

Circular Cities and Regions Initiative

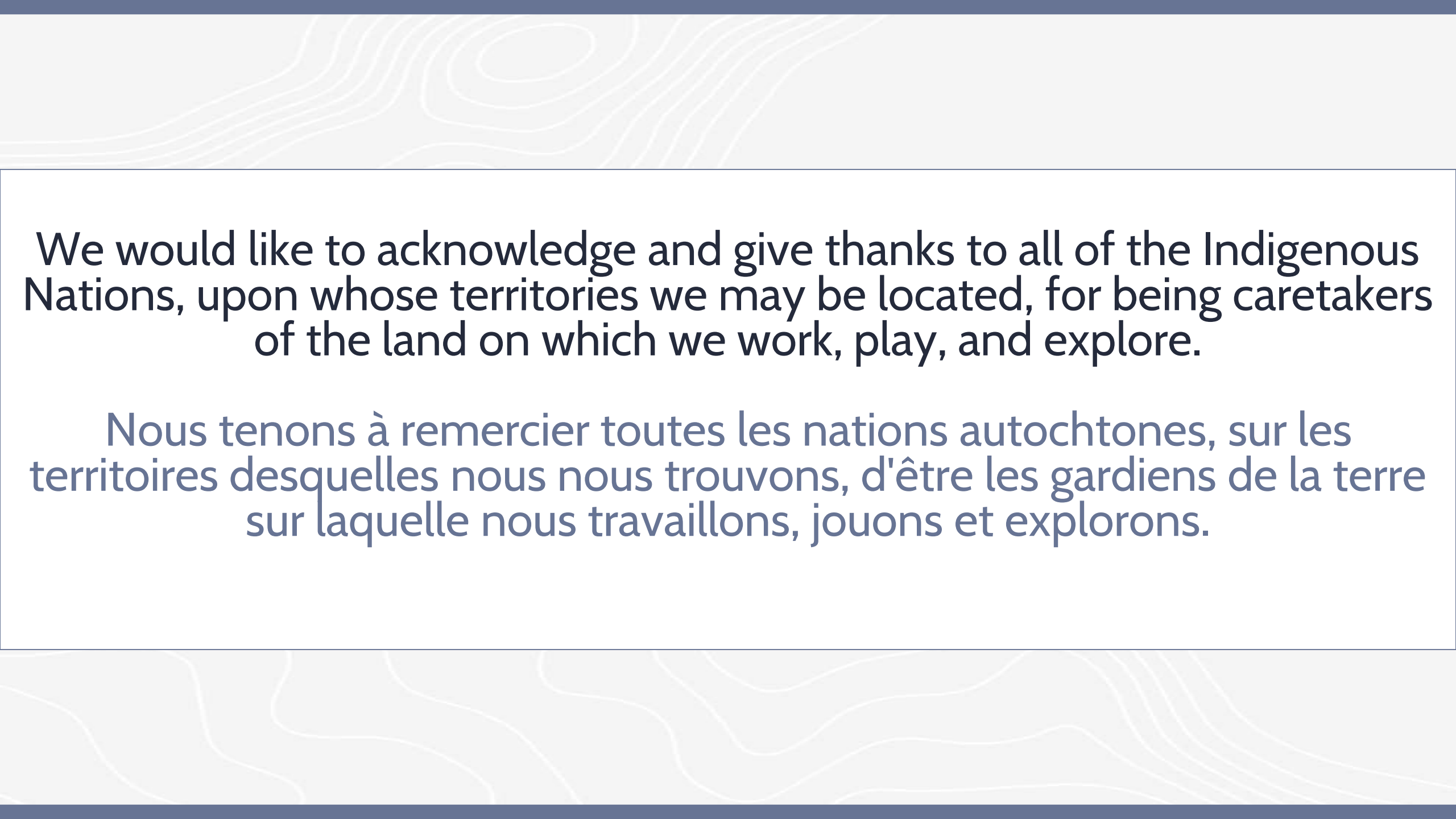
Projet Villes et régions circulaires

Webinar: Accelerating Climate Action through the Circular Economy

Webinaire: Accélérer l'action climatique grâce à l'économie circulaire

Dec 5, 2022 9:00 – 10:30 am PT / 12:00 – 1:30 pm ET



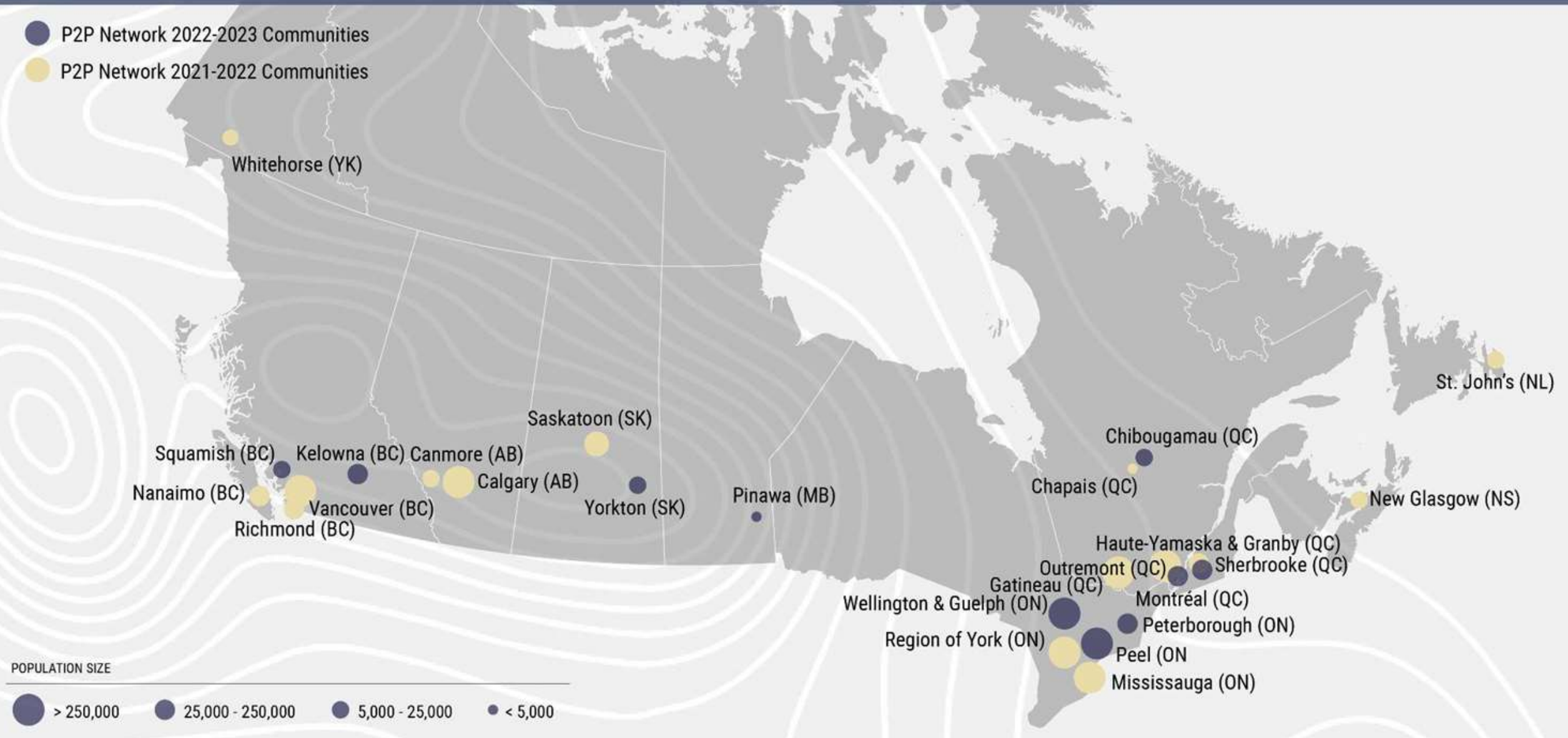
The background of the slide features a light gray topographic map with white contour lines. The map is centered on a white rectangular area where the text is located. The contour lines are more densely packed in some areas, suggesting higher elevation, and more spread out in others, suggesting lower elevation. The overall effect is a subtle, textured background.

We would like to acknowledge and give thanks to all of the Indigenous Nations, upon whose territories we may be located, for being caretakers of the land on which we work, play, and explore.

Nous tenons à remercier toutes les nations autochtones, sur les territoires desquelles nous nous trouvons, d'être les gardiens de la terre sur laquelle nous travaillons, jouons et explorons.

Circular Cities & Regions Initiative

Providing Canadian local governments with the knowledge and tools to accelerate circular economy solutions



Moderators / Présentateurs



Barb Swartzentruber

Outgoing Executive Director /
Directeur exécutif sortant

Smart Cities Office, City of Guelph /
Bureau des villes intelligentes, Ville
de Guelph



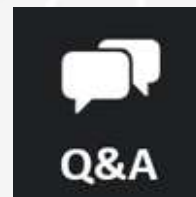
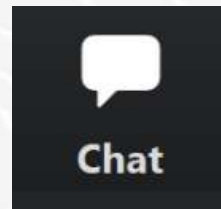
Lindsay Telfer

Capacity Development Manager /
Directeur du développement des
capacités

Federation of Canadian
Municipalities / Fédération
canadienne des municipalités

Housekeeping / *Bienséance*

- Reminder: simultaneous interpretation is available to listen in French or English
- Introduce yourself in the Chat box
- Ask questions in the Q & A box



- Rappel : l'interprétation simultanée est disponible pour écouter en français ou en anglais
- Présentez-vous dans la boîte de dialogue
- Posez des questions dans la boîte de discussion OU réactivez le microphone pendant les questions-réponses

Speakers / Présentateurs



Maja Johannessen

Manager
Nordic Sustainability



Wayne Hubbard

CEO
ReLondon



Meg O'Shea

Senior Manager
VEC



Conor Reynolds

Division Manager
Metro Vancouver



Jack Macy

Zero Waste Program Manager
San Francisco

Circular Economy

Nordic Sustainability

Dec 5th 2022



CONTACT

Maja Johannessen

mjo@nordicsustainability.com

Our foundation: ambition, purpose, and new ways of working

Nordic Sustainability is a value-based **consultancy firm working at the intersection of strategy and sustainability** with the mission to help our clients gain competitive advantage by acting within the planetary boundaries.

WHAT WE DO



Impact assessment for deep insights of baseline



Strategy development for long-term impact

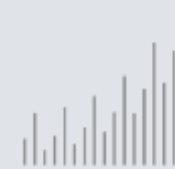


Implementation and capacity building to make big leaps

WHAT WE STAND FOR



Science-based thinking brings a competitive advantage

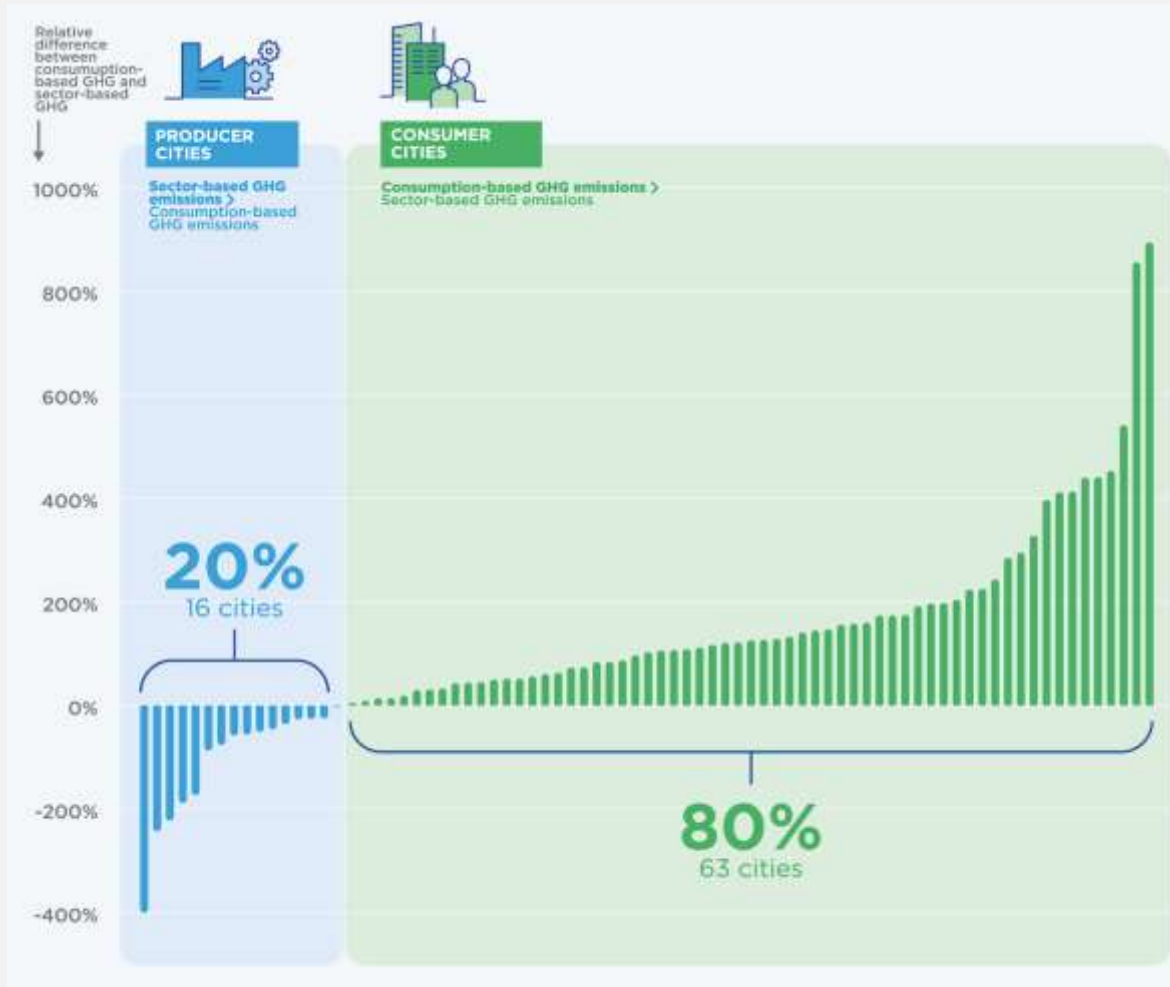


Excellence in delivery is what we strive for

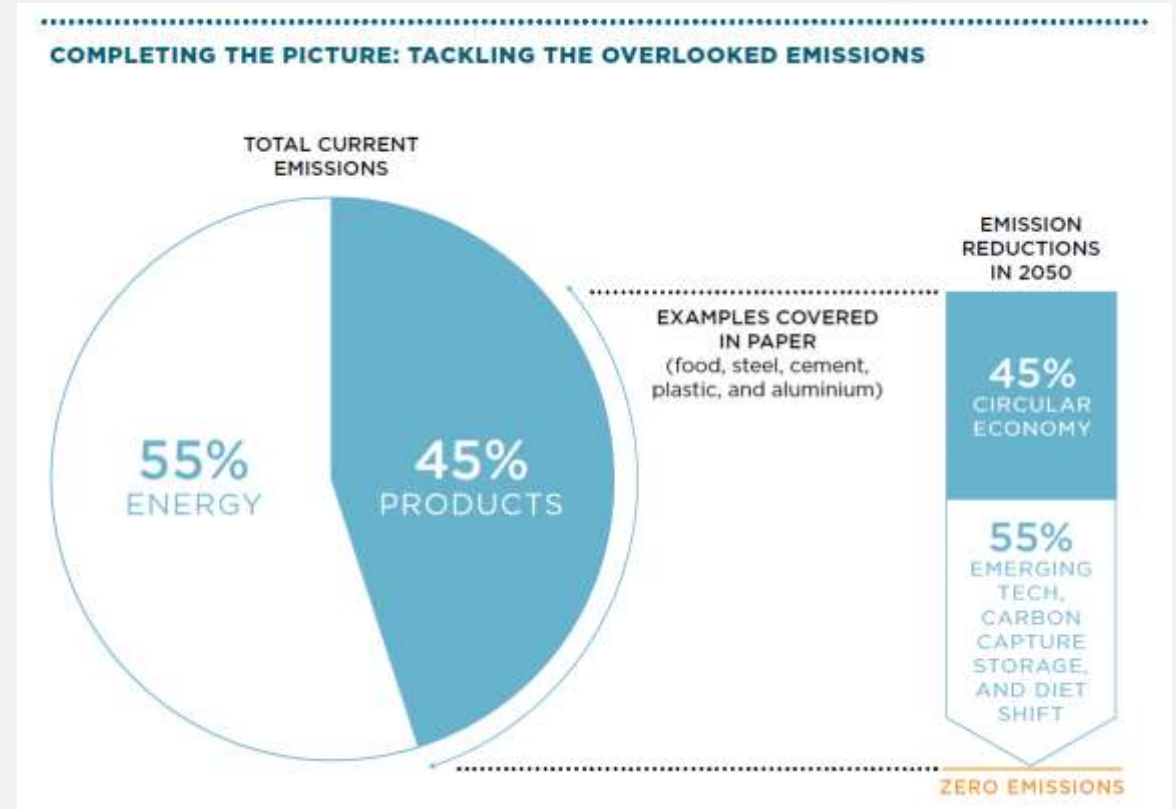


Rested minds make good decisions – a new consulting model

Cities *entire* carbon footprint must and can be addressed by cities themselves



C40 Cities Climate Leadership Group
[Consumption-based GHG emissions of C40 cities \(2018\)](#)

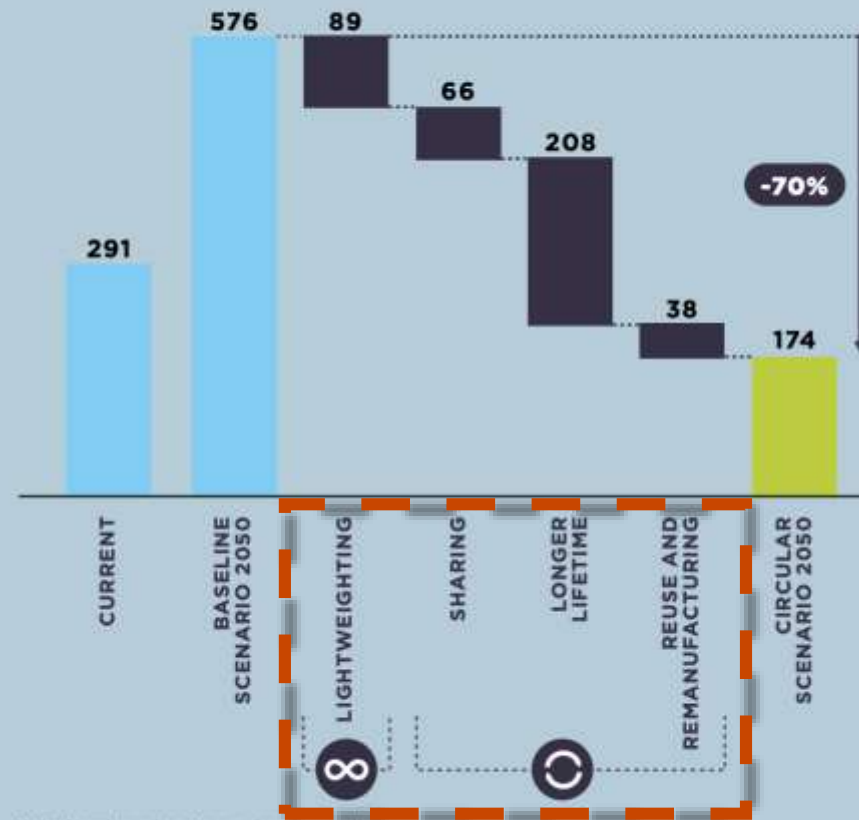


Ellen MacArthur Foundation
[Completing the Picture: How the Circular Economy Tackles Climate Change \(2019\)](#)

Beyond energy – decouple material footprint & nature degradation from growth

FIGURE 7: A CIRCULAR SCENARIO FOR PASSENGER CARS COULD REDUCE CO₂e

EMISSIONS FROM ALL MATERIALS USED IN PASSENGER CARS
MILLION TONNES OF CO₂e PER YEAR, GLOBALLY

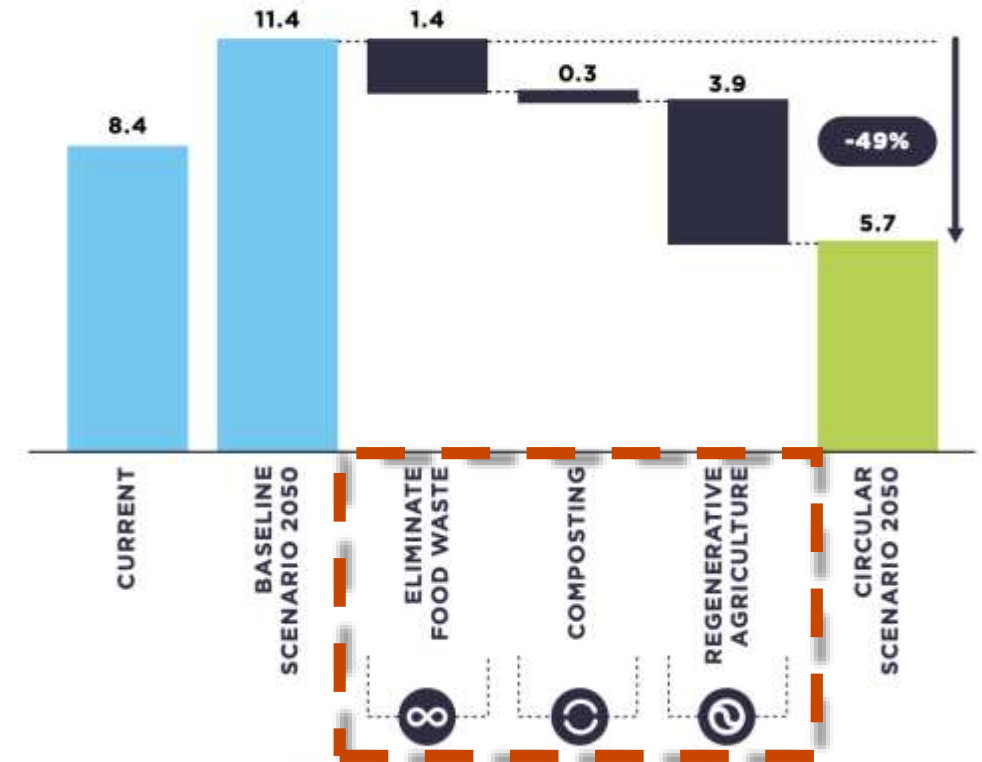


Note: Numbers do not sum due to rounding

Source: Material Economics, *The Circular Economy – A Powerful Force for Climate Mitigation* (2018). International Energy Agency, *Energy Technology Perspectives – Transport* (2017).

FIGURE 8: A CIRCULAR SCENARIO FOR FOOD COULD REDUCE ANNUAL CO₂e EMISSIONS BY 49% IN 2050

EMISSIONS FROM THE GLOBAL FOOD SYSTEM
BILLION TONNES OF CO₂e PER YEAR



Note: Numbers do not sum due to rounding

Source: Adapted from Ellen MacArthur Foundation, *Cities and Circular Economy for Food* (2019)

Ellen MacArthur Foundation

[Completing the Picture: How the Circular Economy Tackles Climate Change \(2019\)](#)

Cities climate action plan research – key figures

BACKGROUND

Nordic Sustainability was commissioned by the **Ellen MacArthur Foundation** to analyse 54 Climate Action Plans (CAPs), looking particularly into how circular economy (CE) has been integrated into the plans and provide recommendations on how integration can be improved



OUR APPROACH

We have analysed over 50+ strategies of different major cities to understand the current landscape.



KEY FINDINGS



87% of the cities neglect Scope 3 emissions



Overall **low integration** of CE in the CAPs - Correlation between scope 3 focus and medium or high integration



CE integration is mainly in relation to **transport or waste** (only explicitly mentioned in relation to waste)

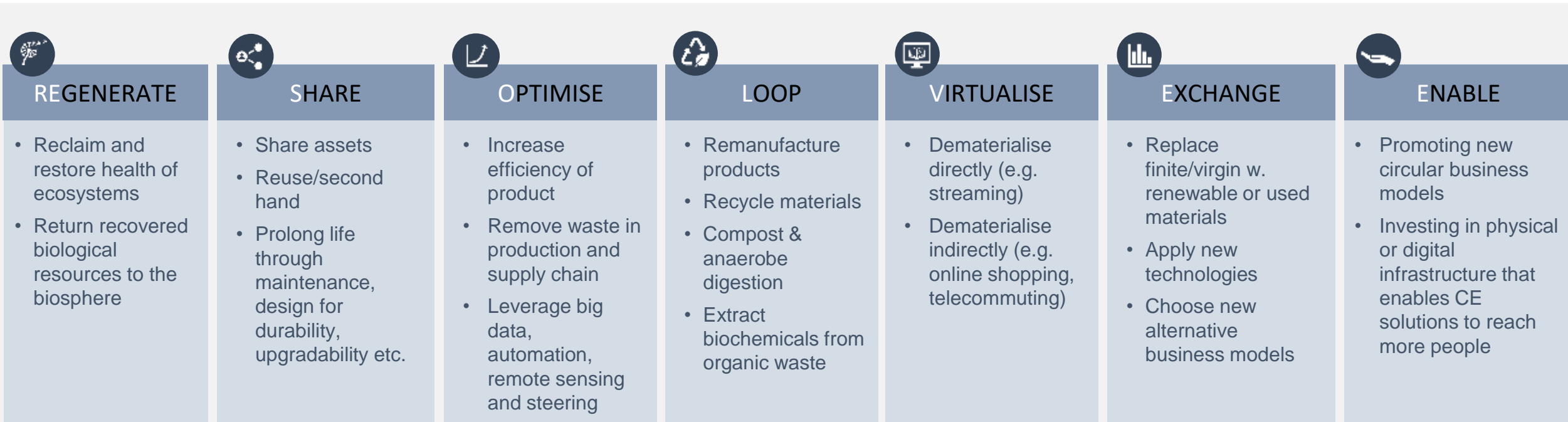


60% of CAPs follows the **GPC BASIC/BASIC+ methodology** which **lacks scope 3 and CE focus**



Different regions address CE differently; e.g. in Europe it is common to have a **separate CE plan**

ReSOLVEe Framework



Further details in appendix:



Wide implementation despite little mention of CE

And mostly only mentioned in relation to
waste management



Recommendations

1

Gotta love data

Knowing your baseline is key to monitoring progress and evaluating

Monitoring framework should include as much of the carbon footprint as possible – and key co-benefit KPIs as well in order to identify the best solutions

(However not having data does still not hinder action)

2

Drive change no matter what

City governments have a broad range of levers at hand and a unique role to play, no matter level of autonomy or wealth



3

Enable & nudge more cities with the right tools/template?

A solid, easy to use template, that also forces holistic reflections on consumption-based emissions and co-benefits could be an important help for cities new to climate, circular economy and holistic planning

Thanks

ReSOLVEe Framework

 REGENERATE	 SHARE	 OPTIMISE	 LOOP	 VIRTUALISE	 EXCHANGE	 ENABLE
<ul style="list-style-type: none"> Reclaim and restore health of ecosystems Return recovered biological resources to the biosphere 	<ul style="list-style-type: none"> Share assets Reuse/second hand Prolong life through maintenance, design for durability, upgradability etc. 	<ul style="list-style-type: none"> Increase efficiency of product Remove waste in production and supply chain Leverage big data, automation, remote sensing and steering 	<ul style="list-style-type: none"> Remanufacture products Recycle materials Compost & anaerobe digestion Extract biochemicals from organic waste 	<ul style="list-style-type: none"> Dematerialise directly (e.g. books, CD's) Dematerialise indirectly (e.g. online shopping) 	<ul style="list-style-type: none"> Replace finite/virgin w. renewable or used materials Apply new technologies Choose new alternative business models 	<ul style="list-style-type: none"> Promoting new circular business models Investing in physical or digital infrastructure that enables CE solutions to reach more people
<p>The Paris Climate Action Plan 2022</p> <p>The goal is for 20% of usable agricultural land to use organic methods by 2030</p> 	<p>PlanClimaSP (Sao Paulo) 2020</p> <p>Targets and KPI's focused on: develop car sharing regulations</p> 	<p>Quezon City Climate Action Plan 2021</p> <p>Optimization through creating vertical farms, green roofs etc, on buildings</p> 	<p>Circular Economy Vancouver 2021</p> <p>Focus on lowering embodied impact of construction materials - recycle or use other materials</p> 	<p>Climate Action Plan Phoenix 2021</p> <p>Promoting tele-commuting and paperless offices</p> 	<p>Climate Action Plan Buenos Aires 2021</p> <p>Creating the needed infrastructure for cycling and setting up interest free loans for buying bicycles</p> 	<p>Climate Action Plan Vancouver 2021</p> <p>Investing in transport infrastructure - public, bikes</p> 

While CE not explicitly mentioned, CE initiatives found mainly within transportation, waste, the built environment, and food sectors

More than half (52%) also address CE within other sectors, particularly water and wastewater



96%

mention circular transport initiatives

Often mentioned initiatives include:

- Shift from private cars to public and active transport
- Ride sharing

CASE

Buenos Aires' cycling incentives

- Buenos Aires is focusing a large part of their public transportation efforts on promoting cycling
- An example is their Eco-bikes: the city's public bicycle system, which provides a completely free and 24/7 accessible service to all citizens
- Additionally, the city is setting up interest free loans for purchasing bicycles, and are using sensor systems to collect cyclist data



87%

mention circular waste initiatives

Often mentioned initiatives include:

- Increase recycling to avoid landfilling/incineration
- Increase reuse of construction materials

CASE

Seoul's upcycling cluster

- Seoul is working towards creating an upcycling cluster, which will house space to support start-ups as well as space for visitors
- The next step is to open one Re&Upcycle Center in each District to support recycle and upcycling businesses
- At the centres recycled and upcycled products will be sold, and environmental education will be provided, among others



33%

mention circular food and agriculture initiatives

Often mentioned initiatives include:

- Avoid food waste by better procurement
- Recover food waste for fertiliser, compost etc.

CASE

Quezon's Food Security Task Force

- Quezon City has established its Food Security Task force to strengthen its urban agriculture initiatives - One flagship programme is the "Joy of Urban Farming", which is supports communities in enabling a sustainable and reliable urban farming to provide food to households in every barangay
- Campaigns help create further awareness about urban farming, supported by the distribution of starter kits to households



30%

mention circular built environment initiatives

Often mentioned initiatives include:

- Increase reuse and recycling of building materials
- Increase utilisation of built space

CASE

Barcelona's plan for better buildings

- Barcelona goes beyond the classic energy retrofitting initiatives and aims to e.g. improve regulations for buildings
- Amongst other things the city will push for a more efficient use of built space, by recovering terrace roofs, transforming them to spaces for growing food, cooling the city, or for improving biodiversity by having them act as green roofs



ReSOLVE(E) overview

TYPICAL TYPES OF INITIATIVES IDENTIFIED

REGENERATE

17%

- **Restoring forest, parks, and wet lands** to sequester and build resilience
- A few mention **alt. farming practises** in relation to upstream emissions

SHARE

83%

- Mostly related to the **sharing of vehicles** (e.g. ride-sharing; public bikes) or **mass transit**
- A few mention **second-hand initiatives** related to clothing

OPTIMIZE

59%

- Increasing **energy** and other **resource efficiency in buildings + optimising space** (e.g. green roofs)
- **Prolonging life** of buildings, e.g. through retrofitting, maintenance, and new design guidelines/policies

LOOP

80%

- Linked to the high focus on **waste and increased recycling** ambitions
- Specific initiatives include e.g. **reusing and recycling** construction materials; **repair/borrow shops**

VIRTUALISE

7%

- Supporting **remote working** / teleworking and transitioning to **paperless**
- The use of **technologies** (such as A.I., ICT, or sensor systems) to aid with data collection of various sorts

EXCHANGE

81%

- Phasing out private vehicle use by **transitioning to public or active transport** rather than private vehicles
- **Replacing non-renewable/harmful materials** with better options for waste reduction

ENABLE

30%

- Promoting **new circular business models**
- **Investing in physical or digital infrastructure** that enables CE solutions to reach more people

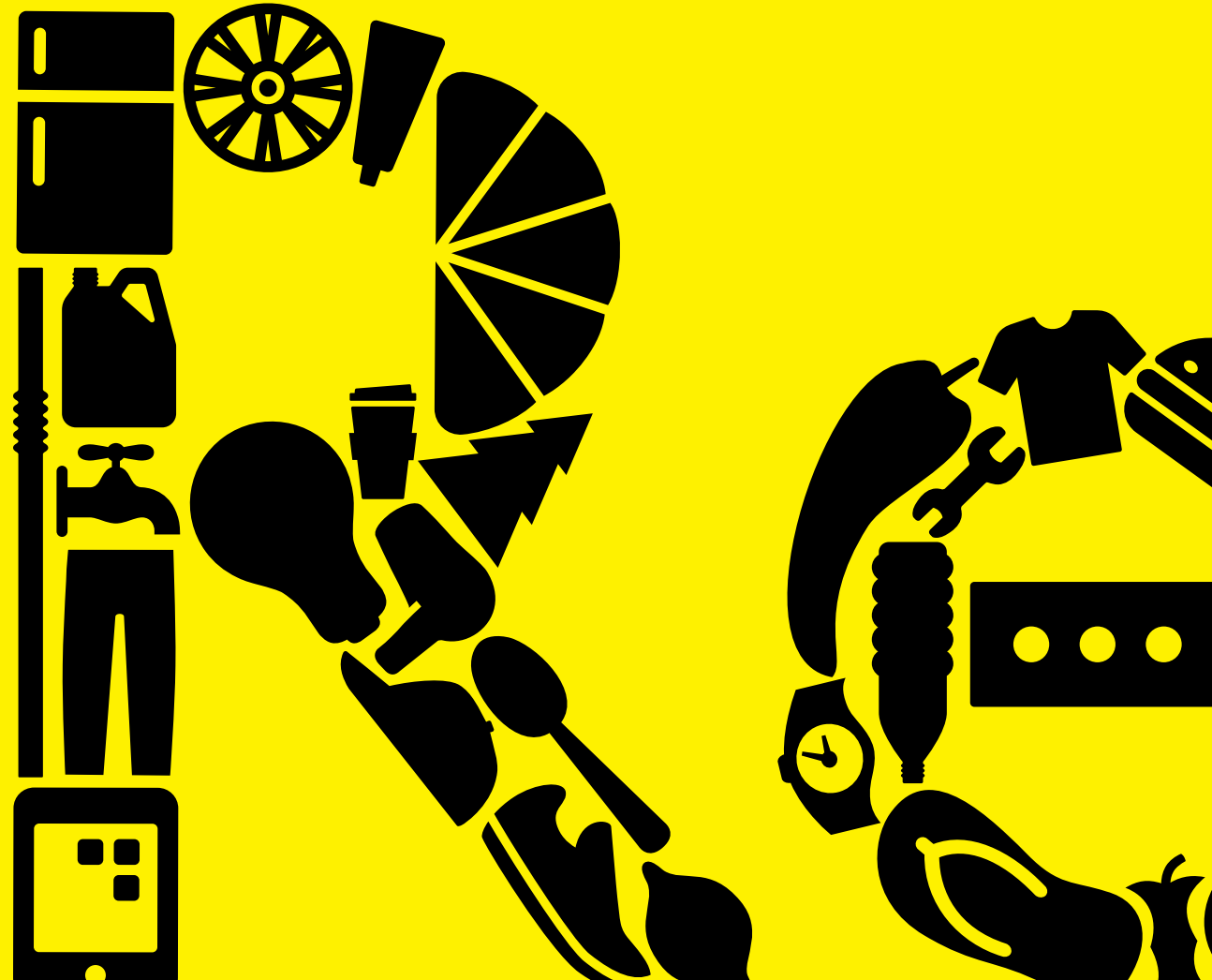
ReLondon

Circular economy: a London perspective

Wayne Hubbard

CEO

5 December 2022



ReLondon

Revolutionising
our relationship
with stuff



Our vision is of a future without waste, where the way we make, consume and dispose of stuff actively tackles the climate crisis and protects our planet.

We will make London a global leader in sustainable ways to live, work and prosper, by revolutionising our relationship with stuff and helping London waste less and reuse, repair, share and recycle more.



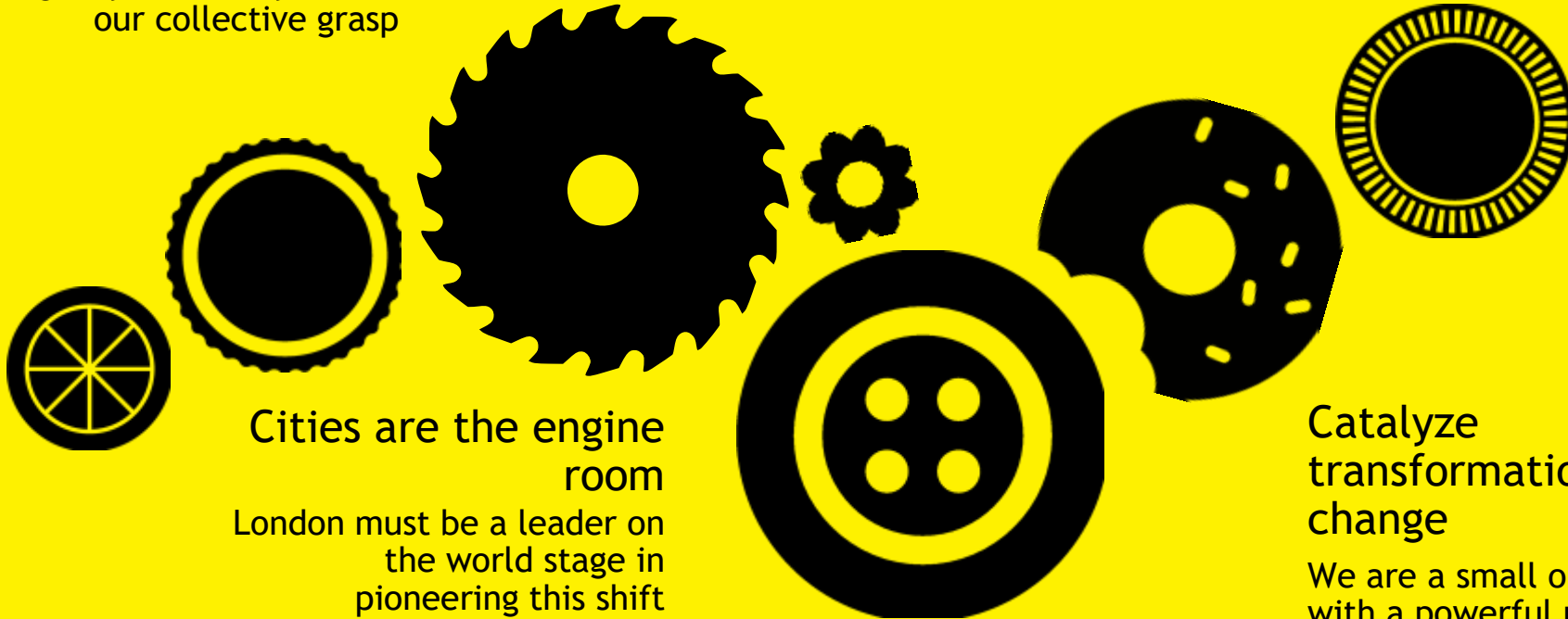
We believe that together we can save the world

Power of joint human
endeavour

The solution to the climate
emergency is entirely within
our collective grasp

A circular economy...

can deliver those drastic
reductions in carbon
emissions.



Cities are the engine
room

London must be a leader on
the world stage in
pioneering this shift

Catalyze
transformational
change

We are a small organisation
with a powerful reach

Consumption based emissions

To tackle the climate crisis, globally we need to reduce consumption based CO₂e emissions by 50% by 2030 and by 80% by 2050.

ReLondon places consumption and its role in producing CO₂e emissions at the heart of all our activity.

Currently Londoners are responsible for an estimated 10.5 tonnes of consumption-based CO₂e emissions per person per year.

London is targeted to reduce its emissions by more than the global average, meaning that by 2030 this must fall by 60% to 5.2 tonnes per person, and by 2050 by 95% to 0.7 tonnes per person.



*CONSUMPTION-
BASED GREENHOUSE
GAS EMISSIONS FOR
LONDON (2001-2018)*

**COMPLETING THE PICTURE:
HOW THE CIRCULAR ECONOMY
TACKLES CLIMATE CHANGE**



ELLERRE FUNDATION
**MATERIAL
ECONOMICS**

University of Leeds

Our five focus areas



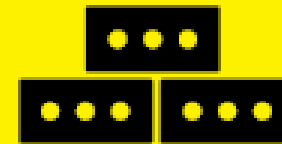
food



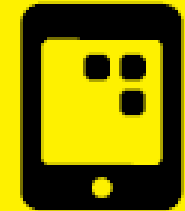
fashion



plastics



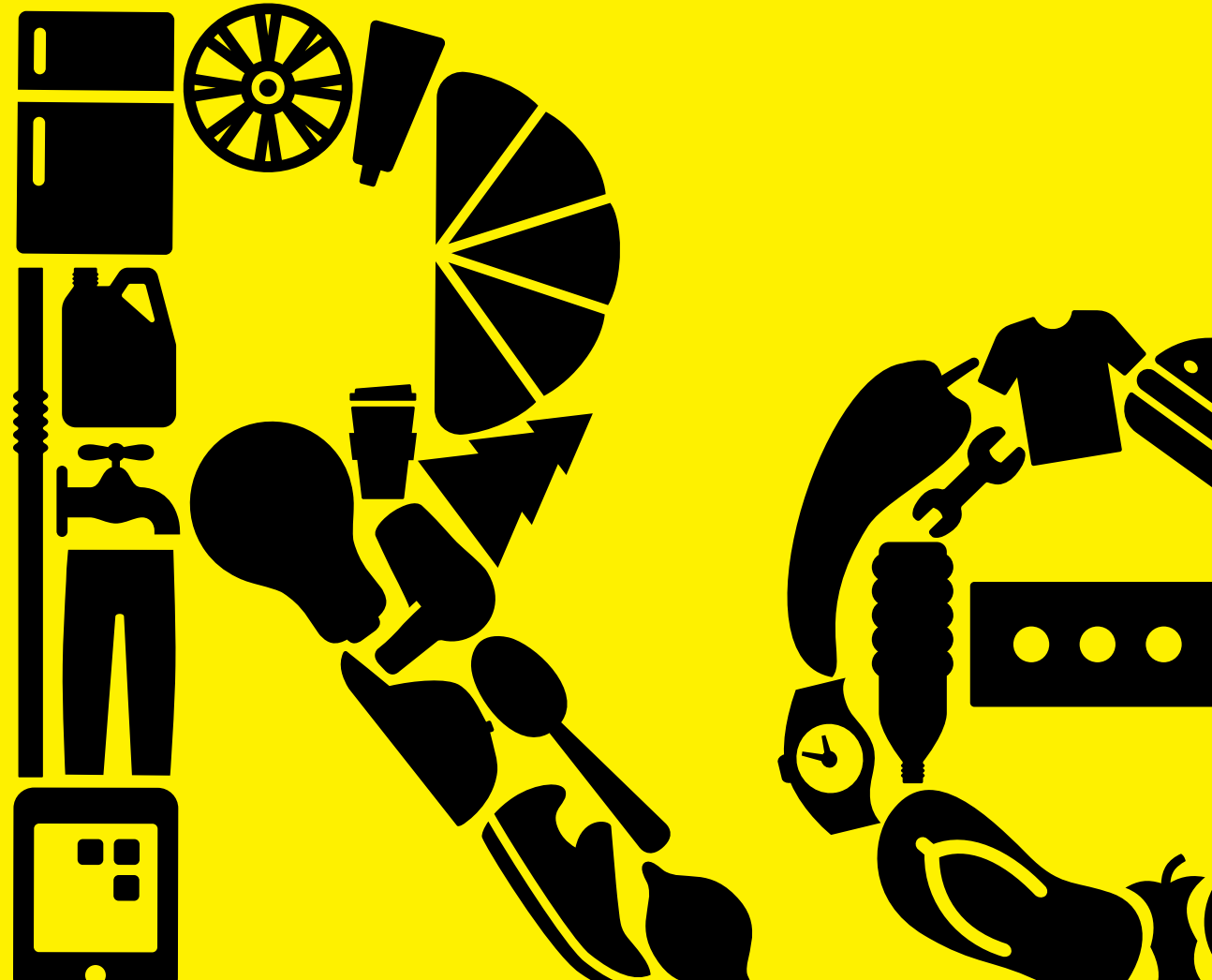
built environment



electricals

ReLondon

Ultra-low waste neighbourhood



Our idea

An exemplar circular economy community, delivering the double dividend: combating climate change, while creating greater community cohesion, including job creation, upskilling, and volunteering opportunities.

A bottom-up green recovery, empowering the community to change their relationship with 'stuff'.



The Heston Village project

ReLondon and the London Borough of Hounslow are building a demonstrator circular economy neighbourhood project in the area of Heston Village (west London).

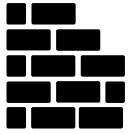
We will bring together interventions in one neighbourhood that we know have an impact on behaviour change and circular economy. The goal is to change the community's relationship with "stuff" by enabling the community to waste less and reuse, share, repair and recycle more.

The project will be co-designed and co-delivered with - and by - the entire community (both residents and regular visitors), businesses, schools, third sector, community group/clubs and the local authority.

Currently in planning and development phase with the aim to go live in September 2022.



Potential interventions



Reimagine empty units to create community spaces for volunteering, sharing knowledge and developing new skills.



Creating new community assets, such as rentals libraries and repair hubs.



Working with community businesses to unlock circular business opportunities.



Community led behaviour change activity, such as a low plastics zone.



Working with local colleges and schools to develop circular economy skills and employment opportunities.



Developing sustainable food behaviours through food sharing apps, redistribution (including community fridge), and community composting.



Establishing local refill and or local reusable cup and container scheme.



Supporting new circular SMEs to establish themselves, helping to change the choice architecture.



Promoting sustainable fashion working with local charity outlets through #LoveNotLandfill.



Community circular champions.



Transforming local recycling, at home, at work, on-the-go.



Thank you

Wayne Hubbard

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

 [Wayne Hubbard](https://www.linkedin.com/in/WayneHubbard)

relondon.gov.uk

Vancouver Business Transformation for a Circular Economy

Meg O'Shea

Sr. Manager, Economic Transformation

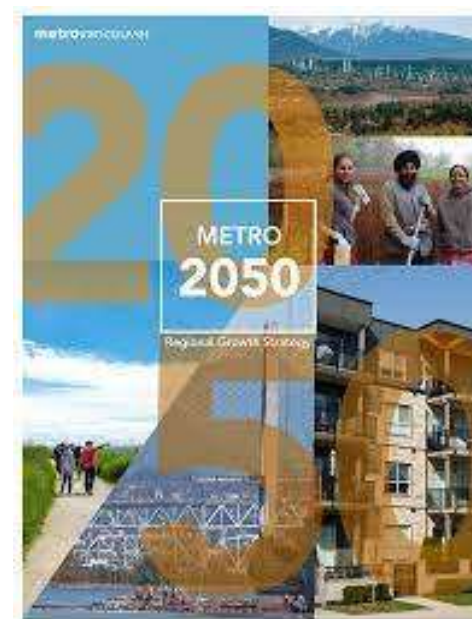
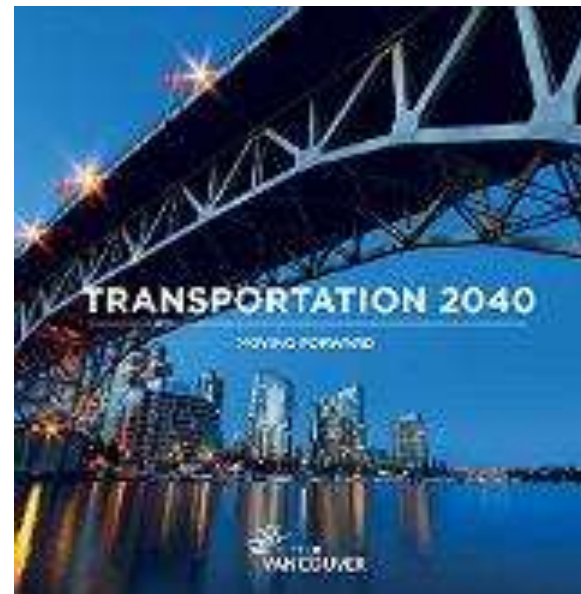
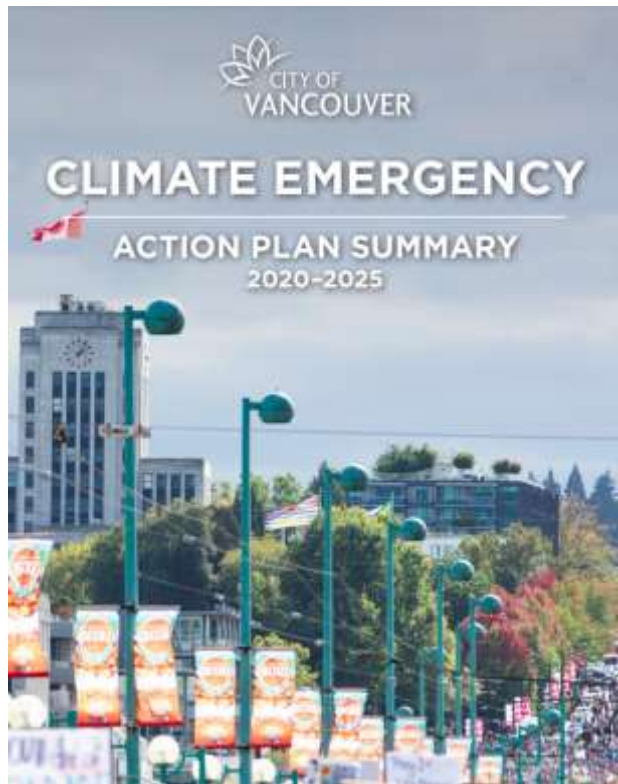
CCRI 2022



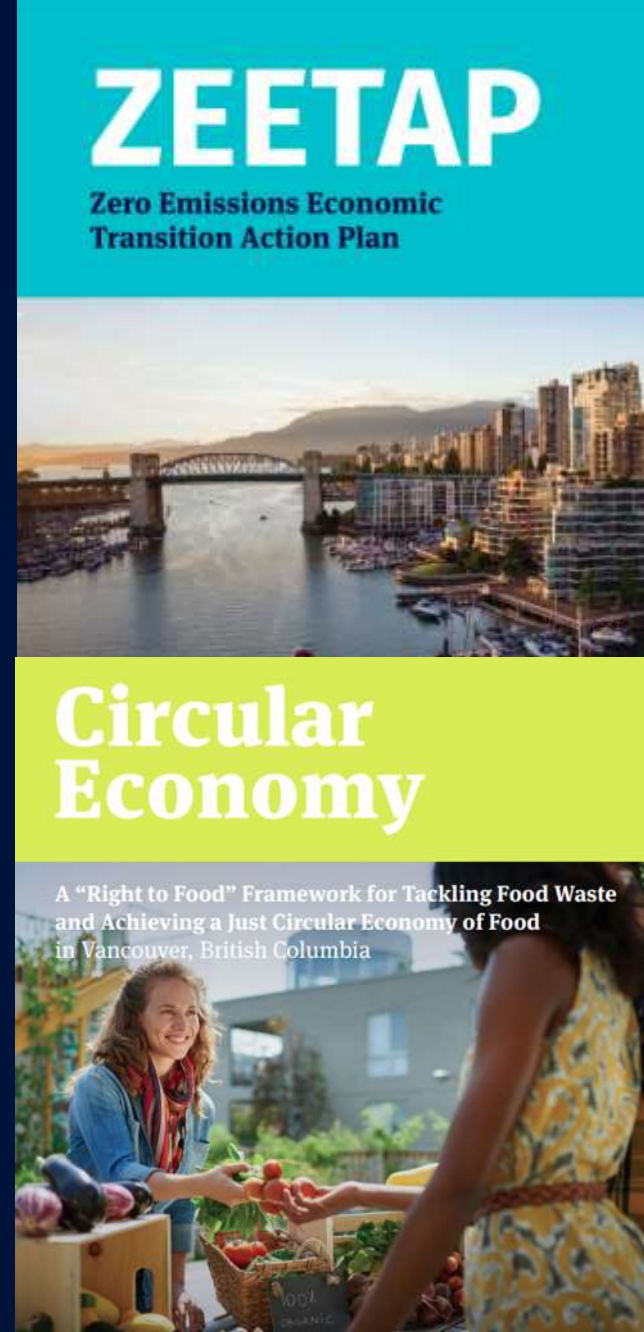


Our Purpose

Our purpose is to build a prosperous, inclusive, zero-carbon and resilient local economy, competitively positioned in the global market.



From policy to economic development



Economic
Transformation
Lab



Building Economic Resilience

A circular economy can help cities mitigate economic risks and strengthen the local economy.





Business Case for Going Circular

"The circular economy is poised to unlock \$4.5 trillion of economic growth by 2030, and as much as \$25 trillion by 2050"

Circular Economy Leadership Canada

"Every 10,000 tonnes of resources that are recycled instead of being incinerated, 36 additional jobs are created"

Jobs & Skills in the Circular Economy
Circle Economy



VANCOUVER
ECONOMIC
COMMISSION

Economic Development Tools

BREA	INVEST	INFRASTRUCTURE	COMMUNITY ENGAGEMENT
Grow	Fund	Build	Facilitate
		Advocate	Convene

Grow

Project Zero Incubator

Angels for Climate Solutions

Advocate

Province of BC

City of Vancouver

Metro Vancouver

Convene

**Greater Vancouver Circular
Economy Network**

Facilitate

Circular Food Innovation Lab
Circular Reverse Pitch Events

Facilitate

CIRCULAR FOOD INNOVATION LAB

Vancouver has a food waste problem.
We're here to help your business find solutions.



Grow

2022/23

Angels for Climate Solutions

A training program for climate
driven startups + investors

Apply now

Limited seats available



Volition



Help Unleash the Circular Economy



The diagram consists of three large, right-pointing arrow shapes. The top row has two arrows: a teal one on the left and a green one on the right, which are joined at their right edges. The bottom row has a single, wider orange arrow. All three arrows point to the right, suggesting a flow or progression from left to right.

\$ Capital \$

**Public/Private
Partnerships**

Data

Thank you, and keep in touch!

Meg O'Shea

Senior Manager,
Economic Transformation

moshea@vancouvereconomic.com



@VanEconomic



/VanEconomic



vancouvereconomic.com

Metro Vancouver's Climate 2050 Strategy

TOWARD A RESILIENT AND CARBON NEUTRAL REGION

Conor Reynolds

Division Manager, Air Quality and Climate Change Policy
Metro Vancouver

December 5, 2022: Accelerating Climate Action through the Circular Economy (CCRI Webinar)

metrovancouver



metrovancouver

23 Member
Jurisdictions

2.7 Million
Residents

53% of BC
population

61% of BC GDP

1.29 million jobs



CLIMATE IMPACTS

- Longer, hotter, drier summers
- Warmer, wetter winters
- Extreme weather
- Less snowpack
- Sea level rise



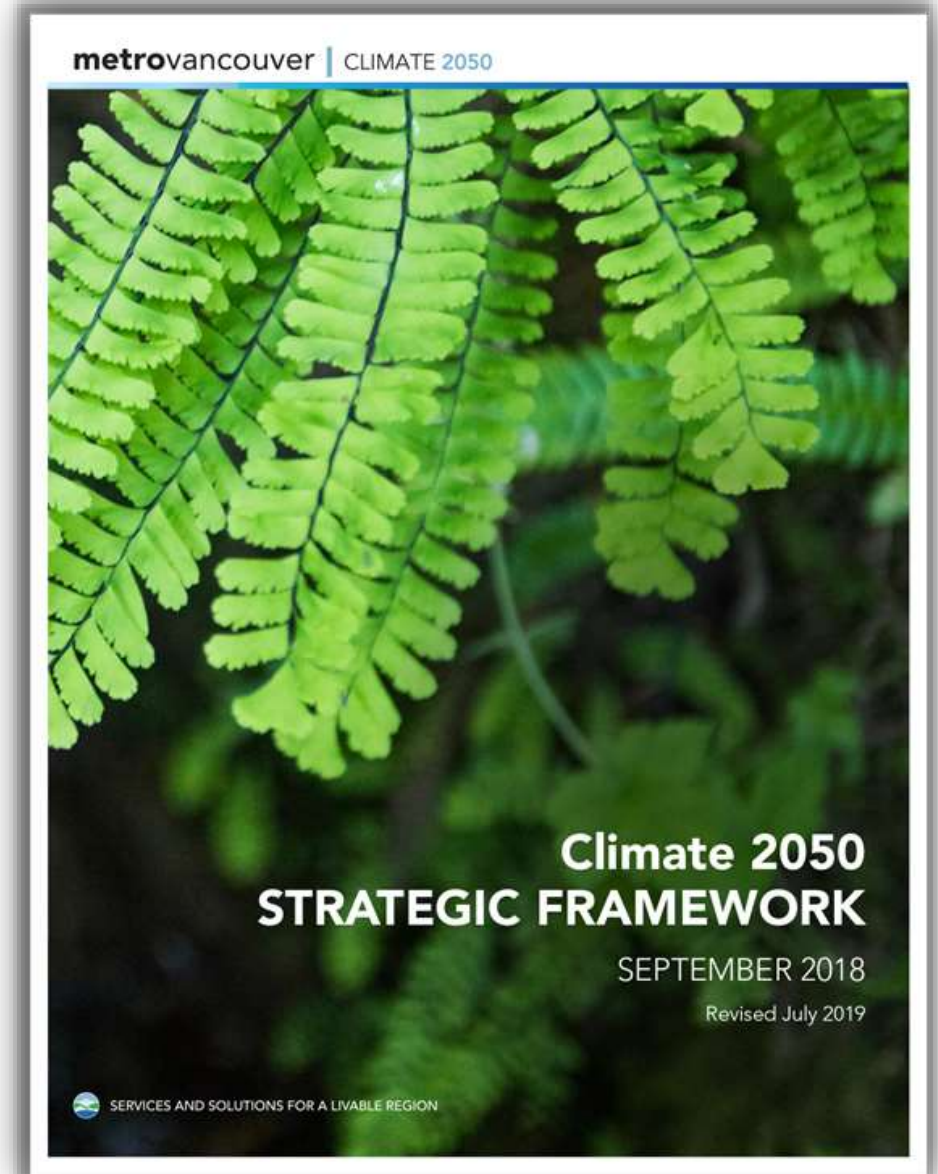
Global Temperature Increase

1850-2018

CLIMATE 2050

Metro Vancouver demonstrates bold leadership in responding to climate change:

- **Carbon neutral region by 2050**
- Infrastructure, ecosystems and communities are **resilient to the impacts of climate change**



CLIMATE 2050

Issue Areas & Climate 2050 Roadmaps



Infrastructure



Energy



Human Health and
Well-Being



Land-Use and
Growth Management



Nature and Ecosystems



Industry



Buildings



Agriculture

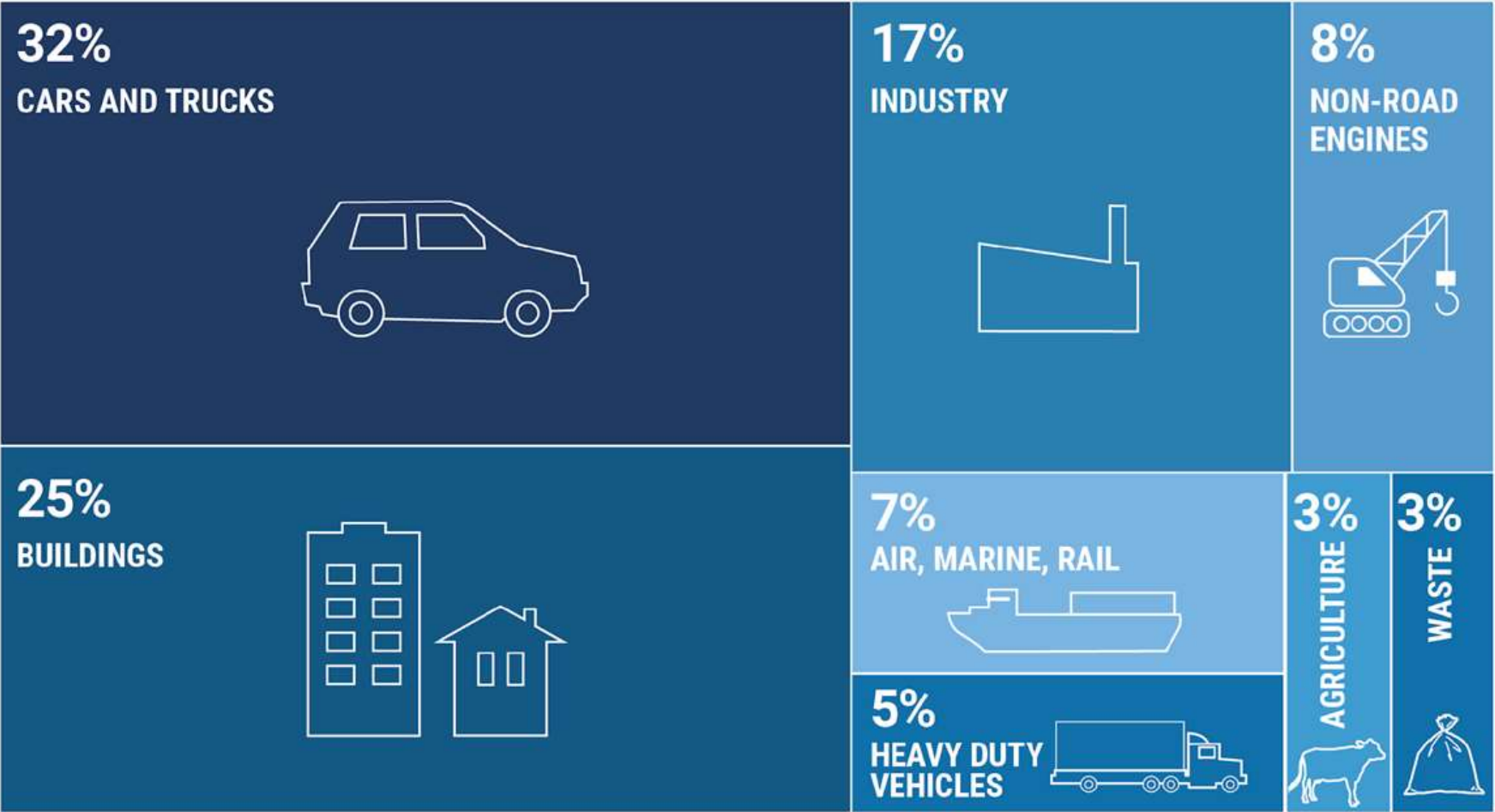


Transportation



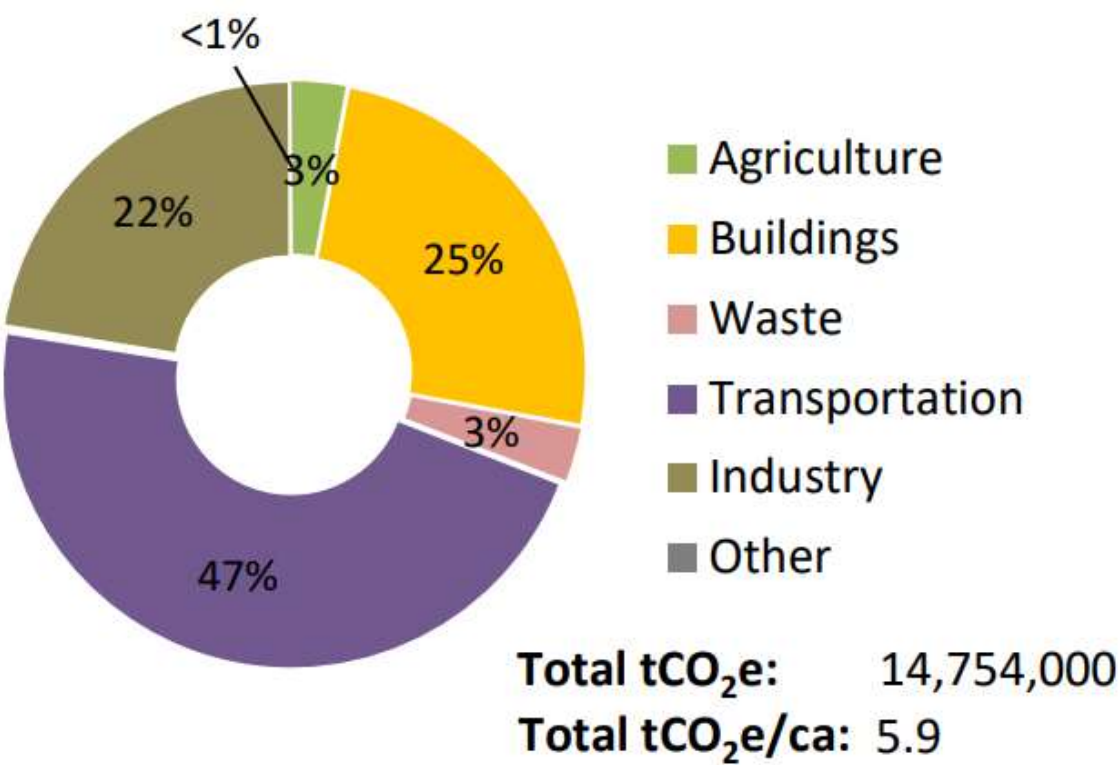
Waste

REGIONAL EMISSION SOURCES

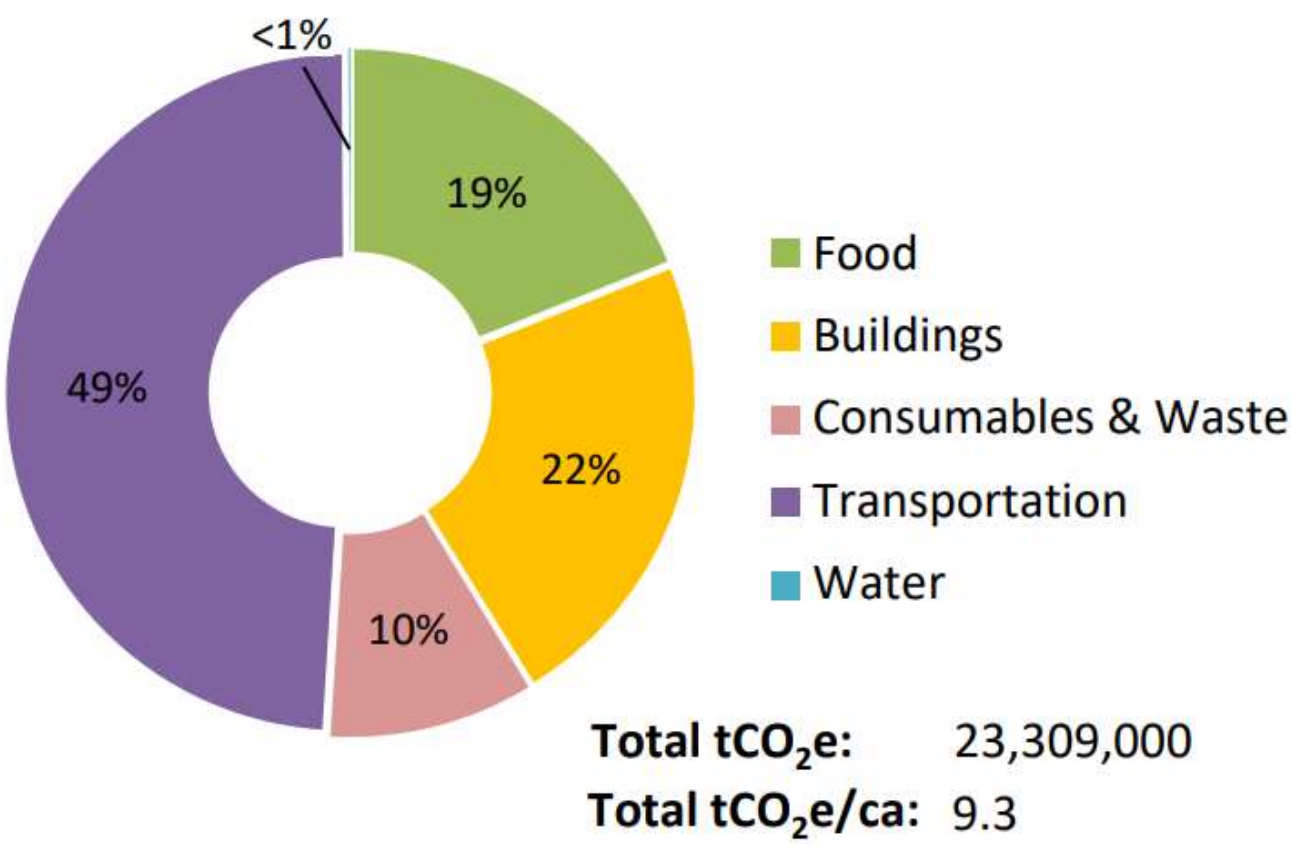


METRO VANCOUVER GHG EMISSIONS

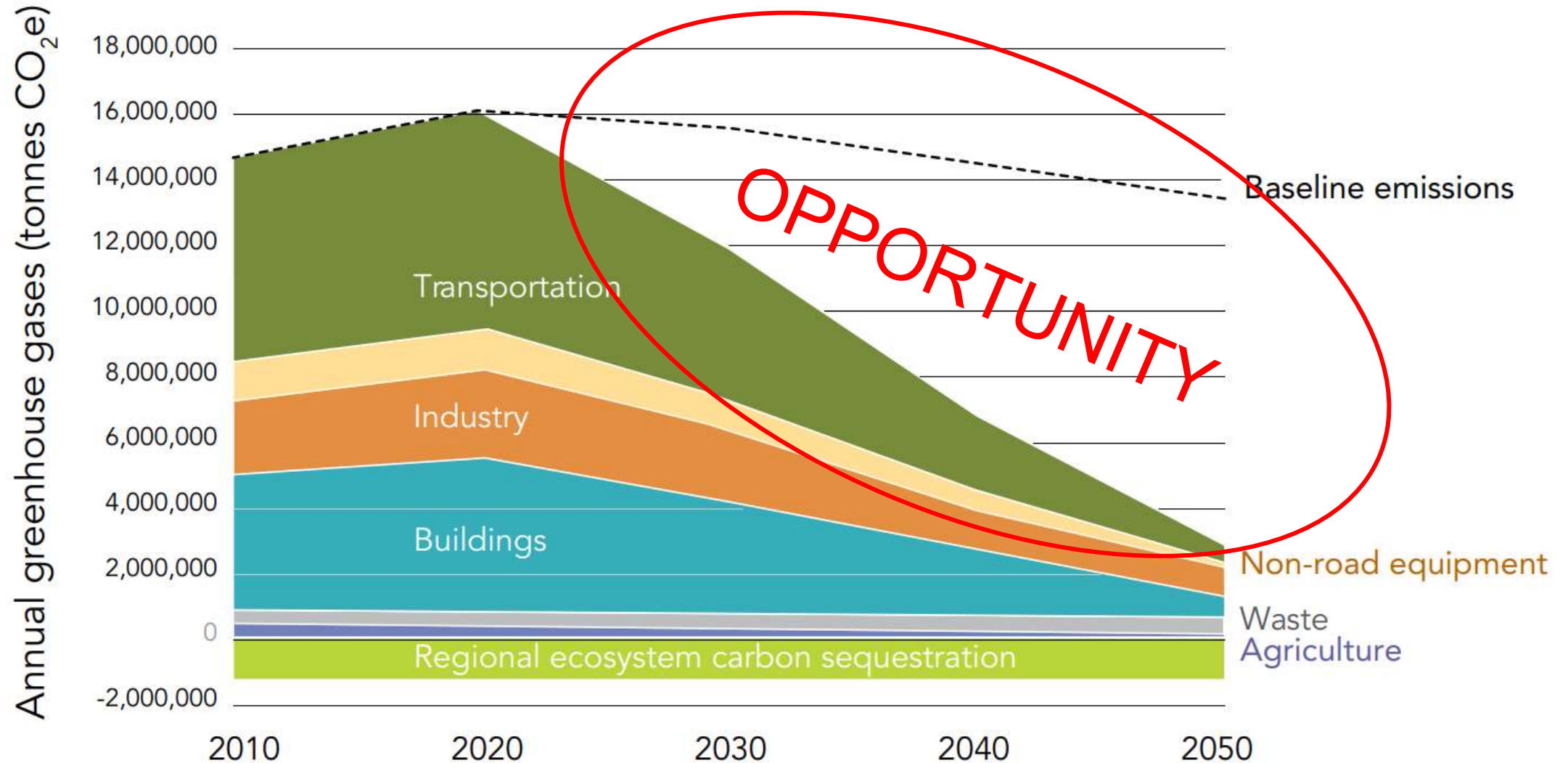
“Territorial” Emissions Inventory



Consumption-based Emissions Inventory



ACHIEVING A CARBON NEUTRAL REGION BY 2050





www.metrovancouver.org/climate2050



Thank you

metrovancouver



San Francisco's Actions For Climate And Circular Economy

December 5, 2022

SAN FRANCISCO
ENVIRONMENT
DEPARTMENT

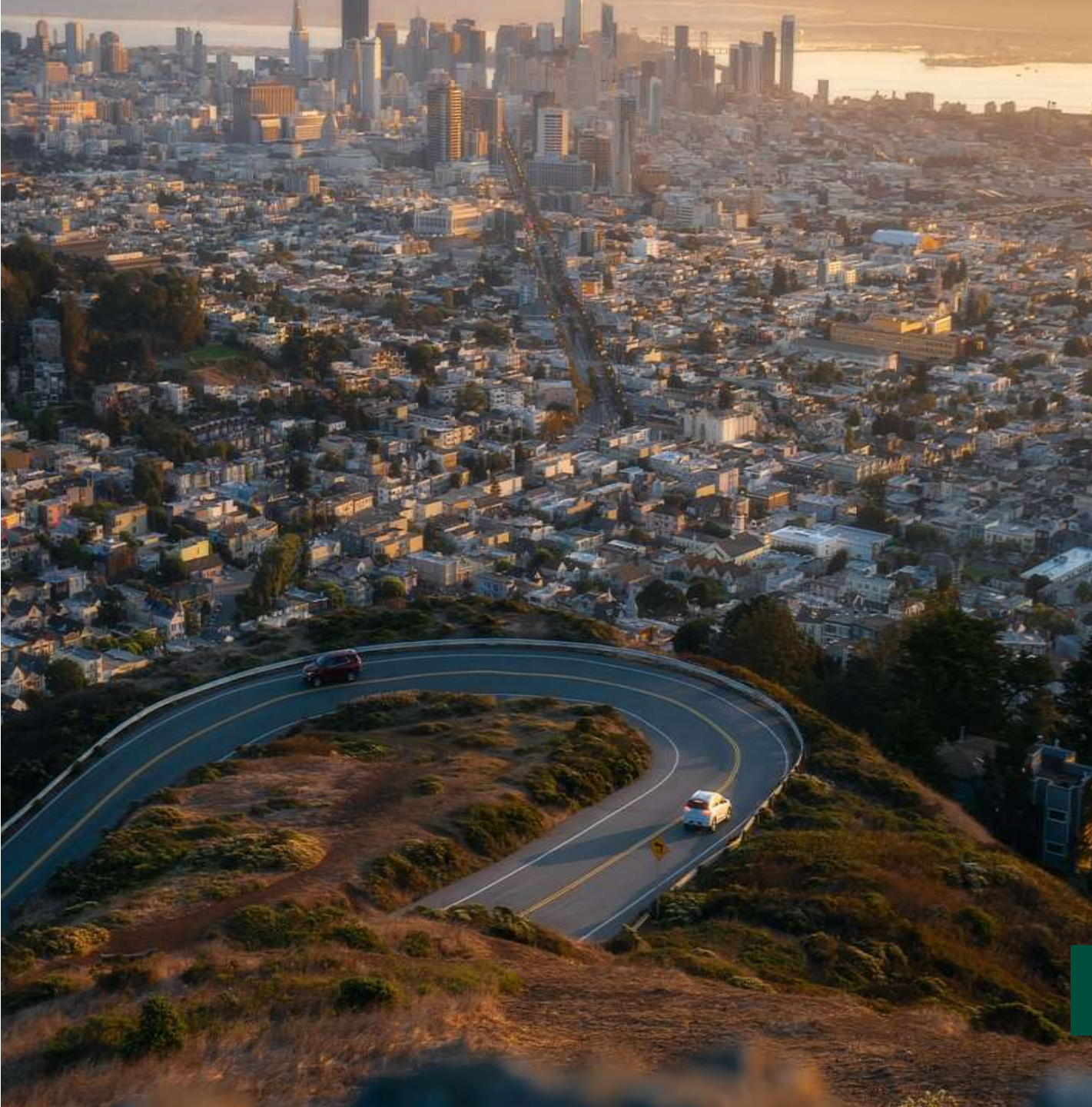
San Francisco Climate Action Strategy Before 2021



SAN FRANCISCO CLIMATE ACTION

0 80 100





SAN FRANCISCO'S CLIMATE ACTION GOALS

BUILDINGS

By 2021, require zero onsite fossil fuel emissions from all new buildings; By 2035, require zero onsite fossil fuel emissions from all large existing commercial buildings and all buildings by 2040

'21

ZERO WASTE

By 2030, reduce solid waste generation by at least 15% and reduce the amount of solid waste disposed of by incineration or landfill by at least 50% below 2015 levels

'30

TRANSPORTATION

By 2030, increase low-carbon trips to at least 80% of all trips and increase EVs to at least 25% of all private vehicles registered, and by 2040, increase EVs to 100% of all private vehicles registered

'30

ROOTS

Sequester carbon through ecosystem restoration, including increased urban tree canopy, green infrastructure, and compost application

CLEAN ENERGY

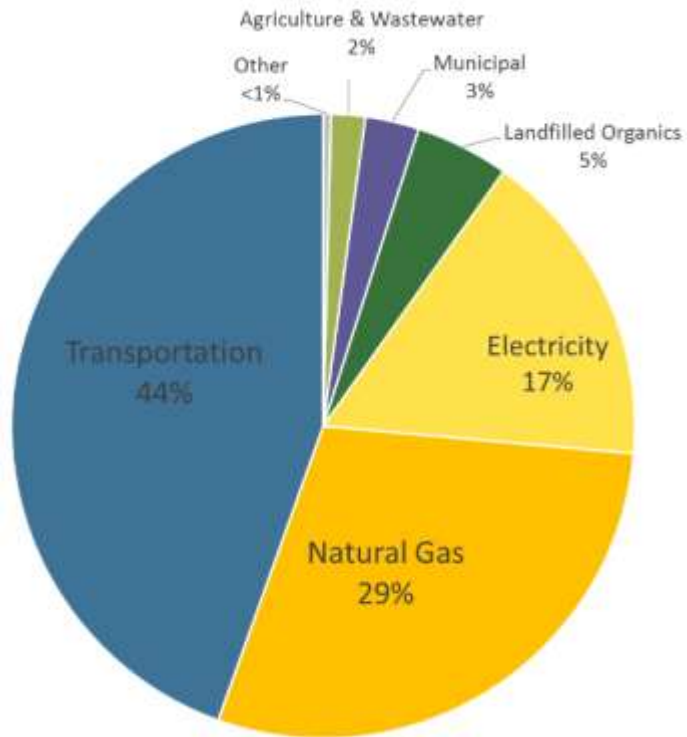
By 2025, supply 100% renewable electricity, and by 2040, supply 100% renewable energy

'25

HOUSING

Build at least 5,000 new housing units per year with maximum affordability, including not less than 30% affordable units, and with an emphasis on retaining and rehabilitating existing housing

2015 Traditional vs. 2015 Consumption-Based



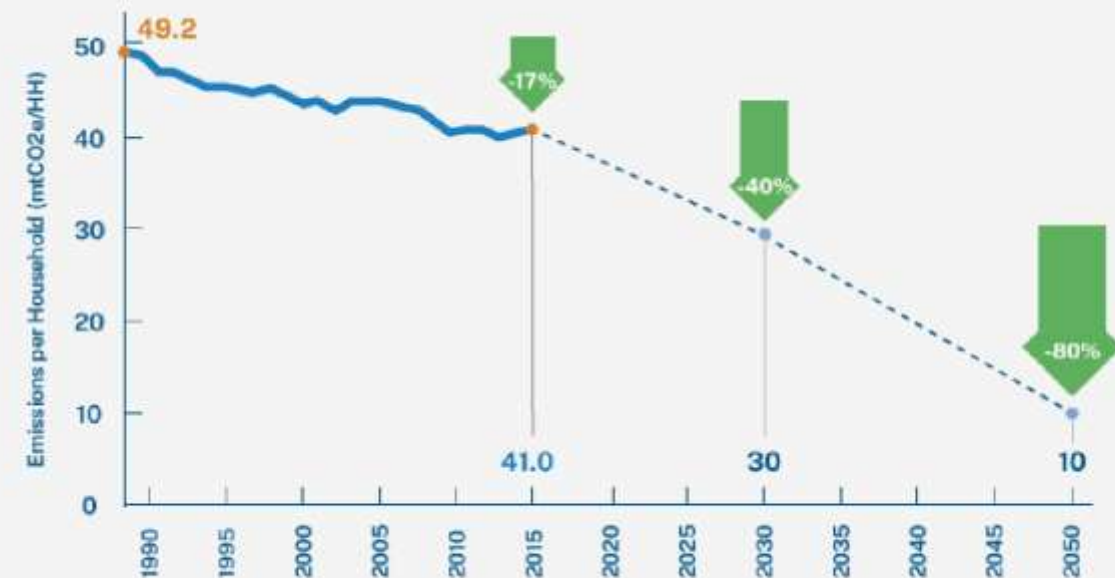
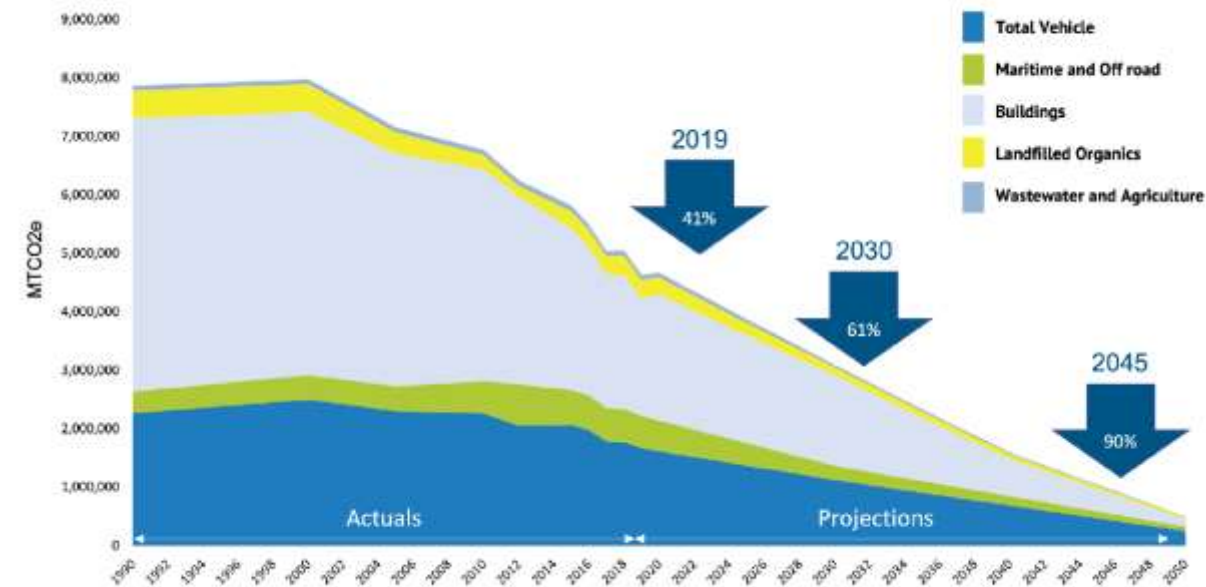
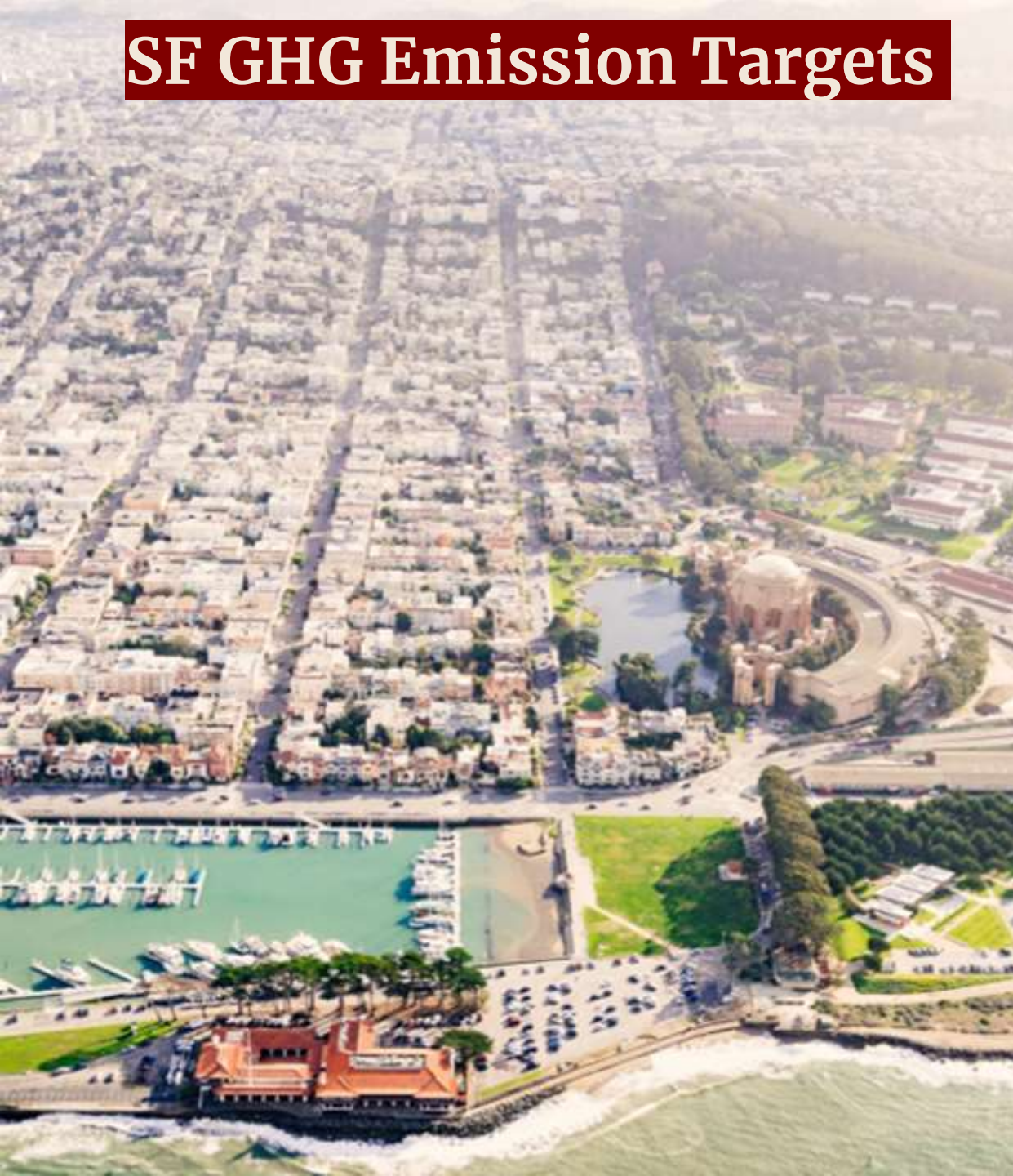
2015 Conventional
5.9 million mtCO₂e



SFE

2015 Consumption
14.7 million mtCO₂e

SF GHG Emission Targets



HISTORICAL (1990-2015) AND PROJECTED 2030 AND 2050 CONSUMPTION-BASED EMISSION REDUCTION TARGETS

2021 Climate Action Plan Purpose

Reach the City's
mandated climate
action goals and
Net Zero by 2040

Comprehensive
roadmap of
actions to reduce
GHG emissions

Details co-benefits
of climate action
– improved public
health, jobs, and
racial & social
equity

2021 Climate Action Plan



ENERGY
SUPPLY



TRANSPORTATION
& LAND USE



HOUSING



BUILDING
OPERATIONS



RESPONSIBLE
PRODUCTION &
CONSUMPTION



HEALTHY
ECOSYSTEMS

SFClimateAction.org

Climate Action Plan: Lenses

RACIAL & SOCIAL EQUITY



ECONOMIC RECOVERY
& JUST TRANSITION



HEALTH



RESILIENCE





 **Responsible
Productions &
Consumption**

RPC.1

STRATEGY

Achieve total carbon balance across the buildings and infrastructure sectors.

By 2030, buildings constructed will have 40% reduction in embodied carbon

- Design for disassembly
- Adaptive and material reuse
- Modular and prefabrication
- Deconstruction
- Policy mandates



 **Responsible
Productions &
Consumption**

RPC.2

STRATEGY

Reduce the carbon footprint of the food system by reducing waste, promoting climate friendly diets, and getting excess food to communities in need.

Amount of food waste is cut in half by 2030, sending as much as possible edible food to communities in need

- Good Food Purchasing Program from regenerative ag to lower carbon footprint
- Adopt mandatory food donation policy to comply with state SB1383 mandates
- Provide technical and grant assistance for food waste prevention and donation





 **Responsible
Productions &
Consumption**

RPC.3

STRATEGY

Promote reduction, reuse, repair, and recovery of goods and materials.

By 2030, through policy, education, and infrastructure, reduce material generation by 15% and disposal by 50%

- Transition to reusable foodware and packaging
- Reduce, reuse, repair and require take back of used textiles
- Neighborhood repair fix it clinics and reuse exchanges
- Increase compliance with mandatory source separation and recovery



Thank you!

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