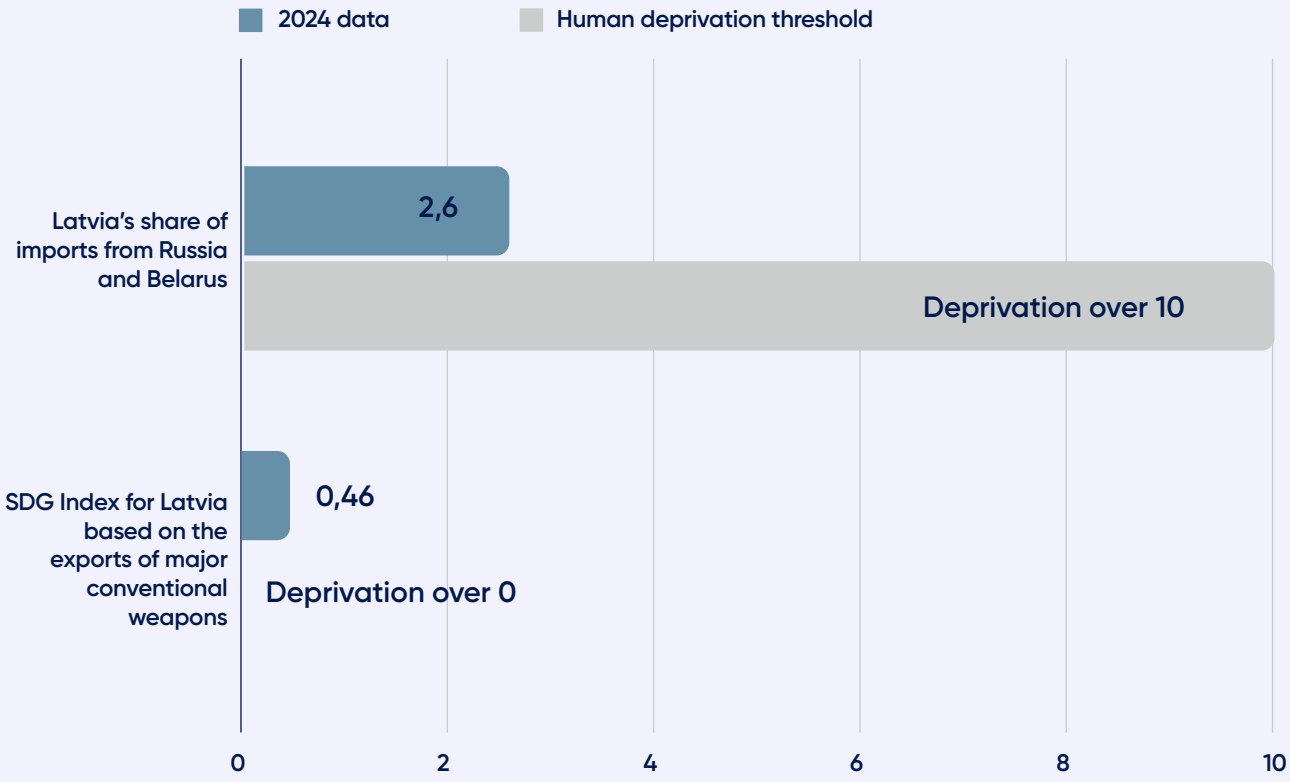
Does Riga exacerbate global conflicts?		
Indicators	Latvian share of Russia's and Belarus imports in its efforts in enforcing limitations and bans on products. Economic sanctions are consequences for violations of sovereignty and human rights. Their implementation can foster global peace and justice by holding violating countries accountable. Since Russia's invasion of Ukraine in 2022, the EU has intensified sanctions to weaken Russia's ability to continue its aggression, targeting finance, trade, energy, and defense. Restrictions include bans and quotas on crude oil, petroleum, coal, steel, cement, wood, rubber, plastics, seafood, spirits, cigarettes, and cosmetics. We examined Riga's imports of these products to assess local compliance and their role in supporting global peace and justice.[78]	SDG Index for Latvia based on the exports of major conventional weapons This indicator is an index from 0 to 1 and refers to the volume of major conventional weapons exported, expressed in constant 1990 US$ millions (TIV) per 100,000 population. The trend-indicator value is based on the known unit production cost of a core set of weapons and does not reflect the financial value of the exports. Small arms, light weapons, ammunition, and other support materials are not included. Values were calculated using a 5-year average on the latest ten years of data. The inclusion of an indicator on the exports of major conventional weapons should not be interpreted as a value judgement by the authors on the policies implemented in the context of the war in Ukraine.
Human deprivation thresholds	We consider that the import of Russian goods under quotas should be limited in Latvia, and we should fully comply with bans. A share exceeding 10% would indicate reliance on Russia.	The long-term objective for this indicator is a value of 0, representing zero exports. Anything above this value would mean Latvia is contributing to armed conflicts.
Recent data	In 2024, the share of Russia's and Belarus imports was 2.6%. Latvia's imports from Russia and Belarus have decreased by 77% compared to 2021. Since 2024, Latvia has legally imposed a ban on the import of agricultural and animal feed products from the Russian Federation and the Republic of Belarus for consumption in Latvia. Source: European Council, Central Statistics Bureau of Latvia,	The score in 2024 is assessed as 0.46, where challenges remain. This indicates that possibly Latvia, and by extension, Riga, contributes to ammunition in conflict zones around the world. Source: SDG Index[80]
Riga snapshot	**Moderate deprivation** Latvia complies with bans on Russian and Belarusian products; however, it contributes to the export of major conventional weapons, where challenges persist.	

[78] https://www.consilium.europa.eu/en/policies/sanctions-against-russia/

[79] https://www.saeima.lv/lv/aktualitates/saeimas-zinas/33181-saeima-noteic-krievijas-un-baltkrievijas-lauksaimniecibas-un-lopbaribas-produktu-importa-aizliegumu-latvija

[80] https://dashboards.sdgindex.org/map/indicators/exports-of-major-conventional-weapons

Figure 40. Global peace and justice indicators: current situation and human deprivation thresholds (in % and score out of 1)



Zooming out

- Declining peace: In 2024, 97 countries saw a decline in peacefulness[81]. Conflicts in Gaza and Ukraine were the main causes of this global decline in peace.

- Conflict minerals: Conflict minerals like tin, tungsten, tantalum, and gold are mined in regions controlled by armed groups, often funding violence and exploitation. These materials are crucial in products like electronics and vehicles, so global demand for these goods can indirectly support militias. While Latvia may not directly source conflict minerals, its dependence on global supply chain links can perpetuate conflict in mining areas. Companies like Apple and Samsung have made commitments to responsible sourcing, but challenges remain in ensuring all components are sourced ethically.

+ Hosting conferences on international defense and security: The Rīga Conference is an annual meeting of regional and international experts in foreign policy and defence, academics, journalists, and business representatives, promoting the discussion and assessment of issues affecting the transatlantic community. Convening in the Latvian capital since 2006, the conference has become a recognised annual tradition in the region. It addresses current foreign policy and security issues by fostering meaningful and long-term discussions among global leaders and decision-makers.

+ Boycotting: There are active protests for Palestine happening in Riga, organised by civil society. Throughout the Russian invasion of Ukraine, there have also been numerous protests, actions, and charity events to help Ukrainian citizens.

[81] https://www.visionofhumanity.org/maps/

3.5. Global ecological

This section focuses on planetary boundaries and highlights Riga's impact on ecological issues and overshoots. It explains the ecological challenges in the "zooming out" sub-sections and highlights local actions being taken.

Latvia's World Overshoot Day was on March 7 2025 and it indicates that if everyone consumed resources like Latvians, humanity would have used up a year's worth of Earth's resources by that date. This reflects transgressing planetary boundaries, such as biodiversity loss, land-use change, and carbon emissions, which drive climate change and ecological collapse. Latvia's high per capita consumption, reliance on imported goods, and industrial agriculture contribute to deforestation, pollution, and excessive waste generation. The early Overshoot Day highlights the global environmental crisis, showing that resource use far exceeds Earth's regenerative capacity, worsening climate instability and threatening vulnerable communities worldwide. To stay within safe ecological limits, Latvia must adopt more sustainable production and consumption patterns, reducing environmental degradation and its global footprint.[82]

Climate change

Table 40. Riga's impact on climate change assessment

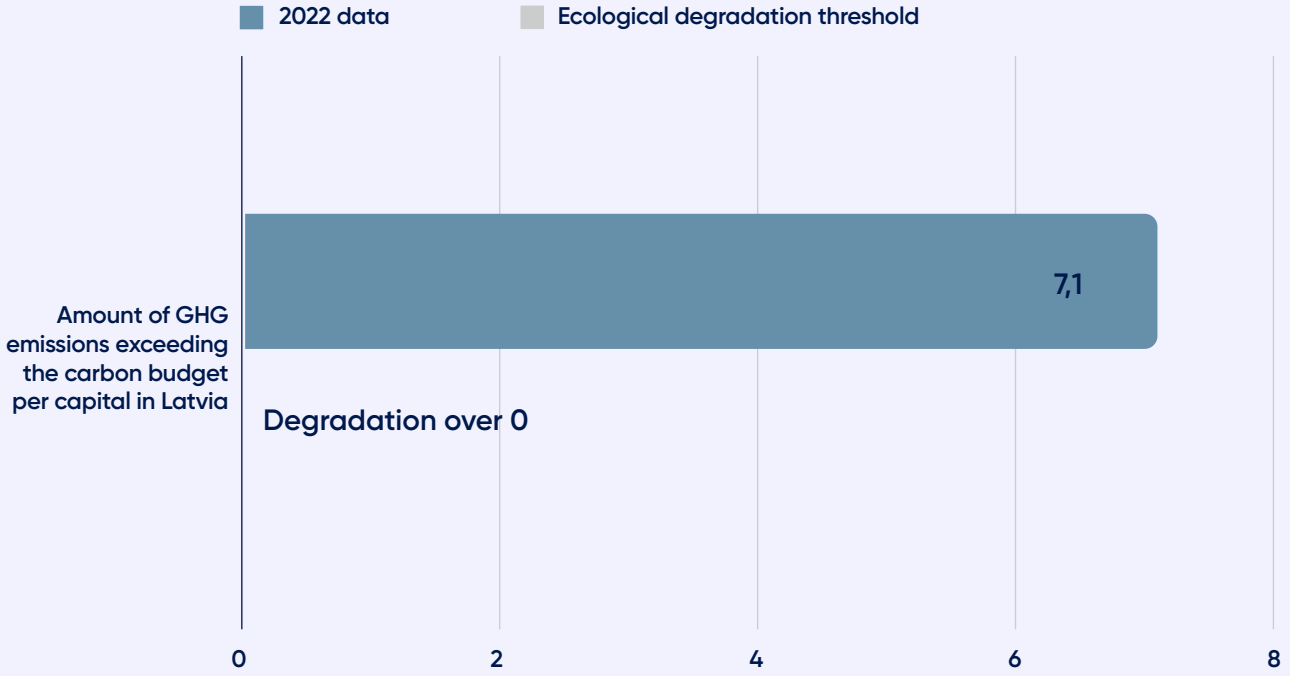
How much does Riga contribute to global heating?	
Indicators	Amount of greenhouse gas (GHG) emissions above the carbon budget per capita in Latvia (consumption-based emissions) We analyse GHG per capita for a specific year, including CO_2 as well as N_2O, CH_4, HFCs, and SF_6 in CO_2 equivalent, and compare these emissions to the annual carbon budget allocated to each individual. This carbon budget represents the maximum amount of emissions we can release without exceeding the 1.5°C limit outlined in the Paris Agreement, beyond which we risk exceedingly severe climate change impacts.
Ecological degradation thresholds	To avoid severe climate change consequences, we need to remain within a safe carbon budget. Therefore, the threshold is to not surpass the carbon budget, where the amount of GHG emissions above the carbon budget is zero. To have a relatively high chance of meeting the 1.5°C temperature goal, global per capita consumption-based carbon footprints must fall below 2.5 tonnes of CO_2 equivalent per year by 2030, with steady reductions to continue once this target is reached, aiming for 0.7 tonnes per capita by 2050[83]. We use Latvian data, as it is directly comparable to the average citizen in Riga.

[82] https://overshoot.footprintnetwork.org/newsroom/country-overshoot-days/

[83] https://www.sgr.org.uk/projects/fair-lifestyle-targets-additional

Recent data	The amount of consumption-based GHG emissions per capita was 7.8 tonnes CO_2 equivalent in 2022. This exceeds the carbon budget per capita of 7.1 tonnes and demands significant and rapid efforts from citizens, businesses, and governments. Source: Our World in Data [84]
Riga snapshot	**Emergency degradation** The carbon budget has been surpassed, raising significant concerns and requiring an emergency response in the coming years.

Figure 41. Climate change indicator: current situation and ecological degradation threshold (in tonnes)



Zooming out

- Surpassing the Paris Agreement: In 2020, IPCC researchers estimated that humans could release an additional 400 Gt of carbon into the atmosphere and still have a 67% chance of limiting warming to 1.5°C[85]. If emissions continue at the current rate, this means there are approximately four and a half years[86] before surpassing these emissions. Exceeding 1.5°C of global warming would lead to more extreme weather events, ecosystem and biodiversity loss, land degradation, and increased risks to health and food security. These risks multiply with every further temperature increase.

[84] https://ourworldindata.org/grapher/consumption-co2-per-capita?tab=chart&country=~LVA

[85] https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf

[86] https://climateclock.world/science

Policy highlights

Riga has set ambitious climate goals, aiming for climate neutrality by 2050.

In 2008, the Riga City Municipality joined the European Covenant of Mayors initiative, which commits municipalities to not only achieve significant CO_2 emission reduction targets by 2030 (at least a 40% reduction compared to 1990 levels), but also to reach climate neutrality by 2050. To meet these goals, the Municipality has developed a Sustainable Energy and Climate Action Plan for 2022–2030.

The plan focuses on reducing CO_2 emissions, adapting to climate change, and minimizing air pollution. It outlines 112 measures that will result in 1,289 GWh of energy savings, 1,350 GWh of renewable energy, and a reduction of 509 thousand tonnes of CO_2 emissions. The primary objective is to cut CO_2 emissions in Riga by 30% compared to 2019 levels, ensuring progress towards climate neutrality by 2050.

For the municipal sector, 17 measures have been identified, focusing on areas directly under the control of the local government. These include the continuous improvement and certification of the energy management system, the procurement of 100% renewable energy for municipal buildings, renovation of municipal buildings, modernisation of street lighting, improving the efficiency of municipal vehicles, and more. The goal for this sector is to achieve climate neutrality by 2030 through emission reductions, partial compensation, and encouraging market participants to generate energy from renewable sources.

Ocean acidification

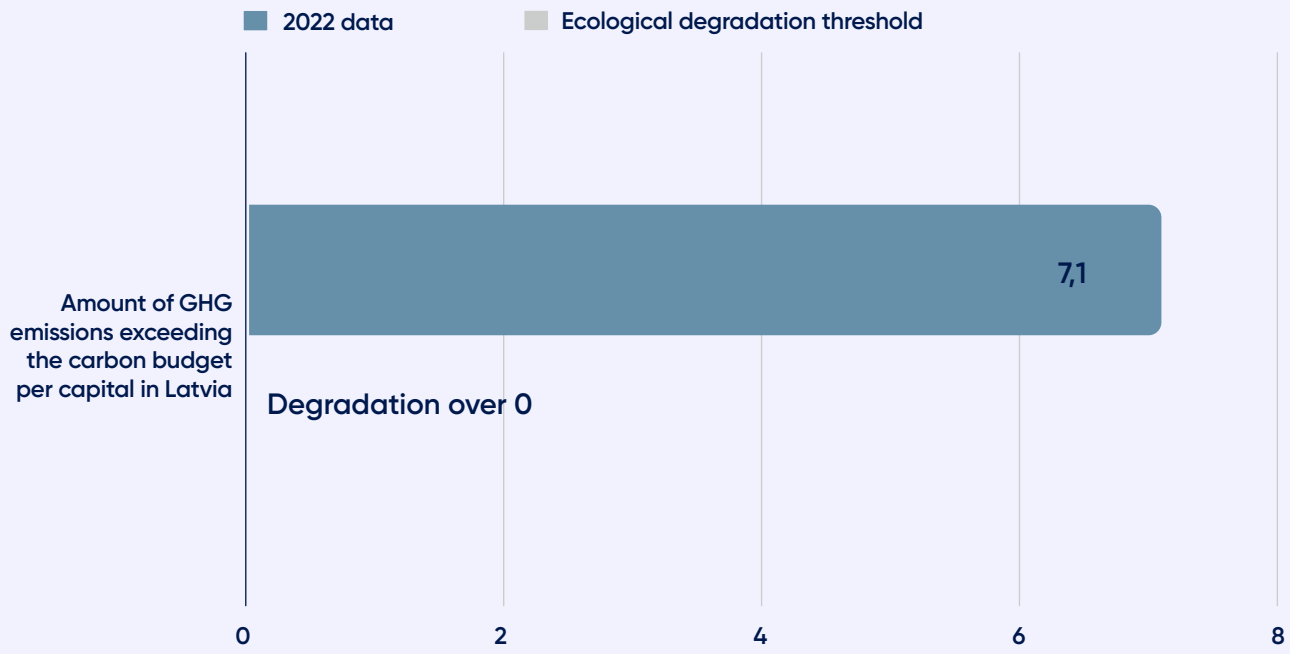
Table 41. Riga's impact on ocean acidification assessment

Does Riga accelerate ocean acidification?	
Indicators	Amount of greenhouse gas (GHG) emissions above the carbon budget per capita in Latvia (consumption-based emissions) We use the same indicator as climate change, as ocean acidification is deeply interconnected with it. Ocean acidification is the process in which the ocean becomes more acidic due to the increased absorption of CO_2 from the atmosphere. As CO_2 levels rise from human activities, more of it is absorbed by the oceans, leading to a drop in pH and becoming more acidic. This process accelerates with climate change, as higher temperatures cause oceans to absorb even more CO_2. The measurement used here is in CO_2 equivalent, serving as a proxy for Riga's impact.
Ecological degradation thresholds	To avoid severe climate change consequences like ocean acidification, we need to remain in a safe carbon budget. Therefore, the threshold is to not surpass the carbon budget, where the amount of GHG emissions above the carbon budget is zero. To have a relatively high chance of meeting the 1.5°C temperature goal, global per capita consumption-based carbon footprints must fall below 2.5 tonnes of CO_2 equivalent per year by 2030, with steady reductions to be continued once it is reached, aiming for 0.7 tonnes per capita by 2050[87]. We use Latvian data, as it is directly comparable to the average citizen in Riga.

[87] https://ourworldindata.org/grapher/consumption-co2-per-capita?tab=chart&country=~LVA

Recent data	The amount of consumption-based GHG emissions per capita are 7.8 tonnes CO_2 equivalent in 2022. This exceeds the carbon budget per capita and demands a great and rapid effort from citizens, business, and governments. Source: Our World in Data [88]
Riga snap-shot	**Emergency degradation** The carbon budget is surpassed which will certainly lead to an exponential ocean acidification. This requires an emergency response in the coming years.

Figure 42. Ocean acidification indicator: current situation and ecological degradation threshold (in %)



Zooming out

- Ecosystem damages by acidification: Severe ocean acidification affects marine life, particularly species such as corals, shellfish, and plankton that rely on calcium carbonate to build their shells and skeletons. As acidity increases, it becomes harder for these organisms to survive and grow, threatening marine ecosystems and the industries that depend on them, such as fisheries. This industry is vital in many developing countries, playing a crucial role in food security and income generation.

[88] https://ourworldindata.org/grapher/consumption-co2-per-capita?tab=chart&country=~LVA

Chemical pollution

Table 42. Riga's impact on chemical pollution assessment

Does Riga contribute to chemical pollution through its waste management practices?			
Indicators	The portion of Latvian exported plastic waste to Asia or Africa relative to all destinations. Plastic waste exported to Asia or Africa has a high risk of being improperly treated, leading to severe environmental issues. Plastics, especially as they degrade, release harmful chemicals into the environment. When they break down into microplastics, they can release toxic substances, including phthalates, bisphenol A (BPA), and heavy metals, contaminating the air, water, and soil. Europol has recently issued warnings about waste trafficking, where legitimate businesses collaborate to export European waste to non-EU countries, particularly in West Africa and Asia. By measuring the amount of plastic waste exported to these regions, we can estimate potential chemical pollution, though waste trafficking remains difficult to assess.	The resident ratings of pedestrian infrastructure for daily needs. This reflects how well Riga's transport system enables residents to walk for essential activities.	The portion of Latvian exported hazardous waste to Asia or Africa relative to all destinations. Hazardous waste includes various toxic substances such as industrial chemicals, solvents, pesticides, heavy metals, and medical or biological waste. If not properly managed, these materials can be highly harmful to human health and the environment.

[89] https://www.europol.europa.eu/media-press/newsroom/news/europol-warns-of-increase-in-illegal-waste-dumping

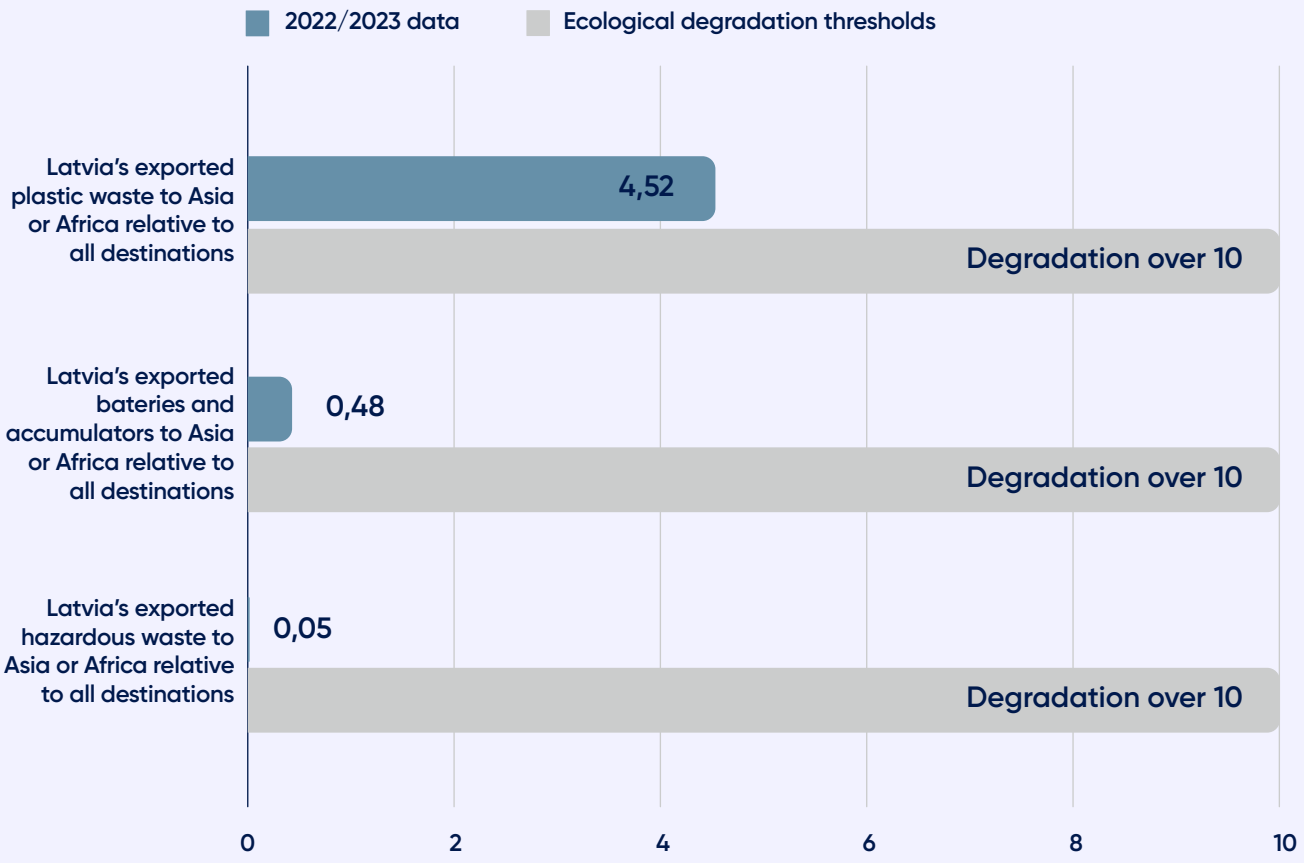
Ecological degradation thresholds	To prevent contamination from illegal plastic waste dumping and mitigate the risks associated with lower waste treatment standards, it is advisable to keep plastic waste exports to Asia and Africa below 10% of the total exported plastic waste.	To avoid contamination from exported batteries and accumulators due to dumping and lower waste treatment standards, we assume it is prudent to keep hazardous waste exports to Asia and Africa low, below 10% of the total exported hazardous waste.	To avoid contamination from hazardous waste due to illegal dumping and lower waste treatment standards, we assume it is prudent to keep hazardous waste exports to Asia and Africa low, below 10% of the total exported hazardous waste.
Recent data	In 2023, Latvia exported 34,569 tonnes of municipal plastic waste out of a total of 500,020 tonnes generated. Most of this waste was exported to European countries, with a smaller portion directed to Asia. In 2023, Türkiye imported 2.87% of Latvian "waste, parings, and scrap of plastics," while Malaysia received 1.65%. This remains below the 5% ecological degradation threshold. Source: Central Statistics Bureau of Latvia, Table AKS040, AKB040, TrendEconomy [90]	In 2023, 2,382 tonnes out of a total of 500,020 tonnes were exported, accounting for 0.48% of the total. We are not in a degradation situation. Source: Central Statistics Bureau of Latvia, Table AKS040, AKB040	In 2022, 15,000 tonnes were exported from Latvia. While we do not have national-level data, at the EU level, we found that Türkiye received 2% of European hazardous waste, and less than 0.05% was exported to other countries outside of Europe. Based on this, we assume that for Latvia, the portion exported to Asia and Africa remains below the 5% threshold. However, this estimate carries significant uncertainty, exacerbated by hidden trafficking that distorts the figures. Source: Eurostat [91]

Riga snapshot	**Near-zero degradation** The data suggest there is no degradation; however, due to hidden trafficking, some occasional degradation still occurs.

[90] https://trendeconomy.com/data/h2/Latvia/3915

[91] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_shipment_statistics

Figure 43. Chemical pollution indicators: current situation and ecological degradation thresholds (in %)



Zooming out

- International agreements for hazardous waste: Latvia adheres to international agreements, such as the Basel Convention, which regulates the transboundary movement of hazardous waste to prevent environmental harm.

- Sorting waste in Riga: The proportion of sorted waste out of the total amount was only 33% in 2022, but the trend is improving.

+ EU Waste Shipment Regulation: This regulation governs the export of waste from EU countries, requiring it to be sent to facilities that meet proper environmental standards. It mandates that the destination facility be licensed to handle the specific type of waste.

Policy highlights

In 2024, the Central Latvia Regional Waste Management Plan 2024-2028, which also includes Riga, was approved. The plan includes measures to prevent waste generation and promote the implementation of circular economy principles, such as informing waste producers, public education, raising awareness, establishing item and material exchange centres, and promoting home composting. It also focuses on developing the separate waste collection system by increasing and optimising the number of collection points, sites, and service routes, as well as introducing smart and underground separate waste collection infrastructure in Riga.

Excessive fertiliser use

Table 43. Riga's excessive fertiliser use assessment

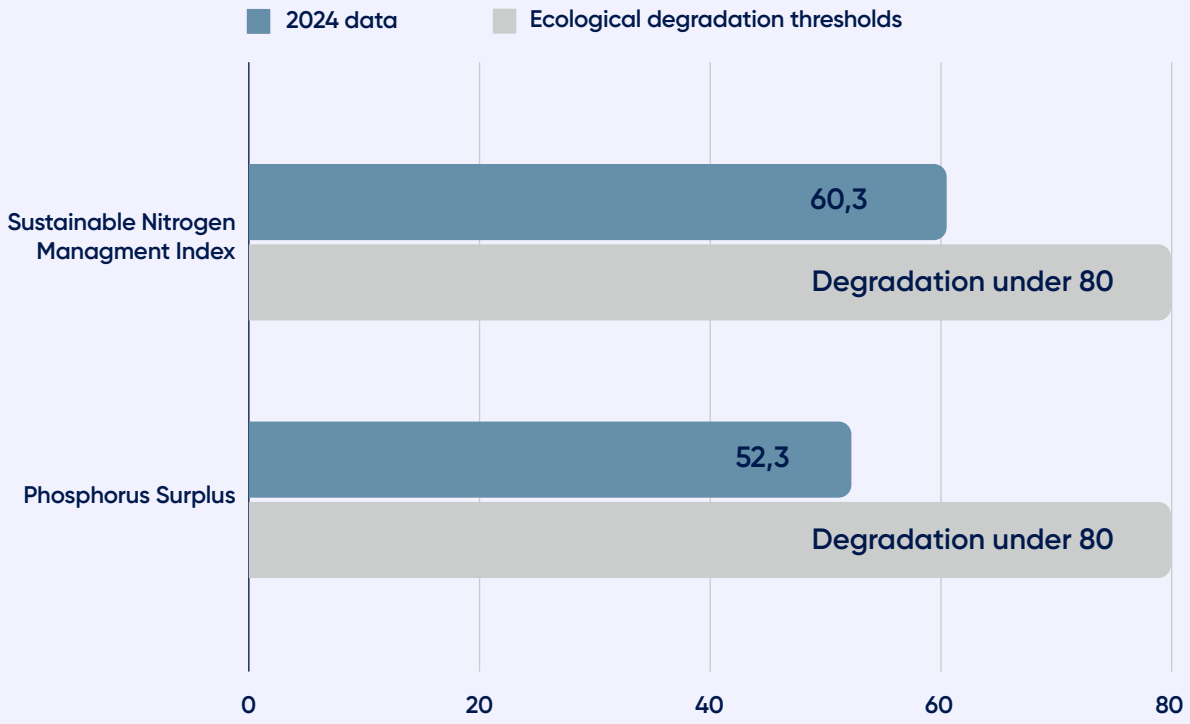
Does Riga depend on agriculture that uses excessive fertiliser?		
Indicators	Sustainable Nitrogen Management Index. The Sustainable Nitrogen Management Index (SNMI) seeks to balance efficient application of nitrogen fertiliser with maximum crop yields as a measure of the environmental performance of agricultural production. The 2024 EPI uses the SNMI as a proxy for agricultural drivers of environmental damage.	Phosphorus Surplus. The difference between phosphorus inputs (as fertiliser) and outputs (as harvested crops) serves as a proxy for excessive phosphorus fertiliser use, which can contribute to the eutrophication of water bodies.
Ecological degradation thresholds	A score of 100 indicates that a country is optimising both crop yields and fertiliser application, and a score of 0 indicates a country has among the worst performance on the SNMI. A score below 80 suggests significant degradation.	A score of 100 indicates no surplus, while a score of 0 reflects the worst performance. A score below 80 suggests significant degradation.
Recent data	Latvia's SNMI score is 60.3, ranking 30th in the world in 2024. This is below the threshold, indicating degradation. Source: Environmental Performance Index[92]	Latvia's phosphorus surplus score is 52.3, ranking 97th in the world in 2024. This is below the threshold, indicating degradation. Source: Environmental Performance Index[93]

[92] https://epi.yale.edu/measure/2024/SNM

[93] https://epi.yale.edu/measure/2024/PSU

Riga snapshot	**High degradation** Latvia, including Riga, contributes to environmental degradation through excessive fertiliser use in agriculture, leading to nutrient pollution in rivers, lakes, and the Baltic Sea. This results in harmful algal blooms and dead zones, disrupting aquatic ecosystems, reducing biodiversity, and contaminating drinking water, thereby worsening the region's ecological health and contributing to transboundary marine pollution. While data points provide a snapshot of Latvia's nitrogen and phosphorus emissions and management practices, a comprehensive nitrogen footprint would require a detailed analysis encompassing all sectors and their respective contributions to nitrogen flows.

Figure 44. Excessive fertiliser indicators: current situation and ecological degradation thresholds (on a score from 0 to 100)



Zooming out

- Main sources of nitrogen pollution: The largest contributors to nitrogen loads in both the atmosphere and hydrosphere are the agriculture and wastewater sectors. [94]

- Synthetic fertilisers: Farmers often rely on synthetic fertilisers to maximise crop yields, particularly for nitrogen-intensive crops like cereals and rapeseed. Over-application of fertilisers can occur due to the lack of precise monitoring tools or strategies to match fertiliser use with crop needs, with a significant portion being washed away by rainwater.

[94] https://www.meteo.lv/fs/CKFinderJava/userfiles/files/Par_centru/ES_projekti/GURINIMAS/Comparative_overview_of_reactive_nitrogen_%28Nr%29_flows_in_Latvia_and_Estonia.pdf

Policy highlights

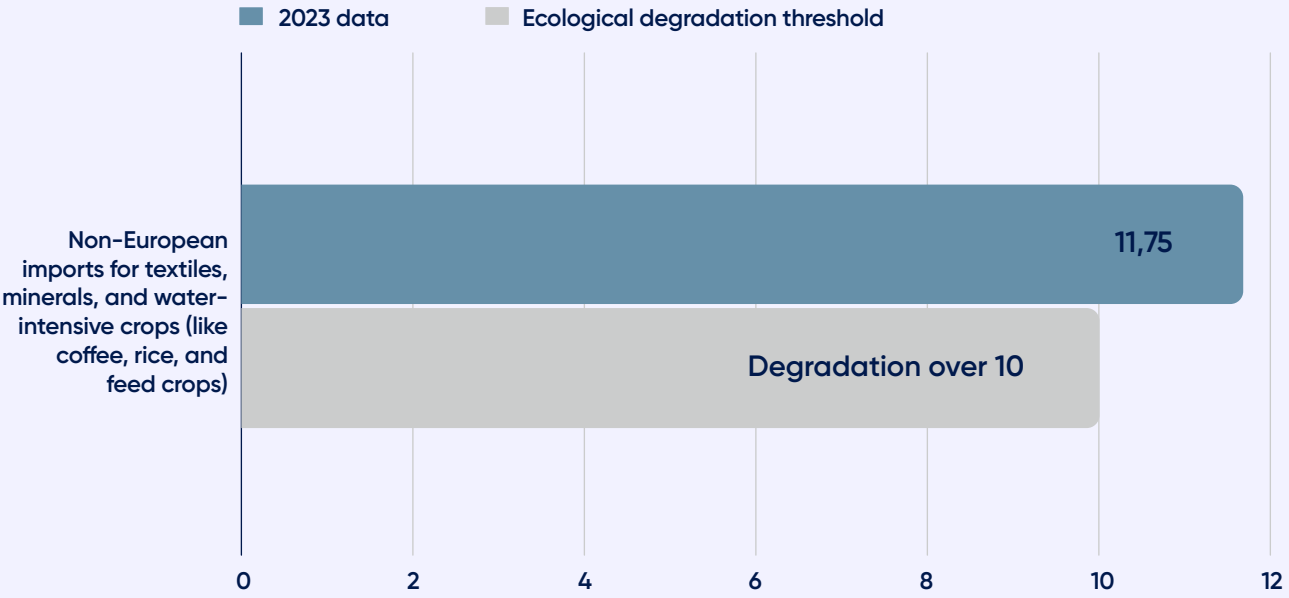
Latvia's Common Agricultural Policy Strategic Plan for 2023–2027 supports organic agriculture. This plan reflects Latvia's commitment to fostering a greener and more sustainable agricultural sector.

Water withdrawals

Table 44. Riga's impact on water withdrawals assessment

Do Riga's consumption patterns cause excessive freshwater withdrawals?	
Indicators	Share of non-European imports for textiles, minerals, and water-intensive crops (like coffee, rice, and feed crops) over total imports in Latvia. The blue water footprint measures the freshwater consumed or evaporated during the production of goods and services, including water used in irrigation, industrial processes, and other activities. Freshwater withdrawals refer to the extraction of water from ground or surface sources for human use, including agriculture, industry, and municipal needs. The goods we import, such as textiles, minerals, and crops, can have a significant impact on global water resources. By importing products like coffee, rice, and cotton, we also import the water used to produce them. This is known as our "virtual water footprint." These water-intensive imports often deplete freshwater resources in the exporting countries. Additionally, the industries that produce these goods may not adhere to European ecological standards and often cause water pollution without restrictions.
Ecological degradation thresholds	The virtual water footprint should remain low, and we should avoid importing products that harm the water resources of other countries. Most imports are not fair trade, which could otherwise ensure ecological resource management. Therefore, the percentage of these imported goods should be minimal. When such imports exceed 10%, Latvia is significantly contributing to global water resource depletion.
Recent data	In 2023, these imports represented 11.75% of all imports, surpassing the threshold we set. Source: Central Statistics Bureau of Latvia, Table ATD020
Riga snapshot	High degradation Latvia, and by extension Riga, are indirectly contributing to the depletion and pollution of water resources in the countries from which they import products. They are part of a global trade system that harms people's access to water worldwide.

Figure 45. Ocean acidification indicator: current situation and ecological degradation threshold (in %)



Zooming out

- Too much water needed: Excessive withdrawals can harm river basins and coastal ecosystems by lowering river levels, depleting aquifers, causing pollution, saltwater intrusion, and coastal erosion. The blue water footprint tracks the freshwater consumed or evaporated during the production of goods and services, including water used in irrigation, industrial processes, and other activities. [96]

Land conversion

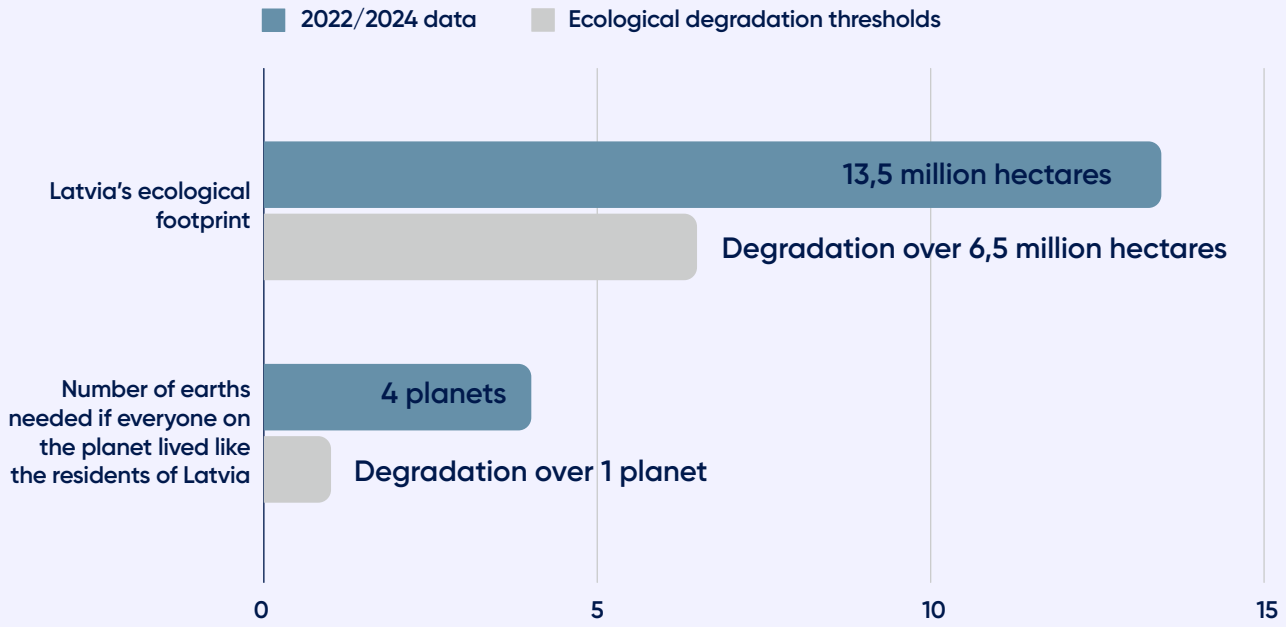
Table 45. Riga's land conversion assessment

Does Riga exceed the Earth's biocapacity in its consumption of resources, including land conversion?		
Indicators	Latvia ecological footprint per capita. The ecological footprint measures the hectares of resources consumed per capita. It is similar to land conversion, but instead of tracking changes over time, it assesses the total impact on the environment. Land conversion increases the ecological footprint by adding land used for activities such as farming, building, and resource extraction.	Number of Earths needed if everyone on the planet lived like the residents of Latvia. This indicator answers the question: "How many Earths would we need if everyone on the planet lived like the residents of Latvia?" It highlights the overuse of resources.

[96] https://www.sciencedirect.com/topics/engineering/blue-water-footprint

Ecological degradation thresholds	The ecological footprint should not exceed the surface area of Latvia, which is 6.5 million hectares.	More than one Earth would indicate that Latvia is overusing the planet's resources.
Recent data	In 2024, Latvia's ecological footprint is 13.5 million hectares, an alarming level that surpasses the ecological degradation threshold. Source: World Population Review [97]	In 2022, four planet Earths would have been needed if everyone lived like the average Latvian, revealing that Latvia's resource consumption exceeds the planet's biocapacity to regenerate. Source: Global Footprint Network [98]
Riga snapshot	**Emergency degradation** Tatvia's ecological footprint is alarmingly high, and up to four planet Earths would be needed if the world's population had the same living standards as Latvians.	

Figure 46. Land conversion indicators: current situation and ecological degradation thresholds (in %)



Zooming out

+ New EU Nature Restoration Law: This regulation sets a broad restoration objective for the long-term recovery of nature in the EU's land and sea areas, with binding restoration targets for specific habitats and species. Effective from August 2024, it requires Member States to restore at least 20% of land and sea areas by 2030. It establishes legally binding targets for ecosystems, including urban areas, aiming to cover at least 20% of the EU's land and sea areas by 2030 and ultimately all ecosystems in need of restoration by 2050.[99]

[97] https://enhttps://worldpopulationreview.com/country-rankings/ecological-footprint-by-country

[98] http://overshoot.footprintnetwork.org/how-many-earths-or-countries-do-we-need/

[99] https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-law_en

Biodiversity loss

Table 46. Riga's biodiversity loss assessment

Is Riga endangering or causing the extinction of wildlife and plant species?	
Indicators	The conservation status of species in Latvia according to their biological taxa. Due to data availability, Riga's biodiversity loss has been linked to Latvia's overall trends. According to the EU Habitat Directive 92/43/EEC, the conservation status of a natural habitat refers to the combined influences acting on a habitat and its typical species, affecting their long-term natural distribution, structure, functions, and survival within the territory covered by Article 2 of the Directive. Species populations are not confined to national boundaries. Therefore, if the conservation status in Latvia is unfavourable, it suggests that damage to species populations may also be reflected in other regions of the world.
Ecological degradation thresholds	If the conservation status of a species is not 'favorable' , it is considered as a degradation. Therefore, if we observe any percentage over 0 of species assessments with bad conservation status, there is degradation. According to the EU Habitats' Directive 92/43/EEC, the conservation status is considered "favourable" when: - Population dynamics data indicate that the species is maintaining itself as a viable component of its natural habitats in the long term. - The natural range of the species is neither being reduced nor likely to be reduced in the foreseeable future. - There is, and will continue to be, a sufficiently large habitat to support its populations in the long term.
Recent data	In 2021, 39.5% of species assessments in Latvia indicated a good conservation status, compared to the EU average of 27.5%. Meanwhile, 13.8% of species assessments in Latvia showed a bad conservation status, which is lower than the EU average of 20.6%. This suggests that Latvia is performing better than the EU average in species conservation but is still experiencing significant biodiversity loss. The assessment of species groups reveals that fish have the highest proportion of species with a good conservation status at 84.6%, followed by mammals at 48.1% and amphibians at 36.3%. In contrast, reptiles have the highest percentage of species with a bad conservation status at 66.6%, while molluscs also have a significant proportion of species in bad conservation status at 57.1%[100]. Further, scientists estimate that around 907 species (3.3% of the total number of species) are rare and endangered.[101] Source: Biodiversity Information System for Europe[102]

[100] https://biodiversity.europa.eu/countries/latvia?activeTab=97fdb996-56f0-4cae-8998-95f8f5fa4514

[101] https://www.varam.gov.lv/en/protection-species-and-habitats?utm_source=https%3A%2F%2Fwww.google.com%2F

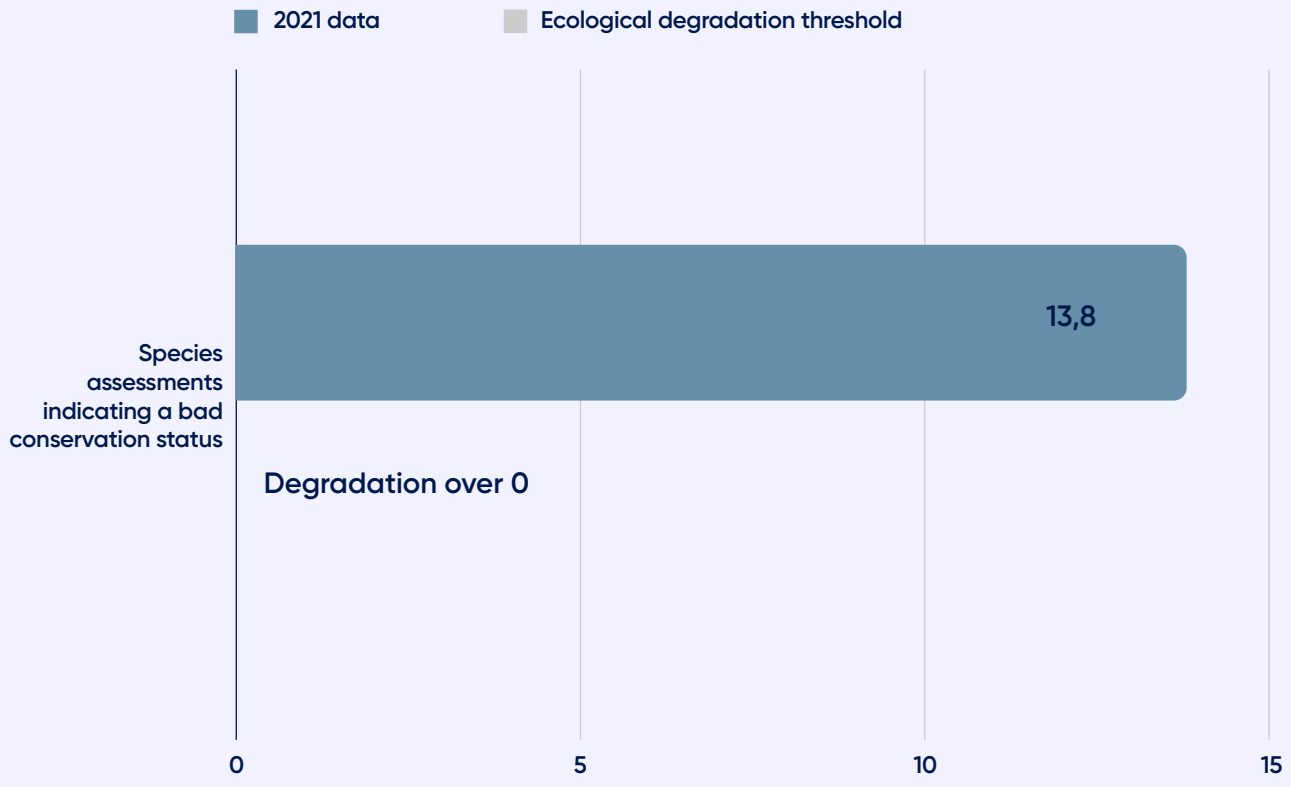
[102] https://biodiversity.europa.eu/countries/latvia?activeTab=97fdb996-56f0-4cae-8998-95f8f5fa4514

Riga snapshot	**High degradation** Although Latvia's conservation status is better than that of the rest of the European Union, the level of bad conservation status remains significant. Based on our expertise and the additional information in the "Zooming Out" section, we believe the level of degradation is high.

Zooming out

- Poor Habitat quality: The Nature Census or Habitat Inventory Report (2023) shows that over the last 30 years, grassland habitats in Latvia have declined the most rapidly, now covering less than 1% of the country's territory. Only 10% of forests are biologically valuable, nearly half of the bogs have been transformed and impacted by human activity, and more than two-thirds of freshwater habitats have been affected, disrupting the water cycle. Coastal habitats are also negatively impacted by the spread of invasive species, construction, and anthropogenic pressure.[103]

Figure 47. Biodiversity loss indicator: current situation and ecological degradation threshold (in %)



[103] https://ldf.lv/darbibas-virzieni/biologiska-daudzveidiba/?doing_wp_cron=1738847567.1271479129791259765625

Zooming out

+ Law of protection of species and habitats: Since 2000, Latvia has implemented requirements for the protection of species and habitats. A total of 723 plant and animal species, along with 93 biotopes, have been included in the lists of specially protected species and habitats.

- Global biodiversity crisis: We are living in a time when the world's biodiversity is declining at an unprecedented rate, affecting species, habitats, and genetic diversity. Currently, around one million animal and plant species are threatened with extinction, many within the coming decades. The number of terrestrial species has declined by at least 20% since 1900. More than 40% of amphibian species, around 10% of insect species, nearly 33% of corals, and more than a third of marine mammals are at risk. Since the 16th century, at least 680 vertebrate species have become extinct[104].

- Most Vulnerable Species: As of 2023, plants were the most vulnerable to extinction, accounting for nearly 60% of the world's endangered species, with flowering plants being the largest endangered group. This is concerning, as it could hinder the discovery of new food crops and medicines. Invertebrates were the second most vulnerable group, making up over 14% of threatened species, with insects representing 5%.

- Main drivers of extinction: More than 46,300 species are threatened with extinction worldwide. Habitat loss is the primary driver, exacerbated by fragmentation, where continuous habitats are broken into smaller, isolated patches due to human activity. These fragmented habitats often lack connectivity, making it harder for species to move, find food, and reproduce. Other major threats include human overexploitation of wildlife, the introduction of harmful non-native species, and climate change. A global temperature rise exceeding 1.5°C will increase species extinction risk by 30%.

Policy highlight

The Riga Sustainable Development Strategy 2030 stipulates that green corridors and green paths must be created in the city. To improve biodiversity connectivity, Riga is working to establish an approximately 8 km long green corridor between the demo sites of the urban green circle, enhancing movement between peri-urban areas and urban high nature value (HNV) sites under the project "Introducing adaptive community-based biodiversity management in urban areas for improved connectivity and ecosystem health".

In Riga, state-designated nature reserves include "Krēmeri," "Jaunciems," and "Vecdaugava," as well as the nature park "Piejūra." The NATURA 2000 network includes the nature reserves "Jaunciems" and "Vecdaugava," along with the nature park "Piejūra".

The primary value of Riga's specially protected natural areas lies in their natural meadows, protected plant species, and bird nesting sites. These reserves and the nature park are located along water bodies, making them suitable for recreation and nature tourism.

[104] https://ldf.lv/darbibas-virzieni/biologiska-daudzveidiba/?doing_wp_cron=1738847567.1271479129791259765625

Air pollution

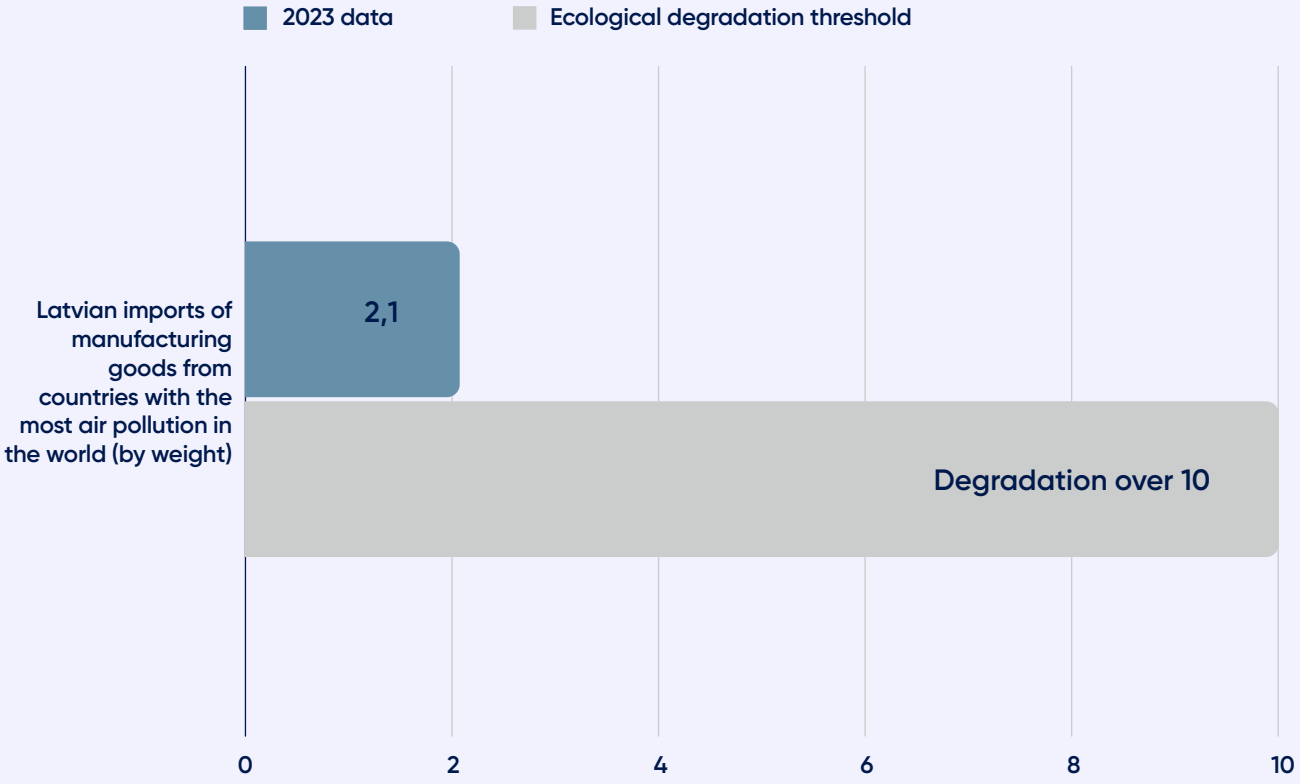
Table 47. Riga's impact on air pollution assessment

Does Riga's consumption increase air pollution levels around the world?	
Indicators	Share of Latvian imports of manufactured goods from countries with the most air pollution in the world. This indicator examines air pollution linked to Latvian consumption, and by extension, Riga's consumption. It analyses imports from the 20 most polluted countries: Bangladesh, Pakistan, India, Tajikistan, Burkina Faso, Iraq, United Arab Emirates, Nepal, Egypt, Democratic Republic of the Congo, Kuwait, Bahrain, Qatar, Indonesia, Rwanda, Zimbabwe, Ghana, Kyrgyzstan, China, and Libya. Consumption in Latvia can drive manufacturing in these countries, contributing to local air pollution. However, other factors, such as vehicle emissions, also significantly impact air quality. This indicator provides only a partial view of Latvia's influence on air pollution in these countries, focusing on one aspect while not fully capturing the entire picture. It offers a general idea of how Latvian consumption may contribute to pollution abroad.
Ecological degradation thresholds	If the share surpasses 10% of imports, we assume an indirect link between Riga's consumption and pollution in these countries, suggesting potential environmental degradation.
Recent data	The share of Latvian imports of manufactured goods from the world's most air polluted countries constitutes only 2.1% by weight (in kilograms)[105]. Source: IQAir[106], Central Statistics Bureau of Latvia
Riga snapshot	**Near-zero degradation** The share of imports from polluted areas could suggest a contribution to pollution through factory operations. However, the identified share is very small, meaning the contribution appears minimal. Nonetheless, there is a high level of uncertainty, and this indicator reflects only an indirect relationship, as pollution in the world's most polluted countries largely stems

[105] The share of manufactured goods from Bangladesh, Pakistan, India, Tajikistan, Burkina Faso, Iraq, the United Arab Emirates, Nepal, Egypt, the Democratic Republic of the Congo, Kuwait, Bahrain, Qatar, Indonesia, Rwanda, Zimbabwe, Ghana, Kyrgyzstan, China, and Libya was calculated against the total Latvian imports of manufactured goods (16.08 billion EUR, 5.6 billion kg), Central Statistics Bureau, ATD020 Exports and imports by countries (CN at 2-digit level), 2023.

[106] https://www.iqair.com/world-most-polluted-countries

Figure 48. Air pollution indicator: current situation and ecological degradation threshold (in %)



Zooming out

- Global consumption patterns as a key driver of air pollution: International demand drives air pollution in manufacturing countries such as China. The export of products and services to the rest of the world accounts for approximately 50–60% of air pollution in China[107]. In recent years, Beijing has frequently issued red alerts for environmental pollution.

- Most polluted countries in the world: In 2023, the countries with the highest pollution levels, based on annual average PM2.5 concentration, were Bangladesh, Pakistan, and India, where pollution levels exceeded the World Health Organization guideline by more than ten times[108]. Vehicle emissions, industrial pollution, waste burning, and construction dust have contributed to severe air pollution. Poor air quality is often linked to health issues, particularly respiratory diseases.

[107] https://www.nature.com/articles/s41467-017-00918-5

[108] https://www.iqair.com/world-most-polluted-countries

Ozone layer depletion

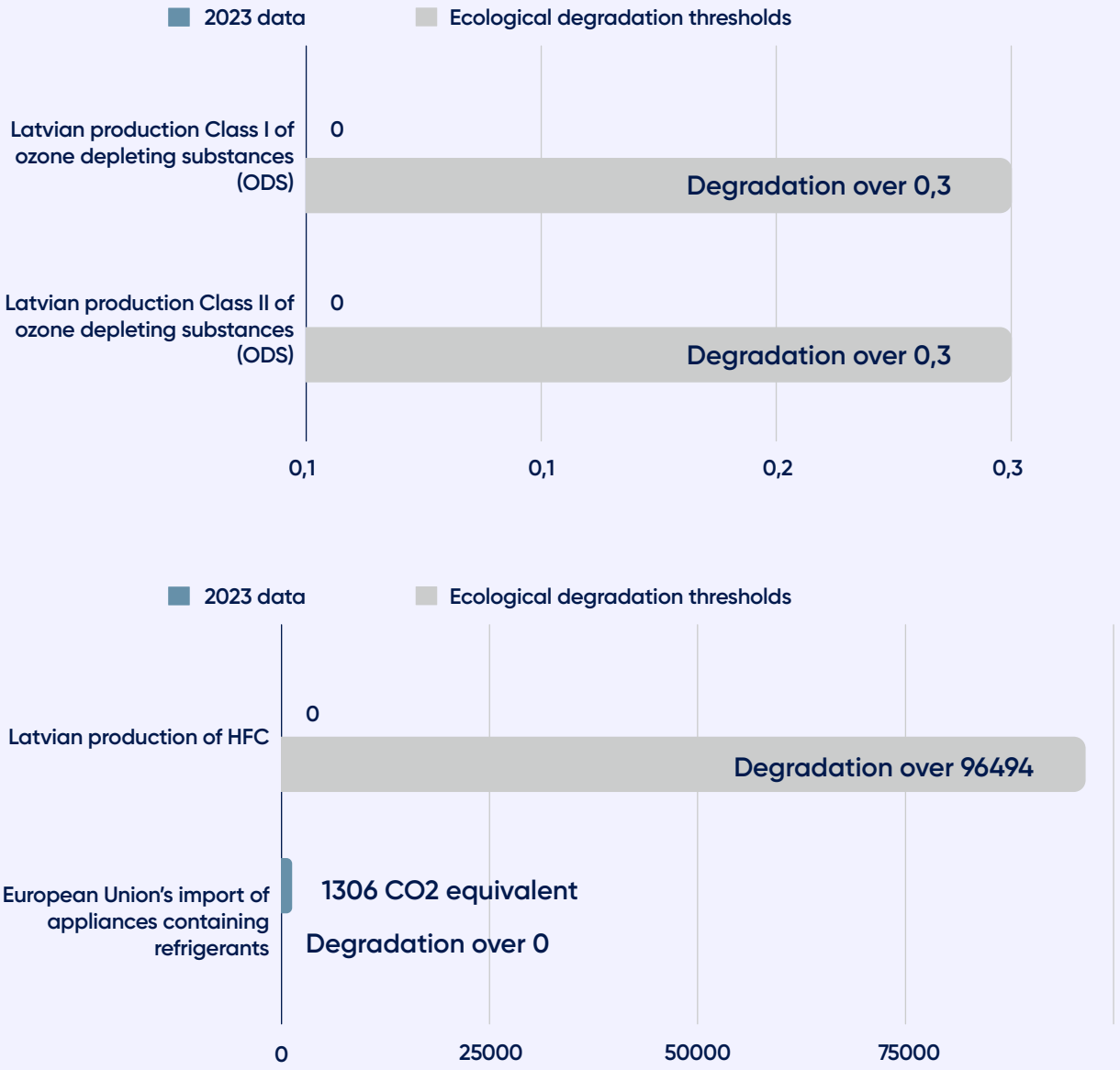
Table 48. Riga's impact on ozone layer depletion assessment

Does Riga accelerate ozone layer depletion through its chemical consumption?				
Indicators	Latvian production Class I ozone depleting substances (ODS) ODS are specific substances, such as refrigerants, that are primarily responsible for ozone layer depletion. Class I includes chemicals such as chlorofluorocarbons (CFCs). Production is measured in ozone-depleting potential (ODP) in tonnes.	Latvian production of Class II ozone depleting substances (ODS) ODS are specific substances, such as refrigerants, that are primarily responsible for ozone layer depletion. Class II includes chemicals such as hydrochlorofluorocarbons (HCFCs). Production is measured in ozone-depleting potential (ODP) in tonnes.	Latvian production of HFCs Even though HFCs are not considered ozone-depleting, they can have a minimal environmental impact, measured in CO_2 equivalent tonnes.	European Union's import of appliances containing refrigerants (tonnes) Refrigerants are the main source of ozone depletion. Here we look at the imports to the EU, and, by extension, Latvia and Riga. NOTE: Members of the European Union do not report their individual consumption; it is reported in aggregated form for all member states
Ecological degradation thresholds	Most recently, in 2023, the safe threshold agreed upon by UNEP was 0.3 ODP (ozone depleting potential) tonnes.	Similarly, in 2023, the safe threshold agreed upon by UNEP was 0.3 ODP (ozone depleting potential) tonnes.	In 2023, the safe threshold agreed upon by UNEP was 96,494 CO_2 equivalent tonnes.	The European Environmental Agency fixed a safe threshold of 0 tonnes ODS.
Recent data	In 2023, 0 tonnes, indicating no degradation Source: UNEP[109]	In 2023, 0 tonnes, indicating no degradation Source: UNEP	In 2023, 0 CO_2 equivalent tonnes,indicating no degradation Source: UNEP	1,306 metric tonnes in the whole EU, indicating near-zero degradation Source: EEA[110]
Riga snapshot	**Near-zero degradation** Latvia and Riga are not producing any products containing substances that are harmful to the ozone layer; however, some refrigerants (in small amounts) are still being imported into the EU, degrading the environment.			

[109] https://ozone.unep.org/countries/profile/lva

[110] https://www.eea.europa.eu/en/analysis/indicators/consumption-of-ozone-depleting-substances?activeAccordion=546a7c35-9188-4d23-94ee-005d97c26f2b

Figure 49. Ozone layer depletion indicators: current situation and ecological degradation threshold (in ODS and tonnes)



Zooming out

- Depletion risks: The ozone layer absorbs ultraviolet radiation from the sun. Its depletion is a significant environmental concern. Increased ultraviolet radiation can lead to serious health and environmental issues, such as skin cancer, cataracts, a decline in agricultural yields, and a decrease in fish populations.

+ International agreements: In 1995, Latvia joined the Vienna Convention and the Montreal Protocol to support global efforts in protecting the ozone layer. The Vienna Convention initiated international scientific research and facilitated the exchange of information among countries to protect the ozone layer. The Montreal Protocol began the phase-out of ozone-depleting substances through commitments to reduce and eventually stop using targeted chemicals.

+ Phasing-out of ozone depleting substances in Latvia: Between 1993 and 2003, Latvia reduced the consumption of ozone-depleting substances by 88% and completely eliminated the import, export, and consumption of substances such as freon-11, freon-12, and freon-13[111].

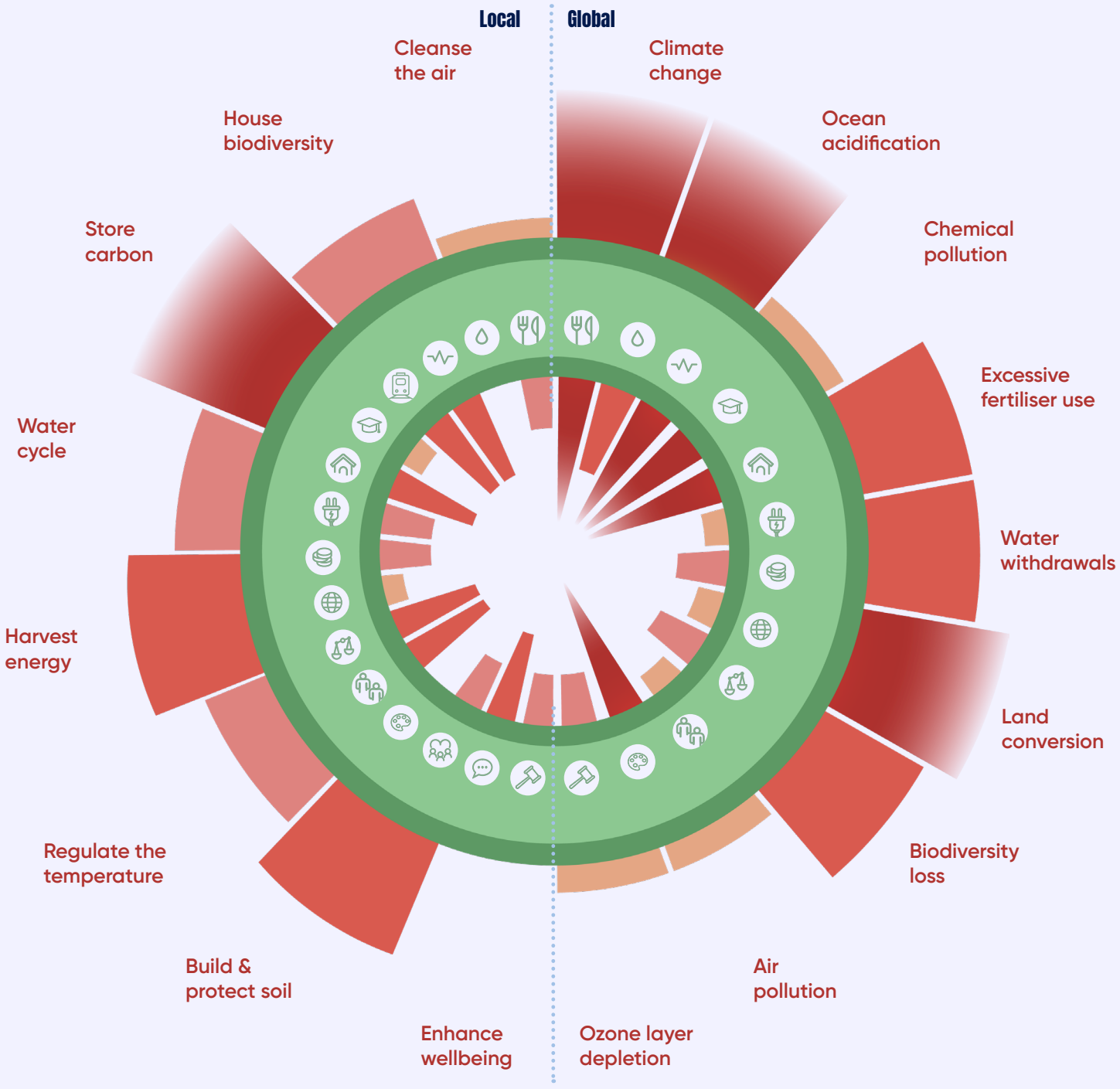
[111] https://www.varam.gov.lv/en/ozone-layer-protection

4. Conclusions & Recommendations

This section provides the main findings of the Riga City Doughnut portrait and guidance on how they can be used, particularly for citizens and in the city planning process, as well as the lessons learned for future Doughnuts.

4.1. Main findings

Figure 50. Riga Doughnut City Portrait



There is growing recognition that the current global economic system is driving ecological crises and extremes of social deprivation and inequity. Instead of seeking endless GDP growth, Doughnut Economics offers an increasingly recognised compass for a thriving future, focusing on meeting the needs of all people within the means of the living planet. It envisions an economy embedded within society and the living world, rather than a self-contained market. It aims to create economies that are regenerative and distributive by design.

In this report, we have assessed where the city of Riga stands in this respect, basically asking four key questions:

1. How can everyone in Riga thrive?

2. How can Riga be as generous as the nearby nature?

3. How can Riga respect the health of the whole planet?

4. How can Riga respect the well-being of people worldwide?

This report shows a **large gap between local and global lenses.** In Riga, there are pockets of social deprivation and ecological degradation, but also areas where the city is doing quite well from a Doughnut perspective (e.g., Water, Culture, Enhancing wellbeing). The main problem lies at the global level: the impact of Riga on planetary boundaries and social conditions in the "Global majority" is substantial, mainly because of imports of products whose production processes cause social and environmental harm. This report is a call for citizens, companies, and authorities in Riga to feel accountable and be more informed of their impact beyond the city, national, and EU borders. The Doughnut helps to see the link between our local actions and the impact they have on the global environment and communities elsewhere; an impact that is not directly visible in Riga, difficult to measure, and hence easy to ignore. More work is needed to deepen our insights. However, it can be seen that many aspects of Riga's situation either exceed the ecological ceiling or fall below the social floor of the Doughnut, outside the safe and just space where all humanity needs to be.

4.2. Recommendations for Riga's residents, organisations, and businesses

We invite Riga's residents, organisations, and businesses to:

· **Explore the Doughnut** to gain insights both on the local situation and Riga's global impact. By looking at the Doughnut snapshot, they can quickly identify critical challenges shown by shortfalls and overshoots. The Doughnut is a **visualisation tool** that makes data easy to understand for everyone. While municipal data was previously available to all, it was fragmented and required interpretation. The Doughnut offers an interpretation of data and links ecological, social, local and global lenses. It also fills in gaps with additional data collected through desk research. This provides residents with understanding and transparency on issues that were previously less accessible. Although there is a margin of error for new data, particularly in global lenses that rely on estimations, the information is now available. This represents the first assessment of many dimensions, which were not evaluated to this extent before. Additionally, the report provides residents with deeper insights into each dimension, explaining the context and expanding on local policies.

· **Engage with the Doughnut,** participating in the process and reflecting on local and global issues. The Doughnut sparks discussions, providing a new narrative and common language that enables everyone to participate in a dialogue. With a common understanding of current degradations and deprivations we can engage in constructive discussions. Residents, organisations, and businesses can challenge thresholds for deprivation and degradation, debating whether to set more ambitious or realistic ones. The city aims to involve residents in this process through Doughnut workshops, where they can share their thoughts on local aspirations, priorities, and their vision for improving the future of Riga (see Annex 1). Moreover, residents can use the Doughnut as a **catalyst for change** by reflecting on their daily habits. The Doughnut reveals how much local consumption patterns influence ecological and social conditions globally. By examining the Doughnut, Riga's stakeholders can question their habits and be inspired to make positive changes.

4.3. Recommendations for Riga's municipality

The municipality of Riga can use the Doughnut to:

· **Analyse local and global issues and take accountability.** The Doughnut can be applied as a **monitoring tool**, providing the city with a multi-dimensional diagnostic of the situation. The city can now connect social and environmental lenses on both the local and global scales, which is particularly useful for strategies like fostering a socially just ecological transition. The Doughnut also reinforces accountability by making the city aware of Riga's global impact, an area where awareness has often been limited due to a lack of assessment on the global impact of Riga on planetary boundaries and social conditions elsewhere. Moreover, the Doughnut framework not only provides a snapshot of the current situation but also allows for monitoring progress. Future Doughnuts in Riga could use this report as a benchmark to track changes over time. The data we used in this report are incomplete and come with many caveats. They constitute a first assessment of data that was previously inaccessible, to be improved over time.

· **Set informed priorities and shape new policies.** The Doughnut can be used as a **decision support tool** that helps identify priorities and opportunities. It can serve as a strategic compass by indicating different levels of degradation and deprivation, and guiding municipal action on the most urgent issues (at emergency levels). It could also guide the prioritisation of projects in political and budget discussions. With the Doughnut's holistic vision, the city can adopt a cross-departmental strategy, avoiding working in silos and encouraging more strategic collaboration. This way, the Doughnut could improve municipal staff capacity in systems thinking. Furthermore, it can function as a framework for implementing new projects. For instance, the city of Riga will explore implementing a Low Emission Zone through the Doughnut approach, considering both social and ecological implications. This data portrait of Riga could support the creation of the Riga Development Program 2028-2034 and the Riga Sustainable Development Strategy 2050. In its sustainable strategy, Riga could address its most pressing ecological challenges, such as carbon storage, energy harvesting, and soil regeneration, while also considering its global environmental impact. A just transition approach could ensure that these efforts simultaneously contribute to social dimensions (health, housing, political voice, etc.) and mobility while limiting unethical consumption that exploits people worldwide.

4.4. Recommendations for future Doughnuts

From this first version of the Doughnut in Riga, the lessons learned are for future Doughnuts to:

· **Find a balance between precision and research effort when selecting indicators:** Our methodology categorised indicators into three types: the status snapshot, the activity monitoring, and the response indicators. As a result, the Doughnut figure focuses only on overshoots and shortfalls. Positive aspects do not appear. The advantage of this approach is that it provides clarity by looking at essential needs and ecological boundaries, which are well-defined. Including more general indicators in the snapshot, such as activity monitoring indicators, would complicate the decision. Setting thresholds for them would be more difficult, as they are less focused on deprivation or degradation itself. To maintain clarity, we decided to insert such information in the zooming in/out sections for additional context. While this approach ensured precision, it required extensive additional desk research. Many data points from the municipality dataset had to be excluded because they did not precisely focus on deprivation or degradation. Therefore, we conducted additional research to find them.

· **Adopt an anticipative and collaborative approach for data collection:** For future Doughnuts in Riga and elsewhere, we recommend using a dataset that already includes potential status snapshot indicators. This could be done by anticipating the data needed for the Doughnut when conducting municipal surveys and monitoring. For instance, municipal monitoring could be extended to cover additional dimensions of the Doughnut. In addition, the municipality could create new partnerships for data collection with research institutes, universities, environmental and societal NGOs, and specific groups like youth organisations. This could be beneficial for the quality of the data and reduce uncertainties, while allowing mutual learning. These partnerships could stimulate and drive local change. Key questions here are: how to measure a city's global impact? Is analysing consumption patterns a relevant approach? What other data points (e.g. financial investments, diplomacy, corporate practices) should be also considered to assess our global impact?

· **Refine the approach of the Ecosystem tool:** This report is the first to apply the EI tool within the Doughnut framework, with no prior basis for comparison. We set an arbitrary threshold at 50% of the reference level, assuming degradation below this point. Future Doughnut assessments can use this as a benchmark and refine the threshold. While we recommend combining EI tool data with other sources for greater accuracy, it remains valuable in understanding the city's regeneration potential.

5. Annex

5.1. Doughnut workshops

During the development of the Data Portrait, we held **three public workshops** on Doughnut Economics. These workshops served as a space to test the methodology for introducing the core concepts of Doughnut Economics to citizens of Riga and youth educators from across Latvia.

The two first sessions offered an opportunity for youth educators to familiarise themselves with Doughnut Economics as a sustainability concept. These workshops were relatively short, lasting between one and one-and-a-half hours. The participants engaged in a Doughnut Sensing exercise, which involved evaluation of simplified Doughnut categories, constructing a Doughnut Portrait of their own municipalities, and subsequently developing a Portrait for the entire country. These hands-on exercises served as a 'learning by doing' tool, enabling participants to gain an understanding of the Doughnut's structure, its construction, and the main challenges that arise during its creation.

Further, **a full-day event was organised for the residents of Riga.** The aim was to introduce participants to the Doughnut Economics approach and collect their perspectives on the city's development priorities up to 2035. The workshop was attended by 24 carefully selected residents, representing a broad cross-section of Riga's population in terms of neighbourhoods, age groups, and professions—reflecting the profile of an 'average' Riga resident. A variety of participatory methods were employed to capture participants' views and visions for the city's future.

Participants worked in groups to explore the Doughnut concept and to analyse both the social and ecological aspects of Riga. Through interactive activities, they:

· Created individual and collective Doughnut models, identifying key priorities and concerns;

· Developed specific proposals on two levels: individual/community and municipal;

· Imagined and visualised the future of Riga—through drawings, keywords, and suggested city slogans.

Key insights from the citizens' workshop

Participants found it challenging to assess or suggest actions within the global dimensions of the Doughnut. It proved more difficult to connect their local experience with global patterns of inequality or ecological degradation. The categories that provoked the most engagement closely mirrored the areas of deprivation and degradation later confirmed in the Riga Data Portrait.

What matters most to residents?

· Immediate needs: health, safety, housing.

· Everyday quality of life: tranport, waste management, air quality.

· Long-term priorities: education, urban planning, continued improvement of waste systems.

Top 5 Categories – Key challenges & opportunities identified by citizens

1. Healthcare

Main concern: Inaccessible and poor-quality public healthcare.

Suggestions: Free health checks for those aged 40+, regular visits from doctors to local neighbourhoods, greater access to mental health support, increased availability of community sports and exercise options.

2. Transport and Mobility

Main concern: Traffic congestion and inadequate public transport and cycling infrastructure.

Suggestions: Better public transport connections between neighbourhoods, improved pedestrian safety (e.g. segregated footpaths, raised crossings), more bus lanes and a park-and-ride system, underground and multi-storey car parks, improved cycling infrastructure and a bicycle-sharing service, permission for overnight use of supermarket car parks, improved accessibility (e.g. ramps, pavement width), a reward system to encourage use of public transport, and a shared-use parking model for municipal institutions.

3. Security and Civil Protection

Main concern: Insufficient crisis preparedness and underperformance of the municipal police.

Suggestions: Construct bomb shelters, upgrade sirens, improve courtyard lighting (e.g. with solar panels and motion sensors), and provide clear guidance to residents on procedures in case of war or emergencies.

4. Waste Management and Environmental Quality

Main concern: Inadequate waste sorting, air pollution, and illegal dumping.

Suggestions: Simplified sorting instructions, video surveillance in areas prone to dumping, free compostable bags for bio-waste sorting, increased repair and exchange points, reduced taxes for sorted waste, chipped waste bins to prevent unauthorised use, increased attention to air quality in the city centre, and improved public consultation on urban tree removal.

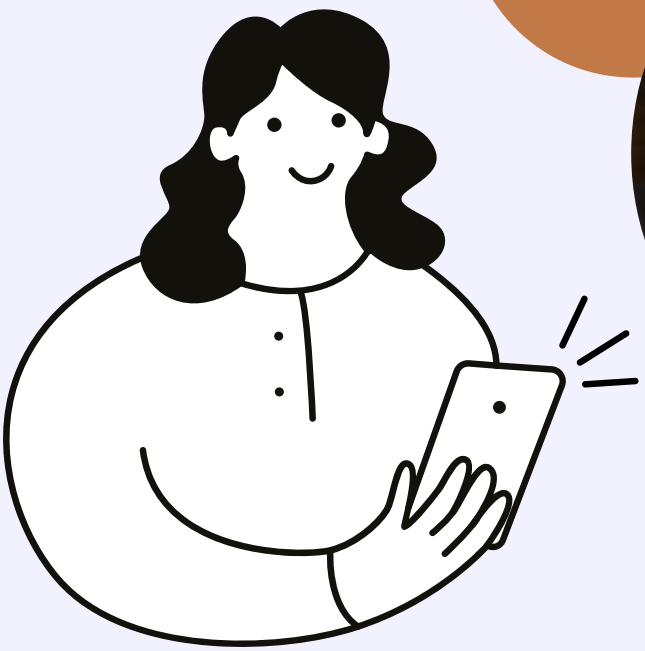
5. Housing Accessibility and Renovation

Main concern: Bureaucratic barriers to home renovation and high rental costs for young people.

Suggestions: Eliminate administrative hurdles to housing renovation, introduce municipal rental housing for young people with buy-out options, and offer municipally guaranteed renovation schemes that do not increase property tax.

Vision for Riga

In 2035, **citizens envision Riga** as a green, welcoming, and culturally rich city—rooted in mutual respect, freedom, and community spirit—where nature is cherished, more green spaces appear, sustainable transport is accessible, and life thrives both materially and spiritually.



5.2. List of tables and figures