



Climate City Contract

2030 Climate Neutrality Investment Plan

2030 Climate Neutrality Investment Plan of the City Liepāja

Liepāja

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Document history			
Date	Version	Author	Changes
January 2023	V1	BwB	/
June 2023	V2	BwB	The template was amended to include a front-page note “The IP template is to be followed closely, and cities should fill in every section to the level of detail that they have, remaining mindful of the CCC Checklist and guidance documents. If it is not possible to complete a section, please state why it cannot be filled out”.
November 2023	V2.1	BwB	<p>The template has been amended based on the experiences of Window 1 and Window 2 cities, with input from City Advisors, consortium partners, the European Commission and the EIB.</p> <p>Headline changes to the document include the introduction of tables 1, 7, 8 and 15 to provide more granular detail on the city’s climate action history and prospective investments. Table guidelines have been provided for all tables to provide clarity on what data is required, and a task goal for each task identifies the key outcomes of each task within the IP.</p>



The IP template is to be followed closely, and cities should fill in every section to the level of detail that they have, remaining mindful of the CCC Checklist and guidance documents. If it is not possible to complete a section, please state why it cannot be filled out as opposed to leaving the section blank.

Given sections of the Investment Plan require insight into municipal budgets and the forecasted costs of climate actions, it is recommended to share this resource with the municipal Finance or Treasury teams as soon as possible to begin work on the document (particularly A1, A2, B1, B2 and B3).



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Glossary of Terms

Acronym	Description
AP	Action Plan
IP	Investment Plan
KPI	Key Performance Indicator
MEL	Monitoring Evaluation & Learning
MRV	Monitoring Reporting Verification
WP	Work Package



1 Part A – Current State of Climate Investment

Part A “Current State of Climate Investment” is the **structural element** of the climate neutrality investment plan, putting the basis for the development of the plan through a detailed-oriented evaluation and assessment of the city’s existing financial policies and funding/financing activities.

1.1 Module IP-A1: Existing Climate Action Funding and Financing

This section represents the initial step of the 2030 Climate City Investment Plan and will require an evaluation and assessment of previous and existing funding and financing for climate activities by field of action. The purpose of this task is to assess the city’s history of climate actions to date – including past failures and successes – to establish the baseline for climate actions in the future. These past actions should be broken down to the project level where possible and grouped as per the fields of action identified in the Action Plan. A full breakdown of historic climate initiatives and their financing is recommended, including historic budget data for the past 3-5 years.

Task Goals: *This task will help the city to collate all historical climate actions and initiatives – assessing previous successes and any issues that arose. By establishing a baseline for climate action the city can then track their future development and the implementation of their Climate Action and Investment Plans.*

Model IP-A1

Guiding questions:

- Have you already engaged in climate budgeting and – if so – what is the city’s historical track record with climate actions and projects?
- Do you have sufficient data on each field of action and is data collection carried out internally within the finance department?
- Has the city engaged in any PPPs or has there been any significant private sector engagement in recent years, and what is the current status of these projects ? If not, why not – is this a political or regulatory hurdle ?

A-1.1: Textual element

Liepāja has planned to adopt a multi-faceted approach to budgeting for climate actions. This includes integrating climate considerations into existing departmental budgets.

The city evaluates its budgeting strategies annually, planning and ensuring that a significant portion should be dedicated to decarbonisation efforts, reflecting a commitment to sustainability and environmental goals.

Funding for decarbonisation initiatives in Liepāja comes from both the city's budget and external sources. Both city-wide funding and project-based capital in Liepāja are allocated with the aim of benefiting the entire community.

The capital allocation towards climate neutrality is transparent, with a clear breakdown of funds earmarked for renewable energy projects, energy-efficient infrastructure, and other sustainability initiatives.

Liepāja places a high priority on data availability for informed decision-making. The city maintains comprehensive datasets related to climate actions, including greenhouse gas emissions (within the Covenant of Mayors initiative) and energy consumption (implemented Energy Management System).

Data collection is a collaborative effort, involving not only the municipality’s departments but also agencies, capital companies and external research institution. This approach ensures a holistic and accurate representation of the city's environmental performance.

Liepāja has actively engaged with national, regional, and local government programs that allocate funds for climate initiatives. This includes grants from ERDF, Interreg, EST-LAT, LIT-LAT, national financial instruments, etc.

Liepāja has successfully secured grants from the state government to fund energy efficiency activities and climate adaptation initiatives. However, if we look at the existing financial support from EU funds through



programmes of ministries, the processes are too bureaucratic and there is need for improved or new financing system for climate change mitigation and adaptation.

Also, municipality's capital companies are committed to sustainability. Liepāja Special Economic Zone plays a crucial role in Liepāja's climate efforts. Investments have been made in new green sustainable industrial parks. These industrial parks enhance the city's ability to attract modern manufacturing companies and to leave behind the story about large old steel factory "Liepājas metalurģs" which was one of the biggest electricity consumers in Latvia and one of the biggest polluters in Latvia.

To quantify capital not yet allocated towards climate neutrality, the city will use this investment plan to employ a comprehensive financial tracking system with indicators from Action plan. This involves assessing current budgetary allocations and identifying areas where additional funding is required for climate projects.

Strategies for optimising city-wide funding include exploring public-private partnerships, ESCO, seeking international grants, and engaging with other less known finance mechanisms. The city aims to diversify funding sources to ensure long-term sustainability.

The city will conduct a thorough analysis of capital already allocated to developed climate projects. This will involve evaluating the financial efficiency, environmental impact, and social benefits of each project.

City's climate budgeting:

Liepāja has not yet actively engaged in climate budgeting as part of its commitment to achieving climate neutrality by 2030. Municipality recognises the significance of integrating climate considerations into its financial planning processes. Climate budgeting plays a pivotal role in aligning financial resources with the goals outlined in the Climate City Contract (CCC) Action Plan. This approach ensures that funds are allocated efficiently to initiatives that contribute to carbon reduction, adaptation, and overall sustainability. We believe that important decisions need to be related also to the UN's Sustainable Development Goals and the EU Green Deal goals. However, the municipal budget is mainly sufficient for basic needs, leaving little room for innovation or development projects and budget for the year 2024 is even smaller than last year's. That is why it is hard to bring climate-neutrality question as one of the top priorities in municipality's agenda.

As part of our strategic commitment to achieving climate neutrality by 2030, our municipality is planning to actively engage in climate budgeting, an important element in our comprehensive investment plan. In alignment with our dedication to transparent and inclusive governance, we are in the process of integrating a mandatory citizen participation budget, slated for implementation starting in 2025. This innovative initiative is designed to foster community involvement in decision-making, ensuring diverse perspectives shape resource allocation and the implementation of climate-related strategies. We firmly believe that incorporating citizen input will enrich the efficacy of our climate budgeting decisions and reinforce the success of our overall climate action plan as outlined in this investment document.

Data sufficiency:

In terms of data sufficiency, Liepāja should continue to make commendable efforts to gather comprehensive information across various fields of action related to climate change. The city should implement robust data collection mechanisms, involving both internal and external stakeholders. Development and finance department should also play a specific role in this process, analysing data to design climate budgeting decisions. The availability of sufficient and reliable data enhances the city's ability to monitor progress, assess the impact of interventions, and make informed adjustments to its climate policies.

While we have data available within each department, it is important to note that the information currently exists in silos and is not seamlessly connected with our climate-neutrality objectives. The data is dispersed across various departments rather than being consolidated into a unified framework. Recognising this, we are actively working towards enhancing our data integration processes to ensure a more cohesive and comprehensive approach. While the finance department plays a role in this effort, the collaboration involves multiple departments to bridge the gap and establish a more interconnected and data-driven approach towards achieving climate neutrality.

Some of specific examples of data sets that need to be considered or improved:

1. CO2 footprint for each decision, budget position and development project
2. Inventory of GHG emissions
3. Renewable energy potential assessment
4. Community engagement surveys on climate awareness
5. Climate adaptation tracking for infrastructure projects
6. Energy production and consumption
7. Mobility indicators
8. CO2 absorption
9. Digitalisation and open data

*Table 1 Guidelines: Please provide municipal budget data for the past five years from baseline (the most recent budgetary year) – **this should be the approved budget for the current year and the real***



expenditure for the previous four years. If the city has a split operating/current expenditure and capital expenditure identified in their budget, please include both. As a minimum, please include city budget data, but consider also adding the budget for municipally-owned companies and clearly distinguishing where this is the case via an extra row.

Table 1: Historical Municipal Budget and Budget for Climate Actions

Budget Data	2019	2020	2021	2022	2023
Municipal Budget (€)	94 963 957	96 719 254	105 573 788	110 539 712	131 642 157
Municipal Budget for Climate Actions & Projects (€)	16 281 372	19 534 396	21 544 552	28 400 099	37 486 266
% of Municipal Budget for Climate Actions & Projects (%)	17,14	20,20	20,41	25,69	28,48
Liepāja Central administration	4 522 127	5 193 270	8 254 757	6 640 676	6 682 962
Orphan's court	242 940	287 240	291 162	341 712	406 126
Construction council	667 111	783 947	813 630	843 971	911 233
Civil registry	164 230	147 445	179 935	344 809	216 154
Graveyard administration	467 368	441 960	468 835	557 128	630 499
Municipal police	1 863 299	2 051 503	2 042 579	2 358 795	2 347 056
Communal administration	6 667 298	8 040 312	7 615 993	9 445 630	4 636 156
Education administration	29 187 851	30 461 814	32 723 125	36 208 647	43 830 914
Culture administration	1 902 368	1 960 474	2 166 311	2 534 723	3 081 133
Real estate administration	992 517	1 266 762	1 075 243	1 527 695	1 696 723
Social service	7 898 015	7 896 092	8 171 622	10 007 440	11 340 460
Sports administration	483 937	595 832	529 774	627 937	729 126
Liepaja public transport	7 444 632	7 509 547	7 396 044	8 435 224	10 278 210
Employment projects	373 543	733 644	707 239	704 083	696 494

The municipal budget encompasses expenditures for various municipal institutions and agencies, including administrative bodies, the registry office, municipal police, and employment projects. It also covers sectors like construction board, public transport services, aviation, tourism etc.

Furthermore, it accounts for some operations/subsidies/co-financing of the capital companies which are 100% owned by municipality, for example, water provider, Liepaja Hospital, health care centers, Olympic Center etc. Still participation from municipality is only one part of companies' total budget. Despite this broad scope, the budgets of these institutions and companies include very few activities specifically aimed at addressing climate issues and those are not yet possible to separate. In Table 1 for institutions are given total budget data.

Table 2 Guidelines: Please provide historical budget data for all climate actions and projects that the city has undertaken in the past three years from baseline (the most recent budgetary year). Please provide some indication in the textual element as to the requirements for projects to be considered as a climate action (for example, following the EU Taxonomy for Sustainable Finance). This should be in € as well as % of overall budget.

Table 2: Finance Sources by Field of Actions, for Years 2021 to 2023

Fields of Action	Sector Subsection	Budget Allocation for Climate Actions and Projects
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		2021 (€ (%))	2022 (€ (%))	2023 (€ (%))
Transportation	<i>Pedestrians, cycling, cars (e.g. infrastructure, roads, events)</i>	5227044 (4,95)	3723390 (3,37)	8929596 (6,78)
	<i>Cars fleet (municipality, procurement)</i>	98203 (0,09)	29540 (0,03)	114822 (0,09) <i>There is National Law that obliges municipalities to buy low-emission transport</i>
	<i>Public transport services (agreement, administration)</i>	8634989 (8,18)	9493757 (8,59)	11387366 (8,65) <i>There is National Law that obliges municipalities to buy low-emission transport services</i>
	<i>Public transport (trams, infrastructure)</i>	1566158 (1,48) <i>Actions and projects are in capital company's budget but municipality can support project implementation</i>	0 (0) <i>Actions and projects are in capital company's budget but municipality can support project implementation</i>	2986466 (2,27) <i>Actions and projects are in capital company's budget but municipality can support project implementation</i>
	<i>Traffic management system (infrastructure, maintenance, platform)</i>	<i>It is currently not possible to divide these costs separately. However, for the next periods, we will ensure this number can be specified.</i>	<i>It is currently not possible to divide these costs separately. However, for the next periods, we will ensure this number can be specified.</i>	<i>It is currently not possible to divide these costs separately. However, for the next periods, we will ensure this number can be specified.</i>
Built Environment	<i>Residential (restoration of historical buildings, courtyard landscaping, documents for energy efficiency measures etc.) Support from municipality</i>	758198 (0,72) <i>The municipality supports these activities with profits from its shares in a private district heating company</i>	496243 (0,45) <i>The municipality supports these activities with profits from its shares in a private district heating company</i>	687481 (0,52) <i>The municipality supports these activities with profits from its shares in a private district heating company</i>
	<i>Public buildings and territories (e.g. infrastructure, energy efficiency)</i>	488318 (3,5)	4621898 (4,18)	9155952 (7,09)
Energy Systems	<i>DH gas (operation)</i>	<i>~24% from all DH used energy Not in municipality's budget, but in private DH company's budget</i>	<i>~18% from all DH used energy Not in municipality's budget, but in private DH company's budget</i>	<i>Under 13% from all DH used energy Not in municipality's budget, but in private DH company's budget</i>
	<i>DH biomass (operation and infrastructure)</i>	<i>~76% from all DH used energy Not in municipality's budget, but in</i>	<i>~82% from all DH used energy Not in municipality's budget, but in</i>	<i>More than 87% from all DH used energy Not in municipality's</i>



		<i>private DH company's budget</i>	<i>private DH company's budget</i>	<i>budget, but in private DH company's budget</i>
	<i>Solar Thermal / Solar PV / Wind</i>	<i>None</i>	<i>306833 (Ltd. « Liepājas ūdens » solar power plant from their budget)</i>	<i>None There will be research about potential RES solutions in municipality</i>
	<i>Other (e.g. heating equipment database of households, heating systems for private houses, stoves)</i>	<i>30802 (0,03)</i>	<i>None</i>	<i>None There will be research about potential RES solutions in municipality</i>
Environmental protection Public education Climate adaptation measures, green infrastructure, nature-based solutions	<i>Parks, green roofs, community gardens, channels, lakes, protected areas, forestry, education, adaptation etc.</i>	<i>5317123 (5,04)</i>	<i>10038014 (9,08)</i>	<i>3608744 (2,74)</i>
Waste and Circular Economy	<i>Household Waste, Industrial Waste, Other Commercial Waste, Sectoral By-products</i>	<i>181915 (0,17) Municipality waste management</i>	<i>186667 (0,17) Municipality waste management</i>	<i>1303320 (0,99) Municipality waste management</i>
Total in €		21544552	28400099	37486266
Total in %		20,41%	25,69%	28,48%

1.2 Module IP-A2: Strategic Funding and Financing Evaluation

This section requires an evaluation of the city’s existing financial policies to understand how they are currently managing the capital allocation towards climate neutrality. This will include strategies in place and what the city has at its disposal to facilitate the transition. **The forms of capital it has access to and which are specific to their climate neutrality targets should be identified, and the current debt level of the city and any legislative requirements for new debt issuance should be outlined**

Task Goals: *By identifying the existing income and capital sources to the city – as well as potential for future capital sources – the city can start to identify ways to fund the climate actions and initiatives identified within the Climate Action Plan.*

Model IP-A2
Guiding questions: <ul style="list-style-type: none"> Do you have a clear overview of public sources of capital as well as private funding and financing sources? If yes, how detailed and accurate is it?



- To which aspects of this module does the municipality have the internal capacity to delve into detail on? Given some of these sources of finance may be combined to deliver on actions and priorities defined in the Action Plan.

A-2.1: Textual element

Our city is continuing to undertake a comprehensive evaluation of existing financial policies to gain insights into how capital allocation is managed in the pursuit of net-zero objectives. This evaluation involves a thorough examination of the strategies currently in place, assessing their effectiveness, and identifying available resources to facilitate the transition to climate neutrality.

In the process of assessing financial policies, our team has identified several **key forms of capital** that the city has access to, each playing a specific role in advancing our climate neutrality targets:

Public budgets and funding:

- Reviewing and aligning municipal budget to prioritise investments in climate-friendly initiatives.
- Exploring opportunities for leveraging public funds to attract additional financing for sustainable projects.

Grants and subsidies:

- Identifying and actively pursuing grants and subsidies available at regional, national, and international levels.
- Ensuring that the city maximises its eligibility for financial support dedicated to climate initiatives.

Private sector partnerships:

- Collaborating with private sector entities to explore public-private partnerships and ESCO for sustainable projects.
- Encouraging environmentally responsible businesses to invest in and support the city's climate goals.

Community investments:

- Engaging with local communities and companies to foster a sense of shared responsibility and encouraging community-driven sustainable initiatives.
- Exploring crowdfunding and community investment models to support localized climate projects.

International climate funds:

- Investigating opportunities to access international climate funds and financing mechanisms to support larger-scale projects.
- Aligning city initiatives with global climate funding priorities and criteria.

Carbon pricing and trading (potential in the future):

- Exploring the potential for implementing or participating in carbon pricing mechanisms.
- Investigating carbon trading to finance emission reduction projects.

By understanding and strategically utilising these various forms of capital, our city aims to ensure a well-rounded and sustainable financial approach towards achieving net-zero targets. The ongoing evaluation of financial policies will enable us to adapt and optimise our strategies as we progress in our journey towards climate neutrality.

Here are some examples of historical climate actions and different sources of finance:

- The evaluation of CO2 emissions has been carried out for the first city in Latvia (from municipal budget);
- Work has begun on the development of the city's mobility plan (from URBACT funding);
- The first smart traffic light in Latvia, capable of detecting violations of red-light signals, has been officially unveiled in year 2023 (funded from collected fees);
- The installation of smart pedestrian crossing cameras is in process (from municipal budget);
- New cycling lanes have been constructed (from EU funds);
- Gravel roads have been asphalted (from municipal budget);
- Traffic balancing is underway with speed limiters, signs, and road reconstruction (from municipal budget);
- Improvements to the tram system, including track reconstruction, are ongoing (from EU funds);
- Street lighting replacement is in progress (from Emission Allowance Auction Instrument);
- The largest indoor lighting replacement project in the Baltic states following the ESCO principle has been implemented, marking the first such project in Latvian municipalities (ESCO principle);
- The opening of new pellet boiler houses on Slimnīcas Street 2 (from EU funds);



- Development of a nature protection plan for Lake Liepājas (from Latvian Environmental Protection Fund);
- Work continues on the preparation for the potential multi-apartment micro-district development at Klaiņpēdas Street 138 (from municipal budget);
- A new nearly zero-energy building has been constructed for the "Dzintari" children's support center, providing services for children left without parental care (from EU funds);
- A new energy-efficient preschool education institution "Liedags" has been built, designed for 144 children (from municipal budget).

Next steps that our city is planning to:

- Assess existing operational funding for climate action.
- Conduct an evaluation of the city's budget capacity, considering the Action Plan and estimating the total capital needed.
- Influencing policy decisions and capital allocation for climate action programs.
- Evaluate targeted climate neutrality funding programs, examining financing mechanisms, planning, and current funding sources and instruments for city-wide and project-based climate actions.
- Identify and analyse critical policy and regulatory areas affecting the city's goals in the Action Plan.
- Evaluate the city's ability to receive and deploy capital from different sources, considering procurement policies, incentive schemes, public sector finance instrument.
- Assess how well Liepāja Central administration understands public and private funding sources for climate action, considering clarity, detail, and accuracy.
- Determine the city's internal capacity to achieve goals outlined in the Action Plan.

Table 3 Guidelines: Please identify and list all recurring city income sources for the city (e.g. local taxation revenue, deferred funding from the national or state level, profits generated by municipally-owned companies).

Table 3: List of Income Sources for the City 2023

Income Category	City income	% of city budget
Property taxes	5 274 598	4,25%
Rent and property sell	1 444 372	1,16%
Permit and licensing fees	99 917	0,08%
Fees and fines	261 478	0,21%
Citizen's income taxes	50 966 646	41,04%
Transfers	55 365 502	44,58%
Income from business and property (also deposits)	651 071	0,52%
Charged services (also revenues of budgetary authorities)	9 184 876	7,40%
Foreign financial assistance	87 357	0,07%
Taxes on services and goods	125 596	0,10%
Various	729 945	0,59%
Total	124 191 358	100,00%

Table 4 Guidelines: Please identify and list all extraordinary capital sources for the city (e.g. EU grants and funding, loans from organisations like the EIB or Municipal Banks, PPPs). Give details as to when the capital was granted to the city, how much of it is left, and any specific projects to spend it.

Table 4: List of Capital Sources for the City 2023



Type	Size Range	Level	Description
<i>Source of Capital</i>	<i>Quantum of Capital Accessible to the city through this source</i>	<i>Private or Public</i>	<i>(Description of capital source e.g. cost & provider)</i>
State treasury of Latvia	20% of budget = 24 838 272	Public	State treasury long term loan with maximum limit 20% of budget
EU funds	87 357 Variable (changes by accessible programmes and approved submissions)	Public	Accessible through EU funding programs (Interreg, ERASMUS, Horizon etc.)
National funds	8 638 209 Variable (changes by accessible programmes and approved submissions)	Public	Accessible through national funding programs (The Emission Allowance Auction Instrument, Cohesion policy funds, Tourism Cluster program, etc.)
Municipal budget	124 191 358	Public	Allocated from the municipal budget

1.3 Module IP-A3: Barriers to Climate Investment

This section requires evaluation and identification of the range of structural, policy, economic, and financial barriers for capital deployment in support of climate action.

Task Goals: *By listing the current barriers to climate investment, cities can start to identify solutions to overcome these barriers and facilitate further capital flows. This could involve collaborating to enact new policy, or identifying external stakeholders that can help to overcome structural and financial barriers.*

Model IP-A3
<p>Guiding questions:</p> <ul style="list-style-type: none"> • How is internal capacity considered to be a barrier? Are barriers able to be overcome and if so, what solutions are available ? • For which of the identified barriers do you need support from the Mission Platform? • For which of the identified barriers can other stakeholders provide support?

A-3.1: Textual element
<p>Climate mitigation and adaptation actions in the city of Liepāja are targeted at six focus groups:</p> <ul style="list-style-type: none"> • The municipal infrastructure domain includes a set of measures to address energy efficiency in municipal buildings, street lighting and municipal transport. • The housing sector includes measures for housing renovation and a wider shift towards RES. • The transport and mobility section plans measures to promote sustainable and environmentally friendly transport use and solutions in the municipality. • The energy sector includes measures to switch to RES and attract new consumers. • The manufacturing and servicing sector includes measures to improve the energy efficiency of enterprises and to switch to RES. • In the area of climate change adaptation, measures are planned to contribute to the resilience of the municipality to climate change, including measures to promote nature-based solutions and CO₂ sequestration.



For each of these sectors, the following challenges and potential related barriers were defined:

Municipal infrastructure:

- Reach 100% green electricity consumption (economic feasibility)
- Cost-effectiveness for vehicle replacement (economic feasibility, return of investment, access to financing)
- Change in commuting habits of municipal employees (public acceptance behavioural changes)
- E-services needs assessment (technical expertise)
- Prioritisation of digitisation solutions (economic feasibility)
- Involvement of enterprises in the energy management system (capacity building)

Energy production:

- Energy taxes for individual heat producers (financial incentives)
- Replacement of DH boiler houses with RES and innovative solutions (costs implications and access to finance)
- Capacity to connect new consumers (costs implications and access to finance)
- Organisational and financial challenges of connecting new consumers (costs implications and access to finance as well as public acceptance)
- Ensuring a competitive DH tariff (public acceptance)
- DH zoning (permitting and approval process)
- Chimney safety, fuel quality, environmental pollution (lack of clear climate policies, cost implications)
- Ability of low-income to pay for energy (social barrier)

Transport and mobility:

- Reducing the number of private vehicles (public acceptance, infrastructure constraints, lack of clear climate policies, behavioural changes)
- Providing opportunities for people to substitute private transport:
 - Adhering to the principles of the mobility pyramid (capacity building, public acceptance, behavioural changes)
 - Development of cycling and pedestrian infrastructure (access to financing)
 - Promoting access to and use of public transport (infrastructure constraints, access to financing)
 - Development of electric car infrastructure (infrastructure constraints, access to financing)
- Changing the commuting habits of the population:
 - Increase the number of public transport passengers (infrastructure constraints, public acceptance, access to financing, behavioural changes)
 - Increase the proportion of the population cycling and walking (infrastructure constraints, public acceptance, behavioural changes)
 - Increase the number of registered electric cars in the city (infrastructure constraints, access to financing)
- Ensure monitoring of transport users (capacity building, technical expertise)
- Encourage the decommissioning (priority) or replacement of old vehicles (regulatory framework, lack of clear climate policies)

Housing:

- Increasing knowledge, responsibility and motivation among homeowners (capacity building, public acceptance)
- Increasing the competence of building managers, developing standardised documents (capacity building, technical expertise)
- Promotion of associations (capacity building, public acceptance)
- Share of fossil fuels in private houses, quality of biomass (capacity building, access to financing)
- Legal and organisational aspects of energy communities (capacity building, behavioural changes, regulatory framework)
- Capacity of construction companies to renovate buildings (infrastructure constraints, permitting and approval process, cost implications)
- Capacity of the low-income to pay energy bills (social)

Industry and services:



- Detailed availability of energy data by subsector (capacity building, technical expertise)
- Involvement of industry and service companies in the SECAP (public acceptance and behavioural changes)
- Facilitating dialogue with industry and service companies (public acceptance and behavioural changes)
- Identification of the needs of industry and service enterprises in relation to the achievement of the SECAP objective (capacity building, technical expertise, access to financing, return on investment)
- Developing the business case for industry and service companies for RES solutions or for connecting to DH (capacity building, access to financing, cost implications)

Adaptation to climate change:

- Institutionalising climate change adaptation (capacity building)
- Ensuring the health and comfort of residents under extreme conditions, including, the implementation of anti-flood measures on Amatas Street (infrastructure constraints, access to financing)
- Infrastructure resilience (infrastructure constraints, access to financing, return on investment)
- Integration of adaptation aspects into all aspects of urban planning (capacity building, behavioural changes)
- Prioritisation of nature-based solutions (capacity building, technical expertise)

In conclusion, the city of Liepāja has developed a comprehensive and focused strategy for climate mitigation and adaptation, targeting six key sectors. The plan encompasses a wide range of measures, from improving energy efficiency in municipal infrastructure to promoting sustainable transport solutions, embracing renewable energy sources, enhancing housing renovation, and adapting to climate change. Each sector is confronted with specific challenges that highlight the complexity of the city's transition. These challenges include issues such as 100% green electricity consumption, cost-effective vehicle replacement, changing commuting habits, and ensuring the resilience of infrastructure under extreme conditions. The plan not only addresses technical and operational aspects but also emphasises the need for behavioural changes, stakeholder involvement, and the consideration of socioeconomic factors. By delineating these challenges, Liepāja's Action Plan sets up approach for targeted interventions, fostering collaboration, innovation, and resilience in the face of climate change.

Below in the table are summarised the main financial barriers to achieving climate neutrality, possible solutions as well as involved stakeholders.

Table 5 Guidelines: Please provide an exhaustive list of all barriers to climate investment and any potential solutions (including the stakeholders involved) to overcome these barriers.

Table 5: Barriers to Climate Investment

Financial Barriers to achieving Climate Neutrality	Typology of Barrier	Description	Sector and stakeholders involved
Initial capital costs	Economic	Barrier: High upfront costs for implementing climate-friendly technologies or infrastructure projects can be a significant barrier. Solution: Exploring financing options such as low-interest loans, grants, or public-private partnerships to mitigate initial capital expenditure.	Sector: Infrastructure development Municipal Government: Responsible for budgeting and initial investment decisions. Private Investors: May be hesitant due to high initial costs. Financial Institutions: Involved in providing loans or financing options.
Return on investment (ROI) uncertainty	Economic and financial	Barrier: Concerns about the uncertain or delayed return on investment for	Sector: Renewable Energy, Green Technologies



		<p>climate initiatives may deter investment.</p> <p>Solution: Providing clear data and case studies demonstrating the long-term economic and environmental benefits of climate projects.</p>	<p>Stakeholders: Energy utilities and communities might be reluctant to participate</p> <p>Investors: Concerned about the risk and uncertain returns.</p> <p>Municipal Government: Needs to provide data and assurances on long-term benefits.</p> <p>Industry Associations: Can advocate for the economic viability of sustainable technologies.</p>
Lack of access to capital	Financial Barrier	<p>Barrier: Limited access to financial markets or funding sources for municipalities may impede climate action efforts.</p> <p>Solution: Establishing partnerships with financial institutions, seeking grants, and exploring alternative financing mechanisms to increase access to capital.</p>	<p>Sector: All Climate Action Sectors</p> <p>Stakeholders: might be reluctant to participate and be involved</p> <p>Municipal Government: Seeks funding for climate projects.</p> <p>Financial Institutions: Determine access to loans and financial products.</p> <p>External Funding Agencies: May provide grants or support.</p>
Budget constraints	Fiscal Barrier	<p>Barrier: Cities often face budget constraints, making it challenging to allocate sufficient funds for climate projects.</p> <p>Solution: Integrating climate considerations into existing budgets, seeking external funding, and advocating for dedicated climate budgets.</p>	<p>Sector: General Climate Action</p> <p>Stakeholders: can provide necessary expertise on other funding options</p> <p>Municipal Government: Faces challenges in allocating funds.</p> <p>Community Members: May resist tax increases for climate projects.</p> <p>Advocacy Groups: Work to influence budget priorities.</p>
Policy and regulatory uncertainty	Regulatory and Legal Barrier	<p>Barrier: Uncertain or inconsistent policies and regulations related to climate action can create hesitation among investors.</p> <p>Solution: Advocating for stable and supportive regulatory frameworks, providing incentives for sustainable investments, and ensuring policy alignment at various levels of government.</p>	<p>Sector: All Climate Action Sectors</p> <p>Stakeholders: Policymakers: slow on making any changes and removing barriers</p> <p>Responsible for creating and maintaining regulatory frameworks.</p> <p>Investors: Seek stable policy environments.</p> <p>Industry Associations: Advocate for clear and supportive regulations.</p>



<p>Risk perception</p>	<p>Financial and Operational Barrier</p>	<p>Barrier: Perceived risks associated with climate projects, such as technological uncertainties or market risks, may deter potential investors. Solution: Conducting thorough risk assessments, providing risk mitigation strategies, and building confidence through successful pilot projects.</p>	<p>Sector: Renewable Energy, Sustainable Technologies Stakeholders: can enlighten on mitigation of the different risks Investors: Assess risks associated with technology adoption. Municipal Government: Needs to mitigate and communicate risks effectively. Research and Development Entities: Work on risk reduction through innovation.</p>
<p>Limited technical capacity</p>	<p>Operational Barrier</p>	<p>Barrier: Insufficient technical expertise within municipal governments can hinder the effective deployment of climate-related projects. Solution: Investing in capacity building, training programs, and collaboration with external experts to enhance technical knowledge.</p>	<p>Sector: Renewable Energy, Green Infrastructure Stakeholders: can provide necessary technical expertise Municipal Government: May lack expertise in implementing new technologies. Educational Institutions: Provide training and technical education. Private Sector: Can collaborate to offer technical support.</p>
<p>Market barriers</p>	<p>Economic Barrier</p>	<p>Barrier: Lack of a developed market for sustainable products or services can impede the growth of green industries. Solution: Creating market incentives, supporting local green businesses, and fostering innovation in green technologies.</p>	<p>Sector: Green Industries Stakeholders: can identify the needs and possibilities Businesses: Face challenges in developing markets for sustainable products. Government: Can create incentives for green businesses. Consumers: Influence demand for sustainable products.</p>
<p>Public perception and awareness</p>	<p>Social Barrier</p>	<p>Barrier: Limited public awareness or support for climate initiatives may impact political will and funding decisions. Solution: Implementing public awareness campaigns, engaging with communities, and emphasizing the social and economic benefits of climate action.</p>	<p>Sector: General Climate Action Stakeholders: need clear guidance and possibilities; can play significant role Municipal Government: Needs public support for funding and projects. Media: Influences public perception and awareness.</p>



			Community Groups: Work to educate and engage the public.
Institutional barriers	Governance Barrier	Barrier: Bureaucratic hurdles, lack of coordination among government departments, and resistance to change can impede progress. Solution: Streamlining processes, enhancing interdepartmental collaboration, and promoting a culture of innovation and sustainability.	Sector: General Climate Action Stakeholders: can identify the main hurdles Municipal Government: May face bureaucratic hurdles and resistance to change. Internal Departments: Coordination challenges within the government. Advocacy Groups: Advocate for institutional reforms and innovation.

2 Part B – Investment Pathways towards Climate Neutrality by 2030

Part B “Investment Pathways towards Climate Neutrality by 2030” is in place to capture the actions and needs for mobilising and delivering the funding and financing needed for climate neutrality. This Part of the Investment Plan will be aligned with and build upon the Action Plan. In addition, each of these Plans are likely to entail multiple iterations over the course of the path to climate neutrality. Cities are encouraged to fill this section out with the help of their municipal Finance or Treasury teams - the data provided should be as complete and as robust as possible. In the instances where macroeconomic data or forecasting has been completed, a breakdown of the assumptions that the city has used should be provided as an annex and – if possible – the model or worksheet that was used to obtain the data should be presented for validation.

2.1 Module IP-B1: Cost Scenarios for Climate Neutrality

These are the actions and measures which make up the 2030 Climate Neutrality Action Plan that need to be costed. It is expected that to tie the Investment Plan and Action Plan together, any action or initiative identified within the Action Plan should be referenced in Table 6, alongside forecasted costs, direct benefits (via GHG reduction) and co-benefits. Given the Investment Plan needs to be practical, the measures defined within the Action Plan need to be tagged by how much they will cost for the city, considering implementation and operational costs, so the city budget can be adapted to include them. As a minimum, absolute capex and operational costs must be presented in Table 6 – incremental costs can be provided as an addition if such data is also available.

Cities have the option to provide cost estimates at their own discretion on the measures disclosed in the Action Plan template as per table B-2.2 and in the Investment Plan template as per table 6. Given these cost estimates for the actions, cities can then include non-sectorial costs (the cost of the levers to implement these actions) these should be considered alongside the concrete actions.

For all cost-related assumptions please provide – or link to – costing methodology, headline assumptions and the macroeconomic parameters used for forecasting.

Task Goals: *By identifying the costs and potential direct and indirect benefits to all climate actions, cities can begin to budget for their climate actions and also begin to approach external funding and financing actors to help financially support their climate plans.*

Model IP-B1



Guiding questions:

- How much have you already engaged in costing activities and is this carried out internally or with additional partners?
- Have you previously costed actions as a part of a climate action plan?
- What are optimal sources for gathering data?
- Can you identify a number of high priority and capital-intensive projects and provide details on these?

B-1.1: Textual element

Liepāja's SECAP and CCC Action Plan outlines a strategic roadmap for sustainable development across various sectors. The city's ambitious initiatives span transportation, built environment, energy systems, public education, climate adaptation, and waste management, with significant capital investments allocated to each.

Liepāja's Investment Plan reflects a holistic commitment to achieving climate neutrality by 2030. Through targeted investments, the city aspires to reduce its environmental footprint, foster community engagement, and create a resilient, eco-friendly urban landscape. The proposed actions underscore Liepāja's dedication to a sustainable and climate-conscious future.

Liepāja's SECAP (and CCC) integrates 17 action groups, acknowledging that partial implementation would occur even without this plan. Some actions, such as the replacement of equipment in homes and the provision of eco-friendly public transportation, are already underway. However, financial resources are essential for the comprehensive implementation of these actions.

These investments should not be viewed solely as efforts to enhance energy efficiency and promote RES usage. Instead, they address broader needs, with a primary focus on revitalising aging and often poorly-managed residential buildings. This prioritisation ensures safety and compliance with regulatory standards before addressing energy efficiency. For instance, the renovation of multi-apartment buildings in Liepāja is initially vital for updating the outdated housing stock, guaranteeing safety, and meeting regulatory requirements. Energy efficiency improvements follow this or occur concurrently.

Funding for the implementation of SECAP (and CCC) actions can be secured from various sources, including the municipality's short- and medium-term budget for immediate and ongoing measures, private funds for long-term projects related to building renovations, EU structural funds for RES and other long-term energy efficiency measures, sustainable transportation solutions, state co-financing, and other financial instruments like the European City Facility (EUCF), Scalable action grants, etc.

To achieve climate neutrality goals, a mix of existing (e.g., ESCOs, public-private partnerships) and innovative financing models, involving both private sector investments and support from international financial institutions, will be necessary. The National Energy and Climate Action Plan outline the financing earmarked for energy and climate-related initiatives, providing a strategic guide for resource allocation.

In the table, the total indicative investments for implementing SECAP (and CCC) measures are provided, categorised into climate mitigation and adaptation actions, along with the respective funding sources. The anticipated financial volume, totalling 229.23 million EUR, is subject to significant variations based on selected technical solutions and other circumstances.

The detailed descriptions of the planned actions can be found in SECAP (and CCC), and a comprehensive list of all actions is presented in the SECAP's (and CCC's) annex. It is crucial to note that the planned financial allocations are subject to change based on the chosen technical approaches and other influencing factors.

Source of funding	Necessary implementation funding	
	Mitigation measures	Adaptation measures
Municipal resources	20,830,500	2,520,000
EU funds, state co-financing, and others	110,250,000	8,820,000
Private funds	85,549,500	1,260,000
Total	216,630,000	12,600,000

*Table 6 Guidelines: Please provide a breakdown of all the anticipated costs of the climate actions identified in the Action Plan – **it is encouraged that this covers the period from present day to 2030.** In each instance, please provide the absolute capex and operational costs. Implementation Costs /*



Capital Expenditure is the cost to develop and implement the project. Operational Expenditure is the expected annual running costs of the project once completed or operational (include annual costs and any cost savings from the project). Direct Impacts is, in this case, the CO2e reduction per annum forecasted by the project, and the indirect impacts are ideally the monetised co-benefits (or a qualitative assessment).

To support the analysis below, please provide a methodology and all assumptions for your workings as an annex. This should include unit costs benchmarking, a baseline year for cost estimates and the methodology for both direct and indirect benefits of GHG reduction.

Table 6: Sectorial Costing

Fields of Action	Action / Indicator (see Action Plan B-2.2)	Implementation Costs/Capex	Operational Costs	Direct impacts (Emission reductions)*	Cost Effectiveness (EUR/tCO2e)	Indirect impacts (co-benefits)*
Transportation	Environmentally friendly municipal transport and services	600 thousand EUR (data based both of existing plans of administration and institutions and on the requirements of the upcoming Transport Energy Law)	Fuel EUR 444 353 (survey with data collection) Maintenance and repairs (no data available) Small infrastructure (no data available) Insurance (no data available)	762 tCO2/year Fuel - 2 890 MWh/year	788	Reduced CO2 emissions and climate impact Decreased fuel costs Municipality sets a good example for residents Increased use of RES in the transportation sector Improved health through more cycling or walking
	E-services and digital solutions	500 thousand EUR (mobile app – new modules, software development, new system integration with other, consultancy fees; new e-services; digital twin – service, software licences, small infrastructure; smart city road map)	No available data Annual fees, user training, upgrades, marketing	64 tCO2/year Fuel - 250 MWh/year	7837	Reduced fuel consumption and climate impact Decreased air pollution from transportation Saved commuting time Improved quality and efficiency of municipality services, increased accessibility Increased efficiency of municipality work Reduction in paper document circulation Strengthened digital skills of residents and municipal employees
	Traffic balancing and optimisation	15 million EUR (building mobility points, speed bumps, bicycle lines etc., traffic light system improvement, navigation signs, Low-emission zone development, sensors)	No data available Traffic management system maintenance Repairs, upgrades, energy consumption, marketing, research, and development	3 190 tCO2/year Fuel - 12 433 MWh/year	4702	Public transport, cycling, and pedestrian flow and infrastructure tailored for residents Popularisation of environmentally friendly modes of transportation Reduced fuel consumption and impact on climate change Lower fuel costs Positive impact on human health



	Access to and promotion of environmentally friendly public transport	600 thousand EUR (data based both of existing plans of administration and institutions in Development program) Development of operational centre, sensors	No data available Procurement of public transport services (buses and minibuses) Subsidies for transportation Operation and maintenance of trams Ticketing system	6 023 tCO2/year Fuel - 12 796 MWh/year	100	Awareness of the quality and efficiency of existing transport services Improved services for residents Reduced need for residents to use private vehicles Decreased fuel consumption and impact on climate change Lower fuel costs
	Development of micro-and-electrical mobility	15 million EUR Bicycle sharing system and infrastructure, payment system, repair service points, bicycle stands etc. Auctions for electric car charging station places	No data available Insurance, research, accessibility, technology upgrades, customer support, marketing	43 350 tCO2/year	346	Increase in the number of electric vehicles Availability of healthier transportation options for residents and city visitors Reduced air pollution, fuel consumption, and impact on climate change Lower fuel costs
Built environment	Continuous maintenance of the energy management system	100 thousand EUR (Implementation of annual planned activities to increase energy efficiency and to follow consumption)	20 thousand EUR (yearly fee and certification)	130 tCO2/year 1 193 MWh/year	769	Municipality's knowledge, management, forecasting, and influence on energy consumption Energy savings of at least 3-8% annually in energy costs Independently assessed, implemented, and systematically improved Energy Performance System (EPS) Management of energy consumption in municipal and capital company buildings, street lighting, and municipal transport Cost reduction associated with energy consumption in the mentioned areas.
	Energy efficiency first (EE and RES in manufacturing sector)	1,5 million EUR (private sector investments in energy efficiency activities)	150 thousand EUR (private companies' expenditure, to maintain the energy management systems, make energy audits)	2 220 tCO2/year Natural gas - 10 992 MWh/year	676	Business promotion Enhancement of competitiveness Creation of a "Green" image Indirect environmental and climate benefits Innovative carbon capture solutions
	Renovation of multi-apartment buildings	110 million EUR (By 2030, it is planned to renovate 210 buildings (35 buildings per year) (dependent on the support program))	No data available Marketing activities, support for documentation	8 227 tCO2/year 8 750 MWh/year	13371	Accessible, reliable, and easily understandable information for residents Increased understanding among municipal residents about energy consumption,



			development, campaigns			costs, and their ability to influence them Well-maintained municipal environment and territory, improved cityscape, and social surroundings Reduced costs for residents in terms of energy, as well as decreased impact on the environment and climate
Energy systems	Transition to 100% renewable energy in DH	30,66 million EUR Assumptions for infrastructure costs	Confidential information DH company is private	10 666 tCO ₂ /year Natural gas - 52 765 MWh/year	2875	Reduced environmental and climate impact Increased use of renewable energy resources Fuel diversification Innovative solutions in carbon capture and storage (CSS) Establishment of a "green" image Creation of new, highly qualified job opportunities.
	Attracting new heat consumers to Liepāja DH	22,5 million EUR Assumptions for infrastructure costs	Confidential information DH company is private	13 845 tCO ₂ /year Natural gas - 68 538 MWh/year	163	Reduced number of individual pollution sources in the city Preserved competitiveness of the heating company and district heating tariff Environmental and climate impact reduction
	Renewable energy sources for heating municipal and capital company buildings	25 million EUR Infrastructure costs for switching away from natural gas	No data available Cost for DH services	1 976/CO ₂ year Natural gas - 9 784 MWh/year	12650	Evaluated condition and energy efficiency of municipal buildings and their ventilation systems Cost reduction in energy, climate impact, and CO ₂ emissions by the municipality Improved air quality and indoor comfort in municipal buildings Reduced risk of illness and disease spread Renovated and visually attractive building for the community Municipality sets a good example in achieving climate neutrality goals Opportunity to attract third-party funding, ensuring long-term energy savings throughout the contract and allowing the municipality to list commitments off the balance sheet
	Green renewable electricity municipal infrastructure	6,6 million EUR Costs for installing RES technologies	No data available Operation of municipal	2 472 tCO ₂ /year Grid electricity -	2672	Reduced energy consumption and energy costs Decreased impact on climate change



			energy community Interest payments, cleaning, insurance, repairs	22 675 MWh/year		Opportunity to showcase best practices to residents
	Transition to renewable energy in industry and services	2 million EUR Costs for installing RES technologies	No data available Private companies Interest payments, cleaning, insurance, repairs	1 998 tCO ₂ /year Natural gas - 9 893 MWh/year	1001	Wider use of RES and creation of a "Green" image Diversification of energy production Involvement of entrepreneurs in municipal activities Independence from fluctuations in the electricity market prices
	Transitioning private houses to renewable energy	6,5 million EUR Infrastructure costs for switching away from natural gas	No data available Interest payments, cleaning, insurance, repairs	923 tCO ₂ /year Natural gas - 4 570 MWh/year	7042	Increased use of RES Reduction in residents' energy consumption and costs Improved air quality
Public education	Raising public awareness	315 thousand EUR Events, campaigns, pilot projects	The same as implementation costs	111 tCO ₂ /year Natural gas - 548 MWh/year	2844	Encouraging engagement of city residents Raising awareness among city residents not only about energy consumption, costs, and their ability to influence them but also about implementing nature-based solutions, etc. Reduced costs for residents in terms of energy, as well as decreased impact on the environment and climate
Climate adaptation measures, green infrastructure, nature-based solutions	CO ₂ sequestration	7,6 million EUR Planting trees (3500 ha)	76 thousand EUR Events, campaigns	-4,7 tCO ₂ /year	1617	Reduced impact on climate change Improved air quality Temperature reduction Biodiversity preservation Reduced impact of noise pollution Prevention of erosion Tree planting initiatives with community involvement
	Adaptation to climate change and a set of nature-based measures	5 million EUR Implementation of 9 activities of Action Plan	500 thousand EUR Maintenance of infrastructure, repairs, events, campaigns	Not yet calculated Indirect impact on CO ₂ reduction	Not yet calculated Indirect impact on CO ₂ reduction	Improved safety and resilience of state and municipal buildings Enhanced public safety through timely warnings and forecasts Increased accessibility to free drinkable water in public spaces



						<p>Safer coastal areas and better-informed visitors</p> <p>Upgraded knowledge and capabilities of experts and municipal staff</p> <p>Improved tourism infrastructure and beach accessibility</p> <p>Reduced flood risks and enhanced ecological stability</p> <p>Creation of aesthetically pleasing green spaces in urban environments</p> <p>Strengthened coastal protection and reduced erosion impacts</p>
Waste and circular economy This topic is not addressed in-depth in this Action Plan	<p>Inform the public about adhering to the principles of a circular economy</p> <p>Develop waste management systems</p>	<p>No data available</p> <p>Municipal support for the establishment of waste bins, reusable cups for events, waste sorting and recycling systems etc.</p>	<p>No data available</p> <p>Varies depending on budget</p>	<p>Not yet calculated</p> <p>Indirect impact on CO2 reduction</p>	<p>Not yet calculated</p> <p>Indirect impact on CO2 reduction</p>	<p>Resource conservation and reduced demand for raw materials</p> <p>Job creation in recycling and circular economy industries</p> <p>Decreased pollution and landfill waste</p> <p>Improved local air and water quality</p> <p>Reduced greenhouse gas emissions through waste reduction and recycling</p>
Cross Cutting Costs	<p>Integration and Horizontal Aspects</p> <p>To achieve climate neutrality, the following horizontal aspects will be considered and integrated into the entire planning and implementation process:</p> <ol style="list-style-type: none"> 1. Strengthened collaboration with all involved parties, including industry representatives, service providers, non-governmental organisations, residents, and others. 2. Principles such as "energy efficiency first," "green procurement," and "innovative financial instruments" will be integrated into the entire policy planning and implementation chain, not only within the municipality but also more broadly, including in industrial enterprises, etc. 3. Benefits and drawbacks of future policies and measures will be evaluated from environmental, social, economic, financial, and other perspectives. 4. Interdisciplinary approach will be ensured in all planning, implementation, and monitoring processes. <p>In addition to the goals of reducing CO2 emissions, Liepāja sets quantitative and qualitative targets for the energy and climate adaptation sectors by 2030, as well as for reducing energy poverty.</p>					
<p>For more detailed insights into the assumptions and calculations for CAPEX and OPEX, we have additional working document. In order to conduct a comprehensive and precise financial analysis for our investment plan, it is imperative to gather specific data points that directly influence our calculations. The accuracy of our projections relies on the availability of key information related to the project.</p>						

Table 7 Guidelines: Please fill the following table in with the largest and / or most capital-intensive projects that have been established within the Action Plan and Investment Plan (in Table 6). For these projects, provide the below details including the proposed or envisaged funding structure and a description of the project including development timelines and current status.

Table 7: Capital Intensive Projects

Fields of Action	Action / Indicator				
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Transportation	Traffic balancing and optimisation	Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO2e)	Investment assumptions (Split by Stakeholders)
		15	No data available Traffic management system maintenance Repairs, upgrades, energy consumption, marketing, research, and development	4702	10% Municipality, 10% National Funds, 80% EU funds
		Project Description: (building mobility points, speed bumps, bicycle lines etc., traffic light system improvement, navigation signs, Low-emission zone development, sensors)			
Transportation	Development of micro-and-electrical mobility	Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO2e)	Investment (Split by Stakeholders)
		15	No data available Insurance, research, accessibility, technology upgrades, customer support, marketing	346	100% Municipality
		Project Description: Bicycle sharing system and infrastructure, payment system, repair service points, bicycle stands etc. Auctions for electric car charging station places			
Built environment	Renovation of multi-apartment buildings	Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO2e)	Investment (Split by Stakeholders)
		110	No data available Marketing activities, support for documentation development, campaigns	13371	70% citizens (loan), 30% EU Funds or National funds
		Project Description: (By 2030, it is planned to renovate 210 buildings (35 buildings per year) (dependent on the support program))			
Energy systems	Transition to 100% renewable energy in DH	Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO2e)	Investment (Split by Stakeholders)
		30,66	Confidential information DH company is private	2875	100% DH company
		Project Description: Assumptions for infrastructure costs			
Energy systems	Attracting new heat consumers to Liepāja DH	Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO2e)	Investment (Split by Stakeholders)
		22,5	Confidential information	163	100% DH company



			<i>DH company is private</i>		
Project Description: Assumptions for infrastructure costs					
Energy systems	Renewable energy sources for heating municipal and capital company buildings	Capex (€m)	Opex (€m)	Cost Effectiveness (EUR/tCO2e)	Investment (Split by Stakeholders)
		25	<i>No data available Cost for DH services</i>	12650	<i>50% Municipality, 50% capital companies</i>
		Project Description: Infrastructure costs for switching away from natural gas			

2.2 Module IP-B2: Capital Planning for Climate Neutrality

This section will include a definition of the city’s capital goals and how to achieve them. As the implementation of its programme starts the below sources of capital can be laid out as a starting point. These should be aligned with the city’s goals and relevant to the actions selected. Ideally this will be a target and the city will optimise towards.

Task Goals: *This exercise forces cities to identify the funding and financing gaps within their Investment Plans so as to begin the process of securing additional and (in most cases) external funding and financing for climate actions. This exercise encourages cities to begin the process of identifying potential capital solutions on the project level.*

Model IP-B2
<p>Guiding questions:</p> <ul style="list-style-type: none"> • What are the existing resources already available for each action or project (e.g., public contributions, existing funding or investments secured)? • How much of the budget is available for climate investment, and is the municipality operating at a surplus or deficit? • How can you optimise use of both public funding and private investment capital to ensure capital deployment for all costs identified to reach the climate neutrality goal? • Do you have experience on creating a pipeline of projects with the involvement of the private sector?

Textual element
<p>In the table, the total indicative investments for implementing SECAP (and CCC) measures are provided, categorised into climate mitigation and adaptation actions, along with the respective funding sources. The anticipated financial volume, totalling 229.23 million EUR, is subject to significant variations based on selected technical solutions and other circumstances.</p> <p>The detailed descriptions of the planned actions can be found in SECAP (and CCC), and a comprehensive list of all actions is presented in the SECAP’s (and CCC’s) annex. It is crucial to note that the planned financial allocations are subject to change based on the chosen technical approaches and other influencing factors.</p> <p>While the overall capital needs for the mitigation and adaptation measures have been outlined, it is important to note that specific funding gaps within each project category still need to be thoroughly researched and identified.</p> <p>Conducting a detailed assessment of funding gaps within each project category will enable a more targeted and effective financial strategy, ensuring that specific disparities between available resources and project requirements are accurately addressed.</p> <p>A comprehensive stakeholder-by-stakeholder engagement plan is vital to secure the necessary capital for implementing mitigation and adaptation measures.</p> <p>Some of the steps must be:</p>



- engage with all municipality's institutions and management to secure support and allocate municipal resources, emphasising the alignment with sustainability goals;
- collaborate with relevant EU institutions and state agencies, presenting project proposals in line with climate action and sustainability priorities;
- approach private investors and businesses, highlighting potential returns on investment and positive environmental and social impacts;
- conduct open meetings and awareness campaigns to communicate project benefits and address community concerns;
- seek partnerships with environmental NGOs and start-ups, aligning projects with their plans;
- collaborate with international organisations, aligning project goals with global climate objectives for potential funding;
- engage with research partners and universities for innovative funding solutions and technical approaches, leveraging partnerships to enhance credibility;
- engage with relevant government agencies at regional and national levels, aligning proposals with broader government initiatives;
- utilise media channels for project dissemination, enhancing public awareness and support through interviews and social media;
- establish regular communication channels for project updates and feedback, ensuring continuous stakeholder engagement throughout.

Table 8 Guidelines: For each identified action, please identify the costs to all stakeholders including private citizens and the private sector or municipally-owned companies. The actions from Section B1 and the Action Plan should all be referenced here in similar detail.

Table 8: Capital Planning by Stakeholder

Field of Action	Action / Indicator	Citizens (€) or EU funds (€)	Private Sector (€)	Municipality (€)	Transport Operators (€)	Utility Providers (€)	Total (€)
Transportation	Environmentally friendly municipal transport and services	300000		300000			600000
	E-services and digital solutions	250000		250000			500000
	Traffic balancing and optimisation	7500000	4500000	3000000			15000000
	Access to and promotion of environmentally friendly public transport			180000	420000		600000
	Development of micro-and-electrical mobility	7500000	4500000	3000000			15000000
Built environment	Continuous maintenance of the energy management system			100000			100000
	Energy efficiency first (EE and RES in manufacturing sector)	750000	750000				1500000
	Renovation of multi-apartment buildings	53900000	55000000	1100000			110000000



Energy systems	Transition to 100% renewable energy in DH			3066000		27594000	30660000
	Attracting new heat consumers to Liepāja DH			225000		2025000	2250000
	Renewable energy sources for heating municipal and capital company buildings	17500000		7500000			25000000
	Green renewable electricity municipal infrastructure	4623500		1981500			6605000
	Transition to renewable energy in industry and services	1000000	1000000				2000000
	Transitioning private houses to renewable energy	3185000	3250000	65000			6500000
Public education	Raising public awareness	157500	94500	63000			315000
Climate adaptation measures, green infrastructure, nature-based solutions	CO2 sequestration			7600000			7600000
	Adaptation to climate change and a set of nature-based measures			5000000			5000000
Waste and circular economy This topic is not addressed in-depth in this Action Plan	<p>Inform the public about adhering to the principles of a circular economy</p> <p>Develop waste management systems</p> <p>CO2 emissions and investments are not yet calculated in Action and Investment plan</p> <p>Landfill is situated outside city Liepaja and not in the area considered in the calculations</p>			<p>TBD</p> <p>1303320</p> <p>This is existing number from municipal budget 2023</p>			<p>TBD</p> <p>1303320</p> <p>This is existing number from municipal budget 2023 so it is not counted in total planned</p>



<p>Cross Cutting Costs Integration and Horizontal Aspects</p> <p>To achieve climate neutrality, the following horizontal aspects will be considered and integrated into the entire planning and implementation process:</p> <ol style="list-style-type: none"> 1. Strengthened collaboration with all involved parties, including industry representatives, service providers, non-governmental organisations, residents, and others. 2. Principles such as "energy efficiency first," "green procurement," and "innovative financial instruments" will be integrated into the entire policy planning and implementation chain, not only within the municipality but also more broadly, including in industrial enterprises, etc. 3. Benefits and drawbacks of future policies and measures will be evaluated from environmental, social, economic, financial, and other perspectives. 4. Interdisciplinary approach will be ensured in all planning, implementation, and monitoring processes. <p>In addition to the goals of reducing CO2 emissions, Liepāja sets quantitative and qualitative targets for the energy and climate adaptation sectors by 2030, as well as for reducing energy poverty.</p>						
Total	96666000	69094500	33430500	420000	29619000	229230000

Table 9 Guidelines: For each identified action from the Action Plan, please identify the costs specifically to the municipality and what percentage of costs is currently covered. For any actions that will be funded in full or in part by other stakeholders (e.g. private sector, loans, grant funding), please identify where these costs will come from if a source has been identified.

Table 9: Capital Planning

Field of Action	Action / Indicator	Municipality (€)	Cost to Other	% of Costs Covered	Total (€)
Transportation	Environmentally friendly municipal transport and services	300000	300000	50	600000
	E-services and digital solutions	250000	250000	50	500000
	Traffic balancing and optimisation	3000000	12000000	20	15000000
	Access to and promotion of environmentally friendly public transport	180000	420000	30	600000



	Development of micro-and-electrical mobility	3000000	12000000	20	15000000
Built environment	Continuous maintenance of the energy management system	100000		100	100000
	Energy efficiency first (EE and RES in manufacturing sector)		1500000	0	1500000
	Renovation of multi-apartment buildings	1100000	108900000	1	110000000
Energy systems	Transition to 100% renewable energy in DH	3066000	27594000	10	30660000
	Attracting new heat consumers to Liepāja DH	225000	2025000	10	2250000
	Renewable energy sources for heating municipal and capital company buildings	7500000	17500000	30	25000000
	Green renewable electricity municipal infrastructure	1981500	4623500	30	6605000
	Transition to renewable energy in industry and services		2000000	0	2000000
	Transitioning private houses to renewable energy	65000	6435000	1	6500000
Public education	Raising public awareness	63000	252000	20	315000
Climate adaptation measures, green infrastructure, nature-based solutions	CO2 sequestration	7600000		100	7600000
	Adaptation to climate change and a set of nature-based measures	5000000		100	5000000
Waste and circular economy This topic is not addressed in-depth in this Action Plan	Inform the public about adhering to the principles of a circular economy Develop waste management systems CO2 emissions and investments are not yet calculated in Action and Investment plan Landfill is situated outside city Liepaja and not in the area considered in the calculations	TBD 1303320 This is existing number from municipal budget 2023	TBD	100	TBD 1303320 This is existing number from municipal budget 2023 so it is not counted in total planned
<p>Cross Cutting Costs</p> <p>Integration and Horizontal Aspects</p> <p>To achieve climate neutrality, the following horizontal aspects will be considered and integrated into the entire planning and implementation process:</p>					



<p>1. Strengthened collaboration with all involved parties, including industry representatives, service providers, non-governmental organisations, residents, and others.</p> <p>2. Principles such as "energy efficiency first," "green procurement," and "innovative financial instruments" will be integrated into the entire policy planning and implementation chain, not only within the municipality but also more broadly, including in industrial enterprises, etc.</p> <p>3. Benefits and drawbacks of future policies and measures will be evaluated from environmental, social, economic, financial, and other perspectives.</p> <p>4. Interdisciplinary approach will be ensured in all planning, implementation, and monitoring processes.</p> <p>In addition to the goals of reducing CO2 emissions, Liepāja sets quantitative and qualitative targets for the energy and climate adaptation sectors by 2030, as well as for reducing energy poverty.</p>				
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Table 9¹: Possible Sources of Capital

Possible Sources of Capital	Capital need	Sector allocation
Municipal resources	20,830,500	Mitigation measures
EU funds, state co-financing, and others	110,250,000	Mitigation measures
Private funds	85,549,500	Mitigation measures
Total	216,630,000	Mitigation measures
Municipal resources	2,520,000	Adaptation measures
EU funds, state co-financing, and others	8,820,000	Adaptation measures
Private funds	1,260,000	Adaptation measures
Total	12,600,000	Adaptation measures
Total total	229,230,000	

2.3 Module IP-B3: Economic and Financial Indicators for Monitoring, Evaluation and Learning

A range of financial policies need to be considered to execute the actions laid out in the 2030 Climate Neutrality Action Plan. The city’s financial policies should align with their current process and capital allocation. This will depend on the actions selected and be drawn from possible financial tools to assist the transition.

Task Goals: *A strong and robust monitoring, evaluation and learning framework is crucial for internal monitoring of the implementation of climate actions, as well as a requirement for securing external capital where any private actor would require the ability to monitor project implementation and progress towards benchmarks and targets. By developing this framework now, cities can fully track their progress through the NetZeroCities Mission.*

<p>Model IP-B3</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> Do you have a monitoring system in place that evaluates the impact of green investments? Do you have a system to estimate emission reduction (following recognised methodologies) or co-benefits to measure the impact of investments?



- Do you have a monitoring and evaluation system for capital investment planning process-mapping deviation?
- Which indicators are most aligned with the work done in the Action Plan?
- Is the required data for the calculation of selected indicators available, or do you need to involve additional stakeholders?

B-3.1: Textual element

This includes to keep on integrating climate considerations into existing municipal budget and implementing a separate citizen participatory budget with climate segment.

Regular assessments should be carried out to measure the progress of projects receiving funding. Key performance indicators (KPIs) include emission reductions, energy efficiency gains, and community engagement. This data should be used to inform future investment decisions and improve project outcomes.

Engagement in climate budgeting:

Liepāja has not yet actively engaged in climate budgeting as part of its commitment to achieving climate neutrality by 2030. The organisation recognises the significance of integrating climate considerations into its financial planning processes. Climate budgeting plays a pivotal role in aligning financial resources with the goals outlined in the city's climate action plan. This approach ensures that funds are allocated efficiently to initiatives that contribute to carbon reduction, adaptation, and overall sustainability. We believe that important decisions need to be related to the UN's sustainability development goals.

Data sufficiency:

In terms of data sufficiency, Liepāja should made commendable efforts to gather comprehensive information across various fields of action related to climate change. The city should implement robust data collection mechanisms, involving both internal and external stakeholders. The finance department should also play a specific role in this process, analysing data to design climate budgeting decisions. The availability of sufficient and reliable data enhances the city's ability to monitor progress, assess the impact of interventions, and make informed adjustments to its climate policies.

Currently, Liepāja municipality employs a traditional data collection approach, primarily involving regular inquiries to essential entities such as the district heating company, electricity distribution operator, capital companies, and fuel and gas providers. The existing system aligns with the Covenant of Mayors template, and additional data on various indicators is obtained through surveys and specific infrastructure project results. While this method has been effective in generating relevant information, there is a recognition that the process could be further modernised. The municipality aspires to transition towards a more convenient and automated indicator monitoring and data gathering system in the future. This shift aims to enhance efficiency, accuracy, and timeliness in data collection, allowing for more dynamic and responsive decision-making processes.

Plan monitoring and oversight:

Monitoring is a very important part of the implementation of the SECAP. Regular data collection and analysis allows to better track progress and determine whether the objectives will be achieved on time. Monitoring also provides feedback - plan implementers can assess whether the desired results of the implemented measures are being achieved and, if not, take preventive action.

Two types of monitoring of measures and actions can be distinguished in the framework of the SECAP:

- Monthly monitoring activities under the EMS;
- Annual monitoring activities relating to the monitoring of the other actions and targets included in the Action Plan (AP).

The Management and Monitoring Group is responsible for the performance monitoring. The necessary monitoring data shall be prepared and submitted upon request by the responsible local government specialists/departments/organisations. In the Action Plan, the implementation process is assessed using the indicators set out in AP Table B-3.1.1. In addition, the organisation, management and social innovation intervention measures shall be monitored.

Indicators fall into three categories:

- Direct impact indicators (shown in AP Table B-3.1.1, shaded in dark orange)
- Non-direct impact indicators.
- Indicators for monitoring the implementation of the AP:
- The monitoring indicators for the measures listed in AP section B-2.2 are shown in AP Table B-3.1.1, coloured in light orange;
- The monitoring indicators for the organisation, governance and social innovation interventions are listed in AP Table B-3.1.2.



Monitoring data shall be published on the Liepāja City website www.liepaja.lv. Monitoring of consumption data of municipal institutions should be carried out and published monthly to:

1. municipal employees are more motivated to pay attention to energy consumption;
2. the municipality sets an example for the citizens of the city.

It is desirable to publish data for apartment buildings as well as for the transport sector on an annual basis, so that citizens are also informed about the results achieved. Monitoring data can also be used to identify the winners of various competitions.

Based on the monitoring data, the energy savings and CO₂ emission reduction targets set for the measures included in the SECAP should be reviewed annually and corrective action taken if necessary.

*Table 10 Guidelines: Please develop some project- and sector-level economic indicators as well as some cross-cutting indicators to monitor the implementation of the Investment Plan and identified projects. If you are having trouble conceptualising these indicators, please utilise the **Indicators Guidebook** which can be found on the NetZeroCities portal.*

Table 10: Economic Indicators by Sector

2.3 Module IP-B3: Economic and Financial Indicators for Monitoring, Evaluation and Learning						
Outcomes/ impacts addressed	Action/ project	Indicator No.	Indicator name	Indicator baseline	Indicator target 2030	Indicator unit
Reduction of CO ₂ emissions from district heating	Transition to 100% renewable energy in district heating	1	Reduction of CO ₂ emissions in the central power generation sector:	-	-10666	tCO ₂ /year
		2	· CO ₂ emissions from district heating	10666	0	tCO ₂ /year
		3	· Heat energy produced by DH	289888	↑	MWh/year
		4	· Number and capacity of DH boiler houses	15/176	↑	Qty and kW
		5	· Number and capacity of installed RES systems	2	↑	qty/kW
		6	· Heat produced by RES in DH	237126	↑	MWh/year
		7	· Share of RES in Liepāja city DH	82%	100%	%
Reduction of CO ₂ emissions from city natural gas consumption	Attracting new heat consumers to Liepāja DH	8	Reduction of CO ₂ emissions from natural gas consumption:	-	-21074	tCO ₂ /year
		9	· CO ₂ emissions from natural gas consumption	37859	16786	tCO ₂ /year
		10	Reduction of CO ₂ emissions from natural gas consumption by attracting new consumers to DH:	-	-13845	tCO ₂ /year
		11	· Number of consumers connected to DH by type	312	↑	qty
		12	· Heating area of new customers	-	-	m ² /year
		13	· Heat transferred to new customers	-	↑	MWh/year
		14	· Consumers disconnected during the year	-	↓	qty/m ²
		15	· Consumers reconnected during the year	-	↑	qty/m ²
Reduction of CO ₂ emissions from city natural gas consumption	Renewable energy for heating municipal buildings	17	Reduction of CO ₂ emissions from natural gas consumption in district heating:	-	-1976	tCO ₂ /year
		18	· CO ₂ emissions from natural gas consumption in municipal buildings	3953	1976	tCO ₂ /year
		19	· Municipal buildings heat consumption by energy source	-	↓	MWh/year
		20	· Specific heat consumption in municipal buildings	-	↓	kWh/m ²



		21	· Specific heat consumption with climate correction (CC) in municipal buildings	-	↓	kWh/m ²	
		22	· Number of buildings with valid energy performance certificates	--	↑	qty	
		23	· Number of municipal buildings renovated		↑	qty	
	"Energy efficiency first" in services and manufacturing		24	Reduction of CO ₂ emissions from natural gas consumption in the manufacturing and service sectors through energy efficiency measures:	-	-2220	tCO ₂ /year
			25	· CO ₂ emissions from manufacturing and services [1]	22205	9992	tCO ₂ /year
			26	· Heat consumption by energy source in the industry and services sector	-	↓	MWh/year
			27	· Electricity consumption in the industry and services sector	-	↓	MWh/year
			28	· Number of large enterprises in the city	-	-	qty
			29	· Number of large energy consumers in the city	-	-	qty
Reduction of CO ₂ emissions from city natural gas consumption	Transition to renewable energy in industry and services	30	Reduction of CO ₂ emissions from natural gas consumption in the manufacturing and service sectors by switching to RES:	-	-1998	tCO ₂ /year	
		31	· Number and capacity of installed RES systems in the manufacturing and services sector by type	-	↑	qty/kW	
		32	· Energy produced from RES in the manufacturing and services sector by type	-	↑	kWh/year	
		-	· See indicators 25, 26, 27.				
	Transitioning private homes to renewable energy	33	CO ₂ emissions from natural gas consumption in private homes reduced by switching to RES:	-	-923	tCO ₂ /year	
		34	· CO ₂ emissions from private homes [1]	9230	3581	tCO ₂ /year	
		35	· Energy consumption of private homes by energy source	-	↓	MWh/year	
		36	· Specific heat consumption of private houses	-	↓	kWh/m ²	
Reduction of CO ₂ emissions from electricity consumption of municipal infrastructure	Continuous maintenance of the energy management system	37	Reduction of CO ₂ emissions from municipal infrastructure electricity consumption:	-	-2602	tCO ₂ /year	
		38	CO ₂ emission reductions from EMS:	-	-130	tCO ₂ /year	
		39	· CO ₂ emissions from municipal infrastructure in electricity consumption [2]	2602	0	tCO ₂ /year	
		40	· Municipal infrastructure electricity consumption	23868	22675	MWh/year	
		41	· CO ₂ emissions from electricity consumption in municipal buildings	2177	0	tCO ₂ /year	
		42	· Electricity consumption in municipal buildings	19973	18974	MWh/year	
Reduction of CO ₂ emissions from electricity consumption of municipal infrastructure	Continuous maintenance of the energy management system	43	· Specific electricity consumption in municipal buildings	-	↓	kWh/m ²	
		44	· CO ₂ emissions from electricity consumption in street lighting	425	0	tCO ₂ /year	
		45	· Electricity consumption for street lighting	3895	3700	MWh/year	
		46	· Specific energy consumption for street lighting	-	↓	kWh/luminaire	
		47	· Number of street lighting sections renovated/number of luminaires replaced	-	↑	qty	
		48	· Number of measures implemented	-	↑	qty	
		49	· Green procurement as a share of all municipal procurement	-	↑	%	



	Green renewable electricity for municipal infrastructure	50	CO ₂ emission reductions from electricity generation/procurement from RES for municipal infrastructure:	-	-2472	tCO ₂ /year
		-	· See indicators 39 and 40.			
		51	· Number and capacity of installed RES systems to generate electricity for municipal infrastructure	-	↑	qty
		52	· Renewable electricity generated in municipal infrastructure	-	↑	MWh/year
		53	· Electricity purchased from RES for municipal infrastructure	-	↑	MWh/year
Reduction of CO ₂ emissions in the transport sector	Environmentally friendly commuting and services for municipal employees	54	Reduction of CO ₂ emissions from municipal transport:	-	-762	tCO ₂ /year
		55	· CO ₂ emissions from municipal transport	762	0	tCO ₂ /year
		56	· Number of vehicles and fuel consumption by type of vehicle (cars, light trucks, lorries, other) and type of fuel (incl. alternative fuels)	-	-	qty/litre or kWh
		57	· Specific fuel consumption of municipal vehicles	-	↓	l/100 km
		58	· Share of electricity in municipal transport fuel consumption	0%	↑	%
		59	· Average age of municipal vehicles	-	↓	years
		60	· Annual mileage of vehicles	-	↓	km/year
		61	· Number of low/no emission vehicles purchased	-	↑	qty
		62	· Number of EV charging points at municipal buildings	-	↑	qty
		63	· Proportion of cyclists among municipal employees	-	↑	%
		Reduction of CO ₂ emissions in the transport sector	Access to and promotion of environmentally friendly public transport	64	Reduction of CO ₂ emissions from private transport:	-
65	Reduction of CO ₂ emissions from private transport due to the development and promotion of public transport			-	-3190	tCO ₂ /year
66	Reduced CO ₂ emissions from public transport:			-	-2833	tCO ₂ /year
67	· CO ₂ emissions from public transport			2833	0	tCO ₂ /year
68	· Number of public transport vehicles by type			-	-	qty
69	· Number of public transport routes			-	-	qty
70	· Public transport fuel/energy consumption by type			-	-	Litres(kWh)/year
71	· Number of passengers carried by type			-	↑	qty
72	· Annual mileage of public vehicles			-	↑	km/year
73	· Residents' satisfaction with public transport			-	↑	%
74	· Adapted/new public transport routes			-	↑	qty
75	· Proportion of zero-emission vehicles in the bus fleet			-	↑	qty
E-services	76			CO ₂ emissions reduction for private transport from e-services:	-	-64
	77		· CO ₂ emissions from private transport [1]	63803	28491	tCO ₂ /year
	78		· Number of e-services offered	-	↑	qty
	79	· Residents' satisfaction with municipal e-services	-	↑	%	
Reduction of CO ₂ emissions in the transport sector	Traffic calming and optimisation	80	CO ₂ emissions reduction for private transport from traffic calming and optimisation:	-	-3190	tCO ₂ /year
		-	· See indicator No 77			



		81	· Number of registered and roadworthy vehicles by fuel type and age	-	↓	qty	
		82	· Average fuel consumption of vehicles	-	↓	l/100 km/ kWh/100 km	
		83	· Annual mileage of vehicles	-	↓	km/year	
		84	· Average age of vehicles	-	↓	years	
		85	· Breakdown of travel by type: (1) private car, (2) public transport, (3) cyclists, (4) pedestrians	-	-	qty/%	
		86	· Number of mobility points	-	↑	qty	
		87	· Number of Mobility Point users per day/month/year	-	↑	qty	
		88	· Number of traffic lights optimised	-	↑	qty	
	Developing micro- and electro-mobility	89	CO2 emissions reductions for private transport from the development of micro-mobility and electro-mobility:	-	-43 350	tCO ₂ /year	
		-	· See indicators 77, 81.				
		90	· Number of electric cars in the city	59	↑	qty	
		91	· Number of charging stations in the city	4	↑	qty	
		92	· Length of cycle paths	-	↑	km	
		93	· Number of cycle racks	-	↑	qty	
		94	· Number of vehicles (intensity) on reference streets per year or month	-	-	qty/year /month	
Reducing energy consumption in the residential sector	Renovation of apartment buildings	95	· Heat consumption of apartment buildings connected to DH	-	↑	MWh/year	
		96	· Specific heat consumption of apartment buildings connected to DH	-	↓	kWh/m ²	
		97	· Number of renovated buildings per year	225	35	qty/year	
		98	· Specific heat consumption in renovated buildings after the project	-	-50%	kWh/m ²	
		99	· Municipal support for building renovation	-	↑	EUR/year	
		100	· Number of households supported	-	↑	qty	
		101	· Efficiency of the funding used	-	↑	%	
	102	· Number of nearly zero-energy buildings	-	↑	qty		
		Public awareness	103	· Number of measures implemented	-	↑	qty
	104		· Number of residents informed	-	↑	qty	
	105		· Number of inhabitants/households participating in the competitions	-	↑	qty	
106	· Energy savings from competitions		-	↑	kWh		
		107	· Number of households informed through energy bills	-	↑	qty	
CO ₂ sequestration		108	CO ₂ sequestrated:	-	45277	tCO ₂ /year	
		109	· Afforested area	-	↑	ha/year	
		110	· Established fast-growing tree plantations	-	↑	ha/year	
		111	Cleaned CO ₂ Emission-Generating Sources	-	↑	ha/year	

In 2024, the Liepaja municipality conducted procurement for the development of the CCC indicator monitoring system.

Table 11 Guidelines: Please develop some project- and sector-level financial indicators as well as some cross-cutting indicators to monitor the implementation of the Investment Plan and identified projects. If



you are having trouble conceptualising these indicators, please utilise the **Indicators Guidebook** which can be found on the **NetZeroCities** portal.

Table 11: Financial Indicators by Sector

Fields of Action	Indicator	Indicator Unit
Transportation	<i>Capital Investment</i>	<i>EUR and % of capital invested in green transportation (over the all-city budget)</i>
	<i>Private to Public Capital</i>	<i>% private capital to public capital ratio in green transportation</i>
	<i>Carbon x Capital Invested</i>	<i>Unit of carbon abated per EUR spent in green transportation</i>
<i>The above structure applies to the below sectors</i>		
Built Environment	<i>Return on Investment</i>	<i>%</i>
	<i>Payback period</i>	<i>years</i>
	<i>Cost avoidance due to energy savings</i>	<i>EUR</i>
Energy Systems	<i>Capital Investment</i>	<i>EUR and % of capital invested in green energy</i>
	<i>Carbon x Capital Invested</i>	<i>Unit of carbon abated per EUR spent in green energy</i>
Public education	<i>Cost per participant</i>	<i>EUR per participant educated</i>
	<i>Total programme cost</i>	<i>EUR spent on public education on climate aspects</i>
	<i>Leveraged funding</i>	<i>% increase in funding for public education</i>
	<i>Public perception and engagement metrics</i>	<i>% increase in awareness that measures changes in public perception</i>
Climate adaptation measures, green infrastructure, nature-based solutions	<i>Total adaptation costs</i>	<i>EUR of overall financial investments in the public budget</i>
	<i>Infrastructure lifecycle costs</i>	<i>EUR of total cost of designing, building and maintaining infrastructure over its lifetime</i>
	<i>Emergency response cost savings</i>	<i>EUR saved due to reduced need for emergency response and recovery efforts</i>
	<i>Public health cost savings</i>	<i>EUR saved in healthcare and public health expenditures</i>
Waste and Circular Economy	<i>Capital investments</i>	<i>EUR and % of capital invested in waste and circular economy</i>
	<i>Cost per ton of waste managed</i>	<i>EUR per ton of average costs incurred for managing ton of waste</i>
	<i>Recycling rate</i>	<i>% of proportion of total waste that is recycled</i>
	<i>Green jobs created</i>	<i>Number of jobs created as a result of circular economy</i>



3 Part C – Enabling Financial Conditions for Climate Neutrality by 2030

Part C “**Enabling Conditions for Climate Neutrality by 2030**” is the third section of the Investment Plan and is intended to identify other enabling factors the city needs to consider in the implementation of the Investment Plan.

3.1 Module IP-C1: Climate Policies for Capital Formation and Deployment

The allocation of capital will need to be optimised between both public and private sources across the portfolio outlined in the Action Plan to meet the cost of the actions identified for reaching climate neutrality over time.

Task Goals: *Tied to A3, this exercise is an opportunity for cities to identify existing and potential policies to help facilitate capital flows towards climate actions. This could be focused on high-level municipal actions such as the ability to issue green municipal bonds, through to increasing parking fares in the city centre to raise funds for climate actions. If including EU-wide and national policies, please explain the direct impact for the city of these actions. **Although linked to the Action Plan exercise, please use this as an opportunity to identify climate policies that specifically support capital formation and deployment.***

Model IP-C1

Guiding questions:

- Does your city have an existing process for policy formulation (tool method, transversal team, procurement and innovative contracting, etc.) that supports financing or funding innovative areas and climate action?
- What process is in place for your Transition Team to input on financial/funding policy, so that they do not operate in a silo for the 2030 ambition?

C-1.1: Textual element

European Union and global politics:

In 2015, the United Nations (UN) General Assembly adopted the 2030 Agenda for Sustainable Development, which sets out 17 Sustainable Development Goals and 169 sub-goals to be achieved in order to reduce global poverty and make global development more sustainable (see Figure 1.1). The inclusion of these goals is also important for the future development of the City of Liepāja in the areas of energy and climate change adaptation.

European Union and global politics: energy and climate mitigation

To achieve these goals, the European Union (EU) strategy "European Green Deal" was adopted on 11 December 2019, setting out the main orientations for EU climate and energy policy.

At EU level, energy policy for the period up to 2050 is set out in the EC declaration "Roadmap for moving to a competitive low-carbon economy in 2050". For the period up to 2030, energy policy is set out in the EC declaration "Clean energy for all Europeans".

The European Climate Law sets a headline target for 2050 to achieve climate neutrality at EU level and increase the GHG reduction target for 2030. In addition, on 14 July 2021, the European Commission launched the "Fit for 55" package to align existing European climate policy with the new headline targets, as every legislative proposal and planned action needs to comply with the "green oath: do no harm", i.e. a commitment that no planned action will harm (but preferably - will contribute to) the Green Deal objectives.



The EU's energy efficiency targets are set out in Directive 2018/844/EU of the European Parliament and of the Council, which also sets out the measures to be taken at Member State level. In July 2021, the European Commission published proposals to revise this Directive.

European Union and global politics: adaptation to climate change

On 24 February 2021, the European Commission adopted the new European Union strategy for adapting to climate change. The strategy sets out how the EU can adapt to the unavoidable consequences of climate change and become resilient by 2050.

At municipal level, the development of the energy sector and the mitigation of climate impacts are promoted by the Covenant of Mayors initiative, which started in 2008 after the adoption of the EU climate and energy package. In 2014, the Mayors Adapt initiative was launched to promote and support municipal adaptation to climate change. In 2015, these two initiatives were merged into one initiative called the "Covenant of Mayors for Climate & Energy".

National policy: energy and climate mitigation

The State's supreme national long-term development planning document, "Sustainable Development Strategy of Latvia until 2030", sets as a key objective in the energy sector to ensure energy independence by increasing energy self-sufficiency and integrating into EU energy networks.

The State's supreme national medium-term development planning document, the National Development Plan of Latvia for 2021-2027, sets out key priorities, including "Nature and Environment – A Green Deal". Its main objectives are to move towards low-carbon, resource-efficient and climate-resilient development, as well as biodiversity conservation.

The Cabinet of Ministers approved the planning document "National Energy and Climate Plan 2021-2030" (NECP2030) by its Order No 46 of 4 February 2020. According to NECP2030: The long-term vision of the Plan is to contribute to the development of a sustainable economy in a sustainable, competitive and secure manner.

In line with Directive 2012/27/EU of the European Parliament and of the Council on energy efficiency, a long-term strategy for the renovation of buildings was developed in 2017 and revised in 2020. The aim of the strategy is to mobilise investment in the renovation of both public and private stock of residential buildings and commercial premises.

On 28 May 2013, the Cabinet of Ministers reviewed and approved the information report of the Ministry of Economics "Long-Term Energy Strategy of Latvia 2030 -

Competitive Energy for the Society". The Strategy is designed to offer a new energy policy scenario that not only focuses on the development of the energy sector, but also views it in the context of climate policy - the EU's binding framework for reducing GHG emissions.

On 28 January 2020, the Cabinet of Ministers examined the informational report "Latvia's Strategy to achieve climate neutrality by 2050" elaborated by the Ministry of Environmental Protection and Regional Development, which is a long-term policy planning document to be implemented by horizontally integrating GHG and climate resilience targets in all sectors of the economy. The overarching objective of the Strategy is to achieve climate neutrality for Latvia in 2050.

Latvia's indicative target under Directive 2012/27/EU of the European Parliament and of the Council on energy efficiency and the other requirements of the Directive have been incorporated into the Energy Efficiency Law, which entered into force on 29 March 2016. Article 5 of the Law on Energy Efficiency in the State and Local Government Sector sets out the following rights and obligations that apply to the Liepāja City Municipality:

- 1) State institutions, municipalities and other derived public persons shall have the right:
 - a. develop and adopt an energy efficiency plan as a stand-alone document or as part of the municipal spatial development programme, which includes defined energy efficiency targets and improvement measures;
 - b. implement an energy management system, either separately or as part of the implementation of its energy efficiency plan;



c. use energy efficiency services and energy efficiency service contracts to implement energy efficiency improvement measures.

- 2) National municipalities implement and maintain a certified energy management system.
- 3) A state authority, municipality or other derived public body that has implemented an energy management system shall inform the responsible authority annually of the energy savings resulting from the operation of the energy management system. The procedure for reporting energy savings achieved after the implementation of an energy management system by a public body, municipality or other public derivative entity shall be determined by the Cabinet of Ministers.
- 4) When assessing projects which will be implemented in whole or in part through payments from the state budget, state guarantees, interest rate subsidies on loans or other financial assistance granted or provided from state or European Union budget funds and foreign financial assistance funds, public authorities, municipalities and other public derivative entities which have implemented an energy management system, the maximum number of points to be obtained according to the quality assessment criteria shall be increased, following the procedure laid down in the regulatory act on granting the relevant funding.

The provisions of the Law on the Energy Performance of Buildings derive from Directive 2010/31/EU of the European Parliament and of the Council on the energy efficiency of buildings. The aim of this law is to promote the rational use of energy resources by improving the energy performance of buildings and by informing the public about the energy consumption of buildings.

Another important aspect to consider in the energy and climate fields is energy poverty. The Energy Law defines energy poverty as "the inability of a household user to maintain an adequate temperature in the home or to use or pay for services provided by energy utilities because of low energy efficiency or because the payment for these services is a high proportion of the household income". The National Energy and Climate Plan of Latvia sets a target of reducing energy poverty in Latvia below the EU average by 2030, i.e. to reach below 7.5% by 2030.

National policy: adaptation to climate change

In the State's supreme national long-term development planning document, "Sustainable Development Strategy of Latvia until 2030", climate change is identified as one of the most important challenges related to global processes, affecting the economy and ecosystems, ecosystem services, natural and human capital. The Strategy highlights in particular coastal erosion and sand accumulation processes along the Baltic Sea coast in relation to climate change risks.

The National Development Plan of Latvia for 2021-2027 sets as one of its action objectives to mitigate the impacts of climate change by implementing climate change adaptation measures, achieving improvements in physical and infrastructure provision in the management of economic sectors, and sustainable management of rainwater, taking into account the latest scientific data and projections on achieving and strengthening climate resilience.

On 17 July 2019, Latvian National Plan for Adaptation to Climate Change until 2030 was approved. The plan sets out potential climate adaptation actions for local governments, including:

- 1) integrate climate change, mitigation and adaptation considerations into the preparation and updating of spatial development planning and sectoral policy documents at all levels;
- 2) ensure that detailed actions and necessary adaptation measures are included in the development programmes of municipalities.

On 31 August 2022, the Cabinet of Ministers approved the planning document "Environmental Policy Guidelines 2021-2027" (EPG2027) by Order No 583, with the main sub-objectives to ensure progress towards climate neutrality and to promote climate resilience and adaptation to climate change. The EPG2027 requires that by 2027 all municipalities should have developed and fully or partially implemented municipal climate change adaptation strategies.

Regional framework

At the regional level, the supreme long-term development planning document is the Sustainable Development Strategy of Kurzeme Planning Region (KPR) 2030, which defines the KPR as a smart, creative, green, internationally competitive, and attractive region on the Baltic Sea coast. One of the



aspects highlighted in the development vision is "Ecologically based thinking and actions make Kurzeme an outpost of green economy in Latvia and the Baltic Sea Region". One of the long-term priorities of the Sustainable Development Strategy of KPR 2030 is the efficient use of resources.

Liepāja City Municipality development planning documents

The vision of the Sustainable Development Strategy of the City of Liepāja and the South Kurzeme Region until 2035 is "Liepāja - an internationally recognised, green and smart port city on the Baltic Sea coast", while the strategic goal is "An achievable and smartly managed economically active environment in sustainable natural and human harmony on the Baltic Sea coast".

The Liepāja City and South Kurzeme Region Development Program 2022-2027 sets out the courses of action to achieve the long-term objectives and priorities.

To assess the current air quality situation in Liepāja and to plan measures to improve air quality, the Liepāja City Action Programme for Improving Air Quality 2021-2025 has been developed. According to the measurements carried out within the framework of the programme, the current situation does not indicate any exceedances of air quality standards, therefore the programme sets out measures for improvement and monitoring of air quality in the city of Liepāja, with the aim of maintaining air quality indicators at least at the level of the existing situation.

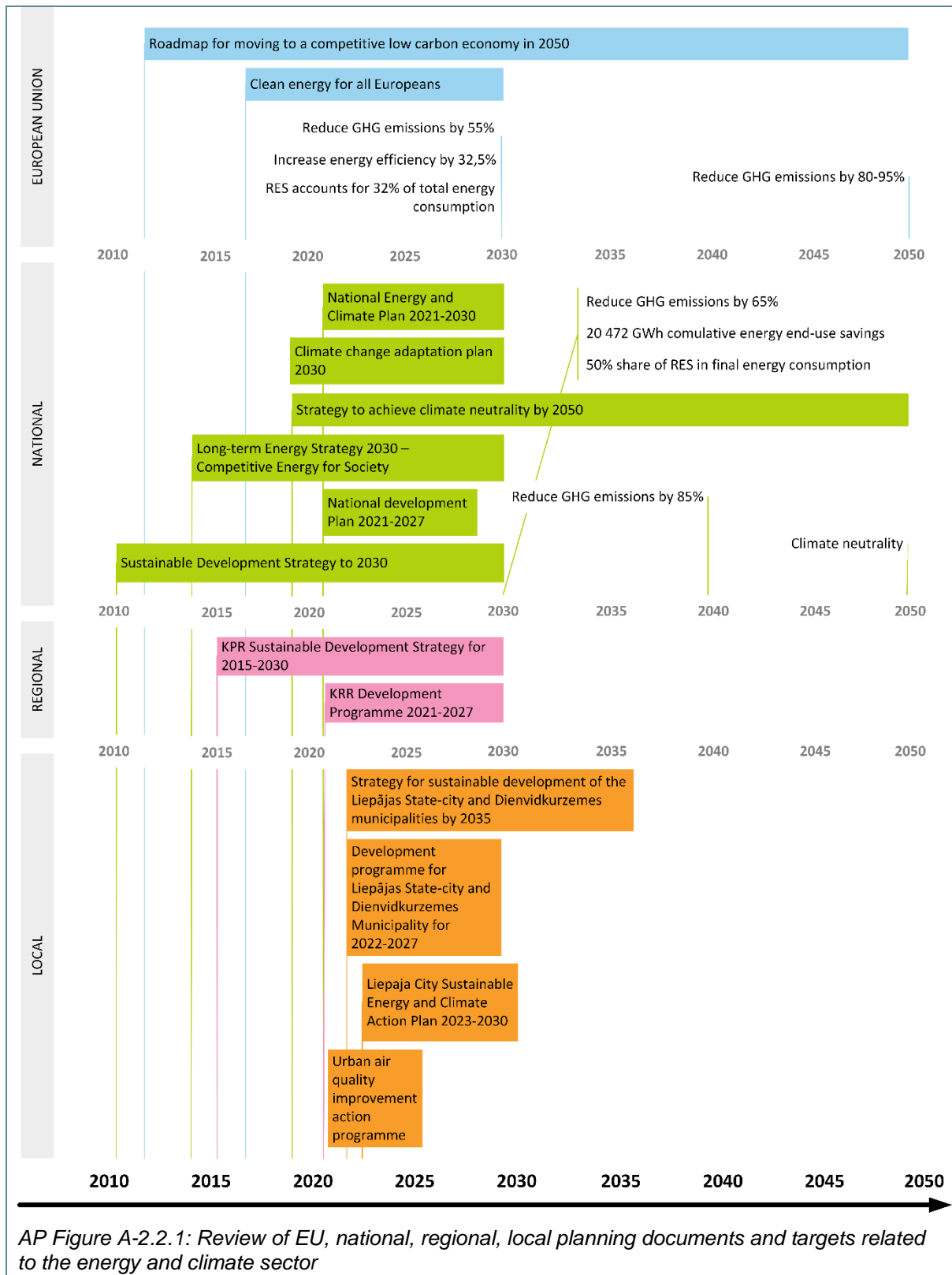


Table 12 Guidelines: Please identify and describe any potential policies to support capital facilitation and deployment in the city, describing the policy, its current status or stage of development, and the intended outcome (e.g. increased parking fares to deter driving but also raising capital for additional



climate actions). **For city-level policies, please include some quantifiable range as to the amount of capital raised by intended policies.**

Table 12: List of Climate Policies to Enable Capital Deployment

Climate Policy		Description of the policy (sector, targeted audience, etc.)				Intended Outcome for Capital Formation
3.1 Module IP-C1: Climate Policies for Capital Formation and Deployment						
Type	Level	Name & Title	Description	Relevance	Need for action	Intended outcome for capital formation
Strategy	EU	European Green Deal	Defines the main focus areas for EU climate and energy policy.	The headline target is to achieve climate neutrality at EU level by 2050.	There is a need for sufficient and targeted funding to implement measures not only for infrastructure projects but also for targeted educational activities for all groups of society.	Stimulate capital formation by directing funds to aligned projects
Policy	EU	Roadmap for moving to a competitive low-carbon economy in 2050	Setting an EU-wide energy policy for 2050.	Three key aspects of achieving the energy targets are identified: improving energy efficiency, increasing the use of RES and reducing GHG emissions		Encourage capital formation in energy efficiency and clean energy initiatives
Policy	EU	Clean energy for all Europeans	Sets EU-wide energy policy for 2030.	-		Drive capital formation in clean energy initiatives
Package	EU	Fit for 55	Aligning existing European climate policy with new overarching objectives.	-	Targets set for all municipalities to prioritise and target investment at national level	Facilitate capital formation through clear targets for municipalities
Directive	EU	Directive 2012/27/EU of the European Parliament and of the Council on energy efficiency	EU energy efficiency targets and measures to be taken at national level are defined.	The provisions of the Directive are aligned with the Energy Efficiency and Energy Performance of Buildings Laws	Sustainable housing policy and continued support for building renovation. Removed barriers to attracting third-party funding.	Enhance capital formation for energy-efficient building renovation
Strategy	EU	EU Climate Adaptation Strategy	Outlines how the EU can adapt to the inevitable consequences of climate change and become resilient by 2050.	Linked to the National Climate Change Adaptation Plan, which in turn includes measures for municipalities in this area	Need for awareness-raising, targeted funding for nature-based projects.	Foster capital formation in climate adaptation and nature-based projects



<p>Strategy</p>	<p>National</p>	<p>Sustainable Development Strategy of Latvia until 2030</p>	<p>Supreme national long-term development plan.</p>	<p>The main objective in the energy sector is to ensure the State's energy independence by increasing energy self-sufficiency and integrating into EU energy networks. In particular, coastal erosion and sand accumulation processes along the Baltic Sea coast are highlighted as climate change risks.</p>	<p>Update the needs of municipalities and the current changes to EU policies.</p>	<p>Align capital formation with municipality needs and EU policy changes</p>
<p>Action plan</p>	<p>National</p>	<p>National Development Plan of Latvia for 2021-2027</p>	<p>Supreme national medium-term development plan.</p>	<p>Sets out key priorities, including "Nature and Environment - A Green Deal", and mitigating the impacts of climate change through climate change adaptation measures.</p>	<p>There is a need for sufficient and targeted funding to implement measures not only for infrastructure projects but also for targeted educational activities for all groups of society.</p>	<p>Encourage capital formation through targeted funding for projects</p>
<p>Action plan</p>	<p>National</p>	<p>National Energy and Climate Plan for 2021-2030</p>	<p>A policy framework document that sets out Latvia's objectives and measures to achieve them, in terms of reducing GHG emissions and increasing CO₂ sequestration, increasing the share of RES, improving energy efficiency, ensuring energy security, maintaining and improving energy market infrastructure, and improving innovation, research and competitiveness.</p>	<p>Latvia's national mandatory target for 2030 is 20 472.02 GWh of cumulative energy end-use savings. The total estimated (desired) amount of funding for the implementation of the measures proposed in the Action Plan is EUR 7 362.1 million.</p>	<p>There is a need for sufficient and targeted funding to implement measures not only for infrastructure projects but also for targeted educational activities for all groups of society. Introducing a clear policy in the transport sector to reduce the use of the old vehicle park.</p>	<p>Promote capital formation with targeted funding and clear policies</p>



Strategy	National	Long-term Strategy for Renovation of Buildings	The aim is to mobilise investment in the renovation of both public and private housing stock and commercial premises.	Identify cost-effective renovation approaches depending on building type and climate zone, as well as the necessary policy measures to promote cost-effective, complete renovation of buildings, including phased, complete renovation.	Sustainable housing policy and continued support for building renovation. Removed barriers to attracting third-party funding. Standardised contracts and less bureaucratic barriers for project implementation.	Foster capital formation by supporting building renovation initiatives
Strategy	National	Long-Term Energy Strategy of Latvia 2030 - Competitive Energy for the Society	The goal is a competitive economy through a balanced, efficient, market-based energy policy that ensures the further development of Latvia's economy, its competitiveness in the region and the world, and the well-being of society.	The following targets and performance indicators are set for 2030: <ul style="list-style-type: none"> • 50% RES in gross final energy consumption; • Average heating energy consumption is reduced by 50% compared to the current level. 	Examples of how municipalities can include requirements for homeowners to renovate their homes if energy consumption exceeds a certain level.	Encourage capital formation through clear targets and incentives
Policy	National	Latvia's Strategy to achieve climate neutrality by 2050	The overarching goal is to achieve climate neutrality in Latvia by 2050.	Two strategic objectives have been set: (1) reducing GHG emissions in all sectors of the economy; (2) increasing CO ₂ sequestration.	Targets have been set for all municipalities to prioritise and target investment at national level. Raising awareness of increasing CO ₂ capture.	Stimulate capital formation with targets and awareness initiatives
Law	National	Energy Efficiency Law	The aim is to use and manage energy resources rationally to promote sustainable economic development and limit climate change.	Article 5 sets out the rights and obligations that apply to the Liepāja City municipality.		Ensure capital formation by implementing laws promoting sustainable energy use



Action plan	National	Latvian National Plan for Adaptation to Climate Change until 2030	The overarching objective is to reduce the vulnerability of Latvia's society, economy, infrastructure, built environment and nature to the impacts of climate change and to promote the use of climate change opportunities.	It requires (1) integrating climate change aspects, mitigation and adaptation into the development planning and sectoral policy documents at all levels; (2) ensuring the inclusion of detailed actions and necessary climate change adaptation measures in the development programmes of municipalities.	Sustainable housing policy and continued support for building renovation. Removed barriers to attracting third-party funding. Standardised contracts and less bureaucratic barriers to project implementation.	Encourage capital formation through integrated climate change planning
Policy	National	Environmental Policy Guidelines 2021-2027	The main sub-objectives are to ensure progress towards climate neutrality and to promote climate resilience and adaptation	By 2027, all municipalities must have developed and fully or partially implemented municipal climate change adaptation strategies.	Need for awareness-raising, targeted funding for nature-based projects.	Foster capital formation through awareness and funding for nature-based projects
Strategy	Regional	Sustainable Development Strategy 2030 of Kurzeme Planning Region	Defines the Kurzeme Planning Region as a smart, creative, green, internationally competitive and attractive region on the Baltic Sea.	One of the aspects highlighted in the development vision is "Ecologically based thinking and actions make Kurzeme an outpost of the green economy in Latvia and the Baltic Sea region".		Support capital formation by creating an attractive and competitive region
Strategy	Local	The Sustainable Development Strategy of the City of Liepāja and South Kurzeme Region until 2035	The main objective of the strategy is to serve as a long-term framework for the spatial planning and development programme, creating the preconditions for sustainable and integrated development of the city and the county and	One of the priorities is "People in a harmonious environment", which focuses on creating friendly, accessible, green settlements for all, developing services and mitigating the effects of climate change.	Include development towards climate neutrality and climate resilience for municipalities in the Kurzeme Planning Region.	Align capital formation with climate goals for municipalities in Kurzeme



			improving the quality of life of its citizens.		
Program	Local	Liepāja City and South Kurzeme Region Development Program 2022-2027	Action lines identified to achieve long-term objectives and priorities.	<p>The medium-term priorities are subordinated to the following action lines and targets, which must consider energy efficiency and climate aspects:</p> <ul style="list-style-type: none"> • RV1: Living environment and nature: <ol style="list-style-type: none"> 1.1. Improve public infrastructure. 1.2. Develop the drainage system. 1.3. Develop waste management systems 1.4. Promote the development and improvement of real estate. 1.5 Ensure the preservation and protection of natural assets, in particular by promoting the development, accessibility and diversified use of beaches and coastal areas. 1.6 Develop a safe, sustainable, and high-quality outdoor environment. 1.7. Contribute to climate change mitigation and adaptation. 1.8. Promote public awareness, behavioural change and environmental education. 	Encourage capital formation by integrating energy efficiency and climate aspects



				<ul style="list-style-type: none"> RV5: Transport infrastructure and mobility: <p>5.1. Promote the development of digital and smart, sustainable and future-proof roads and streets, communication infrastructure.</p> <p>5.2 Develop mobility infrastructure that is safe for pedestrians, cyclists and other low-energy vehicles, consistent with universal design.</p> <p>5.3 Develop a modern and sustainable public transport system (transport and infrastructure) and smart mobility points.</p> <p>5.4 Develop modern, competitive and sustainable port, airport and rail infrastructure.</p>		
Program	Local	Liepāja City Action Programme for Improving Air Quality 2021-2025	Assessed the current air quality situation in Liepāja and proposed measures to improve air quality in the period 2021-2025.	For the measures listed, see section A-2.2.	Align the measures included in both the Air Quality Improvement Programme and the SECAP2030.	Facilitate capital formation by aligning measures with existing programs

3.2 Module IP-C2: Identification and Mitigation of Risks

The risks relevant to the implementation of an Investment Plan should be considered, which may impact the ambition to achieve climate neutrality, mitigation techniques should be identified where necessary and where possible, these should align with the financial policies selected.

Task Goals: All projects identified in the Climate Action Plan will have potential risks regarding funding and financing – for example, a project overshooting cost estimates. By establishing a risk management framework and developing risk mitigations at both the sector and project level, cities can ensure they are equipped to identify any problems quickly, and sufficiently deal with these problems once they arise.



Model IP-C2

Guiding questions:

- Does risk analysis feature in your decision-making investment process?
- How do you regularly identify and measure risk related to financing actions?
- What is your understanding of risk mitigation and quantification methods?
- How have you devised your risk management framework and how frequently – and via what process – will it be reviewed?

C-2.1: Textual element

The table below presents a comprehensive overview of potential risks and corresponding mitigation strategies associated with the identified projects (actions) within the CCC. Each sectoral project carries inherent challenges that could impact successful implementation. The risks are identified, ranging from technical hurdles to community engagement concerns, reflecting the diverse nature of the projects outlined in the CCC. For each risk, specific mitigation strategies are proposed to proactively address and overcome identified challenges.

Table 13 Guidelines: Please identify potential risks, routes to monitoring these risks, and a mitigation plan to prevent risk escalation. This should be completed for the project- and sector-level as well as city-wide risks. Instead of simply listing risks, this is an opportunity for cities to outline a risk management framework (including identifying high, medium and low priority risks), the likelihood of all risks and any residual risks following mitigation actions.

Table 13: Climate Investment Plan Risk Framework

Fields of Action	Sectoral Project	Risks Identified	Description of Risk	Risk Priority	Mitigation of Risk
Transportation	Traffic calming and optimisation	Resistance from the community to changes in traffic patterns	Community members may resist changes in traffic patterns aimed at calming and optimising traffic flow, potentially leading to opposition or delays in project implementation.	Medium	Conduct thorough community engagement and communication to address concerns and gather input. Implement pilot projects or temporary changes to demonstrate benefits and gather feedback before full-scale implementation. Provide clear information about the expected benefits, including improved safety and reduced congestion, to gain community support.
	Access to and promotion of environmentally friendly public transport	Low adoption rates due to lack of awareness and convenience	The success of promoting environmentally friendly public transport relies on public awareness and convenient access. Low adoption rates may result from a lack of awareness or the perception of inconvenience.	Medium	Implement comprehensive public awareness campaigns highlighting the benefits of environmentally friendly public transport Improve accessibility with well-designed transit routes, integrated payment systems, and user-friendly information. Provide incentives such as discounts, loyalty programs, or enhanced services to encourage the adoption of green public transport.
	Developing micro- and electro-mobility	Infrastructure challenges and regulatory hurdles	The development of micro- and electro-mobility may face challenges related to the	Low	Collaborate with regulatory authorities to streamline approval processes and address regulatory challenges.



Fields of Action	Sectoral Project	Risks Identified	Description of Risk	Risk Priority	Mitigation of Risk
			lack of suitable infrastructure and regulatory frameworks, impacting the feasibility and success of these mobility options.		Invest in the development of infrastructure, such as charging stations and dedicated lanes, to support micro- and electro-mobility. Conduct feasibility studies to identify and address potential infrastructure challenges early in the planning phase.
Built Environment	Renovation of apartment buildings	Financial strain on residents	Residents facing challenges affording debt accrued from housing renovations, potentially leading to financial strain and resistance against renovation efforts.	High	Implement a comprehensive communication plan to inform residents about the renovation timeline, benefits, and potential financial impacts. Offer financial assistance programs or subsidies to eligible residents to alleviate the financial burden.
	Transitioning private homes to renewable energy	High upfront costs and financial barriers for homeowners	Homeowners may face financial barriers and reluctance due to the high upfront costs associated with transitioning to renewable energy in private homes.	High	Introduce financial incentives, such as subsidies, tax credits, or low-interest loans, to alleviate the financial burden for homeowners. Collaborate with financial institutions to develop innovative financing models that make renewable energy adoption more accessible. Educate homeowners on long-term cost savings and benefits associated with renewable energy to encourage investment.
	Continuous maintenance of the energy management system	Technical failures or glitches in the energy management system	The continuous maintenance of an energy management system may face challenges such as technical failures or glitches, impacting its effectiveness in monitoring and optimising energy usage.	Medium	Implement regular maintenance schedules and conduct thorough testing to identify and address potential technical issues. Establish contracts or agreements with reliable service providers for ongoing technical support and system maintenance. Provide training to personnel responsible for the energy management system to ensure they can address minor issues promptly and efficiently.
	Renewable energy for heating municipal and capital company buildings	Dependence on specific renewable energy sources, leading to supply fluctuations	Dependence on specific renewable energy sources may lead to supply fluctuations, impacting the reliability of renewable energy for heating municipal and capital company buildings.	Medium	Diversify renewable energy sources to reduce dependence on a single source, ensuring a more stable and resilient energy supply. Incorporate energy storage solutions to store excess energy during peak production for use during periods of lower renewable energy generation. Develop contingency plans to address supply fluctuations and ensure continuous heating for municipal and capital company buildings.



Fields of Action	Sectoral Project	Risks Identified	Description of Risk	Risk Priority	Mitigation of Risk
	Green renewable electricity for municipal infrastructure	Limited availability of green renewable electricity options	Limited availability of green renewable electricity options may pose challenges in sourcing a sufficient and reliable supply for municipal infrastructure.	Medium	Collaborate with energy providers and suppliers to explore and expand green renewable electricity options for municipal infrastructure. Advocate for and support the development of local renewable energy projects to increase the availability of green electricity sources. Negotiate long-term contracts with renewable energy providers to secure a stable and consistent supply for municipal infrastructure.
	Environmentally friendly municipal transport	Resistance to changes in transportation modes and infrastructure	The implementation of environmentally friendly municipal transport may face resistance from employees and stakeholders due to changes in transportation modes and infrastructure.	High	Conduct comprehensive public awareness campaigns to educate employees about the benefits of environmentally friendly transport. Gradually introduce and phase in changes to allow for adaptation and acceptance of new transportation modes.
	E-services and digital solutions	Limited digital literacy and access among residents	Limited digital literacy and access among residents may pose challenges in the adoption and effectiveness of e-services and digital solutions in the built environment.	High	Provide digital literacy training programs to residents to enhance their understanding and use of e-services. Ensure accessibility by offering alternative means of access for those with limited digital capabilities. Collaborate with community organizations and educational institutions to promote digital literacy and inclusion initiatives.
Energy systems	Transition to 100% renewable energy in district heating	Technical challenges and reliability of renewable energy sources	The transition to 100% renewable energy sources in district heating may face technical challenges, such as intermittency and reliability issues with renewable sources, impacting the reliability of the district heating system.	Low	Conduct a thorough technical assessment to identify potential challenges and develop solutions. Invest in energy storage solutions to address intermittency and ensure a reliable energy supply. Implement a phased transition, allowing for gradual integration of renewable sources while maintaining reliability.
	Attracting new heat consumers to Liepāja district heating	Lack of awareness and understanding among potential consumers	Attracting new heat consumers may face challenges related to a lack of awareness or understanding of the benefits and advantages of the district heating system in Liepāja.	Medium	Implement targeted marketing and awareness campaigns to educate potential consumers about the benefits of district heating. Offer incentives, such as promotional rates or discounts, to attract new consumers. Provide clear and accessible information on the economic and environmental advantages of district heating.



Fields of Action	Sectoral Project	Risks Identified	Description of Risk	Risk Priority	Mitigation of Risk
					compared to alternative heating options.
	Transition to renewable energy in industry and services	Resistance from industries due to perceived high costs	The transition to renewable energy in industries and services may face resistance from businesses concerned about the perceived high costs associated with the adoption of renewable energy technologies.	Medium	<p>Conduct cost-benefit analyses to showcase the long-term financial benefits of transitioning to renewable energy.</p> <p>Provide financial incentives or subsidies to industries for adopting renewable energy sources.</p> <p>Collaborate with industry stakeholders to develop tailored financial solutions and explore innovative financing mechanisms.</p>
Public education	“Energy efficiency first” in services and manufacturing	Lack of awareness and knowledge about energy-efficient practices	The success of promoting "energy efficiency first" in services and manufacturing depends on raising awareness and ensuring that businesses have the knowledge to adopt energy-efficient practices.	Medium	<p>Implement awareness campaigns and training programs to educate businesses about the economic and environmental benefits of energy efficiency.</p> <p>Provide technical assistance and resources to help businesses identify and implement energy-efficient measures.</p> <p>Establish partnerships with industry associations and organizations to disseminate best practices and foster a culture of energy efficiency within the business community.</p>
	Public awareness campaign on climate action	Low engagement and participation	The public awareness campaign may face challenges in engaging the target audience, resulting in low participation and impact.	High	<p>Conduct thorough research to understand the preferences and interests of the target audience.</p> <p>Develop creative and impactful messaging tailored to the target audience to increase engagement.</p> <p>Utilise a variety of communication channels, including social media, traditional media, and community events, to reach a diverse audience.</p> <p>Implement feedback mechanisms to assess the effectiveness of the campaign and make adjustments based on audience response.</p>
Climate adaptation measures, green infrastructure, nature-based solutions	Removal of CO2 Emissions	Technical challenges in carbon removal methods	The implementation of projects aimed at removing CO2 emissions may encounter technical challenges in deploying and managing carbon removal methods.	High	<p>Conduct thorough technical assessments and pilot projects before full-scale implementation to identify and address potential challenges.</p> <p>Collaborate with experts and research institutions to stay updated on the latest advancements in carbon removal technologies.</p> <p>Diversify carbon removal methods to mitigate the risk</p>



Fields of Action	Sectoral Project	Risks Identified	Description of Risk	Risk Priority	Mitigation of Risk
					associated with the uncertainty of the effectiveness of specific approaches.
	Implementation of Nature-Based Solutions	Unforeseen ecological impacts	The implementation of nature-based solutions for climate change adaptation may have unforeseen ecological impacts on local ecosystems.	High	<p>Conduct comprehensive environmental impact assessments before initiating projects to identify potential risks and mitigate adverse impacts.</p> <p>Engage with environmental experts and ecologists to ensure that nature-based solutions are implemented with minimal harm to local ecosystems.</p> <p>Implement pilot projects and monitor their effects before scaling up to identify and address any unexpected ecological impacts.</p>
Waste and circular economy This topic is not addressed in-depth in this Action Plan	Waste management and circular economy	<p>Insufficient infrastructure for waste collection and disposal</p> <p>Limited adoption of circular economy principles</p>	<p>Lack of proper waste management infrastructure could lead to environmental pollution, health hazards, and illegal dumping.</p> <p>Challenges in transitioning to a circular economy model due to resistance from stakeholders, economic barriers, and lack of awareness about the benefits.</p>	Medium	<p>Since waste management is not addressed, it is crucial to outline plans for waste and circular economy initiatives. This includes conducting a thorough risk assessment to identify potential challenges and developing mitigation strategies. Future iterations of the plan should incorporate measures to address waste-related risks and enhance sustainability.</p> <p>Invest in developing robust waste collection and disposal infrastructure, including recycling facilities, landfill management, and waste-to-energy plants. Implement public awareness campaigns to promote proper waste disposal practices and recycling.</p> <p>Develop policies and incentives to encourage businesses and consumers to adopt circular economy practices. Provide support and funding for research, innovation, and pilot projects to demonstrate the feasibility and benefits of circular economy initiatives. Collaborate with industry stakeholders, academia.</p>
City Wide Risks (Cross Cutting) This question pertains to the development of a higher-level planning document aimed at outlining	All above	<p>Economic downturn</p> <p>Natural disasters</p> <p>Public health emergencies</p> <p>Cybersecurity breaches</p> <p>Climate change impacts</p>	<p>Potential economic recession.</p> <p>Threats posed by natural.</p> <p>Risks associated with outbreaks of infectious diseases, pandemics, or public health crises.</p> <p>Vulnerabilities to cyberattacks, data</p>	Medium	<p>The city should establish a comprehensive risk management framework to identify, assess, and manage cross-cutting risks. Contingency plans and response strategies must be developed to address emergencies or crises impacting multiple sectors. Collaborative efforts among</p>



Fields of Action	Sectoral Project	Risks Identified	Description of Risk	Risk Priority	Mitigation of Risk
sectoral projects and city-wide risks for urban sustainability initiatives.		Social unrest and conflicts Technological disruptions	breaches, and hacking incidents Long-term consequences of climate change, including extreme weather events, sea-level rise, and temperature fluctuations.		city departments, stakeholders, and community groups are vital for enhancing resilience and preparedness.

Sectors where there is a significant level of involvement and dependence on citizens tend to carry the highest risk, as they are more susceptible to community resistance and financial strain. Conversely, sectors where decisions primarily rest with individual companies may have lower risk levels. If left unaddressed, these risks could lead to delays, financial losses, and diminished public trust. Therefore, proactive measures must be taken to mitigate their impact and maximise successful outcomes. This comprehensive risk assessment emphasizes the importance of thorough planning and proactive risk management strategies within the framework of the Climate City Contract, Action Plan, and Investment Plan. It underscores the necessity of prioritising climate-related considerations in the city's development program, ensuring their integration into all aspects of urban planning and decision-making processes.

3.3 Module IP-C3: Capacity Building and Stakeholder Engagement for Capital and Investment Planning

Internal capacity and capabilities should be assessed and developed, working with both internal and external stakeholders to accelerate the transition to climate neutrality by 2030. This stakeholder mapping and identification of engagement pathways are tied to the Action Plan exercise but should focus on financial and investment-focused stakeholders including (but not limited to) municipal banks, private sector companies that must invest to decarbonise their assets and all private capital providers or funding organisations. For non-financial stakeholders, provide a breakdown of costs for any stakeholder incentive schemes such as transport subsidies or funding for retrofitting of residential properties.

Task Goals: *The first element of this task is an opportunity for cities to assess internal capacity and identify any knowledge or resource gaps within the Transition Team. This should be clearly outlined in the text as well as any plans to overcome these gaps.*

*For the stakeholder engagement exercise, cities should use this exercise to identify any potential stakeholders that can support the financing and development of their Climate Action Plan. As has been documented, the local authority accounts for a small proportion of emissions within the city and private stakeholders must also invest to decarbonise their emitting assets. By identifying these stakeholders early, cities can facilitate engagement optimally. **Cities can take the same approach to this task as the similar task within the Climate Action Plan, but focus on financial actors (i.e. any stakeholder that can deploy funds for proposed climate investments – whether to public projects or their own corporate actions) or the costs associated with interacting with the non-financial actors (e.g. incentive schemes for citizen behavioural shift).***

Model IP-C3
<p>Guiding questions:</p> <ul style="list-style-type: none"> • Is your Transition Team well-resourced and does it have the necessary skillsets to develop a robust Investment Plan? • Have you identified the capacity gaps (both knowledge and personnel) in your Transition Team to develop and implement the Plan? • Have you identified relevant stakeholders to develop an Investment Plan in your city? • Do you have a clear engagement strategy for relevant stakeholders?



C-3.1: Textual element

The provided table offer a detailed overview of stakeholder engagement strategies within various systems related to Liepāja's climate initiatives. By assessing the influence and interest levels of key stakeholders, the recommended level and type of engagement have been specified for each group. From collaborative decision-making and active participation with influential stakeholders to information sharing and minimal involvement with those of lower influence, this strategic approach aims to optimize engagement strategies tailored to the unique characteristics of each system. Overall, this comprehensive framework ensures effective and efficient implementation of Liepāja's climate initiatives through targeted and well-adapted stakeholder involvement.

See Action Plan Module A-3.

Table 14 Guidelines: Please identify any financial stakeholders – private sector companies, commercial banks and lending organisations – that the city has an existing or future relationship with, including the level of influence and interest, and the type of engagement. If they are linked to a specific climate action or project, please list that here as well as the required investment from the stakeholder.

Table 14: Stakeholder Engagement Mapping

System description	Stakeholders involved	Required Investment (€)	Network	Influence	Interest	Level and type of Engagement
Municipality	Municipal management	Already duty of stakeholder	High	High	High	Collaborative decision-making, active participation
Municipal buildings	Building owners, heads of institutions, municipal staff	Covered by existing budgetary provisions	Medium	High	Medium	Collaborative decision-making, consultation
Residential buildings	Building managers, apartment owners	Resource allocation included in operational budgets and management fee	Medium	High	Low	Consultation, information sharing
Private houses	Owners and residents	Investments falls within individual property management	Non	High	Low	Information sharing, minimal involvement
District heating	“Liepājas enerģija” Ltd	No information	High	High	High	Collaborative decision-making, active participation
Local electricity generation	“Liepājas enerģija” Ltd	No information	High	High	Medium	Collaborative decision-making, consultation
Municipal transport	Municipal staff	Covered by existing budgetary provisions	Non	Medium	Low	Information sharing, minimal involvement
Public transport	Municipal agency "Liepājas sabiedriskais transports", residents	Covered by existing budgetary provisions	Low	High	High	Consultation, active participation
Private transport	Gas station companies, businesses, car owners	No information	No	High	Low	Information sharing, minimal involvement
Services	Businesses	No information	No	Medium	Low	Information sharing, minimal involvement
Manufacturing	Businesses	No information	No	High	Low	Information sharing, minimal involvement
Water management	“Liepājas ūdens” Ltd	Covered by existing	No	Medium	Medium	Information sharing, minimal involvement



		budgetary provisions				
Street lighting	Municipal organisation "Komunālā pārvalde"	Covered by existing budgetary provisions	No	Medium	Medium	Information sharing, minimal involvement
Waste management	"Liepājas RAS" Ltd	Covered by existing budgetary provisions	Medium	Low	Low	Consultation, information sharing
Green and blue zones	Municipal organisation "Komunālā pārvalde"	Procurements	No	High	Low	Information sharing, minimal involvement

Table 15 Guidelines: For any engagement or incentive schemes involving non-financial actors, please list these below and identify any specific costs to the city for conducting these (e.g. reduced transport fares to encourage modal shift).

Table 15: Stakeholder Activity Cost

Stakeholders involved	Activity	Cost to Municipality (€)
Non-profit organizations, community groups	Public awareness campaigns on sustainable practices Non-governmental organization project co-financing competition Competition for co-financing of social inclusion promotion projects	Approx. 150 000
Local schools, educational institutions	Environmental education programs for students	250 737
Residents, homeowners associations	Subsidised home energy efficiency documentation, historical housing restoration, backyard renovation, waste collecting places	687481
Local businesses, industry	Small and medium enterprises support program Competition of business projects of remigrants Competition for film shooting projects	Approx. 200 000
Students, different sectors	Competition of cultural projects, children and youth camps, scholarship program for future specialists, youth initiative project competition, support for sports organizations, co-financing of conferences, seminars and interdisciplinary events	Variable, depends on many factors
Public transportation users	Reduced fare programs for low-income residents Fare concessions for students in public transport, orphans, politically repressed etc.	Subsidy per single or period ticket 50, 70 or 100%
Community gardens, urban agriculture initiatives	Since the garden's purpose is not only to cultivate but also to bring people together and create a space for gatherings and idea exchange, it also includes a relaxation area with benches, tables.	None

In 2025, participatory budgeting will be introduced in all municipalities of Latvia. Municipalities will be required to implement this relatively new public engagement tool, giving residents the opportunity to directly influence how a portion of the municipality's development budget is spent.