

# NET ZERO CITIES



**EU MISSION PLATFORM**

**CLIMATE NEUTRAL AND SMART CITIES**



NetZeroCities 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

## Portfolio co-creation

October 4th 2022

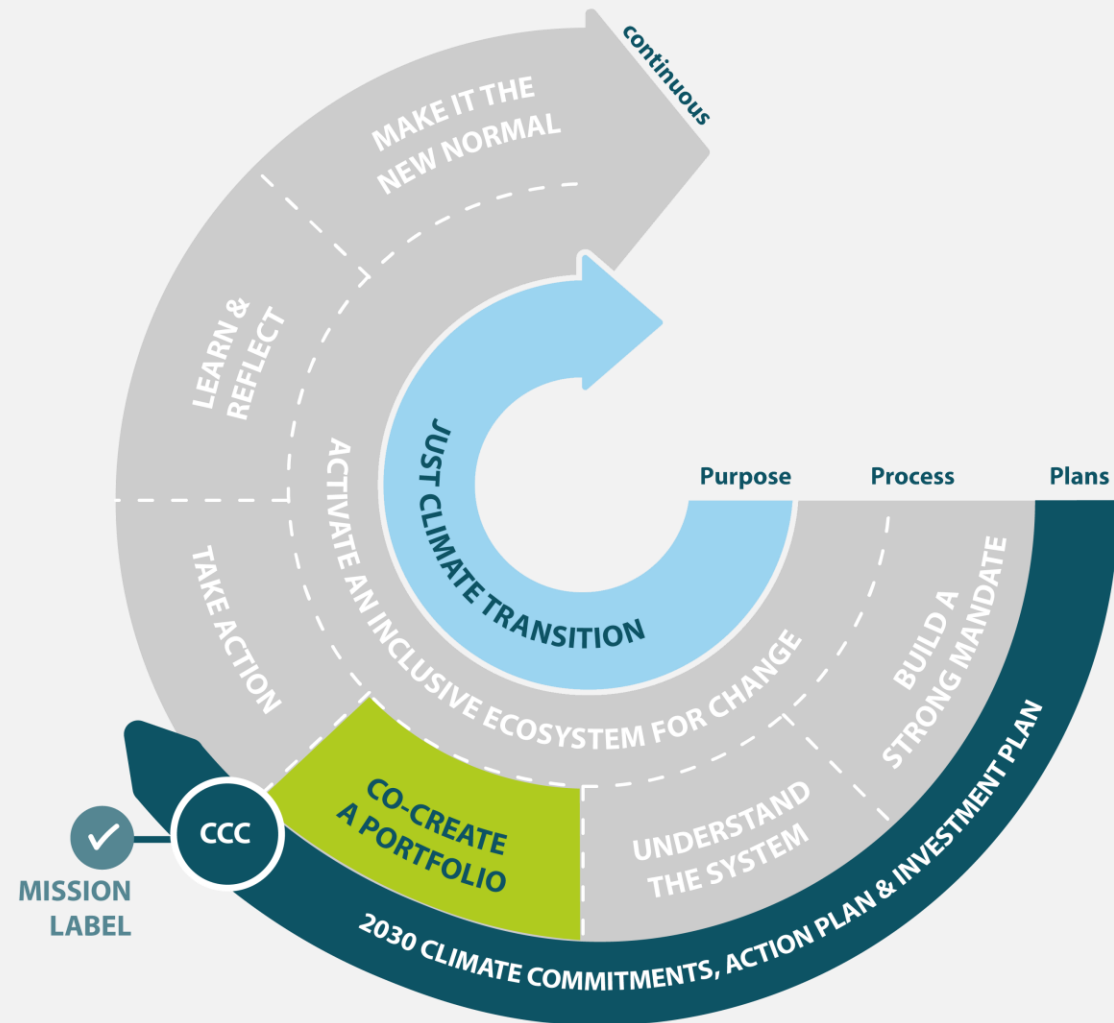


Funded by  
the European Union



# The Climate Transition Map

- This journey is **context-dependent and non-linear**
- It's **inclusive, systemic** and **iterative**
- Based on **co-creating** and testing
- Focused on **both implementation and experimentation**





# Climate Transition Map Webinar Series

## Programme Overview

**22 September**

**2022**

14:00-16:00 CEST



### **Mandate Setting Webinar**

- Exploring how to build a strong mandate in your city

**27 September**

**2022**

14:00-16:00 CEST



### **Ecosystem Development Webinar**

- Exploring the continuous engagement with stakeholders and actors in the local context

**29 September**

**2022**

10:00-12:00 CEST



### **Understanding the System Webinar**

- Exploring the continuous engagement with stakeholders and actors in the local context

**4 October**

**2022**

14:00-16:00 CEST



### **Co-Creating Portfolio Webinar**

- Co-design of cross-cutting systemic interventions





# Agenda

- **Introduction and framing** (25 min)
- **Speaker presentations** (45 min)
  - **Exeter: Frazer Osment** (15 min)
  - **Reykjavik: Hrönn Hrafnisdóttir** (15 min)
  - **Oslo: Sofi Obrestad Halling & Borge Håmsø** (15 min)
- **Opportunity to discuss with speakers** (40 min)
  - Fishbowl with speakers
- **Closing** (10min)





**Eugénie Cartron**  
*NetZeroCities Coordinator*  
Dark Matter Labs



**Frazer Osment**  
*Director*  
LDA Design



**Hrönn Hrafnisdóttir**  
*Head of Climate change*  
City of Reykjavik



**Joost Beunderman**  
*Director*  
Dark Matter Labs



**Sofi Obrestad Halling**  
*Climate Agency Oslo*  
City of Oslo



**Borge Håmsø**  
*Climate Agency Oslo*  
City of Oslo





# Introduction and framing

Joost Beunderman  
Eugénie Cartron





# Key takeaways for today

- The Portfolio approach is a way of **thinking of action planning as a process**, rather than just a document
- Portfolios exist at **many scales**: a whole city portfolio may include portfolios within emission domains, districts, or even Pilot
- There is **no single way of getting portfolios right** - no single methodology or result
- This is our first step together on Portfolios, we will have the opportunity to explore them deeper over time and with City Advisors







# Net zero by 2030

NetZeroCities is a unique initiative on a Mission. Together we aim to reduce all GHG emissions to zero in 112 cities by 2030.

We use the concept of *Portfolios* to get **beyond lists of projects and actions**. Interventions across emissions domains and levers of change need to be connected to achieve synergy, co-benefits, effective allocation of resources, learning and co-investment.





# Why a portfolio is key to reach our goal

The NZC portfolio design is a core process to ensure Mission Cities' success:

- It **connects the necessary actions** to achieve this unique objective of climate-neutrality: it builds on existing plans, strategies, roadmaps, recognising most cities have the beginnings of a portfolio approach
- It is a process, not a document: as a process, portfolio co-design allows **authorship, ownership, acceptance and commitment** for the set of actions co-designed
- The portfolio co-creation process makes it possible to create & iterate over time the **Climate Neutrality Action Plan** and **Climate Neutrality Investment Plan** documents

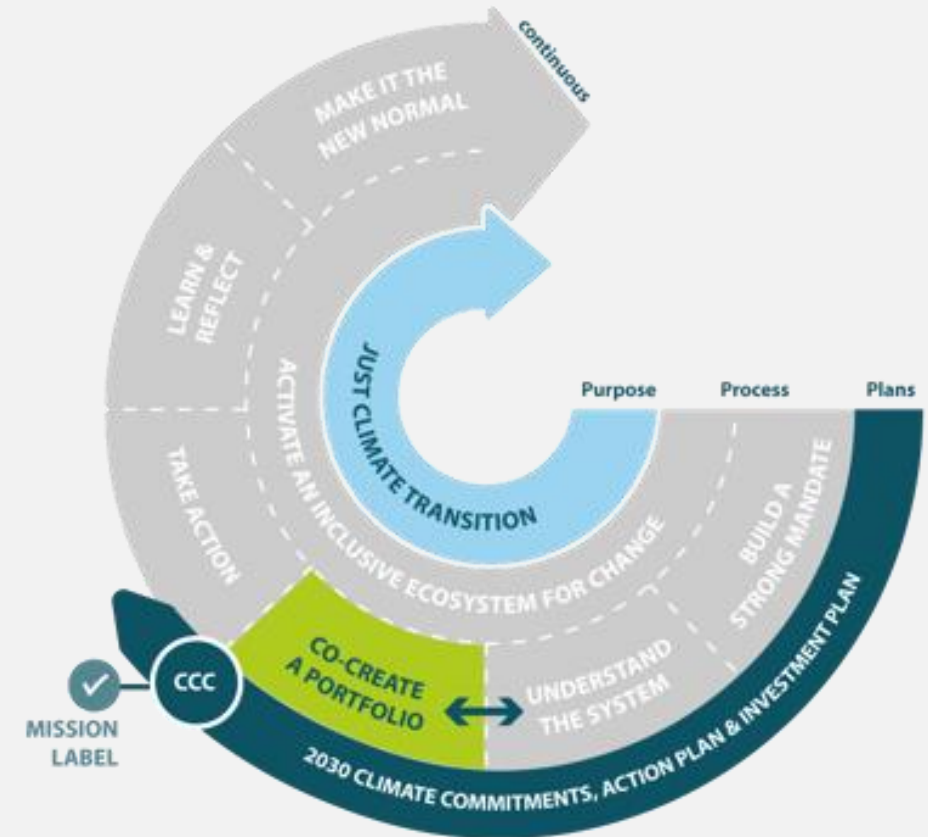




# Portfolio creation – A process in a bigger journey

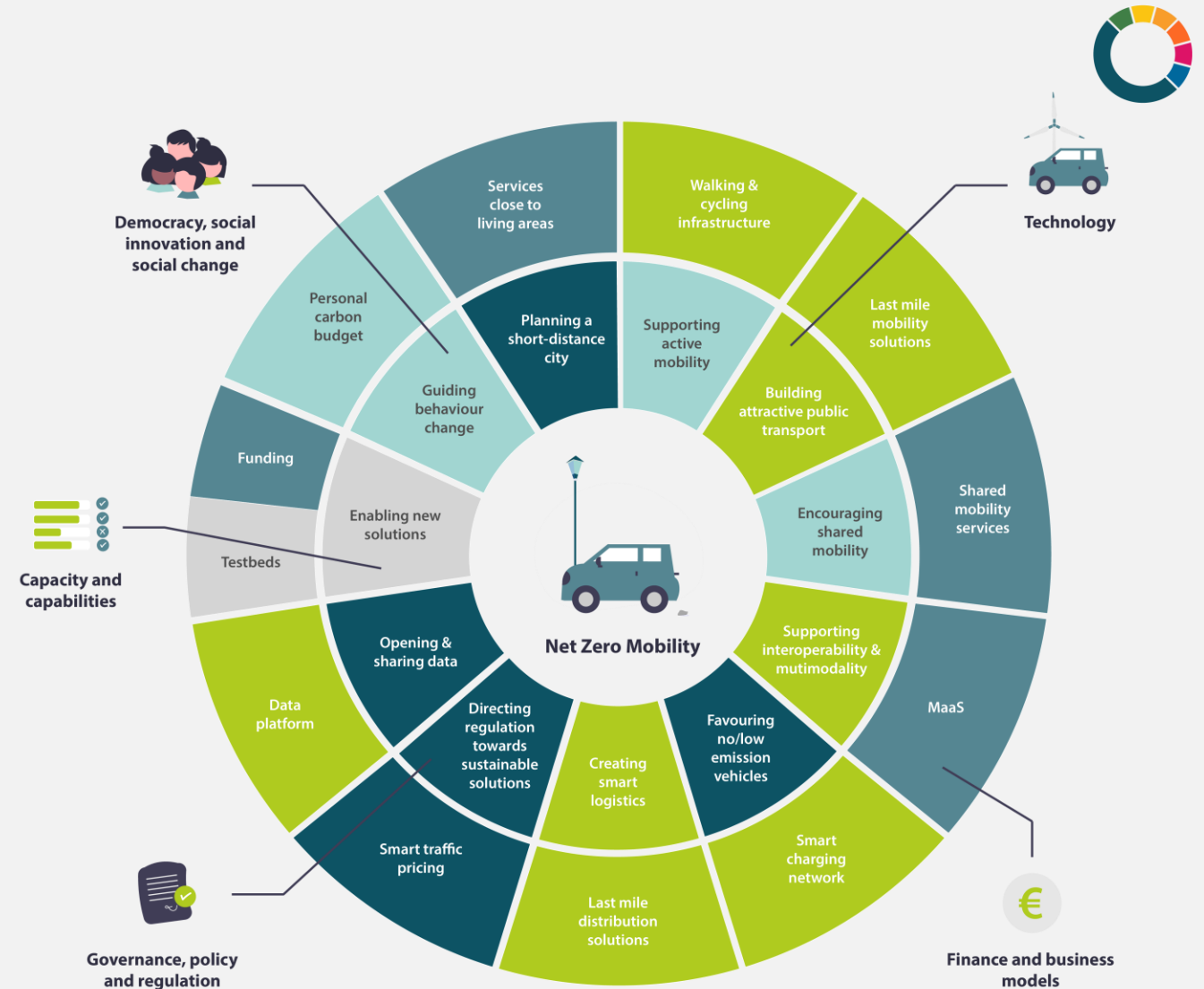
Creating a portfolio requires *Systems Understanding*:

- Having a clear **GHG baseline** to understand emission domains, emission volume by domain, GHG reduction requirements + an **analysis of current policies** synthesising what has progressed and what has been learned (Current State Assessment)
- Having clarified **interdependencies** between emissions, actions, actors etc, identifying **barriers** that block progress
- Scenario development on **potential levers of change** and how they would affect emissions and create unintended consequences with scenarios



# A Portfolio – A diversity of actions

- A portfolio is a **diverse set**, which can include technological, governance / policy / regulation, financial, democracy / culture / social innovation and/or capability building interventions
- These actions can be **active or passive GHG reduction triggers**, that means they can directly impact emission or enable an action which will reduce emissions
- These actions happen **across emission domains** (ex: logistics shifts land use patterns, neighbourhood retrofit and mobility shift, NbS strengthen each other's business case)



Smart & Clean Foundation





# A Portfolio – A coherent approach

- A portfolio approach **prioritises actions depending on relevant important factors**: GHG reduction impact, sharing of implementation responsibilities between contributors, estimated costs, further efforts needed, impact on identified barriers etc.
- This enables discussion about which decisions and choices to prioritise: alignment with the **city's vision, values** for the future
- The process **articulates actions with one another** to create coherent pathways towards decarbonisation, aligned with the values set in the city's vision.





# A Portfolio – A multi-stakeholder process

- For implementation to be successful, a portfolio is as much a composition of actions as it **is a composition of multiple actors** and a process between these actors.
- It is **based on *Ecosystem Activation***: ecosystem mapping around key emission drivers for example (identifying all key actors and existing relationships), building collaboration and trust for these actors to be able to operationalise this portfolio together





# Frazer Osment

Chair | LDA Design

A rapidly closing window, a portfolio approach





# A Rapidly Closing Window:

## A Portfolio Approach

Frazer Osment - LDA Design  
[frazer.osment@lda-design.co.uk](mailto:frazer.osment@lda-design.co.uk)



"The scientific evidence is unequivocal: climate change is a threat to human well-being and the health of the planet. Any further delay in concerted global action will miss a brief and rapidly closing window to secure a liveable future."

IPCC 28 Feb 2022



**RTPI**

Royal Town Planning Institute

**RTPI  
Research  
Paper**

January 2021

# NET ZERO TRANSPORT

The role of spatial planning  
and place-based solutions

LDĀ DESIGN



CITY SCIENCE  
endless possibilities

**vectos.**

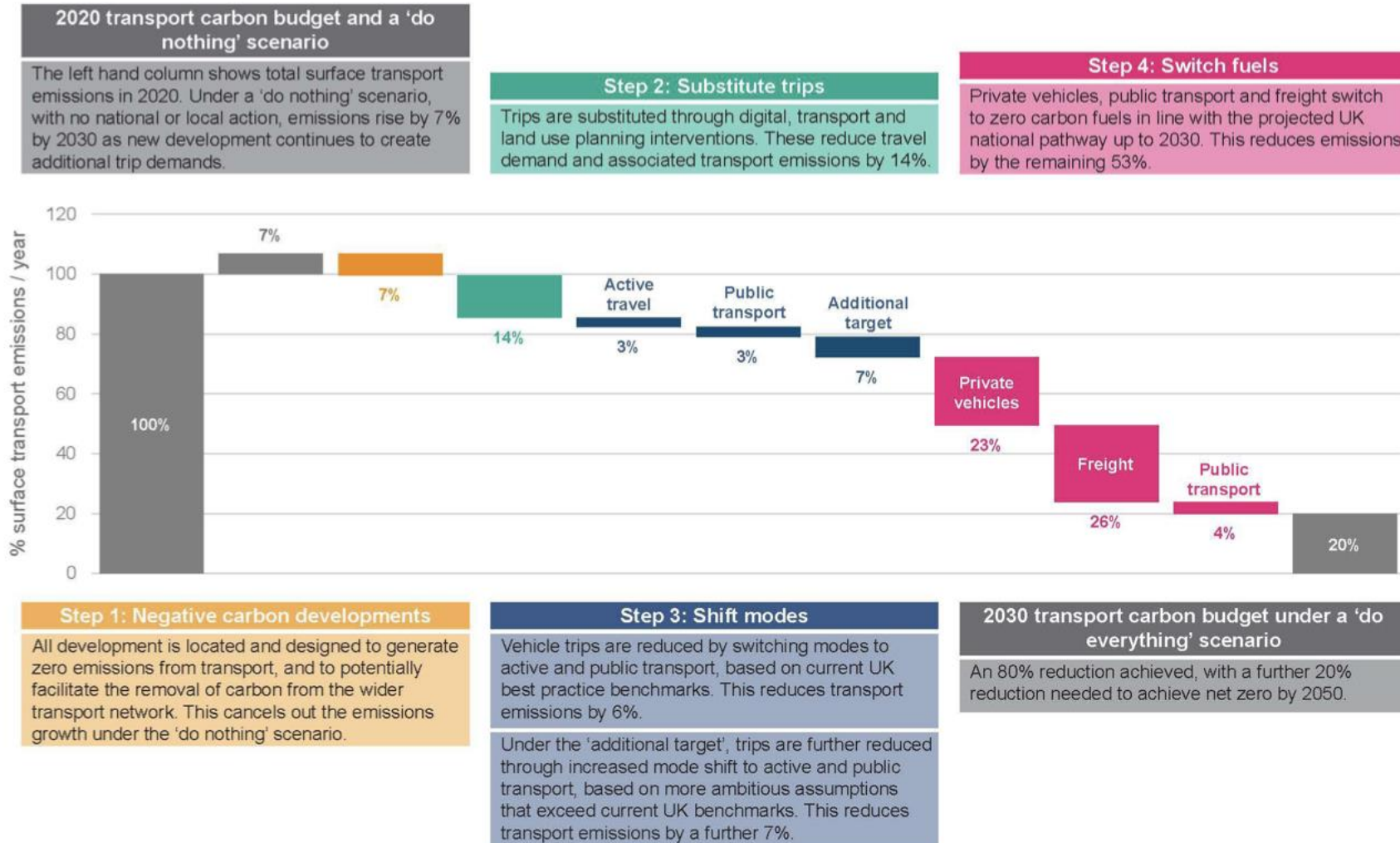
# Carbon Reduction Interventions

Land use	Low carbon renewal zone	
	Carbon negative growth zone	
	Strategic mobility hub	
	Strategic logistics hub	
Landscape	Farmland	
	Open countryside	
	Parks / open space	
	Allotments	
Access	Railway / train station	
	Road network	
	Rail logistics connection	
	Local logistics connections	
	Movement corridors	
	Strategic cycle route	
	Pedestrianised streets	
	Public square	
	EV public transport	
Living lanes		
Buildings	Community work hub	
	Gigafactory	
	Make space	
	Repurposed out of town	
	Local markets	

Substitute trips	Active travel infrastructure	
	Logistics infrastructure	
	Land use planning	
	IT infrastructure	
Shift modes	Shared mobility	
	Modern public transport	
	Street design and access restrictions	
Switch fuels	EV charging infrastructure	

Cycle friendly	Pedestrian friendly			
e-Cargo bike	Home delivery	Ground drone		
Co-working	Mixed use	15-minute neighbourhood		
Online tasks	Home working	Broadband / 5G		
e-Bikes	Car clubs	Vehicle to grid technology	Mobility hubs	Carpool
DRT	AV EV shuttles	Public / shared modes		
Car-free centres	Drop-off / pick-up priority	Freight restrictions	Last mile connectivity	Segregated cycle highway
EV charging off-street	EV charging on-street	Fast EV charging	EV taxi	

# Carbon Reduction Pathway



# A Different Type of City




# Liveable Exeter




<https://www.liveableexeter.co.uk/>

# Partnership



EXETER  
CityFutures

*Exeter City Futures is a local community interest company working collaboratively with the city to help Exeter become carbon neutral by 2030, through the delivery of our Net Zero Exeter Plan*

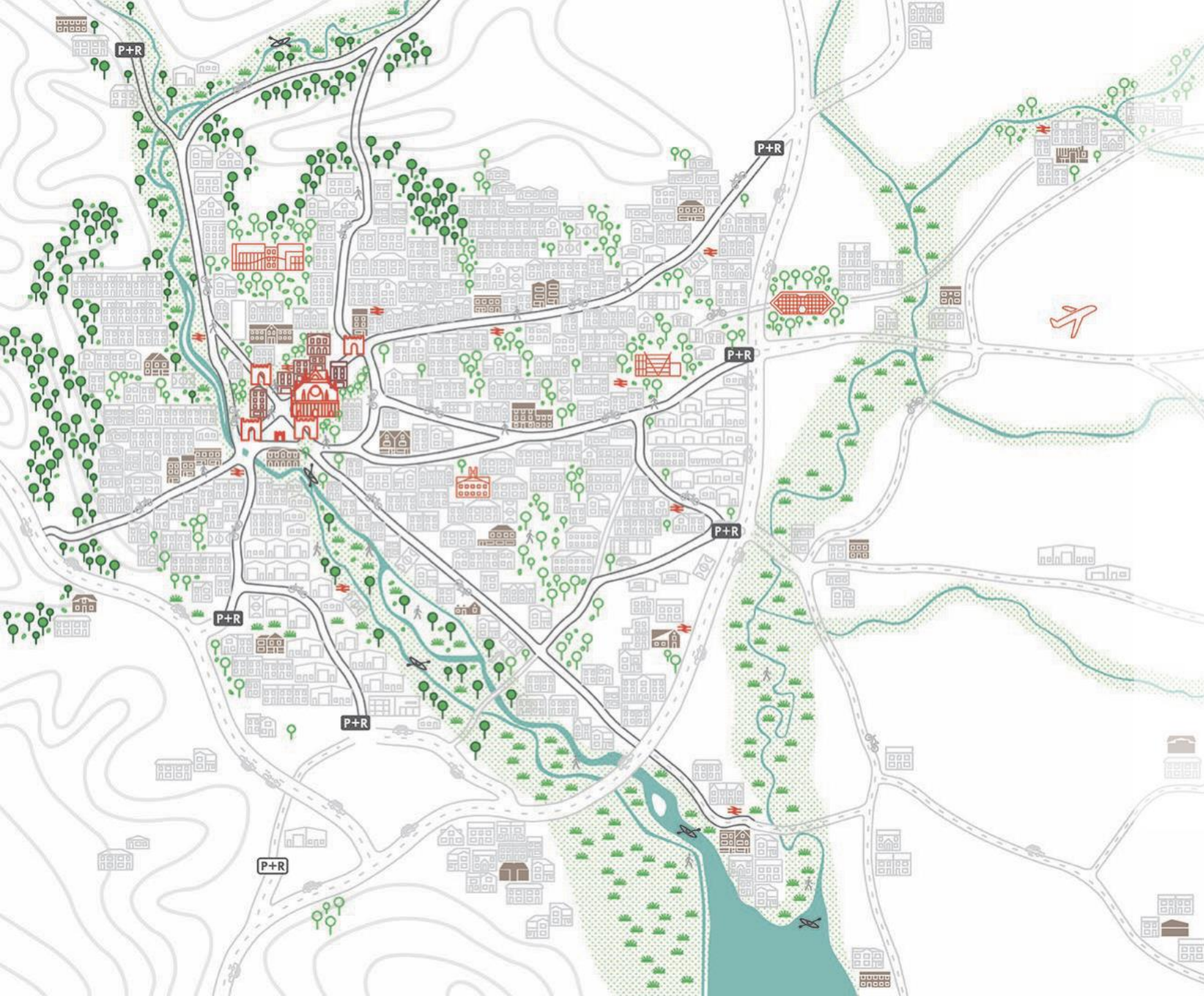


The illustration shows a stylized city skyline with various elements representing sustainability: a recycling truck, a bicycle, a house, a wind turbine, a car, another wind turbine, solar panels, and two swans in a body of water.

<https://www.exetercityfutures.com/>

## NET ZERO EXETER 2030 PLAN





# A Spatial Framework

- Strengthen the economic drivers
- The valley parks and active travel networks
- The communities and neighbourhoods





# Pillars of Delivery

- The Prosperous City
- The Communities and Neighbourhoods
- Great streets and open spaces

# The Exeter Plan

This is our city • This is our future



Outline Draft Plan  
September 2022



# Plan-led

Exeter Plan Consultation

<https://exeterplan.commonplace.is/>





# Eight Key Projects

- Two new neighbourhoods
- Four improved approaches at the city gates
- Investment in the environmental infrastructure of the city



# Portfolio approach

- Master developer perspective
- Setting the benchmark
- Creating the brand and identity
- Upfront infrastructure and value creation



# City Fund

- Infrastructure and development fund
- Invest in assets and finance development
- Renewing infrastructure
- Re-cycle profits locally
- Carbon neutrality



# Place Board

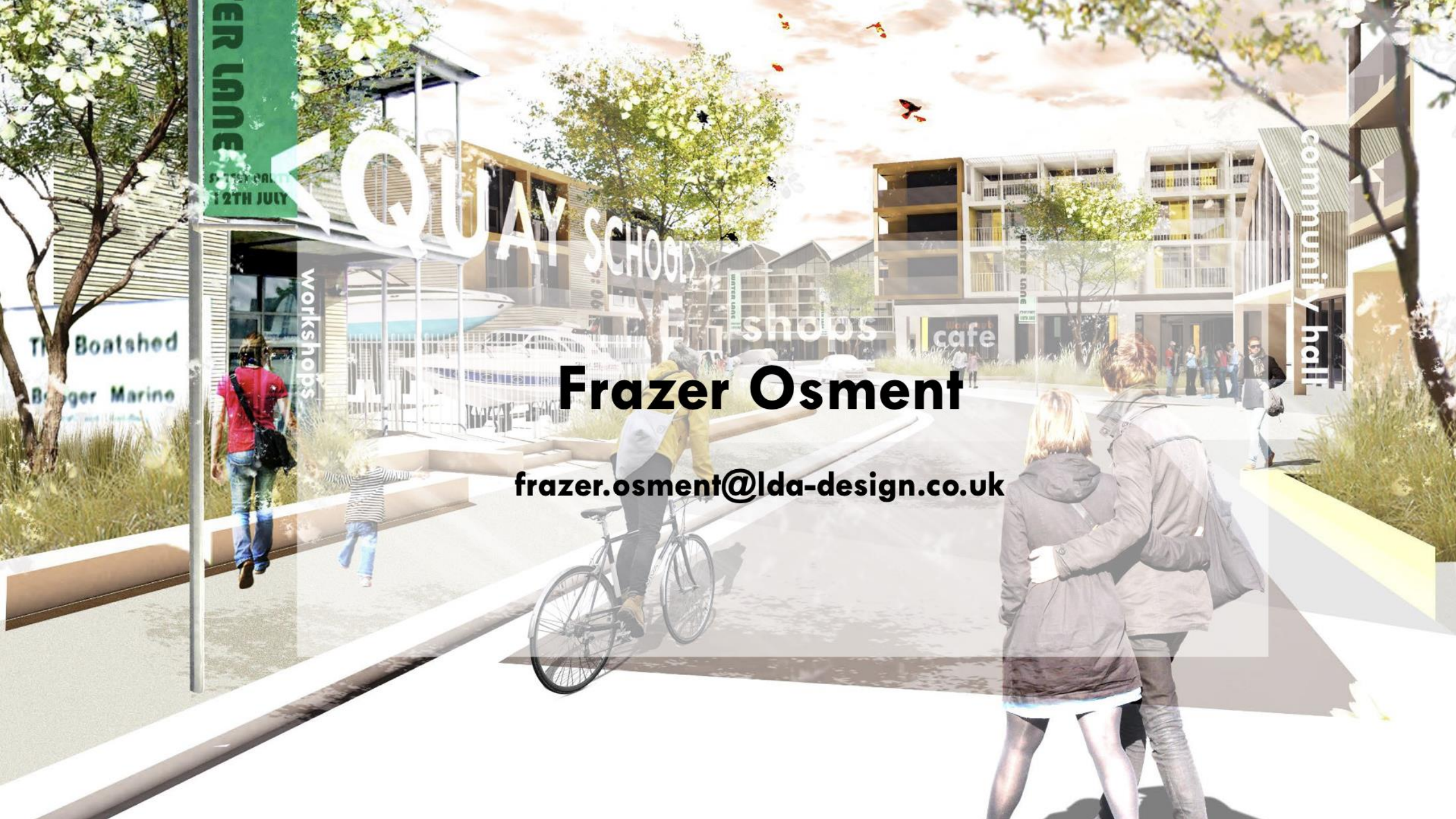
- Collaboration between institutions, partners and Government
- Critical friend, challenging partners
- Engaging communities and stakeholders to address the challenges

**The future depends on us, not the climate.**

**Dr Helen Adams**

**Lead author on the IPCC report from King's College, London.**





ER LANE  
12TH JULY

QUAY SCHOOLS

Workshops

shops

shops

cafe

community hall

The Boatshed  
Boat Marina

# Frazer Osment

[frazer.osment@lda-design.co.uk](mailto:frazer.osment@lda-design.co.uk)



## Hrönn Hrafnsdóttir

Head of Climate change, Dpt of Environment  
and planning | City of Reykjavik

Net zero mobility – the largest challenge  
of Reykjavik





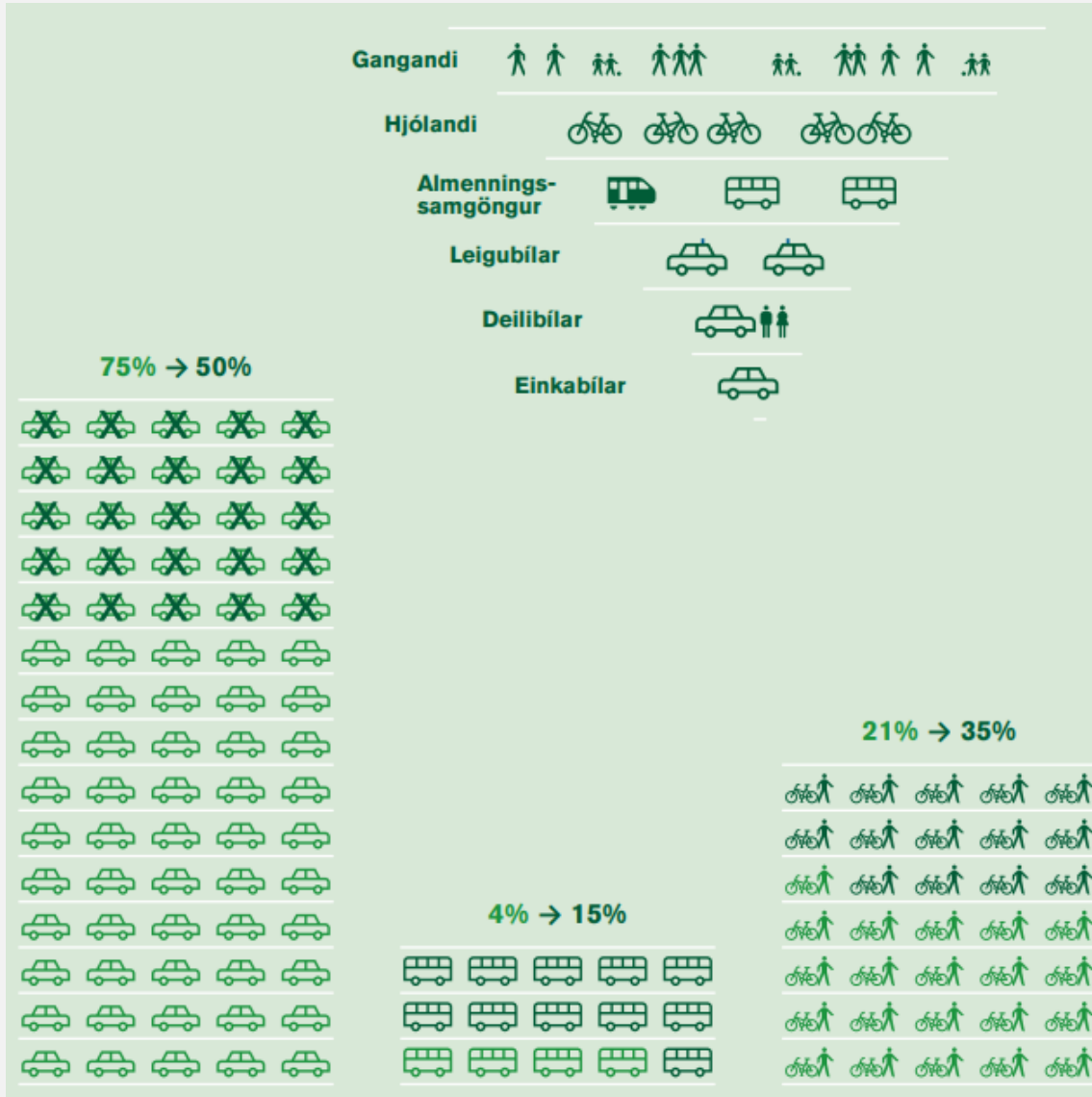
## The challenge faced: emissions due to transport always the largest share



Community-scale emissions inventory in Reykjavik according to scope in 2019;

Simple carbon footprint			Regional carbon footprint in addition to the value chain			Regional carbon footprint in addition to the value chain and the affect of other activities within the city limits		
	CO <sub>2</sub> t <sub>ig</sub>	Proportion		CO <sub>2</sub> t <sub>ig</sub>	Proportion		CO <sub>2</sub> t <sub>ig</sub>	Proportion
Transport	340,921	82%	Transport	340,921	64%	Transport	340,921	54%
Waste	54,524	13%	Waste	54,524	10%	Waste	54,524	9%
Energy use	21,637	5%	Energy use	21,637	4%	Energy use	21,637	3%
			Agriculture	3,510	1%	Agriculture	3,510	1%
			Chemical processes and industry	62,840	12%	Chemical processes and industry	62,840	10%
			Land use	45,421	9%	Land use	45,421	7%
						Manufacture of food products	8,043	1%
						Construction industry	93,968	15%
<b>Total</b>	<b>417,082</b>		<b>Total</b>	<b>528,853</b>		<b>Total</b>	<b>630,864</b>	





## The diversity of solutions needed

The challenge of mobility is a planning challenge and social challenge and climate challenge

### Changing travel modes

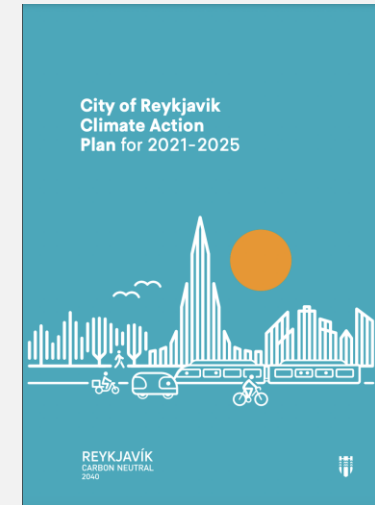
- Built on public consultation / ideas while working with planning – both on municipal and local level
- Meeting on all kinds of levels in connection with planning processes










## The multiple actors needed

- **Politicians** (to set the vision and finance it)
- **Citizens** (asking for change)
- **Municipal Plan** (to set the big picture of growth limit of the city)
- **Planning department** (to plan pedestrian friendly areas)
- **Urban development** (to keep the service within 15 min districts)
- **Utility company** (for energy exchange of cars)
- **Reykjavik Harbour** (for energy exchange at sea)
- **Public transportation company** (more frequent services and electrification of the fleet)
- **Transport department** (key actor on changing travel modes but also make the bicycle plan come true)
- **Car parking service** of Reykjavik
- **NGOs** (bicycling)
- **All nearby municipalities**



PRINCIPAL ACTIONS	WALKABLE CITY	ENERGY EXCHANGE	HEALTH ENHANCING COMMUTES	CIRCULAR THINKING	ECOFRIENDLY STRUCTURES	CARBON SEQUESTRATION	REDUCTION TARGETS FOR 2030
 <b>1 15 minute district</b> Through the process of district planning, renewal of urban centres and investments in infrastructure, the City's districts will become more pedestrian-friendly and the access to green areas, outdoors-activities and services will be ensured within a radius of fifteen minutes' walk or on bicycle.							In total approx. 170,000 tonnes
 <b>2 Green city development</b> The city's future development will all be within its defined urban growth limit line and 80% of housing development will be located within convenient distance from the new BusRapid Transport system, Borgarlínan.							
 <b>3 Energy exchange everywhere</b> A comprehensive plan to be drawn up and carried out for energy exchange infrastructure for private cars with charging stations in the city districts, for commercial cars, trucks, for public transport systems, in the ports and at sea.							
 <b>4 World class cycling city</b> A revised cycling plan is to set goals with the aim that Reykjavik becomes a world class cycling city.							
 <b>5 Borgarlína (Cityline) and improved public transportation</b> Improved as well as efficient public transportation and the compaction of the city are to play a key role in attaining the goals for changes in travel behaviour. Further climate goals will be defined for the transportation agreement between the state and the association of metropolitan area communities (SSH).							

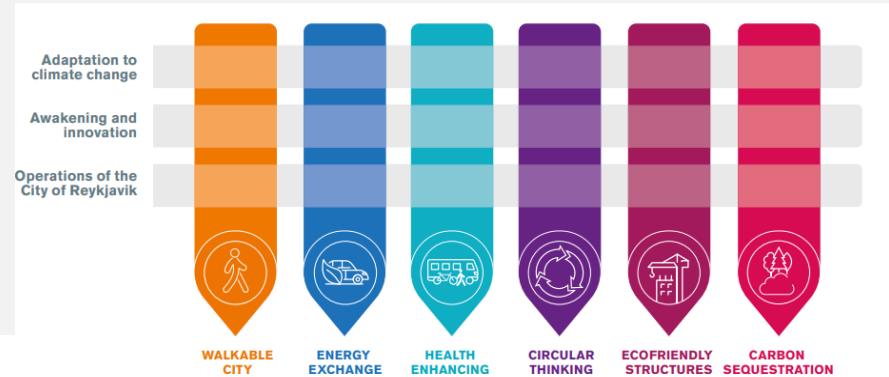




# The different actions are taken care of by different actors

## Example: Bicycle lanes

- Politicians: decide the policy and financing of bicycle lanes
- Planning department
- Transport department
- Department of construction: to build
- Department of maintenance: to maintain the lanes, snow removal, sweeping etc
- Statistics and communication
- NGOs push for more service and more lanes
- Citizens



Principal aims:

### Health-promoting transport (active modes of travel)

Percentage of pedestrians and cyclists is so arranged that the objectives of the Paris agreement are met.



Action	Schedule	Cost	Success measurement	Effect on GHG emissions	Guarantor
Outstanding winter season services for pedestrians, cyclists and bus traffic.	2021-2025	The cost of the winter services depends on climate. Is in the DEP budget.	Percentage of winter service for marked paths per km vs. roads per km. Winter service for marked paths (km) / Winter service for roads (km).	Depending on the sources of energy of machines and equipment used for winter service.	DEP
Equality in the design of traffic structures - funds that go to road transport will be balanced with funds for infrastructure for pedestrians and cyclists.	2023	An appraisal needs to be performed in order to estimate the next steps.	That an appraisal has been performed.	During the implementation stage there is no change unless there is change in the price of selected materials.	DEP
Access for all irrespective of mode of travel and age. A framework must be set up, or instructions for the design of new and older routes.	2022	Indirect costs for the personnel who designs the instructions.	Design of instructions completed.	Indirect affect might reduce need for driving.	DEP
Condition and scope of pavement and cycling paths to be first rate and in priority.	2021-2025	Indirect costs for the personnel who designs the instructions.	Design of instructions completed.	Indirect impact, promotes active modes of travel.	





## The multiple actors needed for implementation

- Strong **political commitment**
- Large group meeting with multiple actors
- **One on one** meetings
- Meetings with **boards of stakeholders**
- Special **website** on climate issues
- Internal and external **communication** and presentations
  
- Working with **government and other stakeholders** in the Icelandic Climate Council
  
- Participation in **the Mission** has made a new platform – a steering committee of all the foremen of the political parties (also the minority)





# Sofi Obrestad Halling and Borge Håmsø

Climate Agency Oslo

Implementing Oslo's Climate Strategy



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# City of Oslo

Sofi Obrestad Halling and Borge Hamso

Climate Agency Oslo



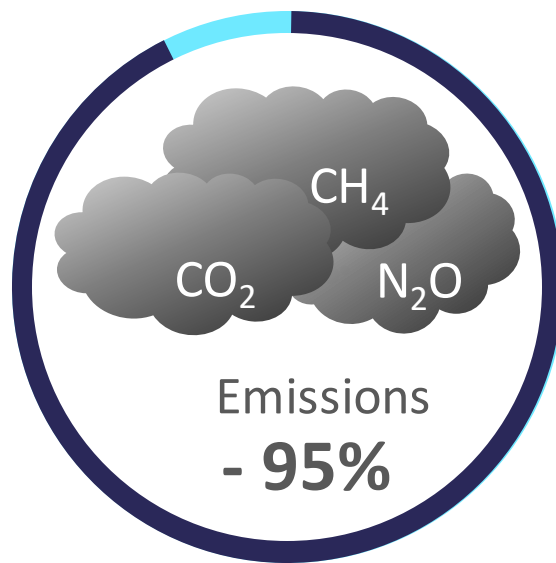
# Oslo has set ambitious climate policy targets

Adaptation



2030

Mitigation



2030



# CLIMATE STRATEGY 2030

- ▶ Reduce climate emissions with 95 percent by 2030
- ▶ Increase natural capture of CO<sub>2</sub>
- ▶ Reduce total energy consumption
- ▶ Strengthen the city's climate resilience
- ▶ Reduce the city's climate footprint
- ▶ Develop and implement climate governance



# Stakeholder engagement

- ✓ Climate Strategy- a consultative and participatory process
- ✓ Climate Agency Goal: strengthen citizen engagement on climate
- ✓ Climate Polls (yearly)
- ✓ Climate communication, school & youth
- ✓ Participatory processes on community level
- ✓ Webpage for climate grants
- ✓ Living labs for climate innovation
- ✓ Business for Climate (2009);  
fora for dialogue and aligning strategy



# How do we implement?

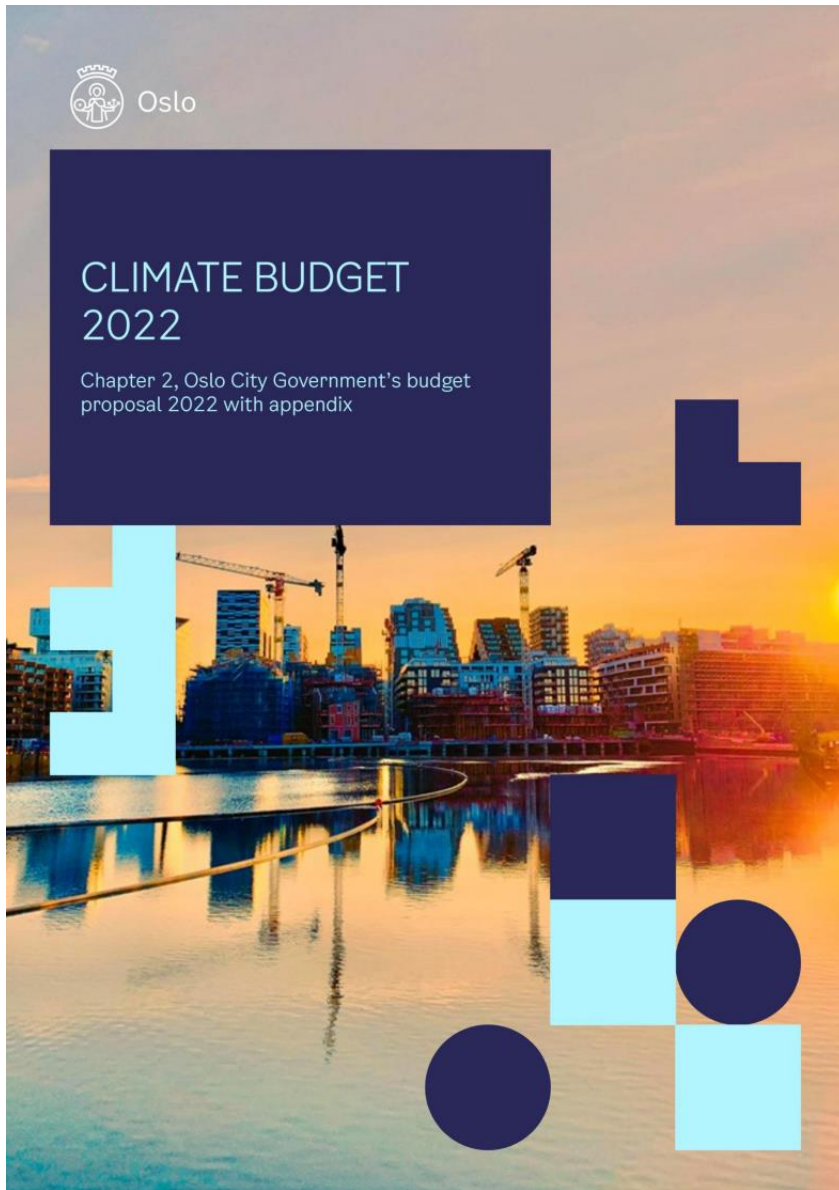
Diversity of solutions needed

Coordination of actions



# CLIMATE BUDGET 2022

Chapter 2, Oslo City Government's budget  
proposal 2022 with appendix



## CLIMATE BUDGET

- an efficient governance system

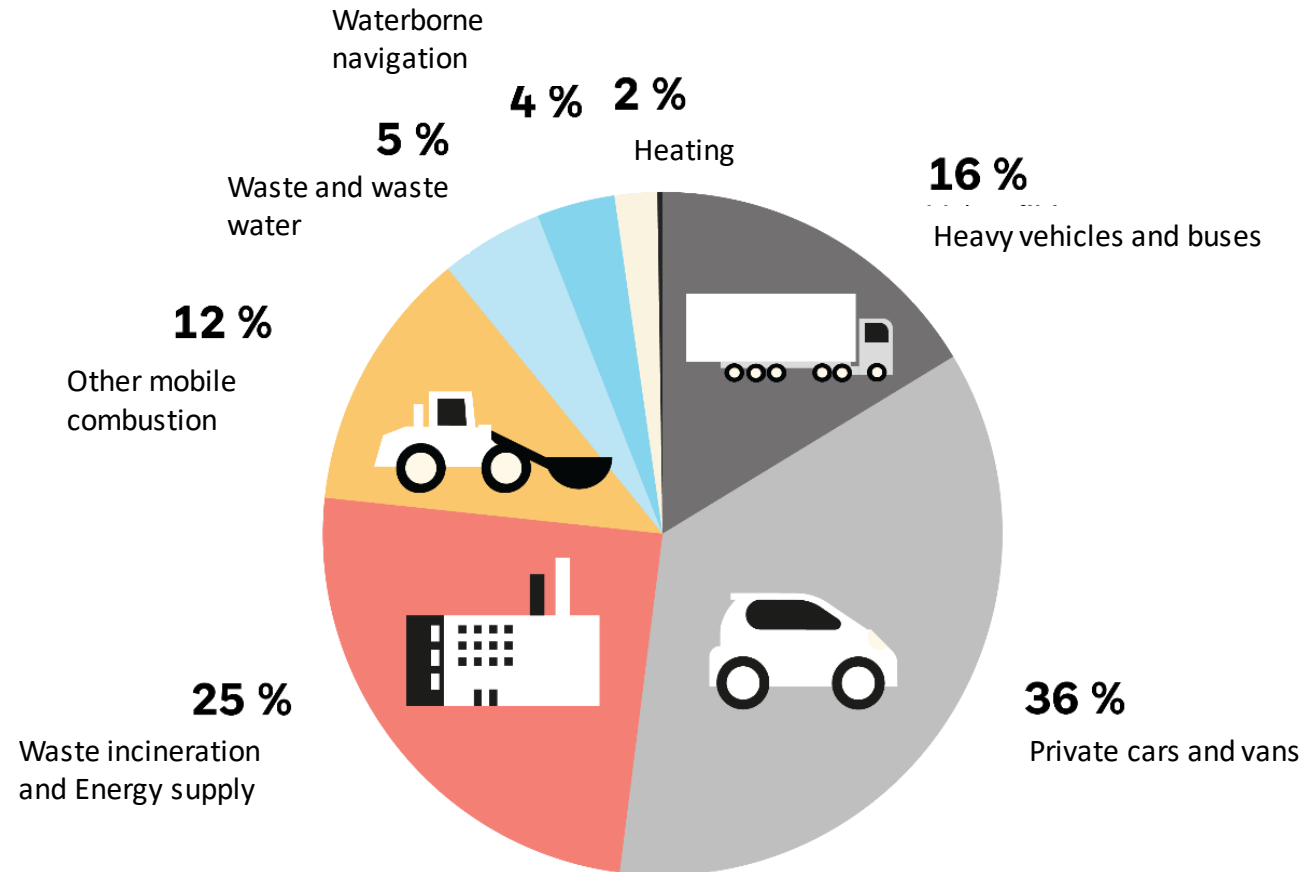
- ▶ Integrated in the ordinary municipal budget
- ▶ Identifies emission reduction measures
- ▶ Identifies costs and responsible unit for implementation
- ▶ Reporting as part of the ordinary budget cycle

# Climate budget analysis

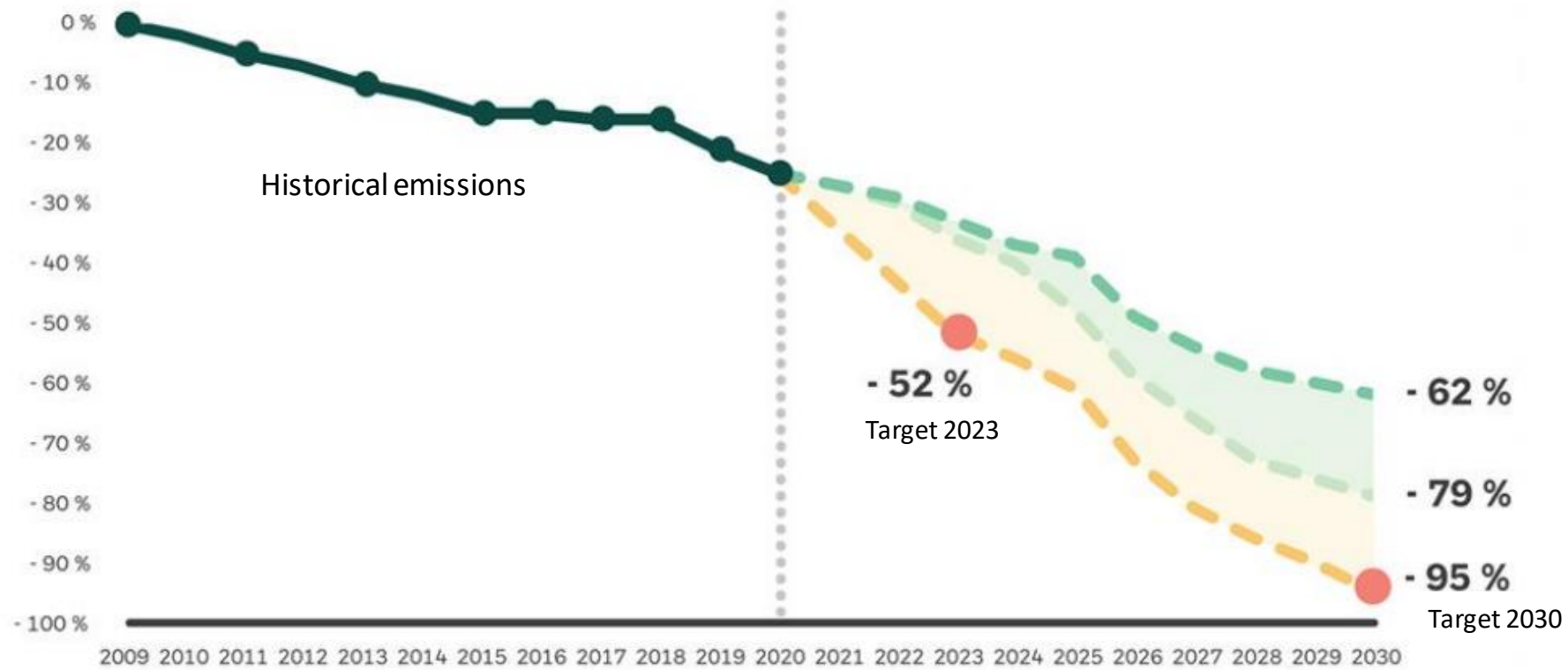
# Greenhouse gas emissions in Oslo

## Most important sectors

- ▶ Road transport
- ▶ Waste incineration
- ▶ Other mobile combustion







Decided measures

Identified measures

Annual Targets

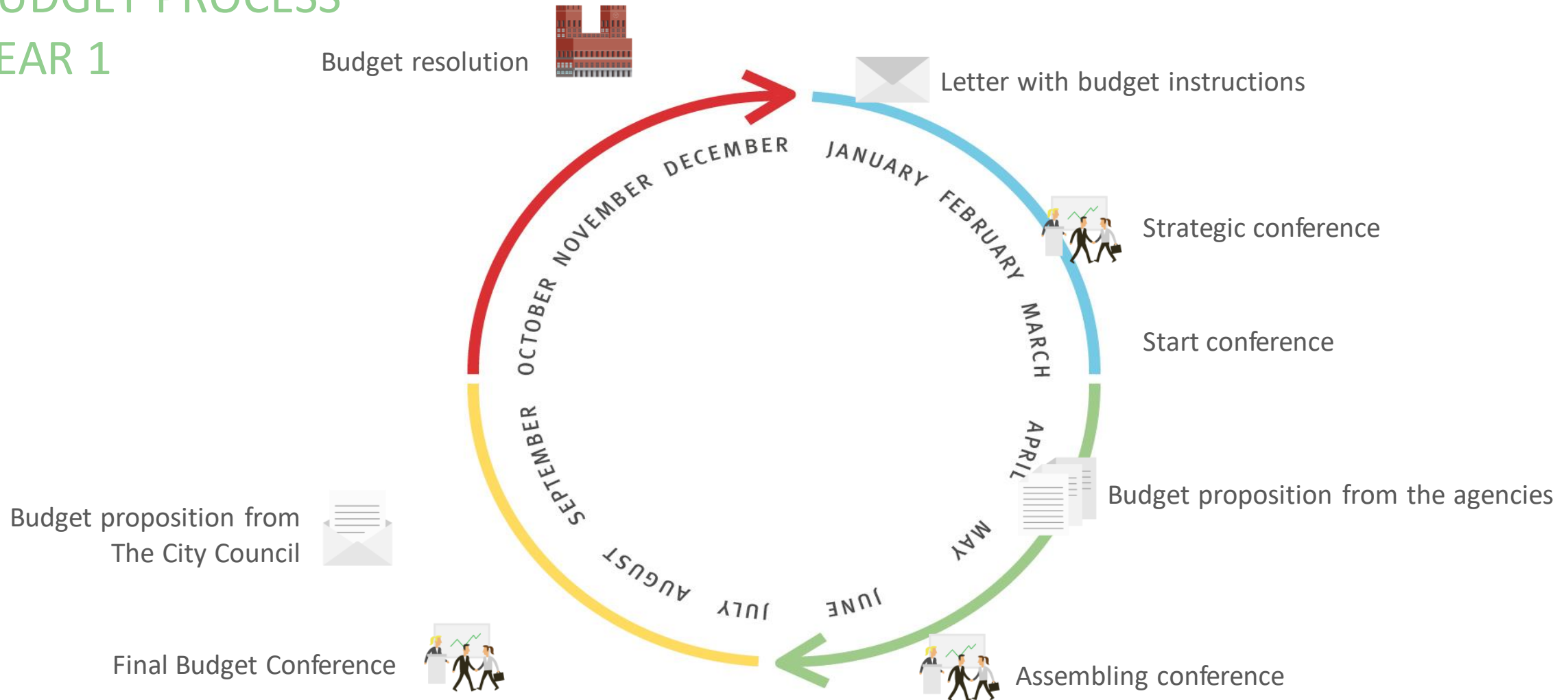


**Tiltak og virkemidler i klimabudsjettet**

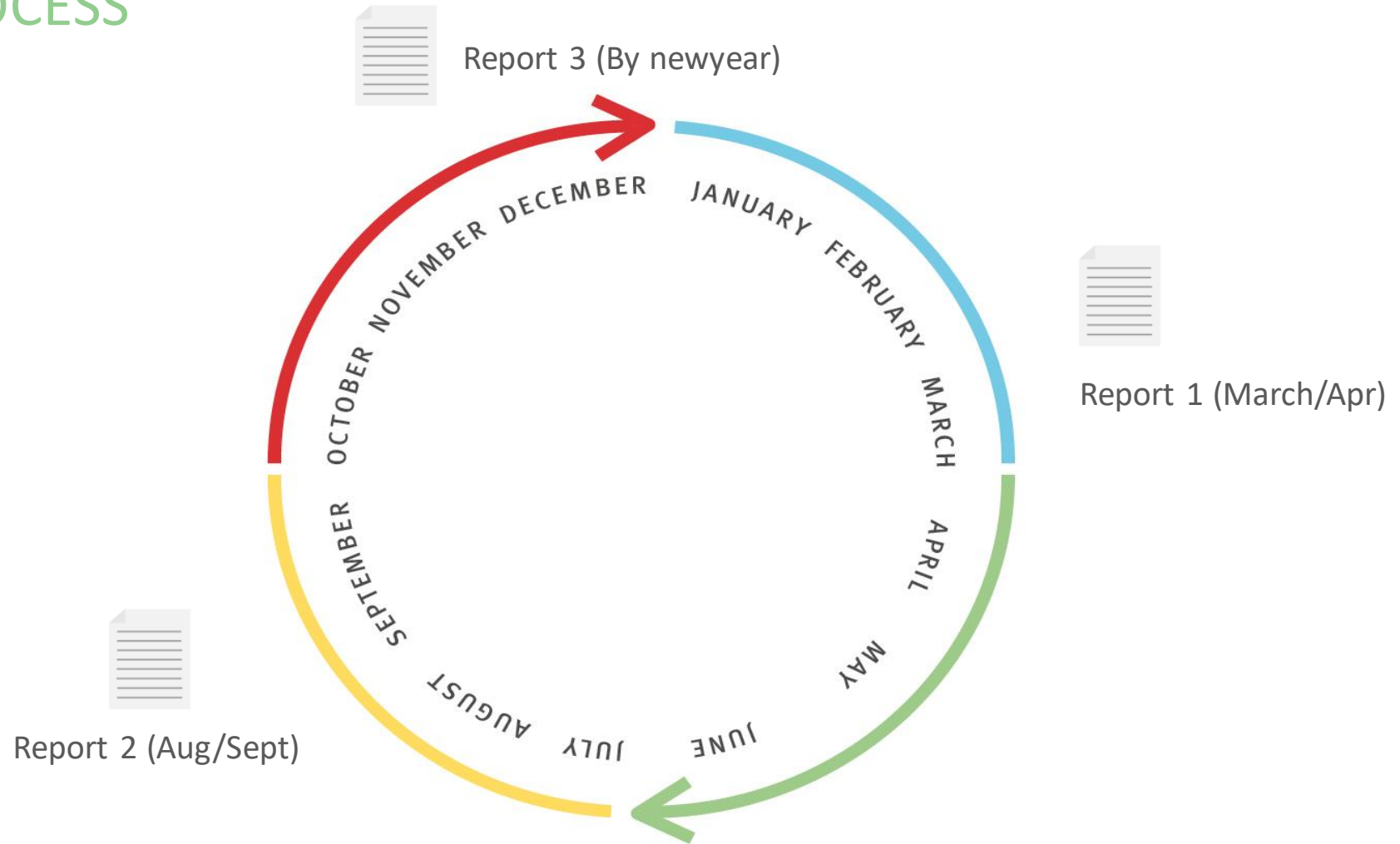
Utslippsektor/tiltak	Nr.	Virkemidler	Ansvarlig	Effekt 2023	Effekt 2026
				(tonn CO <sub>2</sub> -ekv.)	
<b>Avfallsforbrenning og energiforsyning</b>					
Utslippsfri produksjon av fjernvarme	1	Etablering av gasskjel for produksjon av fjernvarme fra deponigass	REG*, EBY	200	300
Avfallsforbrenning med karbonfangst	2	Karbonfangst på Klemetsrudanlegget	Hafslund Oslo Celsio/NOE	0	103 100
<b>Avfall og avløp</b>					
Uttak av deponigass	3	Vedlikehold av deponigassanlegg på Rommen og Grønmo	EBY*, REG	Ikke beregnet	
<b>Veitrafikk</b>					
Overordnede virkemidler	4	Nye takster i bomringen		17 200	18 200
	5	Innkjøp av utslipps- og fossilfrie kjøretøy i kommunen	Alle*, UKE*	1 100	1 000
	6	Etablering av nullutslippssone i området for bilfritt byliv	BYM*, KLI	0	6 400
Redusert trafikk	7	Insentiver for økt sykling og gange (tilskudd klimavennlige jobbreiser, infrastruktur sykkel)	BYM*, KLI*	Tilretteleggende tiltak	
	8	Forbedre kollektivtransporten (øke framkommelighet, nye trikker, utbedringer for t-banen mm)	Ruter*, BYM*		
	9	Tilrettelegge for bruk av deløsninger (bildeling, el-sykkeldeling mm)	BYM*, Ruter*		
	10	Parkeringsvirkemidler (øke takster, fjerne parkeringsplasser, ny parkeringsnorm mm)	BYM*, PBE*	Ikke beregnet	

# The Climate budget process

# BUDGET PROCESS YEAR 1



# BUDGET PROCESS YEAR 2



# Some examples

# A procurement strategy that drives innovation

- Oslo procures goods, services and works for NOK 26 billion
- Invests for NOK 11 billion – 400 contract notices – 550 000 invoices
- All planned procurement shall be based on the goal of becoming a zero emission city
  - Fossil free – emission free vehicles and machinery
  - Fossil free-emission free transport goods and services
  - Fossil free – emission free construction sites



Oslo



A scenic view of the Oslo waterfront. In the foreground, a large white ferry with a black hull is docked. Behind it, several other smaller boats are visible. The background features prominent red brick buildings, including the Oslo City Hall with its iconic clock tower. A construction crane is visible in the distance. The sky is blue with some clouds.

More information?

[Oslo Climate Information site in English:](#)

[Information on 2022 Climate Budget:](#)

[Information about Oslo Climate Budget on C40 website](#)



Oslo





# Discussion



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



# The next 35 min

- We will start a discussion with our speakers, reacting to the presentations we heard
- Use the Q&A feature to suggest questions or topics of discussion
- Vote for your favorite questions in the Q&A
- Participants and their questions can be brought on stage to contribute to the discussion





# Any question?

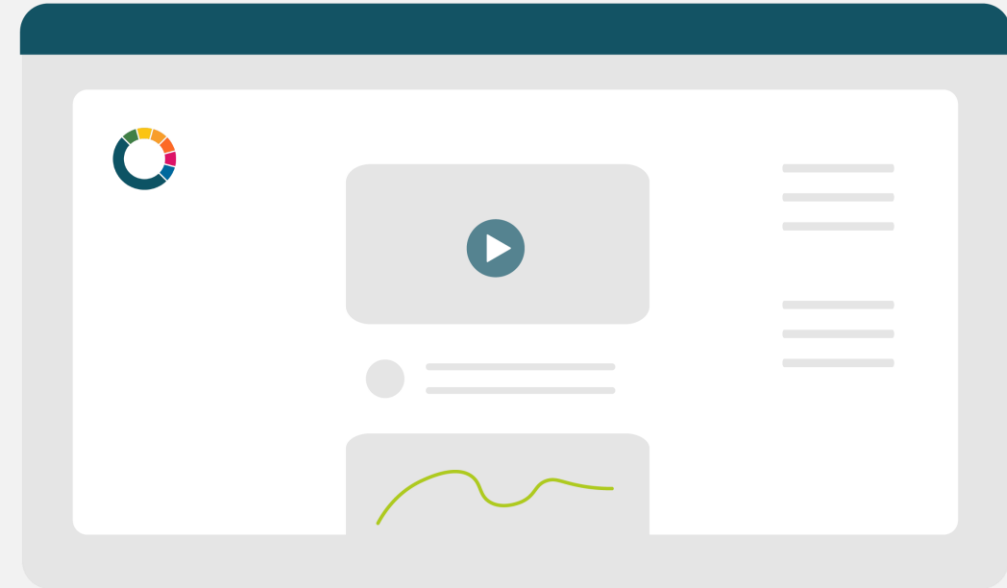
The discussion is  
now open!





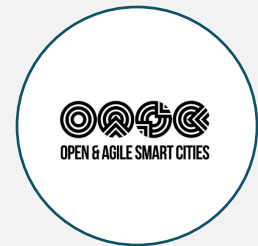
# Thank you

Keep the conversation  
going on the portal



<https://netzerocities.app/event-242>





# Get in touch with NetZeroCities!



[@NetZeroCitiesEU](https://twitter.com/NetZeroCitiesEU)



[NetZeroCities](https://www.instagram.com/NetZeroCities)



[NetZeroCitiesEU](https://www.linkedin.com/company/NetZeroCitiesEU)



[NetZeroCities EU](https://www.youtube.com/NetZeroCitiesEU)



[www.netzerocities.eu](http://www.netzerocities.eu)



[hello@netzerocities.eu](mailto:hello@netzerocities.eu)



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