NET ZERO CITIES

EU MISSION PLATFORM | CLIMATE NEUTRAL AND SMART CITIES

Climate City Contract

2030 Climate Neutrality Investment Plan

2030 Climate Neutrality Investment Plan of the City of Kranj

CITY OF KRANJ

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Glossary of Terms

Acronym	Description
AFOLU	Agricultural, Forestry and Land Use
AP	Action Plan
BAU	Business as usual
BSC	Business Support Centre Kranj (Regional Development Agency of Gorenjska region)
CAP	Common Agriculture Policy
CCC	Climate City Contract
CHP	Cogeneration or combined heat and power
CoKA	City of Kranj Administration
CTM	Centre for Sustainable Mobility
CTRP	Centre for Sustainable Rural Development Kranj
DHC	District heating and cooling
DNSH	Do no significant harm principle
DRSI	Slovenia Infrastructure Agency
DRSV	Slovenian Water Agency
EF	Eco Fund, Slovenian Environmental Public Fund
ETS	Emission trading scheme
EV	Electric Vehicles
FMC	15 minute city planning concept
FOD	The First Order of Decay
FUA	Functional Urban Area
GFP	High School/ Gymnasium Gimnazija France Prešeren
GHG	Greenhouse Gas
HE	Hydro Energy Power Plant
HFCV	Hydrogen Fuel Cell Vehicle
HWP	Harvested wood product
IJS	IJS Institute Jožef Štefan
IP	Investment Plan
IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial Process and Product Use
ISUDS	Integrated Sustainable Urban Development Strategy – City of Kranj 2030
ITI	Integrated territorial investment – EU mechanism applied in urban development (CTN)
JS	Joint-stock company
KGZS-KGZ	Chamber of Agriculture and Forestry of Slovenia – Institute for Agriculture and Forestry
KPI	Key Performance Indicator
KR	Kranj
KS	Local community
LEAG	Local Energy Agency of Gorenjska
LEC	Local Energy Concept
LLC	Limited liability company
LSU	Livestock size unit
LULUCF	Land Use, Land-Use Change and Forestry
MEL	Monitoring Evaluation & Learning
MOK	City of Kranj
MRV	Monitoring Reporting Verification
MWh	Megawatt-Hour
N/A	Not Applicable
NECP	The Integrated National Energy and Climate Plan
NGO	Non-governmental Organization
NOO	Recovery and Resilience Plan
NIJZ	National Institute for Public Health
NUTs	Nomenclature of territorial unit for statistics
NZC	NetZeroCities
OPSI	Open data of the Republic of Slovenia
PLDP	Annual average daily traffic
PPP	Public-private partnership

Acronym	Description
PURES	Rules on efficient use of energy in buildings
PV	Photovoltaics
R&D	Research and Development
RDA Gorenjska	Regional Development Agency of Gorenjska
ReDPS50	Resolution on Slovenia's Long-term Climate Strategy until 2050
RES	Renewable Energy Sources
RESHUB	RESilience HUB Network
RS	Republic of Slovenia
RTP	Distribution transformer station
SCCNSC	Strategic Council for Climate Neutral and Smart Community of the City of Kranj
ŠCKR	School Centre Kranj
SDG	Sustainable Development Goals
SECAP	Sustainable Energy and Climate Action Plan
SID	Slovenian Development and Export Promotion Bank
SODO	Slovenian Electricity Distribution Operator
SORS	Statistical office of Republic of Slovenia
SUMP	Sustainable Urban Mobility Plan
T / t CO_2	Tonnes / tonnes Carbon dioxide
TEN-T	Trans-European Transport Network
TT	Transition Team
UHI	Urban heat island
WWTP	Waste water Treatment Plant
WP	Work Package
ZGS	Slovenia Forest Service
ZRSVN	Institute of the Republic of Slovenia for Nature Conservation
ZTKK	Institute for Tourism and Culture
ZMOS	The Association of Urban Municipalities of Slovenia

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.

A-1.1: Textual element

The City of Kranj budgeting follows the Slovenian Act on Financing of Municipalities which defines municipal funding sources, conditions for city borrowing and national financial levelling regulations. This, together with the public finance and multi-annual programming budgeting rules as of Public Finance Act, frame the City's climate budgeting.

Although the City of Kranj has not yet officially introduced targeted climate budgeting or climate proofing of projects, the existing budget monitoring system already allows **historical track record** – collecting and sorting of financial data on the basis of climate field of actions from AP. In the budgetary system, the fields are called "programmes", each of them having its own code which enables the financial department to extract data for climate related programmes.

Thus, budgets' analysis of funded and implemented climate related projects was undertaken based on the final and budgetary accounts for years from 2018 until 2022. The results are presented in this chapter. With additional reference to the coding in the existing IT system, the climate budgeting and monitoring for future climate budgeting could be automatized.

Furthermore, the City of Kranj has engaged significantly in **public-private partnership projects** (PPP) over the last two decades and gained considerable negotiation competences. The PPPs follow the Slovenian Public-Private Partnership Act. PPP model has been applied for innovative revenue generated public investments as well as for executing some of the city services. In recent years, many of the PPPs have been implemented in the field of climate neutrality, some of them with important decarbonisation effect for Cities Mission 2030. For example:

- Energy retrofit of municipal buildings together with PV installation (21 buildings underway, documentation for 19 buildings in preparation);
- E-bikes, e-cars and city e-charging network (PPP contract under implementation);
- City's public transport (concession agreement);
- Maintenance of green areas (concession agreement).

Table 1 provides the historical overview of the City of Kranj's budget for the period between 2018 and 2022 based on the real expenditures as presented in the final budgetary accounts, approved annually by the City Council. The relevant municipal budget for climate related actions and projects is extracted, reflecting the intensity of climate actions and investment projects by year. In the years 2019 and 2020 the investment activities were more intensive due to closure of the EU cohesion programme period 2014-2020, and consequently finalisation of projects in sustainable mobility. Therefore, the scope and percentage of climate actions/investments is much higher than in the following two years when the new EU cohesion programme has not yet been launched. Furthermore, lower climate

expenditures in 2021 were also partly influenced by COVID pandemic restrictions leading to higher financial demands in other, non-climate related current budgetary costs (2021, 2022).

As evident the overall city budgets varied through years, from **50–70 mio €** which is a result of increased labour and operation costs of public services, additional obligations transferred from the central to local level and individual major investments in certain year supported by external, mostly EU or governmental funds. The climate actions even more depend on the implementation of particular project and investments, so the climate budgets also differ between years from 5 to 17 mio € per year. On **average climate budget of 10 mio €, representing on average 16,6 % of the overall budget was achieved in the period 2018-2022.**

The climate funding, broken down into fields and sub-sectors in **Table 2**, shows more detailed structure of investments by years and reflects the past City policies and priority climate actions. Horizontal governance and social innovation intervention are presented separately.

- As evident the City of Kranj past climate budget predominately funded **Mobility and transport,** representing on average 4 mio € per year or **40%** of climate budget. Up to 1,4 mio € is allocated to city public transport and similarly to modernisation of roads, in particular bridging facilities and improvements of safety.
- **27%** or about 2,7 mio € per year were invested in **Waste and Circular Economy**, majority in efficient water and waste water supply - more than 10 mio € between 2018-2020.
- **12%** or approx. 1,2 mio € per year went for actions associated with **Green Infrastructure** such as maintenance and arrangement of green spaces, parks and outdoor recreation areas.
- **10%** or approx. 1 mio € per year were continuously allocated to **Energy system**, focusing on public lighting programme for adaptation to the regulations and decreasing the energy costs by efficient energy management and monitoring of all municipal operators.
- **7%** were in average invested in **Built environment** for energy-efficiency of municipal property, majority of 3,4 mio € in years 2018-2019. In the period 2020-2022 next investment cycle and activities are planned with the execution foreseen in the period from 2023 to 2030 within the new EU financial perspective.
- **4%** or on average a little less than 0,5 mio € per year funded climate related **cross-cutting interventions** such as the smart city and spatial planning.

The analysis gives an indication of the current City budget capacity per year to fund climate actions if business as usual (BAS) approach without any changes or new instruments was applied.

However, it needs to be noted that further to the Slovenian legislation, the City budget does not include the budgets of the city owned utility and public service organisations being independent legal bodies. This means that certain, mostly operational actions are included in the bellow climate financial analysis, while all the investments into local public infrastructure and financing of free-of charge public services is funded through the City budget and included in the bellow analysis.

Table 1: Historical Municipal Budget and Budget for Climate Actions

Budget Data	2018	2019	2020	2021	2022
Municipal Budget (€)	49.883.299	56.275.780	68.595.003	62.351.519	66.234.719
Municipal Budget for Climate Actions & Projects (€)	8.901.784	14.345.535	17.431.032	4.513.277	5.140.543
% of Municipal Budget for Climate Actions & Projects (%)	17,85%	25,49%	25,41%	7,24%	7,76%

Table 2: Finance Sources by Field of Actions, for years 2018 to 2022

Fields of Action	Sector Subsection	Budget Allocation for Climate Actions and Projects				
		2018	2019	2020	2021*	2022*
Transportation	Walking	138.275	3.672	-	361.671	425.425
	Cycling	69.778	123.421	150.677	197.968	373.337
	Mobility	4.059.790	4.650.444	6.150.612	1.587.519	2.015.885
	TOTAL	**4.267.843**	**4.777.537**	**6.301.289**	**2.147.158**	**2.814.647**
Built Environment	Residential					
	Commercial					
	Public Buildings	178.442	3.091.783	151.937	-	-
	TOTAL	**178.442**	**3.091.783**	**151.937**	**-**	**-**
Energy Systems	Public Lighting	586.469	1.025.328	716.436	696.525	730.040
	Energy Management	247.563	471.594	175.164	139.296	165.806
	TOTAL	**834.033**	**1.496.923**	**891.600**	**835.821**	**895.846**
Green Infrastructure and Nature Based Solutions	Parks, Community Gardens, Rivers, etc.	1.047.994	839.519	2.739.215	658.486	739.156
	TOTAL	**1.047.994**	**839.519**	**2.739.215**	**658.486**	**739.156**
Waste and Circular Economy	Household Waste	195.386	251.072	358.895	246.357	253.012
	Sewage System	1.396.121	620.692	-	-	-
	Efficiency in Water Supply	447.712	2.940.533	6.600.288	158.908	2.848
	TOTAL	**2.039.219**	**3.812.296**	**6.959.183**	**405.266**	**255.860**
Horizontal Interventions	**TOTAL**	**327.477**	**387.808**	**466.547**	**435.034**	**534.253**
Total in €		**8.901.784**	**14.345.535**	**17.431.032**	**4.513.277**	**5.140.543**

** Additional years added as considered in the City of Kranj IP analysis of the existing climate action funding.*

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.**

A-2.1: Textual element

The financial perspectives of the City of Kranj Climate Action Plan (AP) can be divided between the regular sources as defined by the Slovenian Act on Financing of Municipalities and additional financial sources that depend on the ability of the City Administration to attract extraordinary funding from the Government, EU, financial instruments, PPP agreements etc. As evident from the analysis of funding sources in the period 2018-2022 in **Table 3**, the City of Kranj's annual budget generates between **50 to 70 mio € of which 85% derives from** regular tax and non-tax incomes. Tax incomes are citizens' income tax (57% goes to municipalities), property tax and smaller site-specific taxes on vessels, real estate transactions, inheritance, games, tourism overnights etc. While non-tax incomes concern primary communal fee for new development and rent out of infrastructure, premises and housing.

All other incomes are less secure and vary between years but are of extreme importance for major new and extraordinary interventions, among others also actions of Climate Action Plan. The City Administration's Office for the Development and Smart Community is responsible to review and address of all possible additional funding investment and development sources, being both of public or private source, while the Sector for finance and general affairs is managing the borrowing and capital strategy.

From the bellow evaluation and the overview of the existing funding sources (see also **Table 4**) the following **climate funding strategy** is likely:

- **EU and national funds** allocated to Slovenian cities under the national European Cohesion Policy Programme 2021 – 2027 such as:
  - **Urban development** funds through Integrated Territorial Investments (ITI) mechanism. The City of Kranj budget allocation for the period amounts to 13.249.761 €.
  - **Regional development funds** agreed at the Gorenjska Regional Council**.** The allocations are not yet agreed but the City of Kranj anticipates to access around 9.800.000 €.
- **National funds supporting green transition, in particular Eco Fund, Climate Fund.**
- **Exploit city borrowing potential** to full extent for financially viable actions of the Action Plan. The regulation allows municipality instalments up to 5% of the annual budget incomes for short-term and 10% for long term loans; higher instalments possible in case of EU co-funded projects. As evident from the Table 3, in 2022, the City had no loans. Some financial instruments supporting climate transition are available.
- **Enter joint green investments with the Government of RS** to leverage the City with national budget wherever possible (e.g. multimodal terminal).
- **Exploit financial capacity of municipal utility company** to invest in climate actions of the Action Plan, in particular in the field of Waste and Circular Economy.
- **Extend the PPP model to the new intervention areas as identified with the Action Plan** (e.g. district heating).
- **Reshape existing municipal support programmes** in the field of agriculture, entrepreneurship, smart city, and social innovation to better stimulate private persons, farmers and businesses to adopt proposed measures and accelerate the private green investments.

The above assures that external funding sources are also feasible if the City of Kranj and its partners develop viable and mature projects in time as proposed in the Action Plan.

Table 3: List of Income Sources for the City

Income Category	City income 2018	% 2018	City income 2019	% 2019	City income 2020	% 2020	City income 2021	% 2021	City income 2022	% 2022
Loans	-	0,00%	3.500.000	6,09%	3.100.000	4,85%	5.000.000	7,73%	-	0,00%
Tax incomes	40.466.944	81,48%	40.156.779	69,84%	42.419.477	66,40%	41.754.322	64,52%	46.572.544	73,73%
Non-tax incomes	7.273.391	14,64%	7.977.444	13,87%	7.888.393	12,35%	8.950.611	13,83%	9.977.965	15,80%
Capital incomes	301.543	0,61%	151.697	0,26%	460.900	0,72%	1.224.283	1,89%	1.402.613	2,22%
Donations	14.897	0,03%	2.200	0,00%	90.000	0,14%	75.700	0,12%	28.328	0,04%
Transfer incomes (subsidies from the national budget)	1.456.018	2,93%	5.264.552	9,16%	9.612.178	15,05%	7.474.293	11,55%	4.876.215	7,72%
Loan repayments and sale of shares	34.317	0,07%	397.659	0,69%	7.652	0,01%	4.218	0,01%	7.553	0,01%
EU grants	119.467	0,24%	46.293	0,08%	305.504	0,48%	232.071	0,36%	303.562	0,48%
TOTAL	**49.666.577**	**100%**	**57.496.624**	**100%**	**63.884.104**	**100%**	**64.715.499**	**100%**	**63.168.781**	**100%**

Table 4: List of Capital Sources for the City

Type	Size Range	Level	Description
Source of Capital	*Quantum of Capital Accessible to the city through this source*	*Private or Public*	*(Description of capital source e.g. cost & provider)*
EU GRANTS – assured 2018–2022	7.821.257	*Public*	*Cohesion policy 2014–2020 – completed*
EU GRANTS – feasible 2023–2027	25.000.000	*Public*	*Cohesion policy 2021–2027 – allocation agreed in 2023 within the Intermediate body ZMOS* *NOO – Recovery and Resilience Programme* *Horizon, Interreg 2021–2027*
Loans – assured 2018–2022	11.600.000	*Public*	*Loans expired*
Loans – feasible 2022–2030	8.200.000	*Public*	*ITI and other financial instruments managed by the Slovenian development bank (SID Bank).*
Private investors	6.500.000	*PPP – private*	*PPP negotiated for energy-efficiency of municipal buildings together incl.*
National funds	*Not possible to estimate*	*Public*	*Eco Fund, Climate Fund*
TOTAL	**59.121.257**		

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.

A-3.1: Textual element

Main Climate investment barriers for capital deployment in support of the City of Kranj climate neutrality by 2030 are related to **high dependence on central government regulations, investment and funding priorities**, **uncertain financial resources** of the City of Kranj available for innovative and extraordinary activities as well as **unstable external macro-economic and market conditions**.

The City shall overcome internal barriers to incorporate climate neutrality into decision-making processes related to operational and capital expenditures while prioritising the benefits of quality of life, improved health, economic growth, and equality the green investments are enabling. Deployment of external financial sources is crucial for effective climate investment and efforts should focus on promoting investments at national and EU level, among citizens and in the commercial private sector.

Political and economic instability and new "green" regulations (at local, national and international level) have a great impact on climate investment and stakeholders' investment priorities. As described in detail in Action Plan, all key policy, economic and social stakeholders are engaged as members of the City of Kranj Strategic Council for Climate Neutral and Smart Community (SCCNSC). Regular cooperation among them will be important to adapt measures to external conditions and minimise negative impacts on the set Investment Plan.

Internal and external barriers to climate investment have been initially assessed in the AP process and are further developed and structured in the following table.

Table 5: Barriers to Climate Investment

Financial Barriers to achieving Climate Neutrality	Typology of Barrier	Description	Sector and stakeholders involved
Limited financial city budget capacities – uncertain financial resources for innovative and extraordinary activities	Structural (internal)	80% of the budget is predefined with operational costs of the public city services. Unpredicted changes of national regulation or pressure on additional citizens' benefits jeopardize the development /climate potential of the city budget.	City of Kranj
Large financial investments in a short time period	Structural (internal)	Large financial investments have an impact over a long period of time. Shortage of municipal as well as citizen financial sources increase uncertainty and the risk regarding the feasibility and justification of the climate projects.	City of Kranj Slovenian Environmental Public Fund (Eco fund) Climate Change Fund Utility providers – local and national providers of public services Private stakeholders (investors)
Limited HR capacities, knowledge and skills to acquire and manage climate transition and related actions	Structural (internal)	Key senior staff of City of Kranj Administration (CoKA) and City's Agencies are working on several tasks and could not be fully dedicated to CCC process and investment management which	City of Kranj LEAG – Local Energy Agency of Gorenjska BSC Kranj – Regional Development Agency of Gorenjska

Financial Barriers to achieving Climate Neutrality	Typology of Barrier	Description	Sector and stakeholders involved
		require special knowledge, experience and skills.	
High dependence on central government regulations, investment and funding priorities	Policy (external)	Many of Kranj strategic climate actions require combined approach of the city and the Government due to shared responsibilities, in particular in the field of Mobility and Transport. National policies that determine investment priorities and allocation of funds are rigid to change and require competition between cities for national / EU funds. Government reallocation of investment funds in less developed Slovenian regions or regions affected by recent floods (August 2023) will jeopardize planned investment dynamic and financial sources.	National institutions (Government of the Republic of Slovenia, Ministries and their implementing agencies)
Uncertainty about national regulation	Policy (external)	Unpredicted changes of national regulation adding new responsibilities to the cities or raise of salaries for public servants affect the municipal climate budget.	National institutions (Government of the Republic of Slovenia, ministries, national agencies)
Policy restriction on municipal debt	Policy (external)	The municipality is not completely independent when entering into debt transactions. Borrowing can only be done on the basis of the prior consent of the minister responsible for finance under the conditions set by the law governing the financing of municipalities.	Government of the Republic of Slovenia Ministry of Finance
Lack of financial instruments (green bonds)	Market (external)	Weak and undeveloped alternative green financial instruments to finance sustainable investments.	Financial institutions: SID bank, private financial institutions (banks, funds)
Micro and macro-economic conditions	Economic (external)	Macro and micro economic uncertainty (inflation, interest rates...) increase budgetary financial risks and investment costs.	National institutions Financial institutions Funds Suppliers Utility Providers Industry Citizens
Investment priorities, requirements and expectations from commercial stakeholders	Economic (external)	Different requirements and expectations from commercial stakeholders. Companies balance and compare their climate neutral investments and activities with their impacts through financial cost-benefits and focus on their core business.	Private sector – Industry Financial institutions (funds, banks)

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.

B-1.1: Textual element

Investment Plan overall estimation and cost-effectiveness

The City of Kranj Investment Plan for the period 2018–2030 is estimated to 366 mio € of which 62,8 mio € represent already implemented climate actions in the period 2018–2022. 303 mio € are envisaged for the period 2023–2030. The **Figure 1** Investment costs by sector and climate neutrality action provides a visualisation of investment scope by field and actions.

The cost estimations reflect the strategic focus of the City of Kranj 2030 decarbonisation targets that prioritize Energy systems and Mobility and Transport. These are also the most cost-effective interventions as measured in €/t CO_2 reduction.

- Energy systems actions account for 35% of total Investment Plan costs and contribute to 41% of all CO_2eq reduction.
- Mobility and Transport actions account for 20% of total Investment Plan costs and contribute to 32% of all CO_2eq reduction.
- Waste and Circular economy actions account for 5% of total Investment Plan costs and contribute to 13% of all CO_2eq reduction.
- Green infrastructure & nature-based solutions account for 3% of total Investment Plan costs and contribute to 7% of all CO_2eq reduction.
- Built environment actions account for 34% of total Investment Plan costs and contribute to 7% of all CO_2eq reduction.
- Cross-cutting costs of horizontal interventions require 2% of the overall Investment Plan budget while there is no direct impact on GHG emissions.

The Sectoral costing in **Table 6** gives more detailed insight in the structure and cost-effectiveness of individual actions.

Approach to Costing of climate actions

The costing of individual actions has been done by the City Transition Team in consultation with external experts and stakeholders of the individual actions, based on the **following assumptions, methods and sources of information:**

- All costing for the period 2018–2022 is based on the real costs of already executed investments or soft measures as reported in the municipal budget annual final records.
- All costing for the period 2023–2030 is estimation based on current prices (year 2023).

- The best and most reliable estimation source was considered for individual action.
- Where contracts are already signed or bill of quantities, technical designs or feasibility studies exist, estimated costs of the actions were taken from these documents. In case of elderly data, price revision was done using the UMAR latest macroeconomic report.
- For actions deriving from other up-to-date sectoral plans (City's Environment Protection Programme, Zero Waste Strategy etc.) their estimates were considered.
- For new actions, where reliable supporting documents have not been prepared yet, costs were calculated using different appropriate methods for individual actions, such as: standard market prices per unit (e.g. 1.000 €/kW of PV) or use of unit prices calculated for comparable projects executed (e.g. €/km).

Priority high capital-intensive projects

The Action Plan Pathway involves 28 actions in all 4 fields and 2 cross-cutting intervention areas. All of them are budgeted and described in the detail in the Action Plan while 13 of most capital intensive (over 5 mio EUR) actions are selected and presented further in the chapter:

- 1.1 Phase out fossil fuel in district heating/cooling and replacement with RES,
- 1.2 Utilization of waste heat from industry and commercial facilities for Kranj district heating and cooling system,
- 1.3 Solar electricity production,
- 1.5 Upgrade of electric grid,
- 2.2 Smart multimodal public transport system,
- 2.5 EV and hydrogen powered charging infrastructure,
- 2.6 EV and hydrogen powered municipal vehicles,
- 2.7 Reduced transit traffic,
- 3.3 Centre for Circular Economy Zarta,
- 3.5 Energy and resource efficiency in water supply,
- 4.3 Green areas and green roofs,
- 5.1 Energy-efficiency renovation of public (municipal and state-owned) buildings,
- 5.2 Energy-efficiency renovation of residential buildings in urban and sub-urban neighbourhoods.

See **Table 7.**

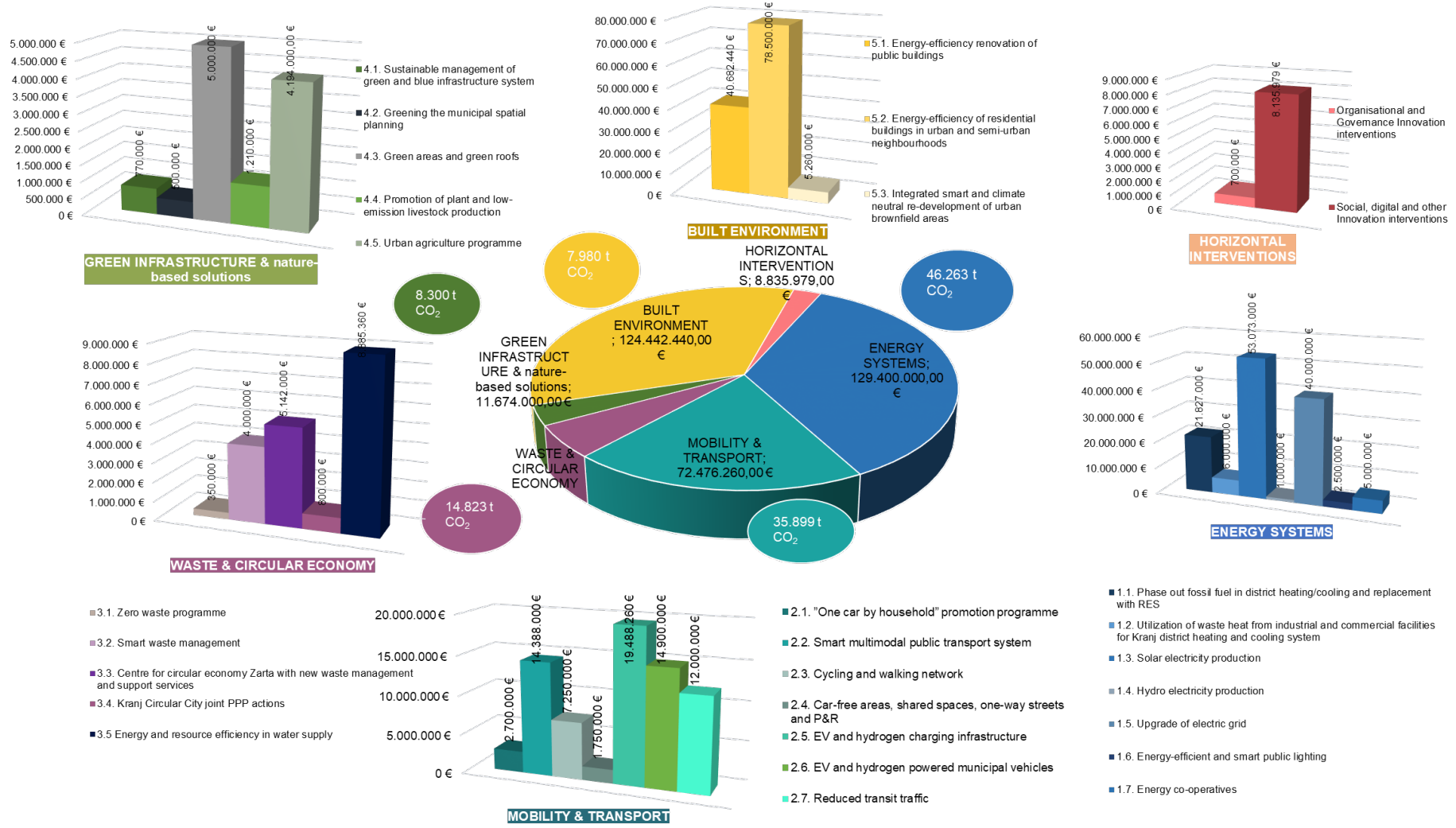

Figure 1 : Investment costs by sector and climate neutrality action

Table 6: Sectorial Costing

Fields of Action		Action / Indicator	Implementation Costs/Capex in EUR	Operational Costs/year in EUR	Direct impacts (Emission reductions) * t CO_2eq	Cost Effectiveness (EUR / t CO_2eq)	Indirect impacts (co-benefits) – ENERGY SAVINGS in EUR (diesel/ELKO, gas and electricity reduction)	Indirect impacts (co-benefits)*
1 Energy systems	1.1.	Phase out fossil fuel in district heating/cooling and replacement with RES	21.827.000	1.673.943	14.342	1.522	2.213.283	- Energy self-sufficiency and security - Cost savings from energy - Urban heat island effect reduced - Citizen & community participation
	1.2.	Utilization of waste heat from industrial and commercial facilities for Kranj district heating and cooling system	6.000.000	773.438	9.850	609	1.912.300	
	1.3.	Solar electricity production	53.073.000	984.460	19.690	2.695	12.686.300	
	1.4.	Hydro electricity production	1.000.000	20.000	125	7.981	81	
	1.5.	Upgrade of electric grid	40.000.000	800.000	0	0	0	
	1.6.	Energy-efficient and smart public lighting	2.500.000	75.000	286	8.729	184.528	
	1.7.	Energy co-operatives	5.000.000	100.000	1.969	2.539	1.268.630	
2 Mobility & Transport	2.1.	"One car by household" promotion programme	2.700.000	0	16.342	165	6.249.215	- Improved air quality - Road safety - Increased quality of life - Reduced transport costs - Reduced noise pollution
	2.2.	Smart multimodal public transport system	14.388.000	107.900	4.797	2.999	1.834.397	
	2.3.	Cycling and walking network	7.250.000	259.440	183	39.683	69.867	
	2.4.	Car-free areas, shared spaces, one-way streets and P&R solutions	1.750.000	124.350	268	6.531	102.472	
	2.5.	EV hydrogen powered charging infrastructure	19.488.260	730.413	10.585	1.841	6.962.302	
	2.6.	EV and hydrogen powered municipal vehicles	14.900.000	542.714	1.027	14.514	572.244	

Fields of Action		Action / Indicator	Implementation Costs/Capex in EUR	Operational Costs/year in EUR	Direct impacts (Emission reductions) * t CO_2eq	Cost Effectiveness (EUR / t CO_2eq)	Indirect impacts (co-benefits) – ENERGY SAVINGS in EUR (diesel/ELKO, gas and electricity reduction)	Indirect impacts (co-benefits)*
	2.7.	Reduced transit traffic	12.000.000	240.000	2.699	4.446	2.064.151	
3 Waste & Circular economy	3.1.	Zero waste programme	350.000	0	658	532	0	- Waste management efficiency – reduced quantities - increased rate of recycling - New green jobs generation
	3.2.	Smart waste management	4.000.000	0	53	75.372	20.295	
	3.3.	Centre for Circular Economy Zarta	5.142.000	102.840	11.512	447	0	
	3.4.	Kranj Circular City public-private innovation actions	800.000	40.000	2.579	310	4.536	
	3.5.	Energy and resource efficiency in water supply	8.885.360	266.561	20	444.422	11.978	- Water savings – reduced leakages
4 Green infrastructure & nature-based solutions	4.1.	Sustainable management of green and blue infrastructure system	770.000	0	7.560	102	0	- Biodiversity preservation - Increased quality of life/ Livability - Urban heat island effect reduced
	4.2.	Greening the municipal spatial planning	500.000	0	0	0	0	
	4.3.	Green/blue areas and green roofs	5.000.000	250.000	68	74.074	0	
	4.4.	Promotion of plant and low-emission livestock production	1.210.000	60.500	672	1.801	0	- Improved citizen health - Sustainable local food production
	4.5.	Urban agriculture programme	4.194.000	209.700	0	0	0	
5 Built environment	5.1.	Energy - efficiency renovation of public buildings	40.682.440	813.649	2.685	15.149	1.254.674	- Cost savings from energy

Fields of Action		Action / Indicator	Implementation Costs/Capex in EUR	Operational Costs/year in EUR	Direct impacts (Emission reductions) * t CO_2eq	Cost Effectiveness (EUR / t CO_2eq)	Indirect impacts (co-benefits) – ENERGY SAVINGS in EUR (diesel/ELKO, gas and electricity reduction)	Indirect impacts (co-benefits)*
	5.2.	Energy-efficiency renovation of residential buildings	78.500.000	1.570.000	5.092	15.417	880.318	- Increased social cohesion
	5.3.	Integrated smart and climate neutral re-development of urban brownfield areas	5.260.000	105.200	203	25.975	0	- Land use management practices - Increased quality of life/ Livability
Total			**357.170.060**	**9.850.109**	**113.124**	**3.157**	**38.291.570**	
Cross Cutting Costs / Horizontal Interventions	0.1.	Organisational and Governance Innovation interventions	700.000				*0*	- Citizens & community participation
	0.2.	Social, digital and other Innovation interventions	8.135.979				*0*	
Total			**366.006.039**	**9.850.109**	**113.124**	**3.235**	**38.291.570**	

**Referring to the Action Plan*
***Indicative indicators*

Table 7: Capital Intensive Projects

Fields of Action		Action / Indicator	Capex (€)	Opex (€)	Cost Effectiveness (EUR/t CO_2eq)	Investment (Split by Stakeholders)
1 Energy systems	**1.1.**	**Phase out fossil fuel in district heating/cooling and replacement with RES**	21.827.000	1.673.943	1.522	*Citizens: 0%* *Private Sector: 0%* *Municipality: 0%* *RS – National: 0%* *Transport Operators: 0%* ***Utility Providers: 100%***
	Project Description: Today's Kranj district heating energy sources are: 45% gas and 55% heat from cogeneration (CHP) unit. Thus, this action refers to a cluster of projects aiming at further increasing the DH efficiency and decreasing the dependency on gas and heating oil by introducing a combination of RES energy sources (biomass, heat pumps, solar thermal system, cogeneration engines; in the future combined also by hydrogen) in three existing and several new district heating plants and their respective network. Investments in existing district heating systems (all 90% RES): - **(1) Zlato polje** (Education district with faculty, student home, 2 secondary schools, sport hall) with annual heat production av. 2.000 MWh. - **(2) Vodovodni stolp** residential district with annual heat production av. 4.000 MWh, - **(3) Planina** residential district with annual heat production av. 40.000 MWh. New district heating and cooling (DHC) systems - **(4) New DHC** (district heating and cooling**) Zlato polje** of installed power of 2 MW, expected annual heat production 3.000 MWh and with corresponding network connecting partly existing and partly newly planned development replacing gas (90% RES). - **(5) New DH systems in residential sub-urban and rural neighbourhoods** with total heat production of 16.000 MWH (100% RES). ***Timeline:*** **Early Changes (up to 2025): 30%** of **district heating and cooling** running primarily on RES (biomass, CHP) **Late outcomes (2026 – 2030): 90%** of **district heating and cooling** running primarily on RES (biomass, CHP) and waste heat (see 2.1)				
	1.2.	**Utilization of waste heat from industry and commercial facilities for Kranj district heating and cooling system**	6.000.000	773.438	609	*Citizens: 0%* *Private Sector: 0%* *Municipality: 0%* *RS – National: 0%* *Transport Operators: 0%* ***Utility Providers: 100%*** *(concession)*
	Project Description: The major industrial area in Kranj (Labore) annually generates significant residual heat from rubber technological processes although the enterprises continuously invest in new technologies and energy measures. Further potential of waste heat is also observed at other commercial areas. The studies made so far anticipate that utilization of waste heat from these sources for the purpose of Kranj district heating and					

Fields of Action		Action / Indicator	Capex (€)	Opex (€)	Cost Effectiveness (EUR/t CO_2eq)	Investment (Split by Stakeholders)
	cooling is feasible. Thus, the action envisages implementation of 1 plant with annual production of av. 40.000 MWh and corresponding transporting network. ***Timeline:*** **Early Changes (up to 2025): 0** **Late outcomes (2026 – 2030): respective part of the district heating and cooling** system running 100 % on waste heat					
	1.3.	**Solar electricity production**	53.073.000	984.460	2.695	***Citizens: 41%*** ***Private Sector: 41%*** ***Municipality: 11%*** *RS – National: 0%* *Transport Operators: 0%* ***Utility Providers: 7%***
	Project Description: With more than 1.900 sunny hours per year in the area of Kranj, generation and storage of solar energy is of high priority for the city on its path towards climate neutrality. Thus, the action includes investments by different stakeholders and individuals in photovoltaic (PV) and its storage in the total av. 50 MW of installed power: - **(1) City of Kranj:** installation of 20 PV and respective battery storage, 15.000 m^2, estimated total capacity 3.300 kW (PPP). - **(2) Komunala Kranj (Public Utility Company):** installation of PV and respective battery storage in Tenetiše, Zarica and magazine facility in the total capacity of 3.423 kW. - **(3) Larger solar parks and smaller self-sufficient PV installations of individual and private investors:** installation of PV and respective battery storage system in total capacity 43.277 MW with 335.000 m^2 surface of brownfield premises /roof space at RTP Labore, RTP Primskovo and RTP Zlato Polje according to the study.[1] ***Timeline:*** **Early Changes (up to 2025):** Increased **solar electricity production** (**20.000 MWh**) **Late outcomes (2026 – 2030):** Increased **solar electricity production** (**55.000 MWh**)				
	1.5.	**Upgrade of electric grid**	40.000.000	800.000	0	*Citizens: 0%* ***Private Sector: 100%*** *Municipality: 0%* *RS – National: 0%*

[1] Opportunity assessment for installation of larger PV in the RTP 110 kv/SN electric distribution system of Slovenia/ slo. Pregled možnosti vključitve večjih sončnih elektrarn na distribucijski sistem električne energije v Sloveniji v RTP 110 kv/SN, avgust 2022)

Fields of Action		Action / Indicator	Capex (€)	Opex (€)	Cost Effectiveness (EUR/t CO_2eq)	Investment (Split by Stakeholders)
						Transport Operators: 0% *Utility Providers: 0%*
	Project Description: Existing electric grid network in the territory of the City of Kranj and its broader Gorenjska region does not allow accelerated transition and represents a major barrier towards achieving the set decarbonisation goals. Thus, the action, further to the Development Plan of the Distribution System of Electrical Energy in the Republic of Slovenia from 2023 to 2023 (SODO d.o.o, November 2022) involves renovations and replacement of transformers and primary/ secondary equipment in RTP Zlato Polje, RTP Primskovo and RTP Labore and other primary and secondary networks, equipment, construction works. ***Timeline:*** **Early Changes (up to 2025):** RTP Zlato Polje (partly), RTP Primskovo (partly) **Late outcomes (2026 – 2030):** RTP Zlato Polje (partly), RTP Primskovo (partly), RTP Labore				
2 Mobility & Transport	**2.2.**	**Smart multimodal public transport system**	14.388.000	107.900	2.999	*Citizens: 0%* *Private Sector: 0%* ***Municipality: 100%*** *RS – National: 0%* *Transport Operators: 0%* *Utility Providers: 0%*
	Project Description: 25.601 persons commute to, within and outward Kranj (towards Ljubljana and neighbouring business parks) for work, majority of them using a personal car (SORS, 2018). To make use of public transport attractive to citizens and in particular daily commuters, further improvements and expansion of public bus transport and different mobility services is foreseen, together with their integration and digitization into a single smart multi-modal city public transport management system. The following is planned: - **(1) Central passenger multimodal terminal – mobility hub Kranj:** Integration of main train and bus terminal and other mobility services at one single hub - location at the current Kranj train station is foreseen. The action involves construction of a bus passenger terminal next to the train station, supported by other micro mobility services and park & ride facilities at the total area of 23.000 m^2, currently derelict site. In 2023, a comprehensive master plan for the location is being designed in the cooperation of the Government and the City of Kranj. With improved and frequent city bus lines the new terminal will be linked to the city centre and major city residential and business districts. By 2030 the terminal will be complemented with a second railway track between Kranj and Ljubljana, an investment run by the Republic of Slovenia. This shall increase rail capacity, train frequency and shorten the travel time between Kranj and Ljubljana. - **(2) Kranj routing system**: extension of public bus lines and bus frequency adjusted to the needs of commuters, daily users and major traffic generation hot spots (business and commercial parks, education, social and health centres...) within the urban area of Kranj and in its functional area (Naklo, Šenčur, Preddvor, Tržič and direction Škofja Loka - Ljubljana). - **(3) Expansion of car-sharing** including social innovation initiatives with unused car-fleet of businesses, schools, clubs etc. - **(4) Further extension of city e-bike system.** Currently 29 bike stations with 330 lockers and 200 bikes (125 classical, 75 e-bikes, 2 e-cargo bikes). https://www.krskolesom.si/				

<table>
<tr><th>Fields of Action</th><th></th><th>Action / Indicator</th><th>Capex (€)</th><th>Opex (€)</th><th>Cost Effectiveness
(EUR/t CO_2eq)</th><th>Investment (Split by Stakeholders)</th></tr>
<tr><td rowspan="3"></td><td colspan="6">- (5) Digital integration of urban mobility modes into one single product providing optimisation of routing system, commuting application, smart parking system etc. (MaaS application).

Timeline:
Early Changes (up to 2025): Reduced motorized daily commuting in Kranj functional area by integration of of new mobility form into smart multi-modal transport system
Late outcomes (2026–2030): 30% reduced motorized daily commuting in Kranj functional area by implementation of smart multi-modal transport system, new passanger multimodal terminal</td></tr>
<tr><td>2.5.</td><td>EV and hydrogen powered charging infrastructure</td><td>19.488.260</td><td>730.413</td><td>1.841</td><td>Citizens: 0%
Private Sector: 0%
Municipality: 100%
RS – National: 0%
Transport Operators: 0%
Utility Providers: 0%</td></tr>
<tr><td colspan="6">Project Description: To promote substantial citizen and business shift from fossil fuel to electric and gradually also hydrogen powered vehicles, the following actions into the open charging infrastructure are envisaged:
(1) Municipal public EV charging network
○ 2018–2022: 15 public charging stations
○ 2023–2030: 35 public charging stations
(2) High-speed EV charging hubs. The City of Kranj is enabling appropriate spatial regulations and locations for private and PPP investments in publicly accessible high-speed EV charging hubs in the period 2023–2030, such as:
○ EV hub Primskovo 1 for approximately 10 e-buses/e-trucks and e-cars (6–10 MW)
○ EV hub Primskovo 2 for additional 20–30 e-buses/e-trucks and e-cars (10–15 MW)
○ RESHUB (Resilience Hub Network in Europe) as a pilot hydrogen hub in Kranj military facility area including: PV, electrolyser for conversion of green energy to hydrogen, hydrogen storage tank, hydrogen fuel cell for CHP, battery for smoothing energy, hydrogen charging station for defence and civil lighter and heavier vehicles. In addition to increased resilience of the military operation, the hub will support the city in case of natural disasters and other crisis situations. It will be open to public and thus help greening the Kranj public and private transport.
(3) Other E-charging stations combined by PV (Action 1.3) in the larger parking areas not exploited overnight (e.g. commercial and business parks) to service also nearby dense residential areas and/or large traffic generation hot spots.

Timeline:
Early Changes (up to 2025): Expansion of EV public charging stations
Late outcomes (2026–2030): Deployment of large-scale technologies in high-speed EV and hydrogen powered charging hubs and network for citizens and business shift to EV/HFCV leading to 20% of EV on the main city roads</td></tr>
</table>

Fields of Action		Action / Indicator	Capex (€)	Opex (€)	Cost Effectiveness (EUR/t CO_2eq)	Investment (Split by Stakeholders)
	2.6.	**EV and hydrogen powered municipal vehicles**	14.900.000	542.714	14.514	*Citizens: 0%* ***Private Sector: 21%*** ***Municipality: 17%*** ***RS – National: 63%*** *Transport Operators: 0%* *Utility Providers: 0%*
	Project Description: The City of Kranj intends to replace all fossil-fuel public vehicle fleet in use for public transport, administration, education, sport, social services, and utilities with electric vehicles and when possible, with hydrogen powered vehicles. **(1) 18 e-buses for public** transport **(2) 100 diverse e-vehicles** for municipal social, education and other services **(3) 4 special technical e-vehicles** for Komunala Kranj utility company ***Timeline:*** **Early Changes (up to 2025): EV in municipal public transport, social services and utility fleet** (60% of EV) **Late outcomes (2026–2030): EV in municipal public transport, social services and utility fleet** (100% of EV)					
	2.7.	**Reduced transit traffic**	12.000.000	240.000	4.446	*Citizens: 0%* *Private Sector: 0%* *Municipality: 0%* ***RS – National: 100%*** *Transport Operators: 0%* *Utility Providers: 0%*
	Project Description: The City of Kranj crosses an important regional road connecting neighbouring municipality Škofja Loka (population 23.799, 2023) to the A2 highway. A direct connecting road from Škofja Loka to Meja (City of Kranj) and further to highway is envisaged as part of the so called 4th Slovenian Development Axis. The road is being planned in both municipal spatial plans while investment is negotiated with the Government of Slovenia. The direct road would reduce traffic and air pollution in the City of Kranj as well as reduce travel distance for the transiting lorries and cars for 4 km. ***Timeline:*** **Early Changes (up to 2025): /** **Late outcomes (2026–2030): Reduced transit traffic to Škofja Loka**					

Fields of Action		Action / Indicator	Capex (€)	Opex (€)	Cost Effectiveness (EUR/t CO_2eq)	Investment (Split by Stakeholders)
3 Waste & Circular economy	**3.3.**	**Centre for Circular Economy Zarta**	5.142.000	102.840	447	*Citizens: 0%* *Private Sector: 0%* ***Municipality: 100%*** *RS – National: 0%* *Transport Operators: 0%* *Utility Providers: 0%*
	Project Description: Since 2009 the City's solid waste landfill in Tenetiše is closed and under emission (methane) monitoring until 2046. A large solar plant is foreseen to be installed at the rehabilitated site (part of action 1.3) while recycling has already been in place for over two decades. Aiming at promoting Kranj towards efficient local circular waste and material management, an investment into ZARTA Centre for Circular Economy is foreseen in the vicinity of the WWTP (redevelopment of currently derelict industrial area). Within new ZARTA centre, all existing and future city waste and material management services will be concentrated at one place. Thus, the action involves: - **(1) Continuation of closing process** with the emission monitoring at ex-landfill Tenetiše. - **(2)** Investment into **ZARTA Circular Economy Centre** involving services like: ○ **One-stop shop for waste management and circular economy** including citizens and education centre, re-use workshops and tool exchange, extension of re-use and zero-waste shop and local food restaurant, green roof. ○ **Public parking area with e-charging stations for cars and e-bikes.** ○ **Car cleaning facility** using wastewater from WWTP. ○ **Glass cleaning facility** for local farmers (packaging), event organizers. ○ **Green recreation area with education points:** education trail, "forest classroom", demonstration area of circular solutions for citizens (e.g composting, urban gardening, usage of drain water, circular materials and principles in construction). ***Timeline:*** **Early Changes (up to 2025): 30%** less methane emission **Late outcomes (2026–2030): 50%** less methane emission, ZARTA Circular Economy Centre in operation				
	3.5.	**Energy and resource efficiency in water supply**	8.885.360	266.561	444.422	*Citizens: 0%* *Private Sector: 0%* *Municipality: 0%* *RS – National: 0%* *Transport Operators: 0%* ***Utility Providers: 100%***
	Project Description: Kranj water system extends over 302 km (210 km in City of Kranj) and supplies 50.265 residents of the City of Kranj and 10.733 residents of neighbouring municipalities. In 2019 the system produced and distributed 5.686.161 m^3 (4.586.507 m^3 in the City of Kranj) of drinkable					

Fields of Action		Action / Indicator	Capex (€)	Opex (€)	Cost Effectiveness (EUR/t CO_2eq)	Investment (Split by Stakeholders)
	water. In addition, there are four other local water supply systems in the territory of the city. There are 6 major water sources, all located in the mountain area outside the city territory. Although there were significant investments in the system over the last decade, reducing of water leakages, increasing of energy efficiency of the water facilities and assuring supply and cyber security are of vital importance. Thus, this action includes: Reconstruction of existing water supply system to reduce water losses. Note: *Only climate related part of investment costs is estimated.* ***Timeline:*** **Early Changes (up to 2025):** Reduction of water losses to 25% **Late outcomes (2026–2030):** Reduction of water losses to 15% in 2030 (600.000 m^3 water savings per year)					
4 Green infrastructure & nature-based solutions	**4.3.**	**Green areas and green roofs**	5.000.000	250.000	74.074	***Citizens: 50%*** *Private Sector: 0%* ***Municipality: 50%*** *RS – National: 0%* *Transport Operators: 0%* *Utility Providers: 0%*

	Project Description: There is an ambition to sustain and, where possible, increase the carbon sequestration capacity of the urban green and blue areas especially to contribute to the citizens' well-being, reducing heat islands and improve connectivity of habitats. The action foresees:
	- **(1)** Implementation of **green-roof concept and solutions among private and public investors** on buildings with larger roofs (obligatory when revised municipal spatial plan is adopted) in the estimated total area of 30.000 m^2 of green roofs (10 new major buildings per year x 600 m^2 x 5 years), including municipal new constructions.
	- **(2) Improvements and extensions of public green and blue areas** in the total estimated area of 20.000 m^2. The priority shall be given to the areas in municipal ownership and those located within up to 15 minutes walking distance from major residential areas and heat islands.
	  ○ Improvements of **major green and nature protected areas** with relevant ecosystem service potential, such as **Bleiweis park** and **Kokra river canyon,** the second deepest urban gorge in Europe and green area inside the city. Further preservation, visitor and recreation management incl. visitor infrastructure and bio- and geo-diversity rehabilitation is foreseen.
	  ○ **Extending green areas,** including rehabilitation of derelict urbanized sites such as green & demonstration areas Zarta Centre, greening of old town centre and Sava river and its banks – renaturation of abandoned areas.
	  ○ **New approach in maintenance of green public areas**: multi-layer planting, trees along streets, greening of historic and other highly urbanised areas, arranging green spots and green shelters in vicinity of heat islands and major public institutions.
	  ○ **Nature-based solutions** for increased biodiversity, sequestration and flood prevention in the areas such as restoration of wetland areas of Milka stream.
	
	Timeline:
	Early Changes (up to 2025): Additional and improved green areas/ green roofs installed in the urban areas total surface of approx. 10.000 m^2					

Fields of Action		Action / Indicator	Capex (€)	Opex (€)	Cost Effectiveness (EUR/t CO_2eq)	Investment (Split by Stakeholders)
	Late outcomes (2026–2030): Additional and improved green areas/ green roofs installed in the urban area total surface of appox. 50.000 km^2					
5 Bulit environment	**5.1.**	**Energy - efficiency renovation of public buildings**	40.682.440	813.649	15.149	*Citizens: 0%* *Private Sector: 0%* ***Municipality: 31%*** ***RS – National: 69%*** *Transport Operators: 0%* *Utility Providers: 0%*
	Project Description: The integrated energy-efficiency renovation programme of public buildings of City of Kranj includes: (1) **Energy-efficiency renovation of 40 municipal buildings following a PPP business model** (2018–2022: 21, 2023–2024: 19). Wherever possible energy-efficiency measures are complemented by other measures improving the property lifespan, climate and earthquake safety, accessibility and greening. (2) **Energy-efficiency renovation of state-owned buildings in Kranj** in the period 2018–2022 major energy-efficiency renovations were undertaken in the education district Zlato polje contributing to 1.000.000 kWh savings per year. Further to national investment plan as of June 2023 Government foresees energy-efficiency rehabilitations of 6 state owned premises located in Kranj between 2023–2030: Nursery hospital, NLZOH laboratories, Vocational secondary school at S. Žagar, Regional Court, Cultural heritage Institute and Police Kranj) in total area of 27.528 m2. ***Timeline:*** **Early Changes (up to 2025): Energy-efficiency renovation of major public** buildings completed (40 or all municipal and 1 state building) **Late outcomes (2026–2030): Energy-efficiency renovation of major public** buildings completed (40 or all municipal and 6 state buildings)					
	5.2.	**Energy-efficiency renovation of residential buildings in urban and sub-urban neighbourhoods**	78.500.000	1.570.000	15.417	***Citizens: 100%*** *Private Sector: 0%* *Municipality: 0%* *RS – National: 0%* *Transport Operators: 0%* *Utility Providers: 0%*
	Project Description: There were 20.984 apartments in the City of Kranj in 2018 of which: - 49,4% or 10.360 in the multi-apartment buildings with average size of 54,7 m^2, - 47,3% or 9.935 in single or two-flat houses with average size of 106,6 m^2, - 3,3% or 689 in other buildings.					

Fields of Action		Action / Indicator	Capex (€)	Opex (€)	Cost Effectiveness (EUR/t CO_2eq)	Investment (Split by Stakeholders)
	84% of the residential buildings in Kranj City were constructed before 1990 with low energy efficiency. Thus, action aims at energy-efficiency renovation, including shift of energy source from fossil fuel to RES (biomass, heat pumps) of: - Multi-apartment buildings in high dense urban residential urban neighbourhoods – to reach 90% renovation, - Individual houses in urban and sub-urban neighbourhoods to reach 25% renovation. **A. Multi-apartment facilities** 487 multi-unit buildings in several densely populated Kranj urban districts are managed by the major facility managing company. 65% of the buildings in their management have undergone energy-efficiency rehabilitation by 2018. Thus, this action refers to renovation of approx. 140 of remaining multi-unit residential buildings with approx. 2.400 apartments to reach the approx. 90% goal =120 buildings): - 50 buildings x 20 = 1.000 apartments (total 367 =7.500 app) between 2018-2022 - 70 buildings x 20 = 1.400 apartments (total 437=8.900 apartments) between 2023-2030 Wherever possible energy-efficiency measures are complemented by measures improving the property life-span, climate and earthquake safety, accessibility and green areas. **B. Individual houses** There are 9.695 individual residential units with one (8728) or two flats (967) in the area of Kranj city predominantly constructed 40-50 years ago. According to LEC majority of them still use fossil fuel (light fuel oil). To accelerate their transition to RES or one of the planed district heating systems (see action 1.1) the City intends in collaboration with LEAG and Slovenia Eco Fund or other financial partner develop special programme to provide engineering support and subsidies to individual house owners, in particular low-income owners and elderly to undertake the energy-efficiency measures. The city targets to renovation of 2.500 individual houses. - 807 houses between 2018-2022 (EF) - 1.700 houses between 2023-2030 ***Timeline:*** **Early Changes (up to 2025): 85%** of multi-unit residential buildings undergone energy efficiency rehabilitation (50 of remaining 140), **900** individual houses undergone energy efficiency rehabilitation and change of fuel source **Late outcomes (2026–2030): 90%** of multi-unit residential buildings undergone energy efficiency rehabilitation (70 of remaining 140), **2.500** (900+1600) individual houses undergone energy efficiency rehabilitation and change of fuel source				

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.

Textual element

In order to achieve City of Kranj's climate neutrality by 2030, the total costs of implementing the activities listed in the Action Plan amount to **366 million EUR.** Funding is distributed among the stakeholders according to the type of activity and the potential availability of financial sources. Capital structure has been optimised for each individual action. It is based on assumptions from existing experience with budgeting structure in financial ability and will be a subject of adjustments to macro-economic framework in the future.

Capital structure by stakeholder:

- **Public funding** – the City of Kranj's share of the entire IP amounts to 95,7 million EUR, which represents 26% of all needed climate neutrality budget. 52,2 million EUR (14% of entire IP) is envisaged to be financed from national public budget – investments in efficiency renovation of buildings and transport infrastructure in City of Kranj owned and managed by the state.
- **Private funding contributes 60% of** needed climate capital. 102 million EUR (28%) will be invested by the citizens, mainly for activities related to energy systems and built environment. Private (commercial) sector contributes 71,9 million EUR (20%), and utility providers 43,6 million EUR (12%).

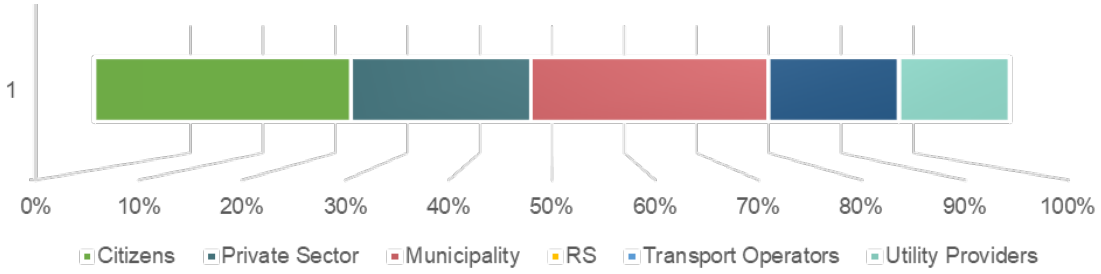

Figure 2 : Capital Planning by Stakeholder

Capital planning by a Stakeholder for each action/activity is presented in **Table 8.** The table does not present the funding structure of individual action but the total size of the action for which certain type of stakeholders are responsible for. The stakeholders shall to their best abilities assure the sound funding sources for the action under their responsibility. Citizens and private sector will be encouraged and supported by subsidies from the Eco Fund, favourable and accessible financing for sustainable investments and "one-stop shop" providing information, advice and technical support to the relevant investors concerned. It is to be noted that:

- According to the Municipal Act on the Implementation of Public Utility Services the city's public transport is provided as a concession. Therefore, mobility and transport related capital investments are funded publicly and included in the Municipality's budget. Transport operator as concessionaire is a service provider.
- Due to Slovenian specifics, a column presenting allocation of actions to the Government of RS is added as the Government is the owner of particular infrastructure or premises to be invested in within the City of Kranj.

On the other hand, the **Table 9** indicates the breakdown of financial sources between the City budget and other sources. The percentage of costs covered takes into account all costs covered by the City budget and financial sources from other stakeholders for investment projects and activities already carried out in the period from 2018 to 2022.

Table 8: Capital Planning by Stakeholder

Field of Action		Action / Indicator	Citizens (€)	Private Sector (€)	Municipality (€)	Government (RS) (€)*	Transport Operators (€)	Utility Providers (€)	Total (€)
1 Energy systems	1.1.	Phase out fossil fuel in district heating/cooling and replacement with RES	0	0	0	0	0	21.827.000	21.827.000
	1.2.	Utilization of waste heat from industrial and commercial facilities for Kranj district heating and cooling system	0	0	0	0	0	6.000.000	6.000.000
	1.3.	Solar electricity production	21.638.500	21.638.500	5.850.000	0	0	3.946.000	53.073.000
	1.4.	Hydro electricity production	0	1.000.000	0	0	0	0	1.000.000
	1.5.	Upgrade of electric grid	0	40.000.000	0	0	0	0	40.000.000
	1.6.	Energy-efficient and smart public lighting	0	0	2.500.000	0	0	0	2.500.000
	1.7.	Energy co-operatives	0	0	5.000.000	0	0	0	5.000.000
2 Mobility & Transport	2.1.	"One car by household" promotion programme	0	0	2.700.000	0	0	0	2.700.000
	2.2.	Smart multimodal public transport system	0	0	14.388.000	0	0	0	14.388.000
	2.3.	Cycling and walking network	0	0	7.250.000	0	0	0	7.250.000
	2.4.	Car-free areas, shared spaces, one-way streets and P&R solutions	0	0	1.750.000	0	0	0	1.750.000
	2.5.	EV hydrogen powered charging infrastructure	0	4.000.000	3.288.260	12.200.000	0	0	19.488.260
	2.6.	EV and hydrogen powered municipal vehicles	0	0	12.600.000	0	0	2.300.000	14.900.000
	2.7.	Reduced transit traffic	0	0	0	12.000.000	0	0	12.000.000
	3.1.	Zero waste programme	0	0	0	0	0	350.000	350.000

Field of Action		Action / Indicator	Citizens (€)	Private Sector (€)	Municipality (€)	Government (RS) (€)*	Transport Operators (€)	Utility Providers (€)	Total (€)
3 Waste & Circular economy	3.2.	Smart waste management	0	0	0	0	0	4.000.000	4.000.000
	3.3.	Centre for Circular Economy Zarta	0	0	0	0	0	5.142.000	5.142.000
	3.4.	Kranj Circular City public-private innovation actions	0	0	800.000	0	0	0	800.000
	3.5.	Energy and resource efficiency in water supply	0	0	8.885.360	0	0	0	8.885.360
4 Green infrastructure & nature-based solutions	4.1.	Sustainable management of green and blue infrastructure system	0	0	770.000	0	0	0	770.000
	4.2.	Greening the municipal spatial planning	0	0	500.000	0	0	0	500.000
	4.3.	Green/blue areas and green roofs	2.500.000	0	2.500.000	0	0	0	5.000.000
	4.4.	Promotion of plant and low-emission livestock production	0	0	1.210.000	0	0	0	1.210.000
	4.5.	Urban agriculture programme	0	0	4.194.000	0	0	0	4.194.000
5 Built environment	5.1.	(Integrated) Energy - efficiency renovation of public (municipal and state-owned) buildings	0	0	12.682.440	28.000.000	0	0	40.682.440
	5.2.	Energy-efficiency renovation of residential buildings	78.500.000	0	0	0	0	0	78.500.000
	5.3.	Integrated smart and climate neutral re-development of urban brownfield areas	0	5.260.000	0	0	0	0	5.260.000
0 Horizontal interventions	0.1.	Organisational and Governance Innovation interventions	0	0	700.000	0	0	0	700.000

Field of Action		Action / Indicator	Citizens (€)	Private Sector (€)	Municipality (€)	Government (RS) (€)*	Transport Operators (€)	Utility Providers (€)	Total (€)
	0.2.	Social, digital and other Innovation interventions	0	0	8.135.979	0	0	0	8.135.979
TOTAL			**102.638.500**	**71.898.500**	**95.704.039**	**52.200.000**	**0**	**43.565.000**	**366.006.039**

Table 9: Capital Planning

Field of Action		Action / Indicator	Cost to Municipality	Cost to Other	% of Costs Covered
1 Energy systems	1.1.	Phase out fossil fuel in district heating/cooling and replacement with RES	1.551.350	20.275.650	9,35%
	1.2.	Utilization of waste heat from industrial and commercial facilities for Kranj district heating and cooling system	300.000	5.700.000	5,00%
	1.3.	Solar electricity production	1.170.000	51.903.000	14,18%
	1.4.	Hydro electricity production	0	1.000.000	0,00%
	1.5.	Upgrade of electric grid	0	40.000.000	0,00%
	1.6.	Energy-efficient and smart public lighting	2.100.000	400.000	84,00%
	1.7.	Energy co-operatives	1.000.000	4.000.000	20,00%
2 Mobility & Transport	2.1.	"One car by household" promotion programme	540.000	2.160.000	20,00%
	2.2.	Smart multimodal public transport system	8.110.500	6.277.500	56,37%
	2.3.	Cycling and walking network	2.350.000	4.900.000	39,31%
	2.4.	Car-free areas, shared spaces, one-way streets and P&R solutions	700.000	1.050.000	40,00%
	2.5.	EV and hydrogen powered charging infrastructure	188.260	19.300.000	0,97%
	2.6.	EV and hydrogen powered municipal vehicles	2.000.000	12.900.000	25,50%

Field of Action		Action / Indicator	Cost to Municipality	Cost to Other	% of Costs Covered
	2.7.	Reduced transit traffic	0	12.000.000	0,00%
3 Waste & Circular economy	3.1.	Zero waste programme	50.000	300.000	14,29%
	3.2.	Smart waste management	3.500.000	500.000	87,50%
	3.3.	Centre for Circular Economy Zarta	0	5.142.000	0,00%
	3.4.	Kranj Circular City public-private innovation actions	240.000	560.000	30,00%
	3.5.	Energy and resource efficiency in water supply	4.254.144	4.631.216	60,61%
4 Green infrastructure & nature-based solutions	4.1.	Sustainable management of green and blue infrastructure system	600.600	169.400	78,00%
	4.2.	Greening the municipal spatial planning	250.000	250.000	50,00%
	4.3.	Green areas and green roofs	2.500.000	2.500.000	50,00%
	4.4.	Promotion of plant and low-emission livestock production	150.040	1.059.960	12,40%
	4.5.	Urban agriculture programme	2.994.000	1.200.000	71,39%
5 Built environment	5.1.	Energy - efficiency renovation of public buildings	1.268.244	39.414.196	31,54%
	5.2.	Energy-efficiency renovation of residential buildings Energy-efficiency renovation of residential buildings in urban and semi-urban neighbourhoods	0	78.500.000	36,94%
	5.3.	Integrated smart and climate neutral re-development of urban brownfield areas	1.052.000	4.208.000	23,95%
0 Horizontal interventions	0.1.	Organisational and Governance Innovation interventions	350.000	350.000	50,00%
	0.2.	Social, digital and other Innovation interventions	7.005.000	1.130.979	91,15%
TOTAL			**44.224.138**	**321.781.901**	**26,14%**

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.

B-3.1: Textual element

A uniform approach to monitoring and evaluation of the results and impacts of actions /investments has been set up to support both, Action and Investment Plan. The Action Plan (**Table 13**) provides a comprehensive system of outcomes and impact /co-benefits indicators for each of the intervention fields, together with targets for 2025–2027–2030 and detailed description of the related indicator data sources and methods of calculation. Only indicators that are accessible and available were considered.

The proposed indicators measure emission reductions on the AP and individual field level as well as sector-specific outcomes and their multi-sector. Monitoring of economic impact as requested by IP is measured by at least one impact sector-level and one monetary (e.g. cost savings) indicator by field.

Table 10 extracts the most relevant impact indicators for assessing the broader **socio-economic effects** from the AP monitoring system, while outcome related indicators are not transferred and duplicated in the table below. In principle, 2018 was taken as a baseline year. In few cases, where data for 2018 was not available, the first following year with the available data was considered. In case indicators are measuring quality, attitude change (e.g. quality of life) or sensitive facts (e.g. accidents) their targets are set with the indication of positive/ negative trend only (presented with an arrow) as setting quantitative target is subjective.

Engagement of financial resources against the investment plan will be monitored at the level of action based on the committed and/or implemented actions and following the overall **financial indicators** at least for the years 2022, 2025, 2027 and 2030 in:

- % of capital invested (CAPEX execution) (in %), TARGET 2030 = 100%
- % of CAPEX invested by stakeholders (compared to the Capital Planning) (in %), TARGET 2030 = as planned capital structure by stakeholder.

This will allow the Transition Team to monitor and evaluate the real cost-efficiency of the green investments. The financial indicators measuring the planned capital invested per t CO_2 are given in the **Table 11**. The average investment cost of all actions accounts to **3.235 EUR /t CO_2eq**. The supportive actions (1.5, 4.2, and 4.5) or horizontal interventions (0.1, 0.2) have no direct impact on CO_2 emission reduction thus the cost cannot be measured.

It must be stressed that the cost calculations was done following the concrete investment estimations of individual comprehensive actions and not vice-versa as approximation of estimated emission reductions. Therefore, the planed cost-efficiency varies significantly between actions. In this respect, the evaluation of the proposed indicators will be a valuable learning and input for the interim AP and IP revisions and modifications.

It is envisaged that the proposed monitoring framework will be integrated into the Smart Kranj City Platform and wherever possible integrated with existing municipal and public utility data-bases to gradually develop a digital supported MEL tool. However, several indicators will still require desk-research (e.g. from national open-source data) or more comprehensive reports (e.g. emission monitoring).

The City of Kranj Administration, especially the Office for the Development and Smart Community and with the support of the Transition Team (TT), is responsible for management of the climate process as well as monitoring and evaluation.

Table 10: Economic Indicators by Sector

Fields of Action	Indicator	Indicator Unit	Indicator Baseline*	Indicator Target 2030*
ENERGY SYSTEMS	Energy self-sufficiency and security – share of RES and waste heat in city district heating (II 1.1)	% of RES in city	2022: 55%	90%
	Costs savings from energy (II 1.2)	EUR	2018: 0	18.265.122
MOBILITY & TRANSPORT	Road safety - traffic accidents (II 2.2)	Number	2018: 543	↘
	Cost savings from mobility (II 2.4)	EUR	2018: 0	17.854.648
WASTE & CIRCULAR ECONOMY	Cost savings form waste and waste water management (II 2.2)	EUR	2018: 0	36.809
	New green jobs generation (II 3.3)	Number	2018: 961	1.200 (+ 25%)
GREEN INFRASTRUCTURE AND NATURE BASED SOLUTIONS	Sustainable local food production - agriculture land under for vegetable production (ha)	Ha	2020: 270	2030: 320
	Increased quality of life - citizen's satisfaction (average score)	Average score 1-4	2023: 2,8	↗
BUILT ENVIRNOMNET	Costs savings from energy	EUR	2018: 0	2.134.992
	Increased social cohesion - Citizens applying for incentives of Eco Fund grants (number)	Number (cumulative value)	2018–2022: 807	2.500

**Indicative indicators* *increasing ↗ decreasing ↘*

Table 11: Financial Indicators by Sector

Field of Action		Action / Indicator	Indicator CO_2 Reduction / Capital invested Unit Tons CO_2eq / EUR TARGET 2030	Indicator Capital invested / 1 t CO_2eq Costs (EUR) / t CO_2eq unit TARGET 2030
1 Energy systems	1.1.	Phase out fossil fuel in district heating/cooling and replacement with RES	14.342 t CO_2eq / 21.827.000 €	1.522 € / t CO_2eq
	1.2.	Utilization of waste heat from industrial and commercial facilities for Kranj district heating and cooling system	9.850 t CO_2eq / 6.000.000 €	609 € / t CO_2eq
	1.3.	Solar electricity production	19.690 t CO_2eq / 53.073.000 €	2.695 € / t CO_2eq
	1.4.	Hydro electricity production	125 t CO_2eq / 1.000.000 €	7.981 € / t CO_2eq
	1.5.	Upgrade of electric grid	0 t CO_2eq / 40.000.000 €	-
	1.6.	Energy-efficient and smart public lighting	286 t CO_2eq / 2.500.000 €	8.729 € / t CO_2eq
	1.7.	Energy co-operatives	1.969 t CO_2eq / 5.000.000 €	2.539 € / t CO_2eq
2 Mobility & Transport	2.1.	"One car by household" promotion programme	16.342 t CO_2eq / 2.700.000 €	165 € / t CO_2eq
	2.2.	Smart multimodal public transport system	4.797 t CO_2eq / 14.388.000 €	2.999 € / t CO_2eq
	2.3.	Cycling and walking network	183 t CO_2eq / 7.250.000 €	39.683 € / t CO_2eq
	2.4.	Car-free areas, shared spaces, one-way streets and P&R solutions	268 t CO_2eq / 1.750.000 €	6.531€ / t CO_2eq
	2.5.	EV and hydrogen powered charging infrastructure	10.585 t CO_2eq / 19.488.260 €	1.841 € / t CO_2eq
	2.6.	EV and hydrogen powered municipal vehicles	1.027 t CO_2eq / 14.900.000 €	14.514 € / t CO_2eq
	2.7.	Reduced transit traffic	2.699 t CO_2eq / 12.000.000 €	4.446 € / t CO_2eq
3 Waste & Circular economy	3.1.	Zero waste programme	658 t CO_2eq / 350.000 €	532 € / t CO_2eq
	3.2.	Smart waste management	53 t CO_2eq / 4.000.000 €	75.372 € / t CO_2eq
	3.3.	Centre for Circular Economy Zarta	11.512 t CO_2eq / 5.142.000 €	447 € / t CO_2eq
	3.4.	Kranj Circular City public-private innovation actions	2.579 t CO_2eq / 800.000 €	310 € / t CO_2eq
	3.5.	Energy and resource efficiency in water supply	20 t CO_2eq / 8.885.360 €	22.221 € / t CO_2eq
4 Green infrastructure & nature-based solutions	4.1.	Sustainable management of green and blue infrastructure system	7.560 t CO_2eq / 770.000 €	102 € / t CO_2eq
	4.2.	Greening the municipal spatial planning	0 t CO_2eq / 500.000 €	-
	4.3.	Green areas and green roofs	68 t CO_2eq / 5.000.000 €	74.074 € / t CO_2eq

Field of Action		Action / Indicator	Indicator CO_2 Reduction / Capital invested Unit Tons CO_2eq / EUR TARGET 2030	Indicator Capital invested / 1 t CO_2eq Costs (EUR) / t CO_2eq unit TARGET 2030
	4.4.	Promotion of plant and low-emission livestock production	672 t CO_2eq / 1.210.000 €	1.801 € / t CO_2eq
	4.5.	Urban agriculture programme	0 t CO_2eq / 4.194.000 €	-
5 Built environment	5.1.	Energy - efficiency renovation of public buildings	2.685 t CO_2eq / 40.682.440 €	15.149 € / t CO_2eq
	5.2.	Energy-efficiency renovation of residential buildings in urban and semi-urban neighbourhoods	5.092 t CO_2eq / 78.500.000 €	15.417 € / t CO_2eq
	5.3.	Integrated smart and climate neutral re-development of urban brownfield areas	203 t CO_2eq / 5.260.000 €	25.975 € / t CO_2eq
0 Horizontal interventions	0.1.	Organisational and governance innovation interventions	0 t CO_2eq / 700.000 €	-
	0.2.	Social, digital and other innovation interventions	0 t CO_2eq / 8.135.979 €	-
		TOTAL	**113.124 t CO_2eq /366.006.039 €**	**3.235 /t CO_2eq**

Overall Financial Indicators:

→ % of capital invested (CAPEX execution) *(in %), TARGET 2030 = 100%*

→ % of CAPEX invested by stakeholders (compared to the Capital Planning) *(in %),* TARGET 2030 = AS PLANNED CAPITAL STRUCTURE BY STAKEHOLDER

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.

C-1.1: Textual element

The Climate policies for capital formation and deployment are new to the City of Kranj Administration although some of its practices and processes are already in place and will be further enhanced, among others:

- Engaging EU and national grants, available through national programmes and funds, Cohesion and regional development policy as well as transnational (Interreg) and centralised programmes (Horizon) managed by the Office for the Development and Smart Community;
- Engagement of private investors managed by the Mayors Cabinet and the Office for the development and smart community;
- PPP funding for new innovative projects managed by the Office for Economic Affairs and Transport;
- Acquisition of loans and capital (property, shares) managed by the Sector for Finances and General Affairs.

However, the ambitious Action Plan requires accelerated, more systemic and coordinated approach to deployment of capital and fund raising. As part of the organisational and governance innovation interventions the following is foreseen:

- Coordination between sectors, stakeholders (private, governmental) and funding sources (Eco Fund, Climate fund, SID bank) to be addressed through Kranj Climate and Smart City ecosystem run by the Transition Team and supported by the One-stop shop for citizens and investors;
- Increasing of climate related technical as well as financial competences of key municipal public servants and persons responsible for actions;
- Adjustment of policy and regulatory framework and processes, including the areas with significant impact on deployment of capital, such as spatial planning, parking rate system, climate proofing of new city regulations, climate requirements in public procurement;
- Use of Smart Kranj City Platform to promote green investment opportunities, introduce citizens' benefit incentives through applications etc.

The potential local, national and EU policies that can help capital facilitation and deployment in the City of Kranj are further elaborated and described in the **Table 12.**

Table 12: List of Climate Policies to Enable Capital Deployment

Climate Policy	Policy Status (Enacted, In Process, Development, etc.)	Description of the policy (sector, targeted audience, etc.)	Intended Outcome for Capital Formation
Municipal policy: **Public-private partnership**	**Enacted** (energy efficiency rehabilitation, e-mobility) **In development** (district heating)	**Sector:** energy efficiency rehabilitation, sustainable mobility, district heating **Task:** adopt relevant decree based on the pre-feasibility and PPP procedures **Objective:** attract reliable, competent and financially sound private partners in implementation of innovative public climate investments **Target audience**: proven private partners	**Engagement of private capital** **Estimation:** > 45 mio € 5.1 = 12.682.440 € 2.5 = 3.000.000 € 2.6 = 3.100.000 € 1.1 = 21.827.000 € 1.2 = 6.000.000 €
Municipal policy: **Green spatial planning**	**In process**	**Sector:** urban planning – building, RES energy, green infrastructure **Task:** adopt amendments to Spatial Plan **Objective:** introduce climate friendly standards in urbanism and construction to engage private capital through requirements for green roofs and green areas in the urban design, necessity to adjust to sustainable mobility, energy positive/neutral buildings, favourable spatial conditions for installation of PV **Target audience:** investors, citizens	**Engagement of private and citizens capital** **Estimation:** > 30 mio € private and citizens capital 1.3 = 21.638.500 € 4.3 = 2.500.000 € 5.3 = 5.260.000 €
National policy: **Renewable energy sources**	**Enacted** (new Act on the Siting of Installations for Generation of Electricity from Renewable Energy Sources)	**Sector:** same as above **Task:** promote **Objective:** new higher standards and obligations for installations of PV in large complex and parking areas **Target audience:** same	
Municipal policy: **Public procurement**	**Envisaged**	**Sector:** major city works, supply and service procurements in all sectors **Task**: prepare guidelines for construction design and procurement selection criteria **Objective:** gradually introduce climate criteria in design of the new city construction and services as well as in the selection of bidders **Target audience:** engineers, bidders	**Provision of more economically viable public infrastructure and services** **Estimation:** Not possible to estimate – indirect impact at this stage.
Municipal policy: **Parking fares**	**Envisaged**	**Sector:** mobility - municipal public parking areas **Task**: extension of the fee based parking areas, adjusting benefit schemes for P+R, joint policy	**Increase parking income from daily car commuters, reduced from one car households.**

Climate Policy	Policy Status (Enacted, In Process, Development, etc.)	Description of the policy (sector, targeted audience, etc.)	Intended Outcome for Capital Formation
		approach with private parking areas **Objective:** parking fare policy to reduce number of cars in the city **Target audience:** daily car commuters, households with two or more cars, trucks	**Estimation:** Not possible to estimate before pre-feasibility is conducted.
National Policy : **Electrical energy distribution policy**	**In development**	**Sector:** energy efficiency rehabilitation, e-mobility **Task:** initiate deployment of national distributor's funds for upgrading the electric distribution grids as per Development Plan of the Distribution System of Electrical Energy in the Republic of Slovenia from 2023 to 2023 (SODO d.o.o, November 2022) **Objective:** allow accelerated private and public investments in PV and e-mobility **Target audience**: SODO, Government	**Engagement of national electricity operator's funds** **Estimation:** 40 mio €
EU policy: **Urban and regional development policy**	**Enacted**	**Sector:** mobility, green infrastructure and nature-based solutions **Task**: prepare ready-to go projects (actions 2.2, 2.3, 2.4, 3.3, 3.5, 4.3, 4.3, and 5.3) **Objective:** utilise the allocated urban and regional development funds for the City of Kranj under the 2021–2027 EU Cohesion Policy for the implementation of AP actions **Target audience:** City of Kranj, public utility companies	**Engagement of EU funds** **Estimation**: > 20 mio €

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.

C-2.1: Textual element

The risk analysis assesses the impacts of possible changes and uncertainties in relation to the areas and individual action and measures from an investment and financial perspective. The main purpose is to determine the critical variables and circumstances that have the greatest impact on project implementation and deployment of capital, and to identify prevention and mitigation measures in both the planning and implementation phases.

The 'intensity' of the measure reflects the level of risk. For high-impact and high-probability risks, monitoring by responsible departments for project implementation will be intensified in order to avoid or minimise the risks. If the risk materialises, a stronger response is required, whereby a high level of commitment from all involved stakeholders involved is crucial for managing the risk and minimize the impact of residual risk. For low impact risks, regular close monitoring shall also be insured and the most rational and appropriate mitigation measures must be carried out.

The following risks have been identified within the scope of the investment plan: regulatory risks, operational risks, financial risks, social – reputation risks, administrative risks, technical risks, market specific risks, stakeholder's engagement risks and capacity and capability risks.

The detailed assessment of the most critical risks, risk level and mitigation measures are considered for each action presented in the risk matrix in **Table 13.**

The city-wide risks and barriers by sectors are identified and listed in detail in the Module IP-A3. Among them, the following most acute risks should be emphasised:

- **National, not local, responsibility for investments and regulations that determine Kranj key climate challenges** in energy (grid capacity) and transport (national road and railway, transit traffic, airport management, regulation, investments).
    - *Possible mitigation measures: inviting national partners in the City of Kranj SCCNSC; Following and influencing changes of national plans and budget, political pressure.*
- National policies that determine investment priorities and allocation of funds are **rigid to change** and **require competition between cities** for national / EU funds.
    - *Possible mitigation measure: strengthening joint approach and better positioning of the Slovenian Mission cities within the Governmental structures and policies.*
- **Limited HR capacities:**
    - *Possible mitigation measure: improving organisational capacities and enhancing operational efficiency to support CCC activities - governance interventions.*
- **Long lasting procedures** to update and adjust Spatial Plan.
    - *Possible mitigation measure: exploiting City's effective Spatial Plan's revision procedure to introduce climate neutrality principles and measures.*
- **Limited financial city budget capacities** since 80% of the budget is predefined with operational costs of city services.
    - *Possible mitigation measure: costs optimisation, attracting additional climate funds, incorporating soft climate measures in the current operations.*

Table 13: Climate Investment Plan Risk Framework

Fields of Action		Sectoral Project	Risk Identified	Description of Risk	Risk Priority	Mitigation of Risk
1 Energy systems	1.1.	Phase out fossil fuel in district heating/cooling and replacement with RES	Operational risk Social-reputation risks	- Numerous owners in neighbourhoods to agree - Fear of biomass air pollution among citizens	Medium	- Intensive and open citizen and participation - Strong process and project management
	1.2.	Utilization of waste heat from industrial and commercial facilities for Kranj district heating and cooling system	Technical risks Operational risks Stakeholder' engagement risks	- New technology for the City - New business solution - Stability of the supply of waste heat - Investment cost overruns	High	- Well prepared feasibility study - Selection of proven, best-available technologies. - Sound business model - Clear and long-term agreement between industrial and developing/ utility partner - Ensure close dialogue among involved stakeholders.
	1.3.	Solar electricity production	Market specific risks Regulatory risks	- Full implementation subject to grid upgrade - Availability of space - Saturated market - Changed electricity sales/pricing regulations models - Decrease of interest	Medium	- Provision of technical and financial support to citizens and investors - Promotion of storage systems - Organised and coordinated approach
	1.4.	Hydro electricity production	Environmental risks	- Biodiversity limitations	Low	- Adjustment of power plants – fish channels
	1.5.	Upgrade of electric grid	Financial risks	- National prioritisation of investments - Lack of SODO and government funds	High	- Participation of distributer in the Kranj Climate and Smart City Strategic Council - Close cooperation and influencing the annual plans
	1.6.	Energy-efficient and smart public lighting	Social-reputation risks	- Citizens not in favour of dimming and 'dark sky'	Low	- Communication of benefits
	1.7.	Energy co-operatives	Social-reputation risks Technical risks	- Citizen's lack of trust in partnership investments	Low	- Communication of benefits - Clear agreements - Sound projects

Fields of Action		Sectoral Project	Risk Identified	Description of Risk	Risk Priority	Mitigation of Risk
			Capacity	- Lack of appropriate city properties - No experience and competences yet		- Ensure an adequately skilled internal human resource. - Additional external support to assist project development, project implementation and operation.
2 Mobility & Transport	2.1.	"One car by household" promotion programme	Social-reputation risks Capacity Operational risks Regulatory risks	- Low City capacities in the field of sustainable mobility management - New approach, lack of experience - Adaptation of many city policies and regulations - Poor or miscommunication - Citizens not ready yet	High	- Competent interdisciplinary team to be engaged. - Citizen's participation from the very beginning. - Adequate information and promotion measures to support modal shift. - Full support of the city politics needed. - Thorough preparation. - Implementing model - The action shall be piloted first, evaluated and then up-scaled. - Open to modification and new solutions.
	2.2.	Smart multimodal public transport system	Capacity Operational risks Financial risks Administrative risk	- Low capacities in the field of sustainable mobility management - Different time priorities of key stakeholders - Higher operational costs for the City - Integration of different local/ national/ private mobility platforms	Low	- Well managed projects - Coordinated approach between the city, central government and new mobility providers - Optimization and integration of different mobility services - Change of city's transport pricing policy
	2.3.	Cycling and walking network	Financial risk Administrative risk	- Increase of investment costs for bridging facilities - Acquisition of land for cycling and pedestrian network	Low	- Well-designed projects - Timely communication with owners - Coordinated approach

Fields of Action		Sectoral Project	Risk Identified	Description of Risk	Risk Priority	Mitigation of Risk
	2.4.	Car-free areas, shared spaces, one-way streets and P&R solutions	Financial risks Social-reputation risks	- Citizens / social resistance to change habits - High costs of underground P+R - High cost for land acquisition of land / lack of municipal land	Medium	- The public will be duly involved during the development phase - Actively promote the projects through appropriate publicity campaigns - Attract private investors - Well managed projects
	2.5.	EV and hydrogen powered charging infrastructure	Operational risk	- Higher demand on e-charging as envisaged - Traffic jams in the area - Hydrogen supply not provided according to forecasted levels for public use	Low	- Involvement of the City in planning stage or in the consortia with investors - Assure the extension or second location for hub in the spatial plan
	2.6.	EV and hydrogen powered municipal vehicles	Operational risk	- Charging logistics not optimal – pit stops interrupting the operation of public services	Low	- Own charging facilities secured - Logistic regimes and protocols
	2.7.	Reduced transit traffic	Administrative risk Financial risk	- Delays in municipal spatial planning – master plan – of the Škofja Loka highway connection - Government prioritises railway investments	Medium	- Accelerated local procedures in both municipalities - Regional support and strong climate and economic justification - Municipalities invest in for the preparatory planning and land acquisition
3 Waste & Circular economy	3.1.	Zero waste programme	Operational risk Social-reputation risks	- Increased distance purchase and delivery models after Covid-19 lead to increase of packages and jeopardise targets - Resistance to change consumption patterns	Medium	- Pilot projects with local delivery companies and commercial centres - Enhance campaigns
	3.2.	Smart waste management	Social-reputation risks	- Public opposition to change of waste transit stations	Medium	- The physical optimisation is not implemented – digital only

Fields of Action		Sectoral Project	Risk Identified	Description of Risk	Risk Priority	Mitigation of Risk
	3.3.	Centre for Circular Economy Zarta	Financial risk	- Accessibility to favourable investment funding as the project does not generate income	Low	- Loans - Attract grants for soft measures and green/climate elements of the project
	3.4.	Kranj Circular City public-private innovation actions	Capacity Stakeholder' engagement risks	- Low City capacities and competences in the field of the Circular Economy - Long response time of administration – businesses loose interest - Lack of awareness	Low	- Nomination of a facilitator - Support and build on private / NGO or citizens initiatives - Joint partnership development of projects - Education projects/ campaigns
	3.5.	Energy and resource efficiency in water supply	Financial risk	- High investment costs - Limited grant funding available	High	- Phased approach - Loans
4 Green infrastructure & nature-based solutions	4.1.	Sustainable management of green and blue infrastructure system	Administrative risk Stakeholder' engagement risks Financial risk Social-reputation risks	- Public/politic opposition to protection of urban forests - Low interest of passive owners - Limited municipal funds for buyout of forests	High	- Focus on forests already owned by the city - Pro-active and co-ordinated approach of all stakeholders - Demonstration projects - Phased purchase
	4.2.	Greening the municipal spatial planning	Administrative risk	- Delaying the procedures - investor and/or other stakeholders' opposition to higher requirements	Low	- Justification and explanation of new rules - Reasonable changes
	4.3.	Green areas and green roofs	Capacity Stakeholder' engagement risks Financial risk Technical risks	- Lack of awareness and competences among public facility managers, maintenance services etc. - Lack of trust in green roofs - Vandalism - Limited municipal funds for private subsidies (e.g. for green roofs)	Low	- Education and training - Guidance for designer and engineers - Pilot/demonstration areas - Proposal of national funding scheme for green roofs (e.g. to Eco Fund)

Fields of Action		Sectoral Project	Risk Identified	Description of Risk	Risk Priority	Mitigation of Risk
	4.4.	Promotion of plant and low-emission livestock production	Stakeholder' engagement risks Technical risks Environmental risk	- Mistrust in new technologies - Resistance to change from traditional farming - Announced changes in methodologies in GHG in agriculture – less impact - Irrigation system	Medium	- Education and trainings - Pro-active and co-ordinated approach between the Advisory service and City - Up-to date technologies to be applied respecting the DNHS principle - Focus on young farmers
	4.5.	Urban agriculture programme	Stakeholder' engagement risks Operational risk	- Many stakeholders with limited capacities - Fragmented supply of local food - Developing and sustaining sound business model for management of local food supply chain	Low	- Assure long-term coordination between the stakeholders - Up-scale existing initiatives and digital solutions - Lifelong learning - Focus on young farmers and start ups
5 Built environment	5.1.	Energy - efficiency renovation of public buildings	Administrative risk	- Limitation in rehabilitation of public buildings under heritage protection - Delayed state investments	Low	- Timely collaboration with conservation authority - City to motivate relevant government bodies to develop projects
	5.2.	Energy-efficiency renovation of residential buildings in urban and semi-urban neighbourhoods	Social-reputation risks Financial risk Technical risks Capacity	- Low interest, financial and operational capacities of citizens who has not yet entered the energy efficiency - Limited capacities of local public stakeholders to provide massive support - Rigid existing support schemes	High	- Technical support for vulnerable groups to be organised by the City - Awareness raising and education to be launched and targeted to specific groups - Revision of the existing financial scheme to be proposed to Eco Fund to better address the vulnerable groups owning individual houses
	5.3.	Integrated smart and climate neutral re-	Administrative risk Stakeholder' engagement risks	- Investors not keen on less profitable investments - Investors not respecting city strategy	Medium	- City as a role model - Open communication - Win-win solutions

Fields of Action		Sectoral Project	Risk Identified	Description of Risk	Risk Priority	Mitigation of Risk
		development of urban brownfield areas		- Green washing		
0 Horizontal interventions **City Wide Risks (Cross Cutting)**	0.1.	Organisational and Governance Innovation interventions	Capacity Stakeholder' engagement risks Financial risk	- Lack of technical competences for green transitioning different specify fields - Fear of higher costs for the budget - Mistrust in climate change - Overburden with regular work - Resistance to change	Low	- Trainings and exchanges - HR motivational actions - Optimisation of work processes - Engaging of additional experts and municipal companies in the TT - Involvement of all (CoKA staff, city council, public bodies.) in the transition process
	0.2.	Social, digital and other Innovation interventions				

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.

C-3.1: Textual element

With EU Cities Mission, the City of Kranj is committed to join a demanding process of change being aware that the success depends not just on financial but also on human resources and commitment of all stakeholders and citizens' efforts. Thus, the City has key stakeholders engaged in the process from the very beginning. Most of them are municipal utility or service providers or long-lasting City partners in specific field (forestry, energy, digitisation, education, research, transport, finance etc.) or territory (Regional development agency, ministries etc.). Thus the individual City Administration departments have already had prior established working interactions. However, the cooperation until now has mostly been sectoral and one-way, whereas the CCC brought different stakeholders together to jointly discuss the city decarbonisation as a common cross-sectoral and multi-governance challenge.

So, the Investment Plan which is following the Action Plan results from an effective participatory process coordinated by the City of Kranj Administration, Office for Development and Smart Community and its operational body - TT, supported by external experts and a comprehensive governance structure of SCCNSC with representatives of stakeholders relevant for IP implementation. Key stakeholders are also signatory partners of the City Climate Contract (CCC). All of them also have a role of responsible bodies for implementing individual actions. Thus, the key implementing structure is set and key TT personnel on board (see also **Figure 3** City of Kranj participatory model/ ecosystem for climate neutrality).

Nevertheless, the potential capacity gaps in implementation of the Investment plan have been identified:

- Shortage of state of the art financial and technological climate specific knowledge, awareness and competences;
- Limited capacities of most skilled senior TT members due to being overburdened with other assignments;
- Lack of change and innovation processes and stakeholder facilitation skills;
- Insufficient engagement of financial institutions in the process so far.

The gap is addressed by measures proposed in the two horizontal interventions of the AP: 0.1 organisation and governance and 0.2 Social and other innovation intervention. A systematic approach towards continuous learning and strengthening the CoKA's knowledge-base is necessary and anticipated as of four major pillars of organisational and governance interventions in the Action Plan.

- UPSKILLING of key personnel of the City Administration, city public service providers and major clients with specific technical (building standards, regulations, solutions, new business models, financial instruments etc.) and soft skills (participatory processes, district /area change management, demand analysis etc.) enabling them to implement actions into practice or introduce new policy measures.
- AWARNESS RISING for understanding the Cities Mission, mechanisms and trends among city politics decision makers in the city institutions.
- COMMSIONING RESEARCH, DATA or STUDIES needed to plan, assess, benchmark new solutions.
- JOINT LEARNING AND BEST PRACTICE TRANSFER through internal learning system and City's membership in national and EU platforms.
- Systematic adaptation and modernisation of the EDUCATION and LIFE-LONG LEARNING LOCAL SYSTEM, including implementation of trainings supporting transition to climate

neutrality while tailored to the needs of specific target groups (youth, elderly, farmers etc.) and extension of integrated multimedia learning environment (project ZLaTI Kranj) with the learning tools and apps for penetration of climate actions to daily life of citizens.

While the capacity gap of Transition Team will also be bolstered by the professional and competent municipal public service and utility providers (Komunala Kranj, Domplan, LEAG, BSC etc.), knowledge partners (University of Ljubljana and Maribor, Institutes), external experts and stakeholder engagement, the shortage of skills will be assured through upskilling, transfer of practices and joint learning with other EU Mission cities.

It is of utmost importance for the TT to extend the stakeholder networks towards the financial sector by establishing relationships with local and national banks, SID bank, Climate Fund, Eco Fund funds, private investors on concrete actions and topics identified in the AP and IP.

While in-depth stakeholder analyses is provided in the AP, the **Table 14** bellow provides an insight into the financial interest of particular stakeholder group and the **Table 15** indicates actions that have significant influence on engaging non-capital and non-financial resources.

Table 14: Stakeholder Engagement Mapping

Stakeholders involved	Required Investment (€)	Network	Influence	Interest	Level and Type of Engagement
Municipality - City of Kranj	44.224.138 €	Local Authority	City of Kranj has direct influence on the financial implementation of proposed actions.	High	Leading stakeholders
The Republic of Slovenia	43.532.786 €	National Body	Joint green capital investments to leverage the City with the national available budget and to implement green investments into its infrastructure at the territory of the City of Kranj.	Medium	Partnership Participation
EU funding bodies (grants)	79.869.867 €	National / EU institutions	EU funds allocated to cities for urban and regional development and EU funding schemes to support climate neutral transition in all sectors are of extreme importance as direct funds for most relevant actions in Mobility and Energy.	High – for already allocated funds Medium – for funding under competitive call for proposals	Participation
Private capital DOMPLAN GORENJSKE ELEKTRARNE ELEKTRO GORENJSKA ENTERPRISES *(GOODYEAR, ISKRAEMECO, SUPERNOVA GROUP...)* INVESTORS IN REGENRATION PROJECTS	56.992.748 €	Private sector	Listed private stakeholders are large industrial / trading or service companies located in Kranj whose economic influence is significant in several sectors (industry, energy, transport, and waste). They play an important role as partners in partnership projects as investors and as promoters of sustainable behaviour and practises towards their employees, customers, suppliers, and the wider business environment. The cost/benefit effectiveness of investments, sustainable standards and requirements from the financial institutions, customers and legislation (including the required Corporate Sustainable Reporting Directive), stimulate companies to make sustainable investments, adopt to new business models and invent social innovations. Though companies are weighing up their climate neutral investments and activities and comparing them with their impact through financial cost-benefit effects and focusing on their core business.	Different depending on the sector: Medium to High	Partnership Participation
Private capital City's concessioners and PPP partners			Private concessioners implementing climate important public services in the City of Kranj are vital stakeholders for further innovative development of services and funding of related investments, mostly in the field of mobility, e- and hydrogen charging systems, maintenance of green areas, public lighting efficiency etc.		Partnership
City's public companies	6.398.000 €	Local utility providers	Further to the municipal act on the implementation of public utility services - waste management, water supply and wastewater	High	Partnership Participation

Stakeholders involved	Required Investment (€)	Network	Influence	Interest	Level and Type of Engagement
KOMUNALA KRANJ LEAG BSC Others			management is provided by municipal public utility company Komunala Kranj. Komunala Kranj is strongly committed and responsible for investments in zero waste and circular economy principles and its energy efficiency. Komunala Kranj, owned in majority by the City of Kranj is core partner in implementing the AP and IP, having significant human, technical and financial capacity. LEAG as Local Energy Agency of Gorenjska role is essential in providing technical support to citizens in investors in introducing green solutions while BSC as regional development agency will play key partner in assessing external EU funding and engaging neighbouring municipalities in joint projects.		
Citizens	45.500.000 €	Private persons Civil society	Citizens are key in: - Investing into PV, energy-efficiency rehabilitation and change of energy sources for their property (apartments, individual houses). Many of them are elderly without capacity to undertake such projects but with sufficient financial resources, but there are also vulnerable groups in poverty who need additional support and financial incentive. - Changing mobility pattern and shifting to sustainable mobility, 1 car, and e-vehicle. This group represents daily commuters of the vital active population. New commuting and consumption patterns would save some of their financed that could be invested in green energy or similar green actions. Interest groups and NGO supporting green transition and social inclusion are important stakeholders in this change process.	Different depending on the group: Medium-low	Participation
The Republic of Slovenia – public funding scheme ECO FUND CLIMATE FUND	33.605.800 €	National funds	National fund supporting investments into green transition. The main purpose of **Eco Fund** is to promote development in the field of environmental protection by offering financial incentives such as soft loans and grants for various environmental investment projects aiming GHG emission reduction. Subsidies are directed to various beneficiaries for investments in residential buildings, construction of nearly zero-energy buildings and for electric vehicles, legal entities for electric vehicles, energy audits and energy efficiency investments, and municipalities for environmentally friendly public passenger buses in degraded areas, for charging stations for electric cars in Natura 2000 and protected areas, and for the construction of nearly zero-energy	Medium-High (National approach rather than City specific)	Participation

Stakeholders involved	Required Investment (€)	Network	Influence	Interest	Level and Type of Engagement
			buildings and energy renovation of buildings owned by municipalities. Eco Fund is crucial as financial stakeholder. The purpose of the **Climate Fund** is financing of measures to mitigate and adapt to the effects of climate change. Their incomes are generated by selling ETS allowances and are allocated for reduction of GHG emissions, mitigations and adaptations to the effects of climate change, demonstration projects, development of renewable energy sources, energy efficiency and clean technologies, measured to prevent deforestation, carbon, promotion of the transition to low-emission transport and public transport. For the years 2022 and 2023 allocation of budget totalling 65 million has been planned. Climate Change fund is crucial as financial stakeholder for innovative and soft interventions. Their engagement simultaneously contributes to the fight against the environmental crisis and GHG emissions, on the one hand, and benefit the economy, on the other, point to a positive role of Eco and Climate Fund in the process of green growth and development in Slovenia.		
Banks : SID BANK COMMERCIAL BANKS	55.882.700 €	Banking institutions	SID Bank is state owned bank promoting development and provide long-term financial services to promote sustainable development and improve the competitiveness of the Slovene economy. It has several programmes to complement commercial banks with financial instruments and loans in market gaps related to: - development and innovations, - environmental protection, energy efficiency and climate change, - regional development, - economic and public infrastructure. Perform financial services to accelerate and promote sustainable and balanced economic and environmental development, higher competitiveness of economy, creating new jobs and sustainable development of Slovenia.	Medium-High	Participation

Table 15: Stakeholder Activity Cost

Stakeholders involved		Activity	Cost to Municipality (€)
LEAG	1.7.	Energy co-operatives incentives *(eg. City, RS and other to offer space/roofs for PV)*	1.000.000*
City of Kranj	2.1.	"One car by household" promotion programme *(e.g. incentives and benefits to shift to public transport – free tickets for citizens)*	540.000*
City of Kranj	2.2.	Smart multimodal public transport system *(e.g. public transport subsidies)*	8.110.500*
City of Kranj	3.4.	Kranj Circular City public-private innovation actions incentives *(e.g. City as a partner offering demonstration territory)*	240.000*
City of Kranj	4.5.	Urban agriculture programme incentives *(e.g. donations into preserving cultural landscape with planting indigenous sorts, purchase from small farmers)*	2.994.000*
City of Kranj	0.1.	Organisational and Governance Innovation interventions *(e.g. engaging all city education, cultural, sports and social institutions to promote and teach for behavioural change throughout citizens generations)*	350.000
City of Kranj	0.2.	Social, digital and other Innovation interventions *(e.g. penetration of green elements in the current budget programmes, such as participatory budgeting)*	7.005.000

** Total investment costs of actions – incentives are part of these costs*

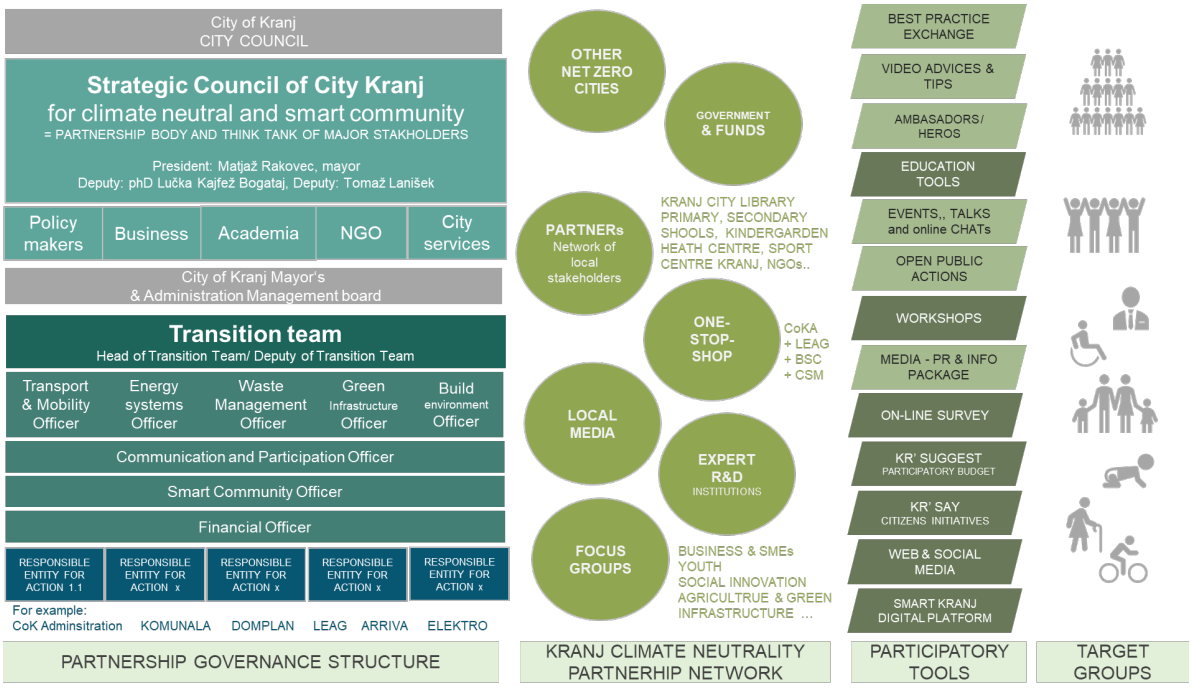

Figure 3 : City of Kranj participatory model/ ecosystem for climate neutrality