

# NET ZERO CITIES



**EU MISSION PLATFORM**

**CLIMATE NEUTRAL AND SMART CITIES**



This project has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

# NET ZERO CITIES

EU MISSION PLATFORM | CLIMATE NEUTRAL AND SMART CITIES



# EU CITIES MISSION

## Investment Planning

21 October 2022, 10:00-12:00



Funded by  
the European Union



# Welcome



This project has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.



# Agenda and objectives of this training

## Objectives

- Providing overview and knowledge
- Empower cities to take first steps towards the development of the IP

## Agenda

- Overview of modular roadmap to the Investment Plan
- Deep dive into the pillars
- Peer-to-peer learning elements
- Q&A session



# Agenda



- 10:00 – 10:05 **Welcome, Introduction & Housekeeping**  
Thomas Osdoba – Climate KIC
- 10:05 – 10:07 **Poll**
- 10:07 – 10:15 **Introduction to the IP**  
Asen Charliyski – BwB
- 10:15 – 10:30 **Part A – Current State of Climate Investment**  
Harry Wain – BwB
- 10:30 – 10:40 **Poll and Q&A on Part A**
- 10:40 – 11:00 **Part B – Investment Pathways Towards Climate Neutrality by 2030**  
Matteo Scalabrino – BwB
- 11:00 – 11:10 **Poll and Q&A on Part B**
- 11:10 – 11:15 **BREAK**
- 11:15 – 11:30 **Part C – Enabling Conditions for Climate Neutrality**  
Fedra Vanhuyse – VC, SEI
- 11:30 – 11:40 **Poll and Q&A on Part C**
- 11:40 – 11:50 **Finance Guidance Tool in IP Context**  
Sabine Schneider – FS
- 11:50 – 11:55 **Poll and Q&A on Finance Guidance Tool**
- 11:55 – 12:00 **Wrap-up and Key Takeaways**  
Thomas Osdoba – Climate KIC





# Introduction

## Investment Plan Webinar



This project has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.



## Aligned with the Action Plan

The Investment Plan should not be mistaken for the Mission Plan, but a Plan aligned with the Mission plan, since the two will impact each other

other

### Long Term Planning

This Investment Plan is a long-term planning exercise and not short term operational budgetary planning

### Multistakeholder Participation

This will involve contributions from the city administration, as well as outside stakeholders – including private actors

### Catalyst for Capital

The Investment Plan will act as a catalyst to optimize capital and help cities seek more funding & financing

# What is an Investment Plan?

### Economic and Financial Planning

This will be through providing the city with cost, impact and capital allocation guidance

### City-Wide Approach

This integrated approach can subsequently be complemented with a bottom up (portfolio) project approach

### Captures all Sectors

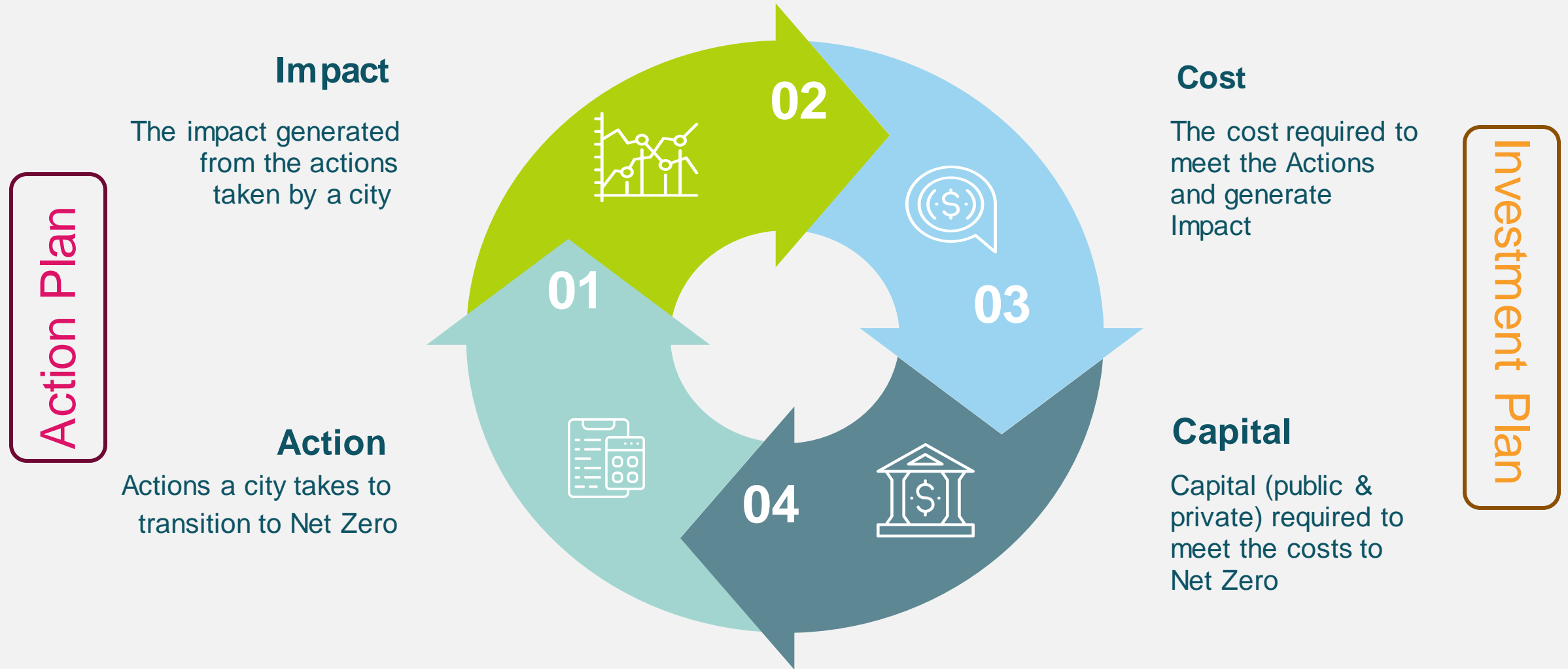
This Investment Plan captures both the public and private sectors

### Iterative Process

The Plan will be an iterative process, grounded against a set of indicators and reviewed at regular cadences



# Iterative Process between Action & Investment Plan

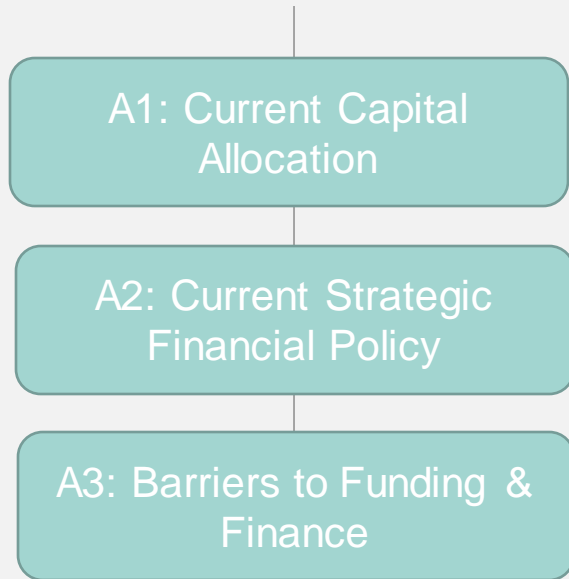




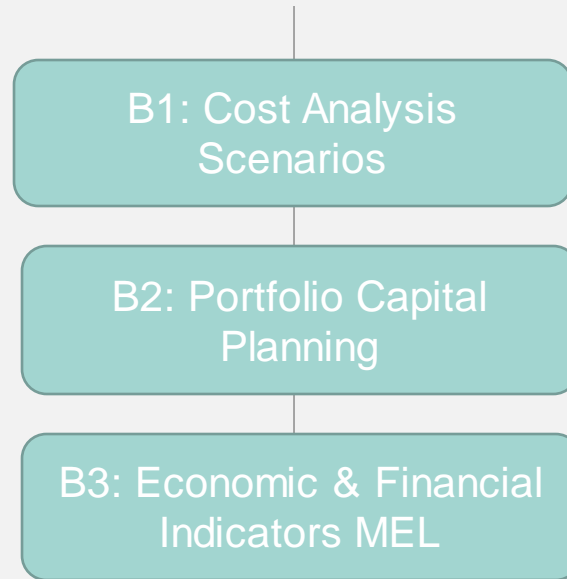
# Investment Plan Template



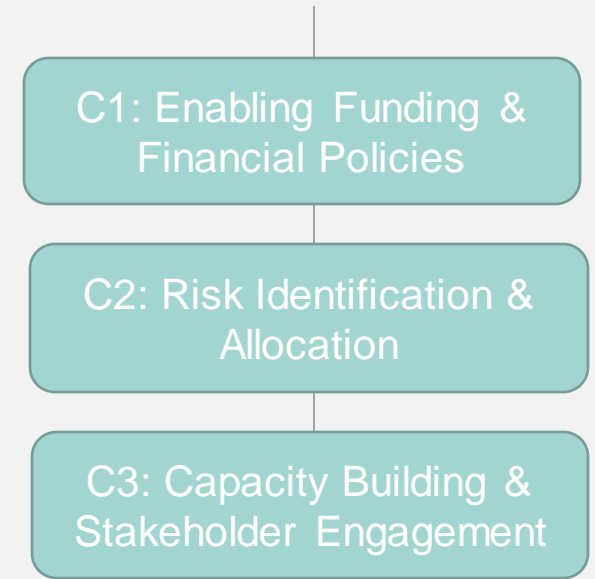
## Part A: Current State of Climate Investment



## Part B: Investment Pathways towards Climate Neutrality by 2030



## Part C: Enabling Conditions for Climate Neutrality by 2030



Alignment with Mission Action Plan

Stakeholder Engagement

Capacity Building & Assessment

Data Collection

Financial Policy

Risk Analysis

Cost, Impact & Capital Planning

Impact Monitoring Framework





# Part A

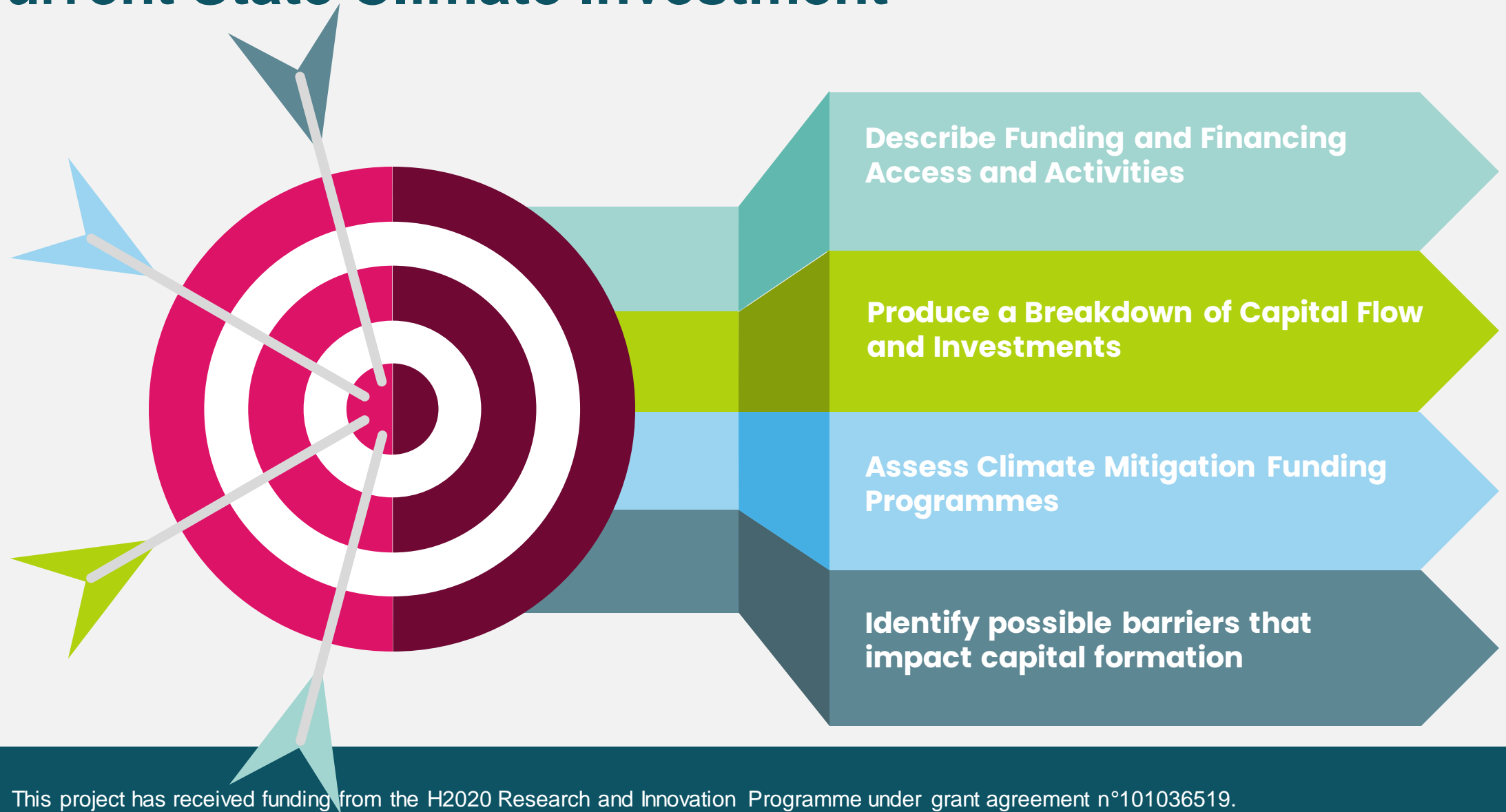
## Current State of Climate Investment



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# Part A: Expected Content

## Current State Climate Investment





# Part A1: Existing Climate Action Funding and Financing





# A1 - Aims

- Summarise current actions and activities related to the funding and financing of your climate actions.
- Baselining capital allocation towards funding and financing.
- This summary should create a foundation on which to build future work to identify and utilise various capital sources for climate actions.




# Template for Existing Funding and Financing



Fields of Action	Sector Subsection	% Current Budget / Investment Allocation
Transportation	(e.g. Walking)	
	(e.g. Cycling)	
	(e.g. Car)	
	(e.g. Light Rail / Metro)	
Built Environment	(e.g. Residential)	
	(e.g. Commercial)	
	(e.g. Public Buildings)	
Energy Systems	(e.g. Solar Thermal / Solar PV)	
	(e.g. Oil)	
	(e.g. Natural Gas)	
	(e.g. Coal / Lignite)	
	(e.g. Wind)	
	(e.g. Hydro)	
Green Infrastructure and Nature Based Solutions	(e.g. Parks, Green Roofs, Community Gardens, Rivers, Protected Areas, Forestry)	
Waste and Circular Economy	(e.g. Household Waste, Industrial Waste, Other Commercial Waste, Sectoral By-products )	




# Activities to Map Existing Climate Funding



**Map current sources and uses of funding**

The municipality will need to consider how to resource the transition and what sources of finance are available.




**Breakdown budget by field of action**

Breaking down the budget and investments by field of action enables the city to benchmark financing climate neutrality



**Breakdown investments by field of action**

Breaking down capital stock will enable the city to view its more static holdings against field of action.



**Initial review of budgeting capacity**

The city can use this as an opportunity to review its capacity for climate intervention.





# Part A2: Strategic Funding and Financing Evaluation



This project has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.





## A2 - Aims

- Summarise the income sources for the municipality and identify how these form the city's budget.
- Identify the sources of capital available to the city, this may change down the line as the transition is carried out
- Characterise and assess existing policies, regulations and financing strategies and sources that are contributing/can contribute to climate neutrality
- *Only share details that are not confidential and to the extent you are comfortable.*



# Template for Strategic Funding and Financing



Income Category	City income	% of city budget
Source of City Income	...	...
...	...	...

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)
...		...	...






# Evaluate your city's existing financial policies

- How?
  - Describe the city's **climate neutrality financial planning processes and mechanisms** together with the capital that is moved through the use of **funding and procurement strategies**
  - Assess and characterise **current sources of incomes (for investment and operation)**: leases, taxes, tariffs/pricing, instruments, exceptional incomes, grants, loans etc.
  - Identify **critical areas of policy or regulatory action for climate neutrality**: enabling and hampering policies and regulations = supporting actions that are not aligned with net zero objective




# Activities to Evaluate Strategic Climate Funding



**Assess climate funding programmes**

The municipality will need to consider where they can resource their transition and what their sources of finance are.




**Highlight municipality income**

Breaking down the budget and investments by field of action enables the city to benchmark financing climate neutrality



**Identify critical policy actions**

Breaking down capital stock will enable the city to view its more static holdings against field of action.



**Assess capacity to deploy and receive capital**

The city can use this as an opportunity to review its capacity for climate intervention.





# Part A3: Barriers to Climate Investment





## A3 - Aims

- Based on work done so far, identify possible barriers to deploying and receiving capital.
- Consider how these barriers could be mitigated or overcome.
- This exercise will help you identify how the policy landscape could be used to facilitate greater access to climate funding and finance.



# Template for Barriers to Climate Investment



Financial Barriers to achieving Climate Neutrality	Typology of Barrier	Description	Sector and stakeholders involved
...	...	...	...

You will need to evaluate and identify the range of structural, policy, economic, and financial barriers for capital deployment in support of climate action.

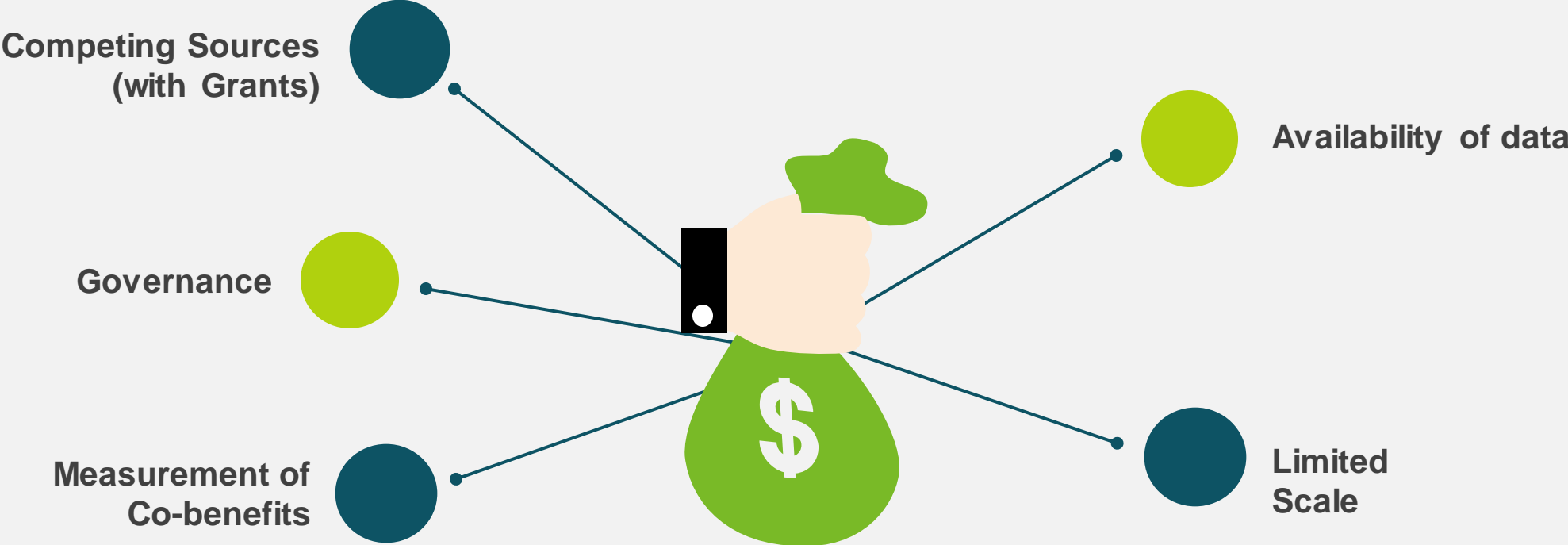


# Barriers at Municipality Level






# Barriers from Financiers Perspective



# Activities to Assess Funding Barriers



**Build on above strategic assessment**

This is the opportunity to test work done in A1 & A2 and consider what “breaks”




**Identify barriers for capital deployment**

Identifying barriers for financing Net Zero should consider the barriers of receiving and deploying capital



**Consider if there are options to mitigate**

This is an opportunity for cities for review these barriers and how they could be mitigated



**Assess capacity to overcome these barriers**

The city can use this as an opportunity to review its capacity for mitigating these options.





# Questions & Answers

Ask your questions in the chat!



# Agenda



- 10:40 – 11:00 **Part B – Investment Pathways Towards Climate Neutrality by 2030**  
Matteo Scalabrino – BwB
- 11:00 – 11:10 **Poll and Q&A on Part B**
- 11:10 – 11:15 **BREAK**
- 11:15 – 11:30 **Part C – Enabling Conditions for Climate Neutrality**  
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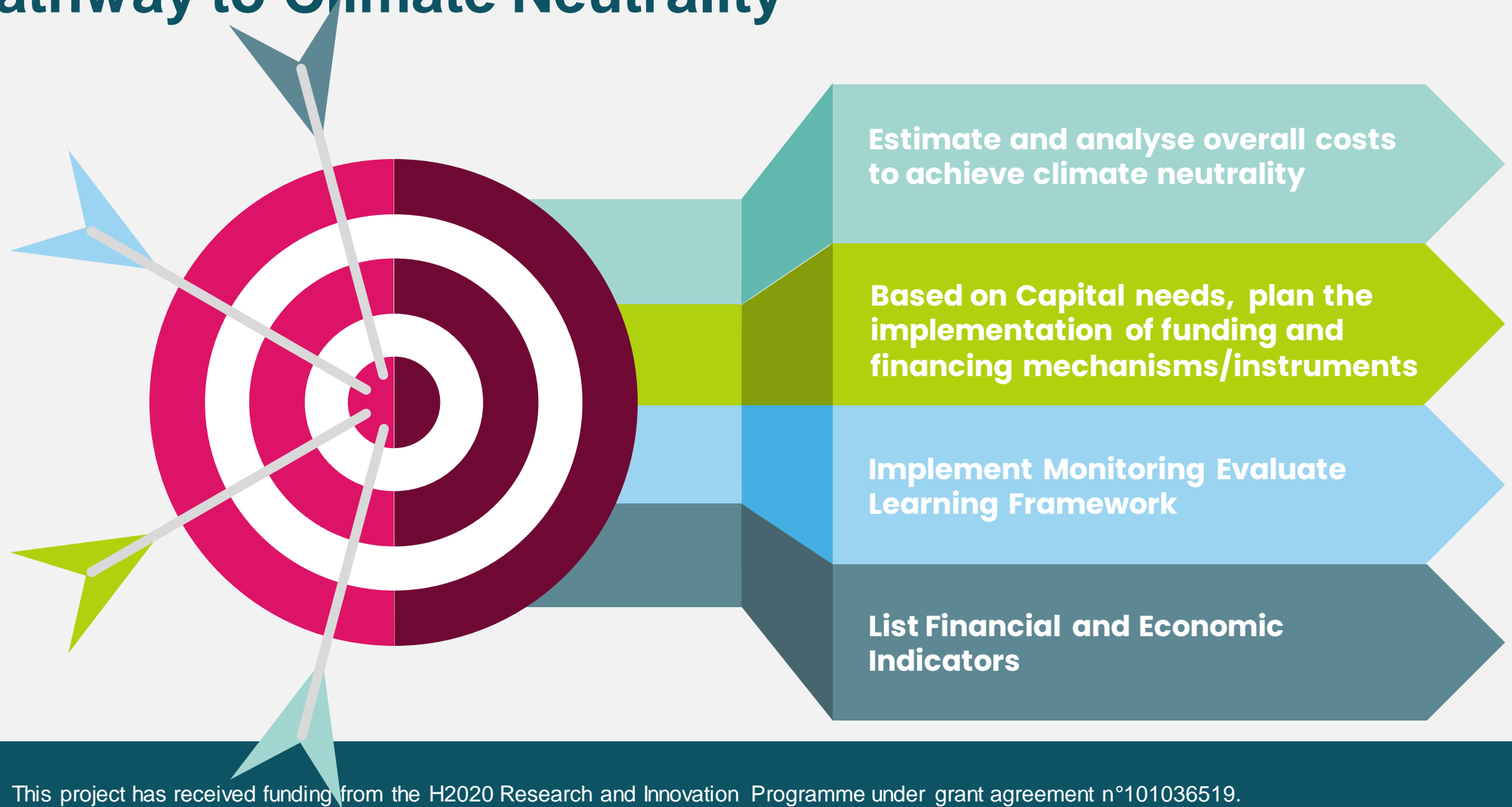
# Part B

## Investment Pathways towards Climate Neutrality by 2030



This project has received funding from the H2020 Research and Innovation Programme under grant agreement n°101036519.

# Part B: Expected Content Pathway to Climate Neutrality





# Part B1: Cost Analysis Scenarios





# B1 - Aims

- The city should aim to capture the actions and needs for mobilising and delivering the funding and financing needed for climate neutrality.
- This module focuses on efforts to estimate and analyse the overall costs to achieve climate neutrality, and to implement the activities described in the Action Plan. Particularly those actions with a **Cost Implication**.
- You have the option to provide cost estimates at your own discretion on the measures disclosed in the Action Plan template.





# Template for Cost Analysis Scenarios



Fields of Action	Action / Indicator	Implementation Costs	Operational Costs	Direct impacts (Emission reductions)*	Indirect impacts (co-benefits)*
Transportation	e.g. Pedestrian and Cycling Infrastructure	...	...	Impacts in terms of monetary savings**	Job Creation**
	e.g. Metro / Light Rail	...	...	(list more direct impacts as needed)	(list more indirect impacts as needed)
	e.g. Fleet Electrification	...	...	...	...
	e.g. Shift to public & non-motorized transport	...	...	...	...

*\*Referring to the Action Plan*

*\*\*Indicative indicators*



# What Investments, Costs and Savings do Each Area of Action Entail?



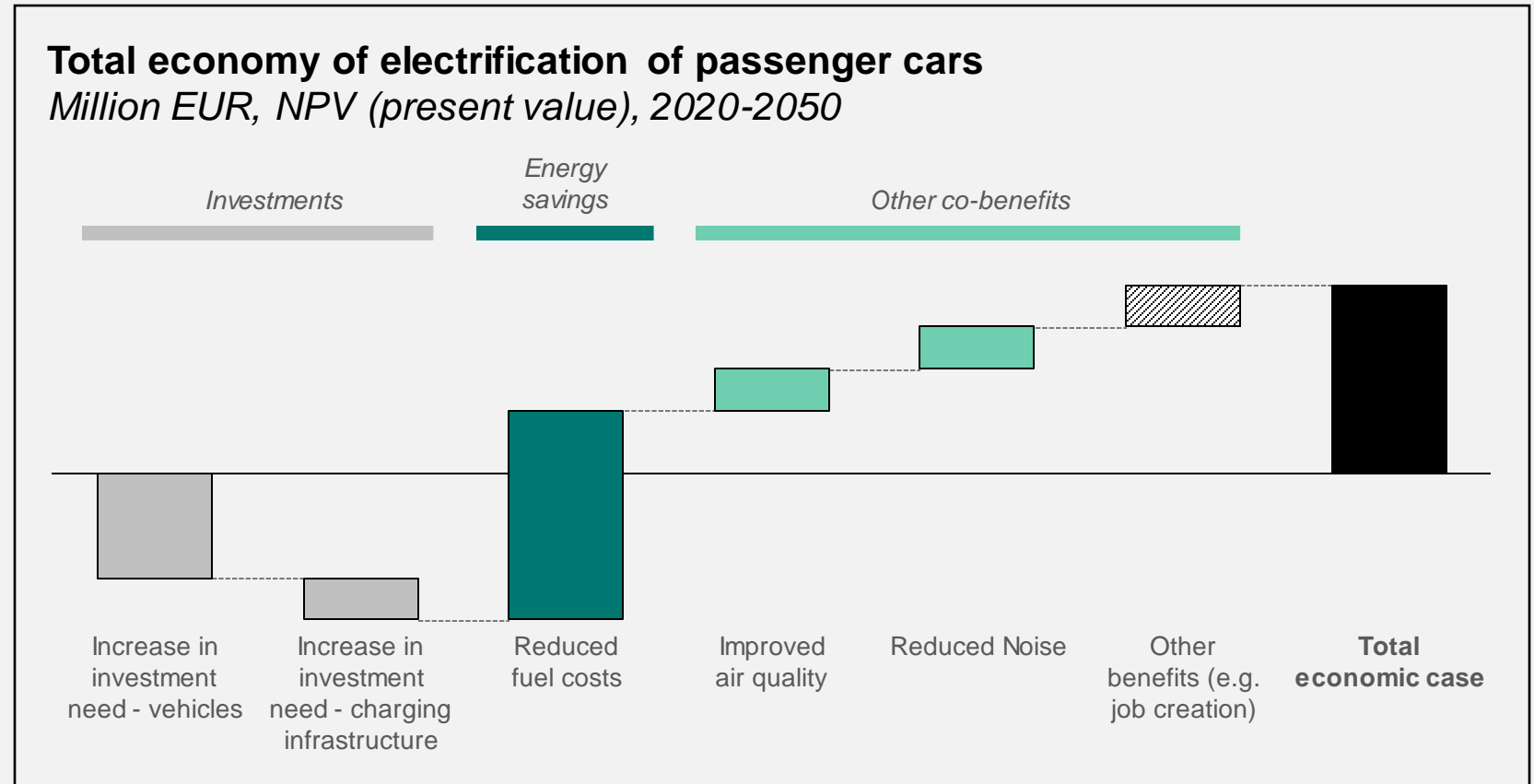
What new investments or adjustment of planned investments<sup>1</sup> are required to reach the climate goals, according to the climate roadmap?

How do the investments affect ongoing energy and other costs for each area?

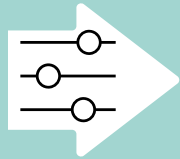
What other savings are created?

Which need owners need to invest in what?

EXAMPLE



# Activities for Initial Cost Analysis



## Identify Actions for Costing

Identify the possible actions from the Action Plan which can be costed



## Initial Cost Assessment

Carry out an initial cost assessment at your discretion of the measures disclosed in the Action Plan



## Take time to include additional costs

Additional costs such as those from stakeholder engagement and data collection



## Identify capacity issues

The city can use this as an opportunity to review its capacity for costing actions and projects.





# Part B2: Portfolio Capital Planning



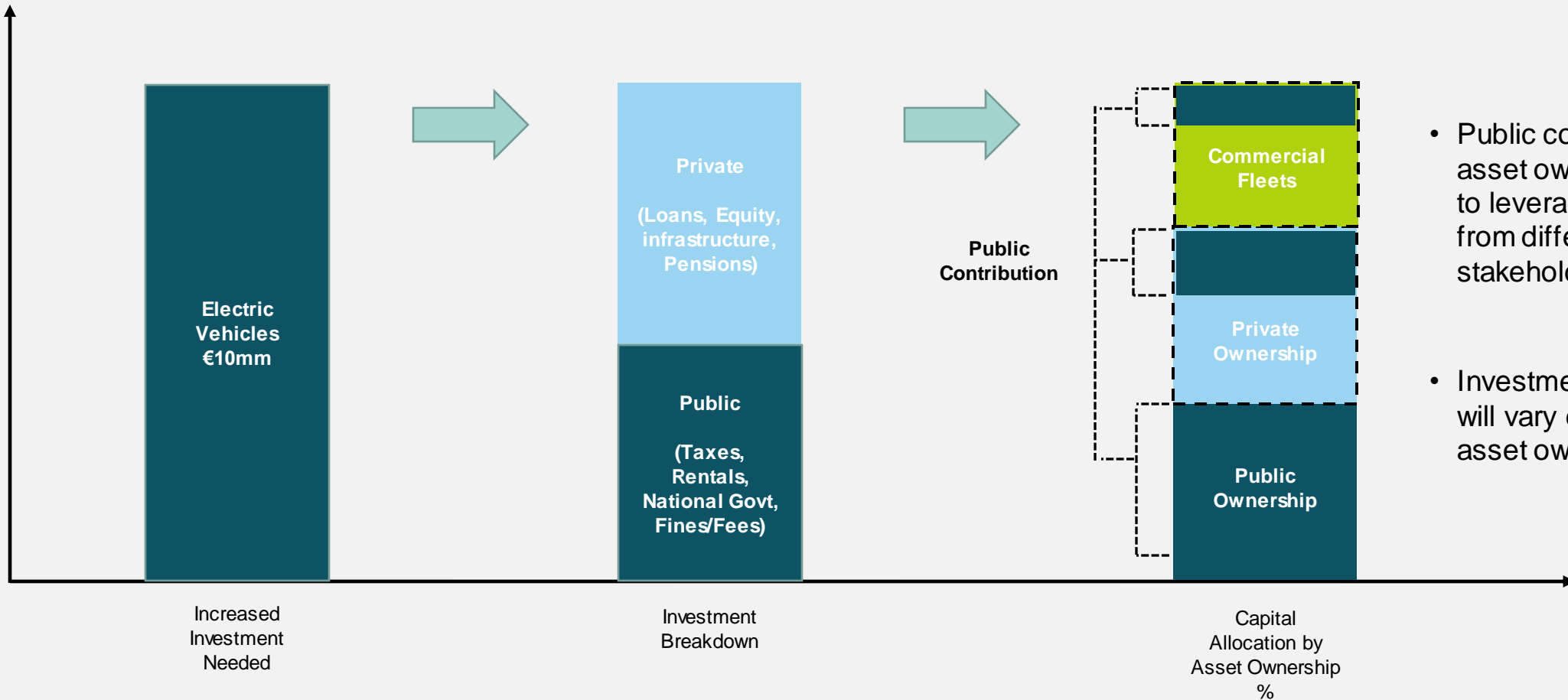


## B2 - Aims

- The aim in B2 is to build on estimated breakdown of capital allocation between public and private sources.
- This module focuses on capital planning and design of specific funding and financing mechanisms and instruments.



# Illustrative Breakdown of Capital Allocation Towards Net Zero (outputs)



- Public contribution across asset ownership can help to leverage investment from different city stakeholders
- Investment breakdown will vary dependent on asset ownership



# Template for Cost Analysis Scenarios



Capital need	Possible Sources of Capital	Sector allocation
...	...	...

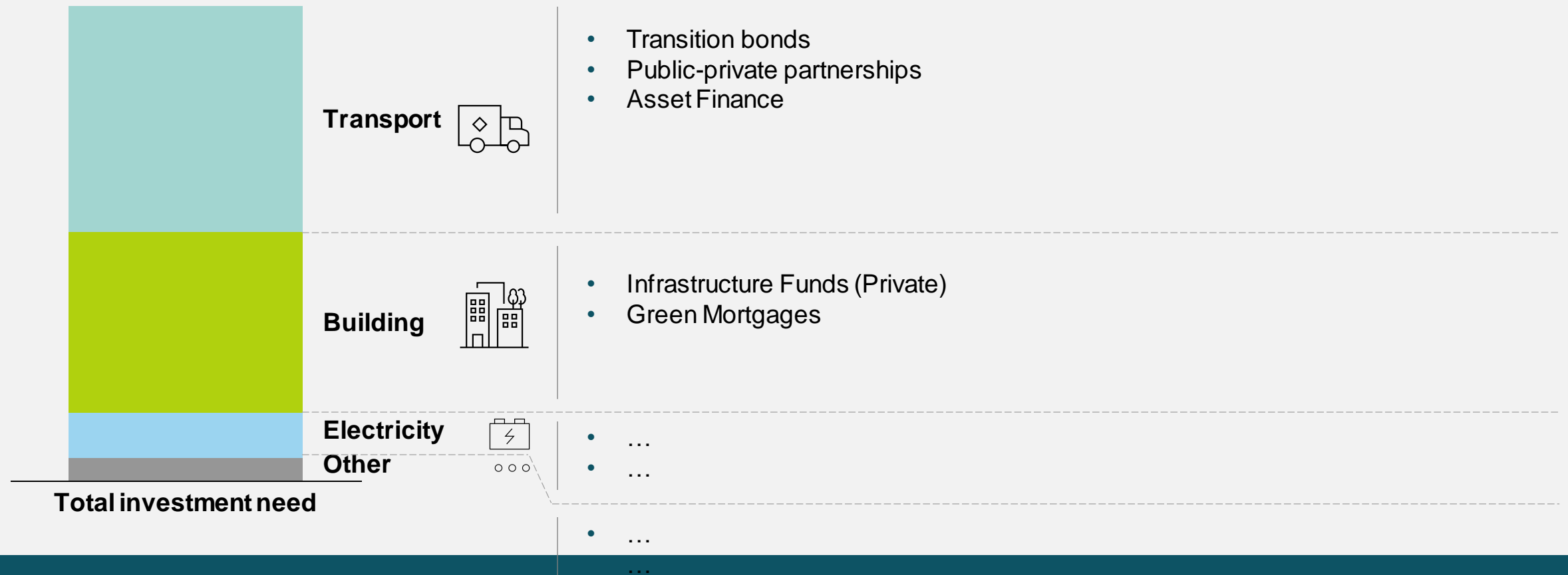


# Illustrative Breakdown of Financial Instruments – Example City



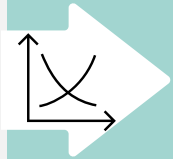
**Investment need for city**  
MEUR per sector

**Source of capital**





# Activities for Portfolio Capital Planning



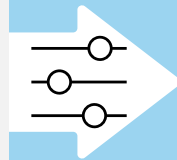
## Identify sources of capital needed

Based on the actions and projects identified link costs to a potential finance source and the field of action



## Identify actions that fall in the city budget

Some actions can be financed based on the current city spend in the event there exists a budget surplus



## Identify optimal financial instruments to source capital

This is the opportunity to test work done in A1 & A2 and consider what “breaks”



## Consider capacity in capital formation

The city can use this as an opportunity to review its capacity for Portfolio Capital Planning.





# Part B3: Monitoring Evaluation and Learning





## B3 - Aims

- The aim in B3 is to provide a monitoring and evaluation framework for you to track progress of the implementation of the Investment Plan.
- The municipality should identify and apply leading and lagging financial and economic indicators which can be used to baseline the city situation and monitor progress.



# Template for Economic Indicators



Fields of Action	Indicator	Indicator Unit	Indicator Baseline*	Indicator Target 2030*
Transportation	e.g. Pedestrian and Cycling Infrastructure		1%*	30%*
	e.g. Metro / Light Rail	% of total vehicle kms electrified (alternatively % of fleet of electric vehicles)	0%*	25%*
	e.g. Fleet Electrification		5%*	50%*
	e.g. Shift to public & non-motorized transport	% of passenger-kilometres as public transport or walking/cycling	...	...

*\*Indicative indicators*



# Template for Financial Indicators




Fields of Action	Indicator	Indicator Unit	Indicator Baseline*	Indicator Target 2030*
Transportation	Capital Investment	% of capital invested in green transportation (over the all-city budget)	1%*	30%*
	Private to Public Capital	% private capital to public capital ratio in green transportation	0%*	25%*
	Carbon x Capital Invested	Unit of carbon abated per unit of currency spent in green transportation	5%*	50%*

*\*Indicative indicators*



# Activities for Monitoring Evaluation and Learning



**Identify Actions which can be monitored**  
From the actions, identify which have sufficient data to be monitored



**Identify and apply economic indicators**  
Apply relevant economic indicators to the actions



**Identify and apply financial Indicators**  
Apply relevant financial indicators to the actions



**Consider capacity for MEL**  
The city can use this as an opportunity to review its capacity for monitoring and evaluation





# Questions & Answers

Ask your questions in the chat!



# Agenda



- 11:15 – 11:30      **Part C – Enabling Conditions for Climate Neutrality**  
Fedra Vanhuyse – VC, SEI
- 11:30 – 11:40      **Poll and Q&A on Part C**
- 11:40 – 11:50      **Finance Guidance Tool in IP Context**  
Sabine Schneider – FS
- 11:50 – 11:55      **Poll and Q&A on Finance Guidance Tool**
- 11:55 – 12:00      **Wrap-up and Key Takeaways**  
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# Part C

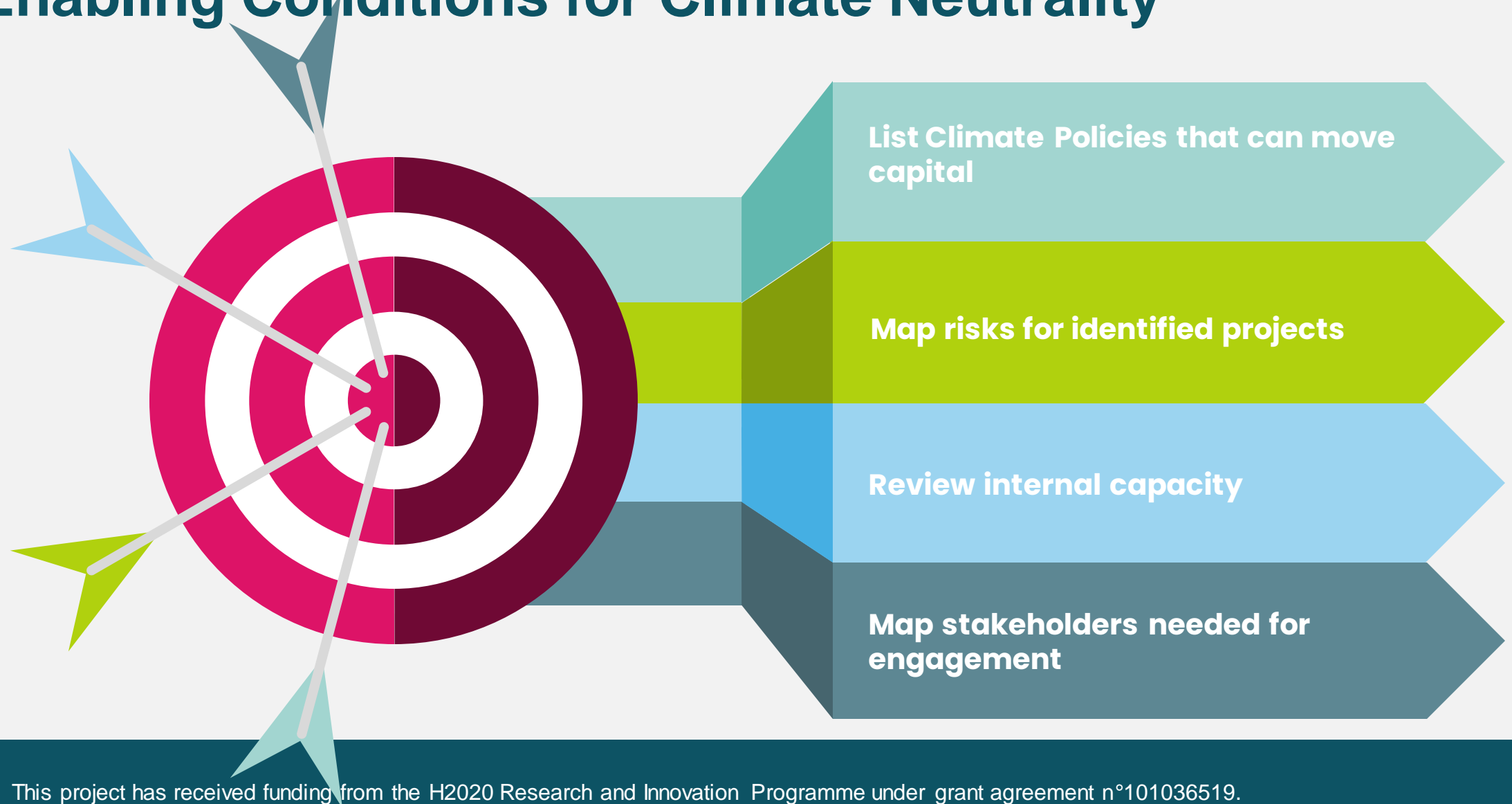
## Enabling Conditions for Climate Neutrality by 2030



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# Part C: Expected Content

## Enabling Conditions for Climate Neutrality





# Part C1: Climate Policies for Capital Formation and Deployment





# C1 - Aims

- Align policies and regulations to attract more capital – by uncovering the ones that support or hinder deployment of capital, such as:
  - **Green funding policies:** e.g. redirect existing revenue streams or fee mechanisms, adopt green taxes and subsidies, adjust/remove hampering policies and subsidies/taxes/user fees
  - Use local policy and regulation as **non-market instruments towards climate neutrality:** adopt enabling building and planning regulations and standards,
  - Adapt your **procurement strategy** for green and innovative procurement, using all the options available for Green Public Procurement
  - Facilitate **finance paired with governance innovation:** e.g. cooperative of renewable energy, housing, One stop shop for retrofitting mixing public, private and financing entities, collective investment vehicles



# Activities for Climate Policies on Capital Formation



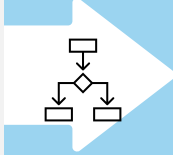
**Identify policies that could facilitate the IP**

Consider local policies and national policies. Considering procurement as well.




**Review policies by sector and target**

Produce a description of these policies including implementation.



**Consider intended outcome of policies**

Qualify the outcome of implementing these policies and for what they would be solving.



**Consider capacity to implement policies**

The city can use this as an opportunity to review its capacity for policy implementation.





# Template for listing the climate policies to enable capital deployment

Climate Policy	Description of the policy (sector, targeted audience, etc.)	Intended Outcome for Capital Formation
...	...	

*TIP: Involve a wide climate transition team*





# Part C2: Risk Analysis

## Identification and Mitigation of Risk





## C2- Aims

- Understanding internal and external risks for the deployment of capital, across different categories:
  - Likelihood of occurrence
  - Impact on the investment plan
  - Mitigation measures
  - Monitoring process





# Template for Identification of Risks



Fields of Action	Sectoral Project	Risks Identified	Description of Risk (likelihood and impact)	Mitigation of Risk
Transportation	...	...	...	...
	...	...	...	...
Built Environment	...	...	...	...
	...	...	...	...
Energy Generation				
Green infrastructure and Nature Based Solutions				
Waste and Circular Economy				
City Wide Risks (Cross Cutting)				





# Part C3: Capacity Building and Stakeholder Analysis



# C3 - Aims



- Similar stakeholders as in the climate action plan, but with a focus on those who could support the investment plan
- Aim:
  - Understand ability and willingness to make the investments needed to achieve climate neutrality
  - Engage on the risks associated with climate action and investment plan;
  - Agree on feasibility of the investment plan, including how capital will be redirected, and how financial instruments will be used
  - Align on priorities
  - Uncover also the equity and equality consequences (for the "have nots")

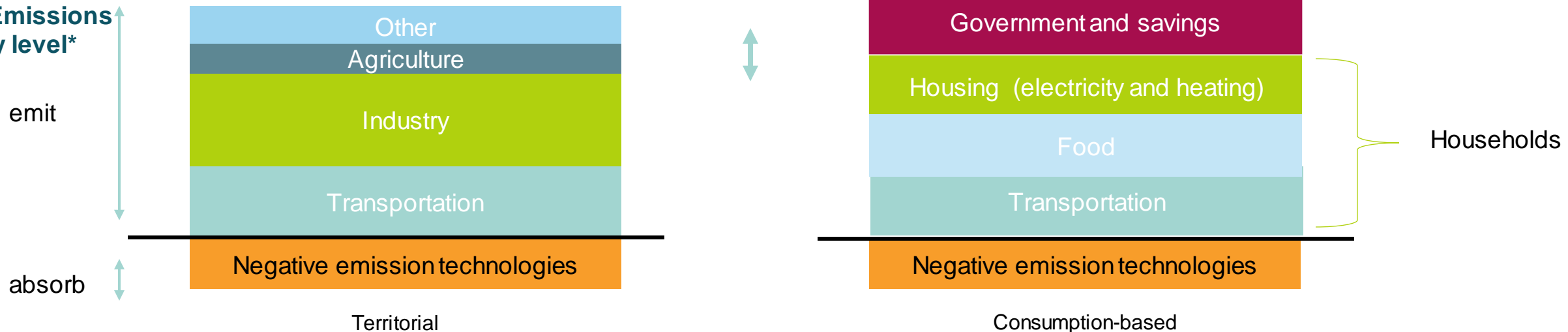


## EXAMPLES

Actors in the city	Behaviour/role	Own funds	Assets (ownership)
Municipal governments	Democratic governance; social sustainability	Communal taxes, grants, fees and charges	Municipally owned buildings and centres; companies
Citizens	Travel to work/school; leisure activities	Checking and saving accounts, time deposit, pension funds	vehicles; housing (freehold/leasehold); furniture
Private sector	See mission statement; operations; value proposition	sales, grants, ...	Factories, offices, machinery
Civil society	See mission statement; principles and guidelines	Donations, grants, ...	Religious venues, sports halls, universities
Other gov actors	Provide other government services aside from municipality	e.g., taxes, grants, fees and charges	Trains, busses, hospitals, (schools)
Utility companies	Provide electricity, water, waste management services	e.g., sales, grants, taxes	the grid; sewage network
Financial institutions	Invest in "society"	Savings from citizens, private sector, municipal government, etc.	Offices

**Settings – political, economic, social, technological, environmental and legal -> normative frame**

## Greenhouse Gas Emissions at city level\*



# Steps in stakeholder engagement



1. Mapping of different stakeholders, using influence and impact
2. Assessing the financial capacity of the different stakeholders – including credit rating, legislative (financial) framework they operate under, and financial instruments used currently. Links with the mapping of funding opportunities
3. Assessing the conditions under which the actors would use (similar or other) financial instruments, and how funding could be redirected
4. Understanding the terms and conditions of the investment plan



# Template for Stakeholder Engagement



Stakeholders involved	Network	Influence	Interest	Level and type of Engagement
...	...	...	...	





# Questions & Answers

Ask your questions in the chat!





# Finance Guidance Tool

NZC tool to support finance landscape navigation and IP development



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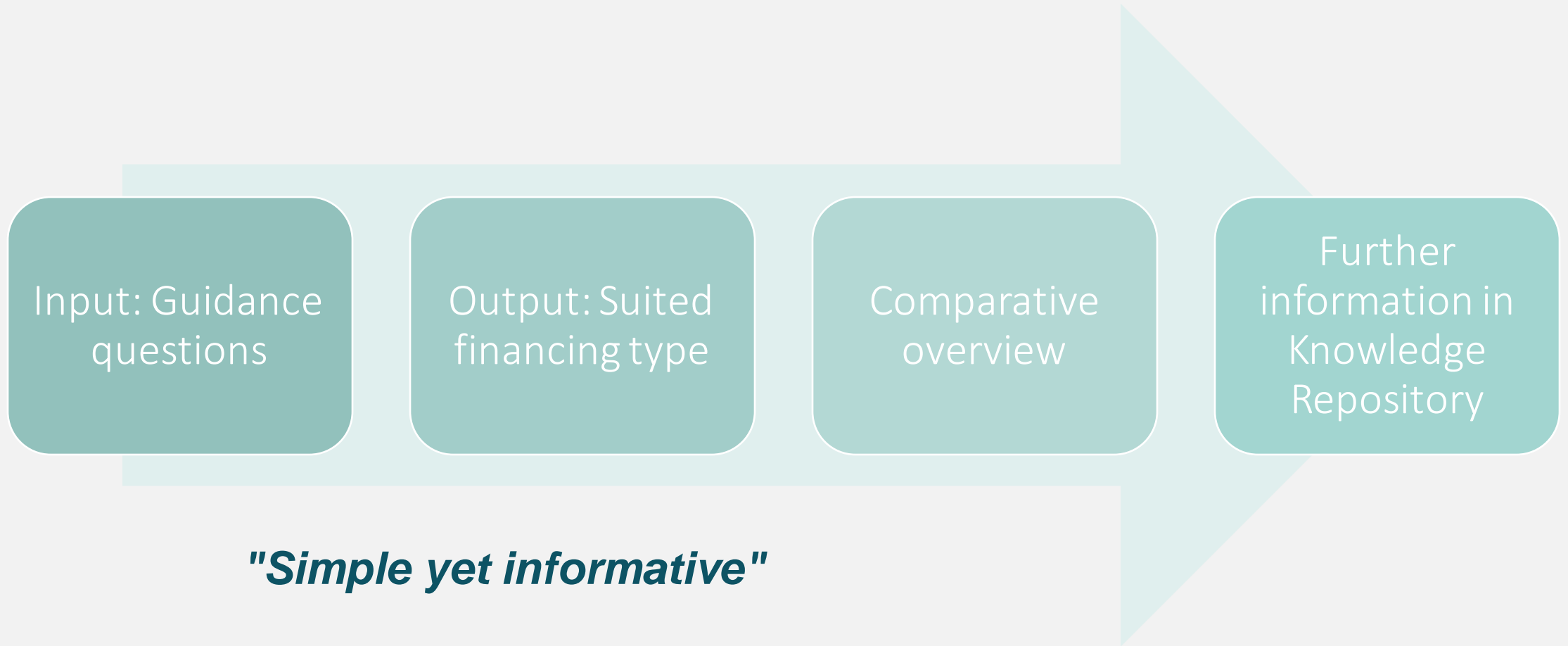
# Navigate the city finance landscape



1. Overview of existing instruments
2. Funding programmes and opportunities
3. Private sector capital opportunities
4. Exploration of innovative financing approaches
5. City-focused initiatives in Europe



# An interactive online Knowledge Tool



# Logic of the Guidance Questions



1. Sector Focus:

Transport

Built Environment

Energy Systems

(Green) Infrastructure

Waste

2. Guided Questions:

General budget?

- Taxes
- Leases
- Intracting / Revolving funds
- etc.

Donor funding

Grants?

Guarantees?

Loans?

Innovative & partner finance

Third party agreements (PPP, PPA, SPV, etc)

Utilities

Crowdfunding

Sponsorship, Philanthropic funds

Commercial finance

Debt?

- Loans
- Bonds (municipal, green, etc)

Equity?

- Institutional investors

Budget

Public funding

Partner cooperation

Commercial Finance





# Mock up



**City general information**

City Paris	Area 105,40 km <sup>2</sup>
Country France	Population 2 165 423 hab
European region West Europe	Population density 20 545 hab./km <sup>2</sup>

**City general information**

City Paris	Area 105,40 km <sup>2</sup>
Country France	Population 2 165 423 hab
European region West Europe	Population density 20 545 hab./km <sup>2</sup>

**Finance information**

Sector <input type="text" value="Energy generation"/>	Pros 1. can reuse capital, external capital; 2. do not need external capital; 3. cooperate within their units; 4. pay no interest on capital;	Cons 1. must finance all upfront costs; 2. bear all project risks; 3. may be less efficient than a private actor in project implementation;	Type of project financed 1. any project, including small-scale and not attractive to private investors;
Finance type <input type="text" value="Portfolio"/>	Revolving fund 1. can reuse capital, external capital; 2. do not need external capital; 3. cooperate within their units; 4. pay no interest on capital;	Revolving fund 1. must finance all upfront costs; 2. bear all project risks; 3. may be less efficient than a private actor in project implementation;	1. any project, including small-scale and not attractive to private investors;
Percentage data allocation <input type="text" value="5%"/>	Revolving fund 1. can reuse capital, external capital; 2. do not need external capital; 3. cooperate within their units; 4. pay no interest on capital;	Revolving fund 1. must finance all upfront costs; 2. bear all project risks; 3. may be less efficient than a private actor in project implementation;	1. any project, including small-scale and not attractive to private investors;
Scale of the project <input type="text" value="Medium"/>	Funding X 1. can reuse capital, external capital; 2. do not need external capital; 3. cooperate within their units; 4. pay no interest on capital;	Funding X 1. must finance all upfront costs; 2. bear all project risks; 3. may be less efficient than a private actor in project implementation;	Green investment loans

Does the Municipality have sufficient resources for self financing?	<input type="text" value="Yes"/>
Is it one time investment?	<input type="text" value="Yes"/>
Does the Municipality have internal capacity to execute the project?	<input type="text" value="No"/>



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# Mock up



Can the utilities offer financing?	Yes	capital;				
Energy efficiency obligation schemes (EEOS)	No	<b>Funding X</b>	1. can reuse capital; 2. do not need external capital; 3. cooperate within their units; 4. pay no interest on capital;	1. must finance all upfront costs; 2. bear all project risks; 3. may be less efficient than a private actor in project implementation;	1. any project, including small-scale and not attractive to private investors;	N/A
On bill Financing	Yes					
Is Private partner financing through energy savings possible?	Yes	<b>Funding X</b>	1. can reuse capital; 2. do not need external capital; 3. cooperate within their units; 4. pay no interest on capital;	1. must finance all upfront costs; 2. bear all project risks; 3. may be less efficient than a private actor in project implementation;	1. any project, including small-scale and not attractive to private investors;	N/A
EPC – guaranteed savings	Yes					

## Info buttons

[Example]

" Does the municipality have creditworthiness and borrowing capacity? "



A lender (i.e. the debt provider) determines that the borrower (i.e. the city, a utility, a private city actor seeking debt finance, such as a loan) will not default on their debt obligations by assessing their **creditworthiness**. The borrower needs to show that they are able to repay the debt.



# Example: Knowledge Repository



## Municipal Bonds

Municipal bonds are debt securities issued by cities, states, counties or countries to raise capital for infrastructure projects. The municipalities in need of capital raise funds in primary markets via primary issuances of bonds. Once bonds are issued, they can be traded in secondary markets. Municipal bonds are associated with low risk and are often tax exempted making them especially attractive to investors. (Narayanaswamy et al, 2017). The unit price and the minimum buy-in for municipal bonds are usually high and therefore are often criticised to be most beneficial to the affluent class. Municipal bonds are further categorised as General Obligations Bond (repayment via tax revenues) and Revenue Bond (repayment via revenues from the project)

**Advantages:** The municipality can raise finances for public projects independently or in coordination with a bond agency. Because bonds generally have low-interest rates, it offers capital at a lower cost than commercial bonds.

**Disadvantages:** Issuing municipal bonds may require extensive and costly preparation, such as obtaining a credit rating, acquiring approval from national securities authorities, and consulting with investment brokers. For this reason, many countries have municipal bond agencies, which aggregate debt from multiple municipalities, issue bonds, and sell them in the financial markets. With a high credit rating, agencies can raise capital for municipalities at a lower cost than would be possible if the municipalities issued the bonds themselves. Agencies of this kind are located in Sweden, Finland, France, Denmark, Switzerland, UK, and the Netherlands (ManagEnergy 2017).

**Projects that can be financed with this model:** Most municipalities with access to a bond agency can apply this model. (Source: Novikova, A., Stelmakh, K., Hessling, M., Emmrich, J., and Stamo, I. 2017. [Guideline on finding a suitable financing model for public lighting investment: Deliverable D.T2.3.3 Best practice guide](#). Report of the EU-funded project "INTERREG Central Europe CE452 Dynamic Light", October 2017.)

### Pooling Municipal debt

In comparison to big cities, the cost of borrowing for smaller municipalities can be particularly high. By pooling municipal debts with other small municipalities, the overall borrowing cost can be drastically reduced. Municipal bonds on the pooled municipal debts are then issued by the local governments and are purchased by a bank specifically authorised by the national or state statute. The bank then pools all the bonds purchased and issues them at the national bond market. Financing authorities can then gain greater access to national and international capital markets with higher credit ratings, and lower credit risk for each individual Municipality. (UN Habitat, 2009)

### Specialised Bonds

#### Mini Bonds

Mini-bonds are General Obligation Municipal bonds with a lower unit price. Mini-bonds are marketed directly to individuals without an underwriter serving as a broker-dealer. The Municipality assigns a firm to process the sale transaction, maintain the records and execute maturity payments. Mini-bonds connect the taxpayers to the public projects, thus engaging citizens, increasing citizens' access to municipal bonds, increasing the perceived equity of tax-exempt financing, and increasing social capital while funding capital projects. However, the role of mini-bonds is often limited in scale as there are a limited number of local investors due to the high marketing costs. (Ely, T. L. and Martell, C.R., 2016)

## Green Bonds

Green bonds are municipal bonds issued by public entities to support climate and environmental investments attracting Investors interested in positive social and environmental impacts thus creating a greener portfolio. Alongside the standard financial characteristics, green bonds are additionally evaluated based on the positive environmental impacts the bond intends to achieve. Investor diversification, closer engagement with investors and raising awareness for the projects to be financed, are some of the benefits of green bonds to the issuers. (World Bank Group, 2015)

### Case studies:

1. [Case: Green Bonds of Gothenburg, Sweden](#)
2. [Case: Green Bonds made by KfW, Germany](#)

### Further reading:

1. [What are Green Bonds?](#)
2. [Explaining green bonds](#)

### Sustainability Bonds

Sustainability bonds are Municipal bonds where the proceeds support projects with both environmental and social sustainability-related outcomes, such as affordable, energy-efficient housing or sustainable value chain creation. (Vanhuysse, F., et al., 2020)

### Sustainability Linked Bonds

In a sustainability-linked bond, the issuer commits to future improved sustainability outcomes within a predefined time frame. Unlike green, social and sustainability bonds, however, a sustainability-linked bond has no restrictions on how the proceeds can be used. (Waltré, N. et al, 2022)

### Case Studies:

1. [Towards Resilience Case Study - NSW Sustainability Bonds](#)
2. [Sustainable Land Bonds](#)

### Further Reading:

1. [Sustainability Bond Guidelines](#)

### References:

- UN-HABITAT. (2009). [Guide to Municipal Finance](#).
- Vanhuysse, F., Chan, S. and Gill, T. (2020). [Bonds Beyond Green: Results of the Scoping Study on Sustainable City Bonds](#). Stockholm Sustainable Finance Centre, Stockholm.
- Waltré, N., Sjöström, E., Agerström, M., Vanhuysse, F. and Requena Carrion, A. (2022). [The role of private market capital in financing sustainable cities: investor and municipal views in a Swedish context](#). Stockholm Environment Institute, Stockholm





# Next steps Finance Guidance Tool

- Review and integration of your feedback
- IT development of the tool
- Estimated launch: mid-November
- Semi-annual review, update and further development



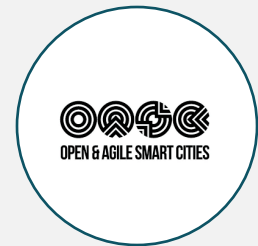
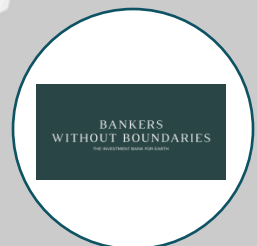


# Questions & Answers

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