CLIMATE LEADERSHIP:
HOW CITIES WILL GET THE JOB DONE

BRENDAN SHANE and ERIC AST

www.c40.org

C40 CITIES
CLIMATE LEADERSHIP GROUP

THIS IS C40

92 of the world's leading megacities working together to tackle climate change

"As mayors, we all face similar challenges and have to innovate to solve them, often in the same ways.

The C40 network connects us all, enabling us to share ideas and collaborate, working together towards a greener, healthier future."

Mayor of Paris and C40 Chair, Anne Hidalgo

The power of networks is in building on individual strength of members and then driving collective action

Relationships are critical at all levels – mayors and staff

25% of city action tied directly to knowledge sharing

THIS IS C40

Promoting Ambitious Climate Action in Cities

Goal 1	Engage mayoral leadership
Goal 2	Support cities to prepare robust inventories and ambitious targets and plans
Goal 3	Accelerate action through peer-to-peer exchange, direct support, and strategic partnerships
Goal 4	Remove barriers to city climate action (technical, organizational, political, and financial)
Goal 5	For non-C40 cities, provide thought leadership, agenda-setting communications, and world class events to inspire and transfer knowledge

C40 BUSINESS PLAN: MOVING THE PARIS AGREEMENT FROM ASPIRATION TO ACTION

CONNECTIVITY – ALIGNMENT – COLLECTIVE IMPACT

THIS IS C40

Targeted initiatives across key elements of a low-carbon and climate-resilient city

Adaptation & Water

Transportation

Solid Waste

Urban Planning & Development

Energy

Finance & Economic Development

Planning, Measurement & Reporting

C40 CITIES
CLIMATE LEADERSHIP GROUP

NETWORKS & INITIATIVES

ADAPTATION & WATER

- Climate Risk Assessment
- Connecting Delta Cities
- Cool Cities

TRANSPORTATION

- Bus Rapid Transit
- Low Emission Vehicles
- Walking and Cycling
- Mobility Management

SOLID WASTE

- Sustainable Solid Waste Systems
- Waste to Resources

URBAN PLANNING & DEVELOPMENT

- Land Use Planning
- Low-Carbon Districts
- Food Systems

ENERGY

- Private Building Efficiency
- Municipal Building Efficiency
- Clean Energy

FINANCE & ECONOMIC DEVELOPMENT

- Green Growth
- Sustainable Infrastructure Finance

Learning from leaders in clean transportation

- Shenzen full electric bus fleet (10,000+)
- US mayors issue EVRFI for 125,000+ vehicles

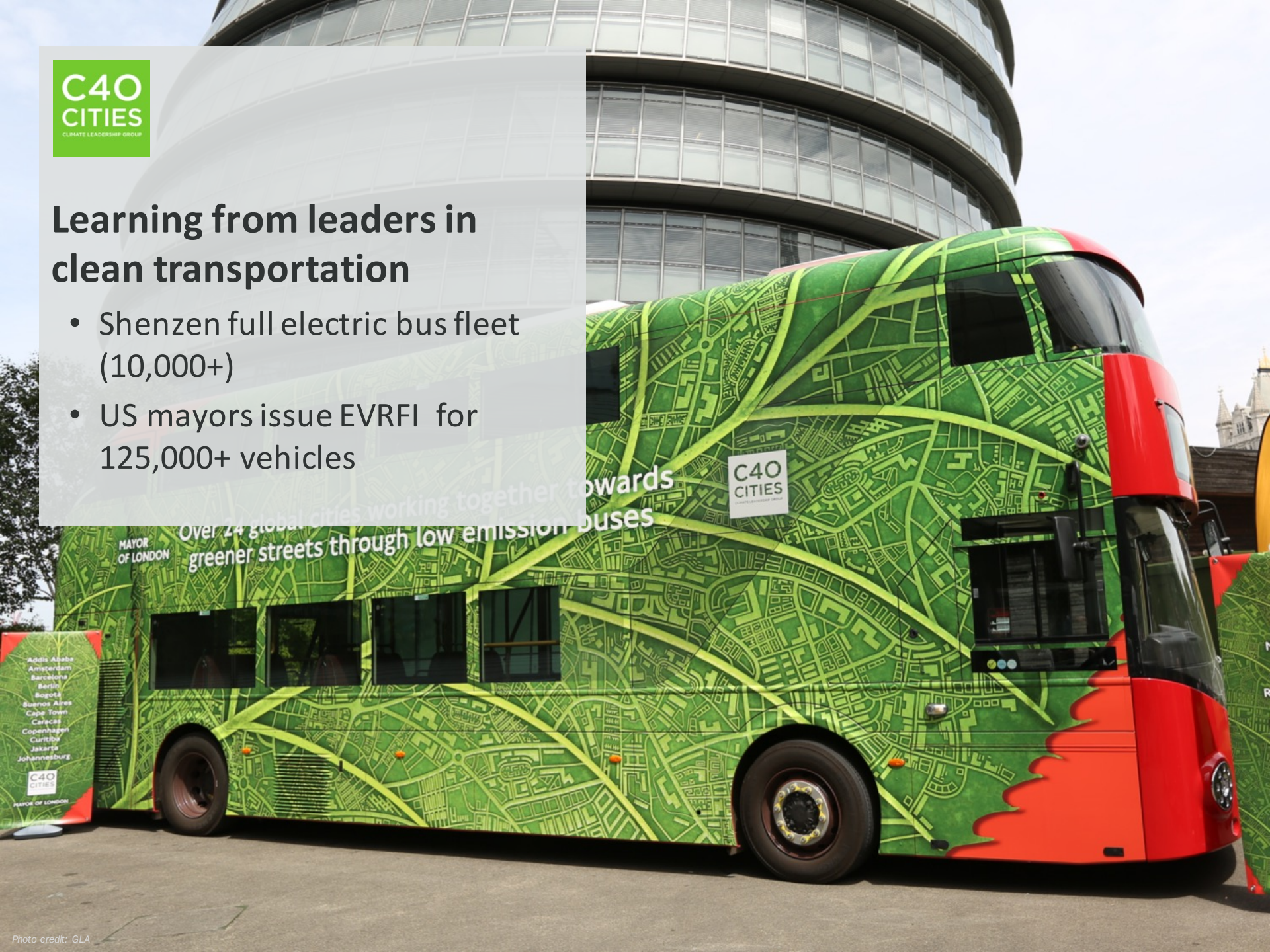


Photo credit: GLA

Learning to reinvent our built environment

- Netzero building codes in Vancouver
- Reinventing Paris now a global Reinventing Cities competition on public & green space

Learning to cool our cities

- NYC cool city program includes coating 2 million sf of cool roofs, reducing 830 tonnes CO2e
- Heat Island and health studies in DC, Tokyo, Toronto

C40 BUSINESS PLAN: MOVING THE PARIS AGREEMENT FROM ASPIRATION TO ACTION

CONNECTIVITY – ALIGNMENT – COLLECTIVE IMPACT

C40 cities delivering the Paris Agreement

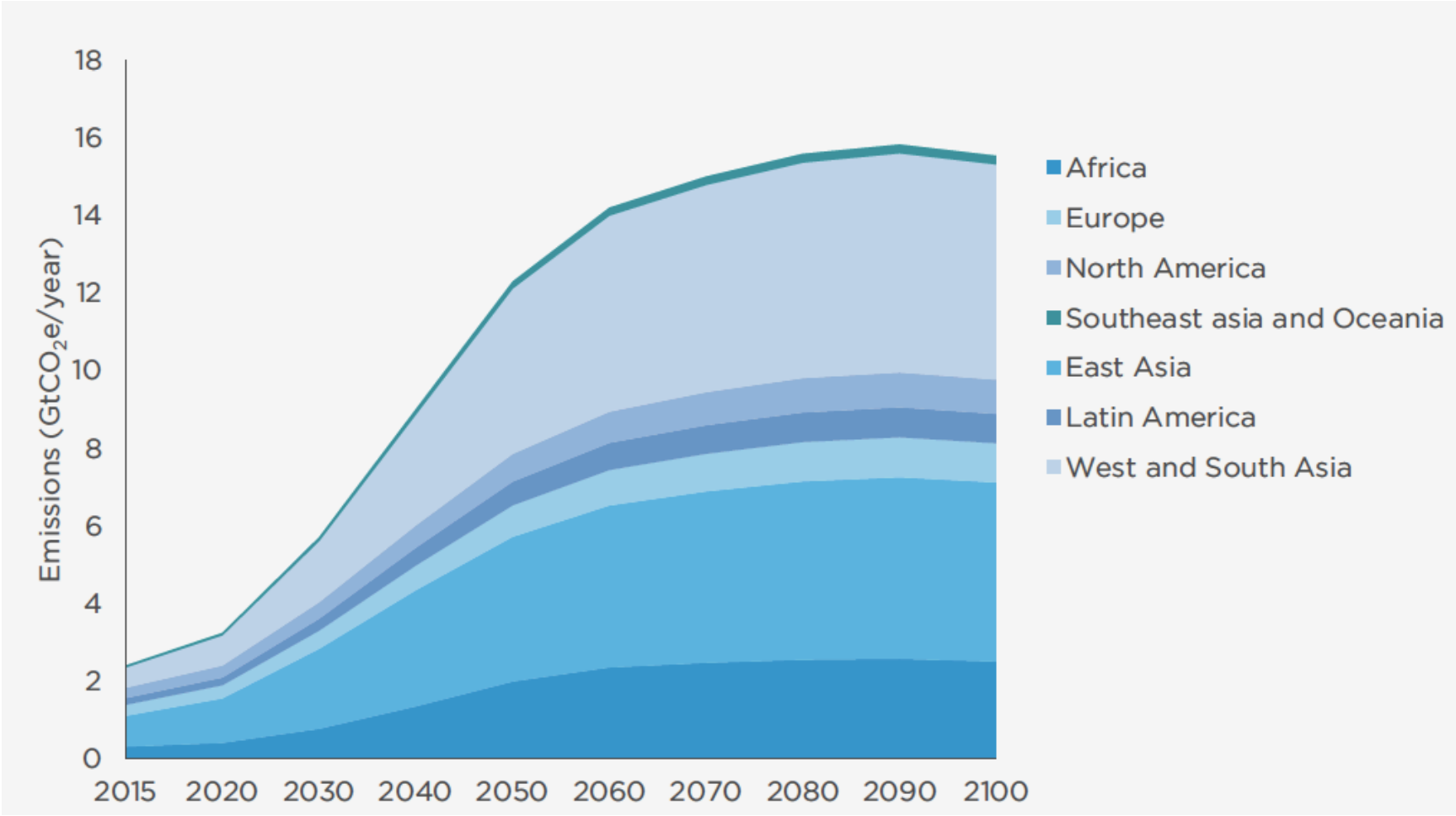
DEADLINE 2020 PROGRAMME

If we do not take sufficient action now, it will be IMPOSSIBLE to deliver the ambition of the Paris Agreement to limit global warming to 1.5°C

C40 CITIES

DEADLINE 2020

The scope of the challenge

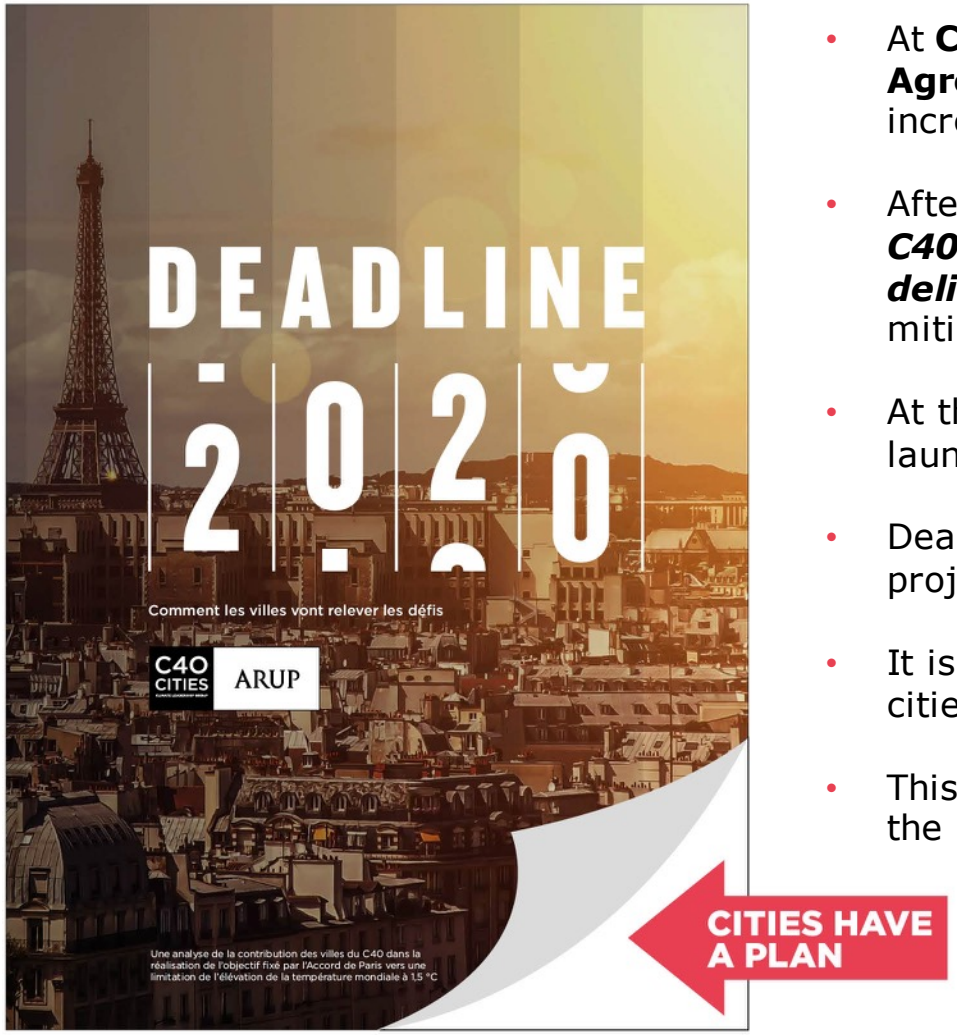


DEADLINE 2020

Business as usual consumes the carbon budget in 10 years

DEADLINE 2020

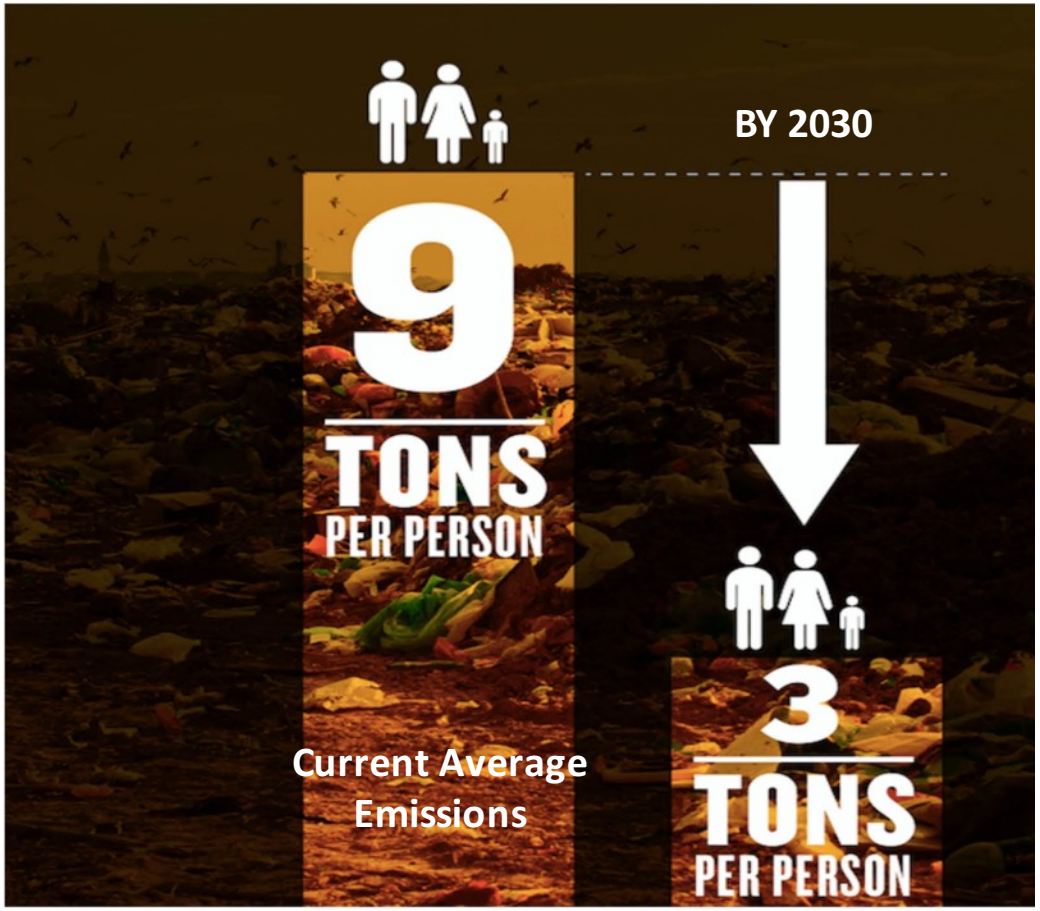
We have a roadmap for responding to climate change

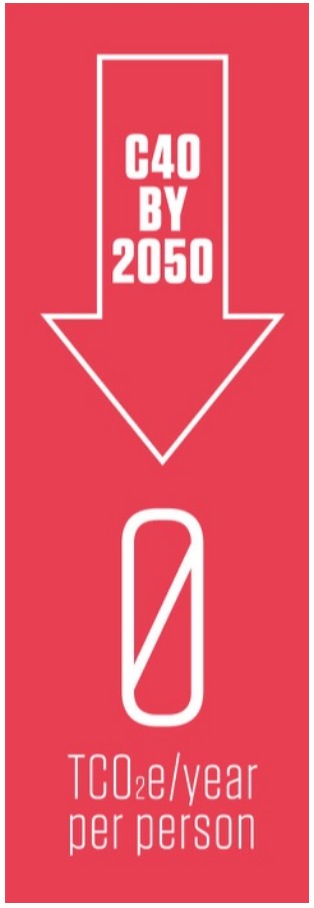


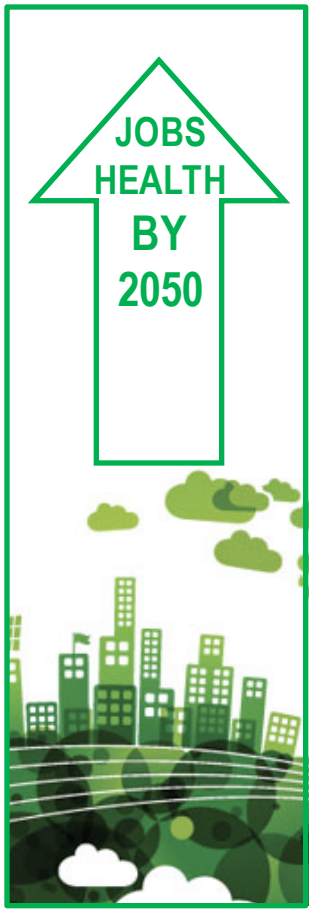
- At **COP21** in 2015, nations achieved the **Paris Agreement** aiming to limit global temperature increases to 1.5ºC and promoting climate resilience
- Afterwards C40 asked: "***what would it take for C40 cities to collectively, and individually, deliver the Paris Agreement?"*** in terms of both mitigation and adaptation
- At the C40 Mayors Summit in December 2016, we launched the response: **Deadline 2020**
- Deadline 2020 is the result of a year long research project between C40 and the consultancy Arup
- It is **the world's first road map** that shows how cities can achieve the Paris Agreement
- This **ongoing** work will help guide cities in avoiding the worst of climate change

DEADLINE 2020

From 2020, new ambition and innovation to reduce emissions and increase benefits





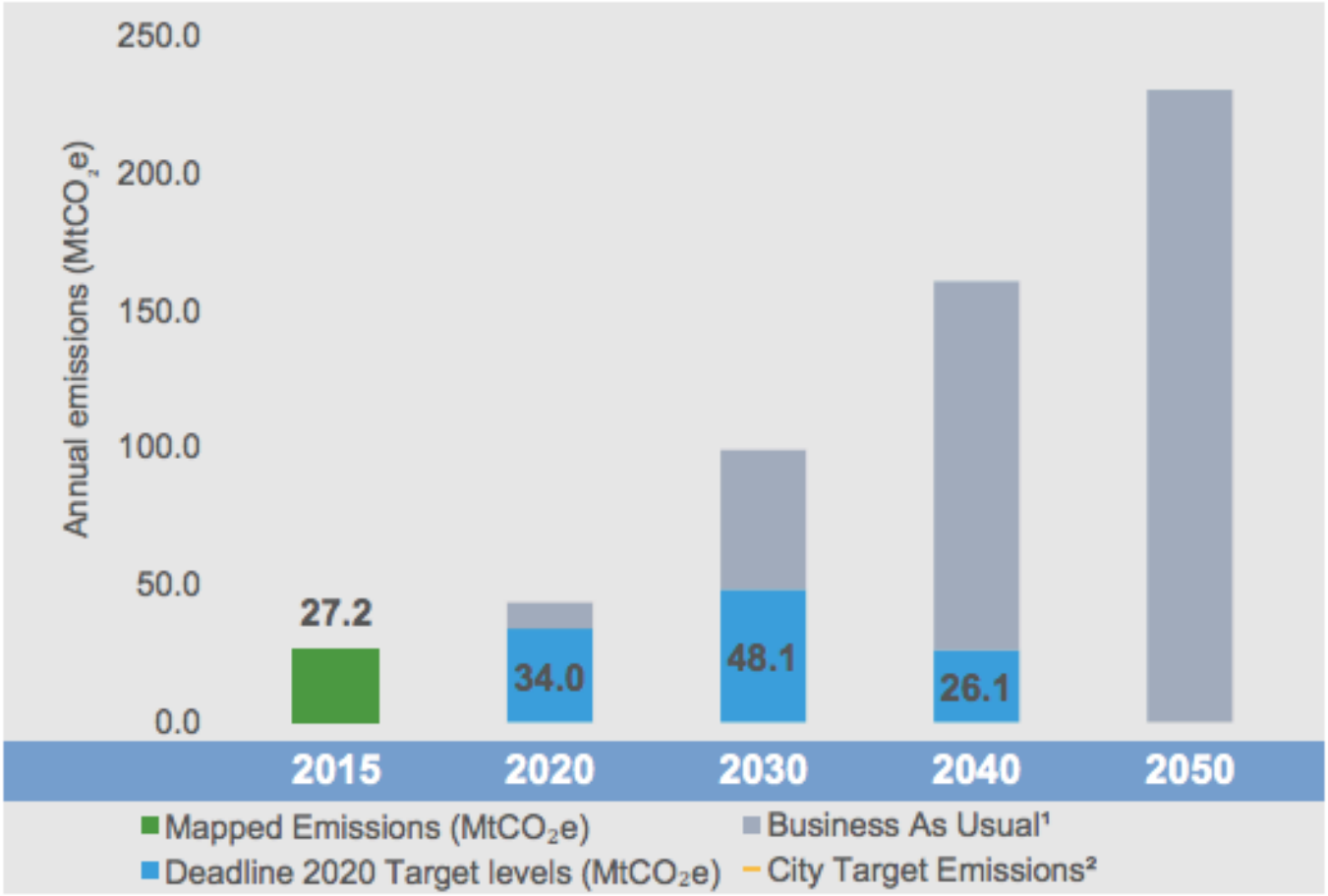


C40 CITIES

DEADLINE 2020

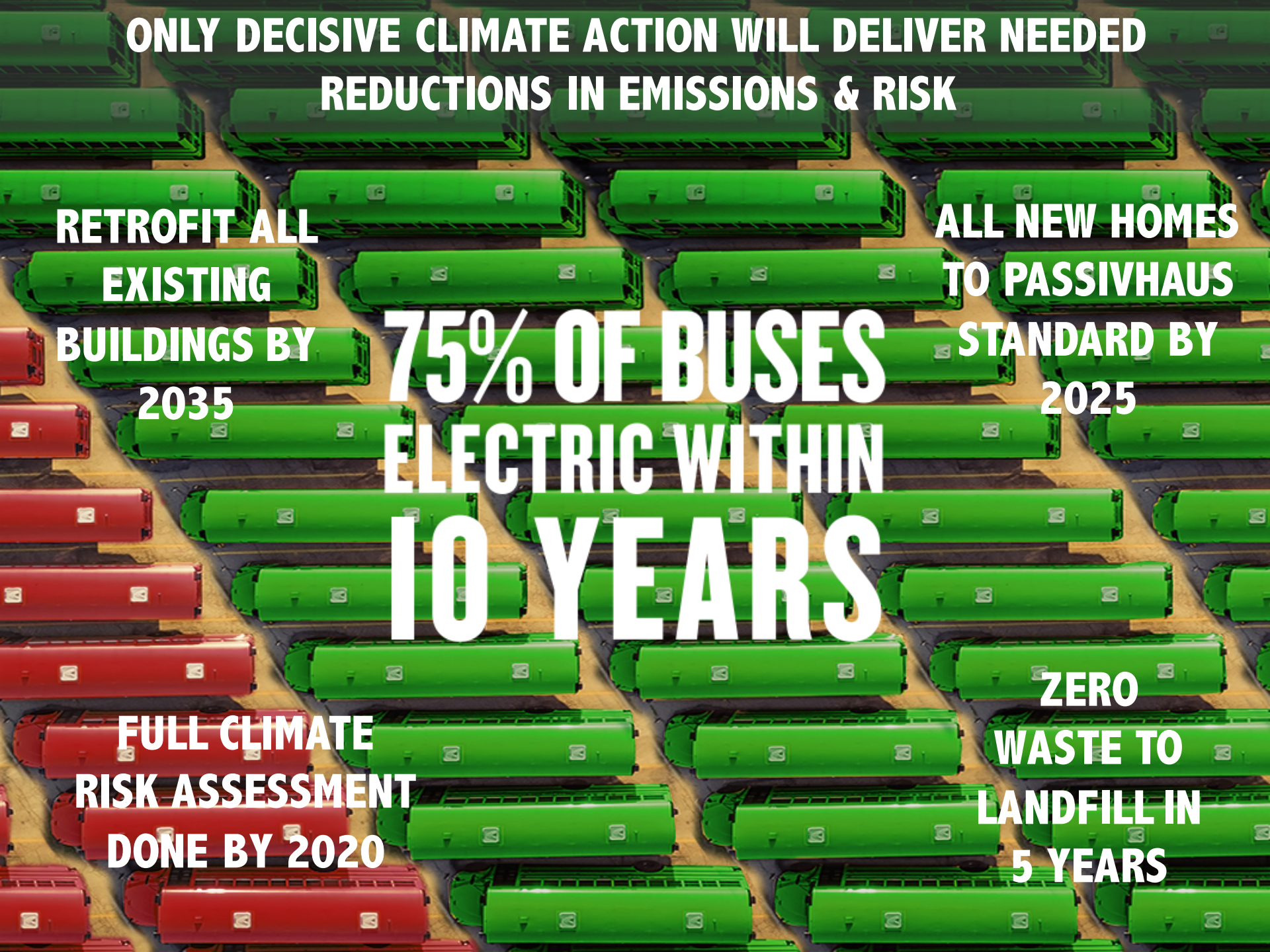
What the 1.5°C trajectory looks like

Figure E1. City annual emissions to 2050



C40 BUSINESS PLAN: MOVING THE PARIS AGREEMENT FROM ASPIRATION TO ACTION

CONNECTIVITY – ALIGNMENT – COLLECTIVE IMPACT


ONLY DECISIVE CLIMATE ACTION WILL DELIVER NEEDED REDUCTIONS IN EMISSIONS & RISK
RETROFIT ALL EXISTING BUILDINGS BY 2035
75% OF BUSES ELECTRIC WITHIN 10 YEARS
ALL NEW HOMES TO PASSIVHAUS STANDARD BY 2025
FULL CLIMATE RISK ASSESSMENT DONE BY 2020
ZERO WASTE TO LANDFILL IN 5 YEARS

DEADLINE 2020

Ensuring Inclusive Climate Action

- Delivering tools and peer-to-peer support to promote equity in action
- Making the case for climate action
  - *Understanding climate benefits -> more climate action*
- Ensuring benefits are inclusive and accessible
  - *Inclusion -> scaling climate action citywide to maximize impact*

DEADLINE 2020

Mayors can lead a global transformation

C40 CITIES

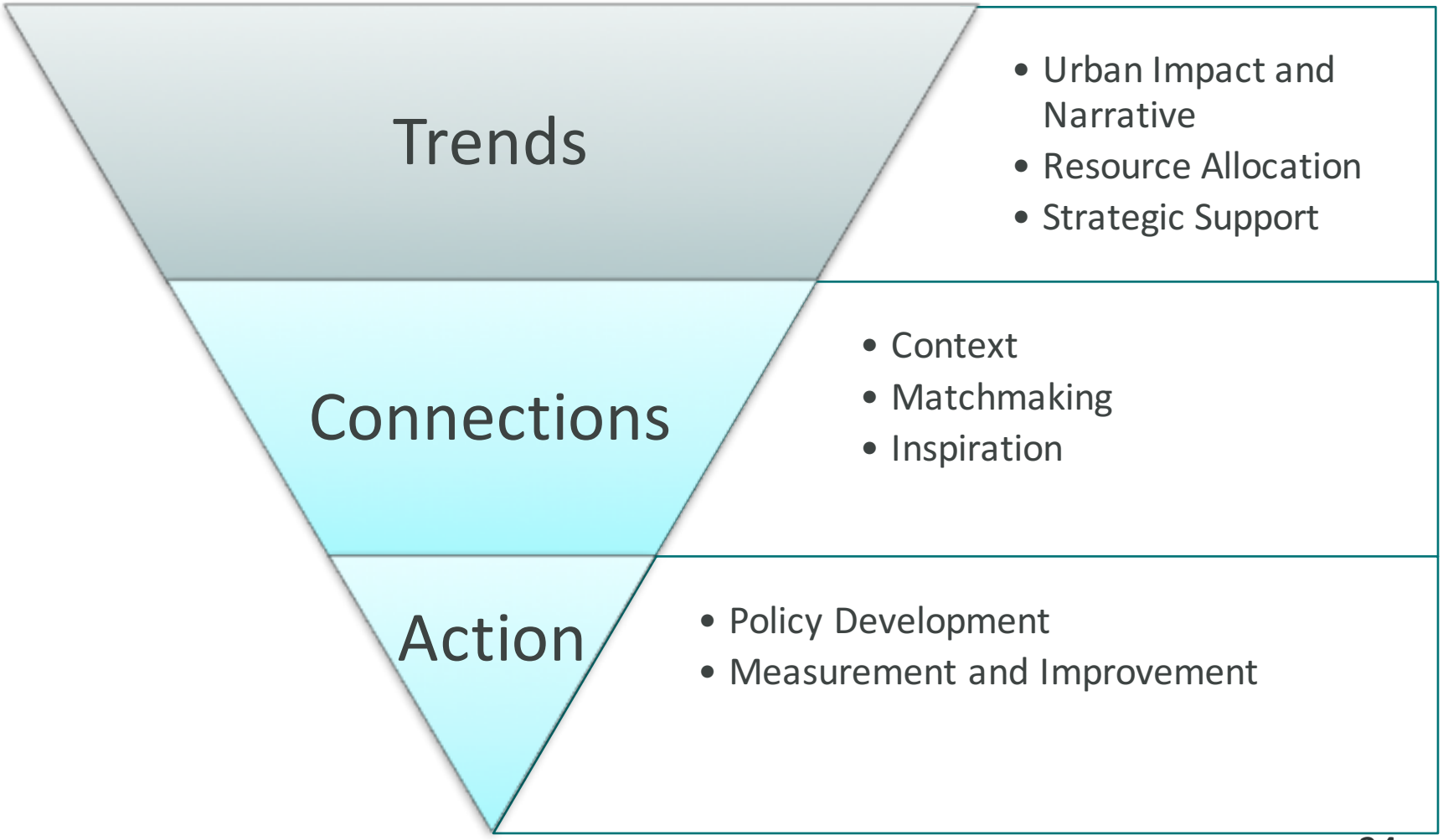
HOW C40 WORKS WITH DATA

In the beginning there was nothing, which exploded.

Terry Pratchett

quotefancy

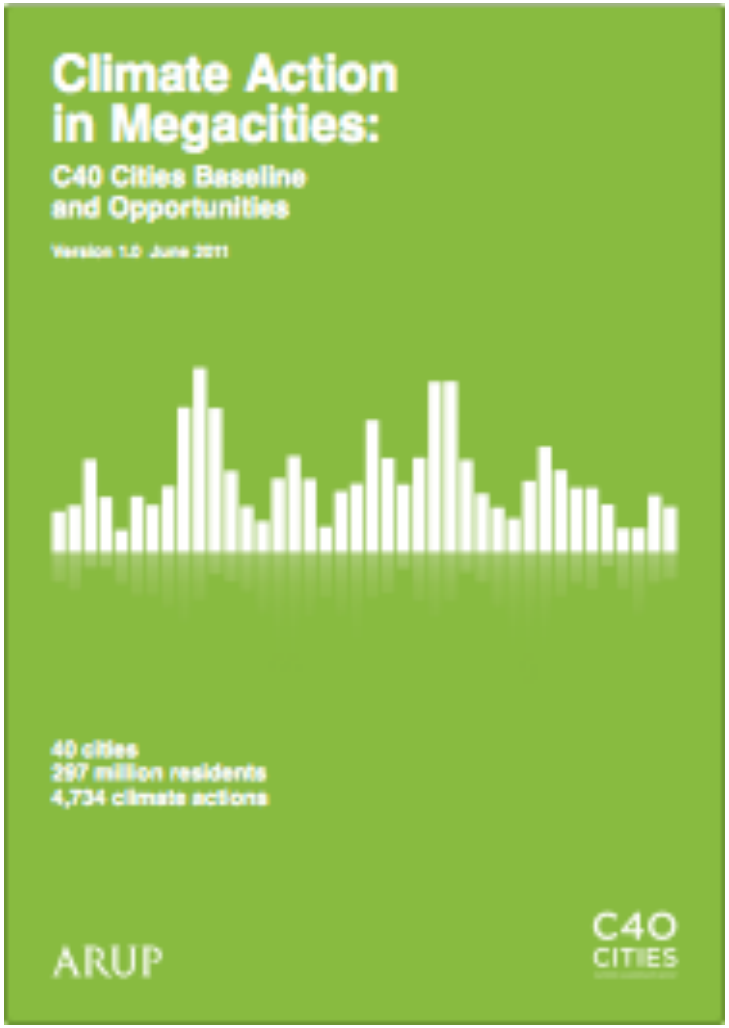
C40's approach is framed by 3 general objectives



C40 has a number of approaches to data-driven problem solving

C40 DATA AND ANALYTICS

C40 research includes frameworks and data on climate action, mayoral powers, and action benefits

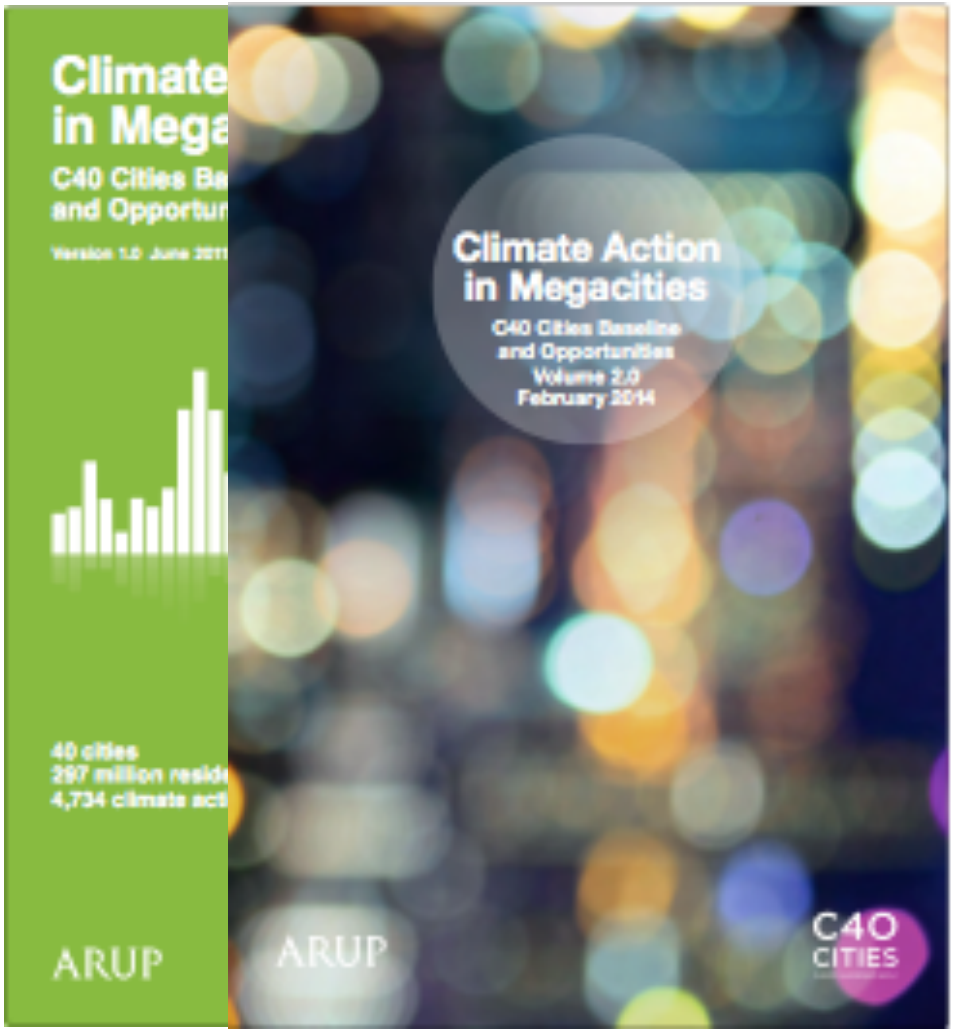


40 Cities

4,734 Actions

C40 DATA AND ANALYTICS

C40 research includes frameworks and data on climate action, mayoral powers, and action benefits



59 Cities

8,068 Actions

C40 DATA AND ANALYTICS

C40 research includes frameworks and data on climate action, mayoral powers, and action benefits

66 Cities

9,831 Actions

C40 research includes frameworks and data on climate action, mayoral powers, and action benefits

C40 DATA AND ANALYTICS

C40 research includes frameworks and data on climate action, mayoral powers, and action benefits

Standards improve the comparability, and accountability of data

GREENHOUSE GAS PROTOCOL

Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC)

GPC, the world's most widely-endorsed GHG accounting and reporting standard for cities, enables local leaders to build more effective climate strategies and track the performance of actions already underway.

WITHOUT GPC	WITH GPC
Different types of measurements	One measurement
Account for only a portion of emissions	Consistently account for all emissions
Unclear if climate targets will be met	Emissions trajectory well understood
Incomplete data limits investment	Good data drives investment
Unable to relate to national climate action	Can measure city's contribution to national climate efforts

LEARN MORE: Access GPC online at http://www.ghgprotocol.org/city-accounting

WORLD RESOURCES INSTITUTE C40 CITIES ICLEI Local Governments for Sustainability

HAZARD GROUP	HAZARD	CITY CLIMATE HAZARD	CITY CLIMATE HAZARD
Meteorological	Precipitation	Rain storm	Monsoon
		Heavy snow	Snowstorm/blizzard
	Wind	Severe wind	Dust storm/sandstorm
		Tornado	Extratropical cyclone
		Cyclone (Hurricane/Typhoon)	
		Tropical storm	
	Lightning	Electrical storm	Lightning/thunderstorm, derecho
	Fog	Fog	
	Extreme temperature - Cold	Extreme winter conditions	Ice, hail, freezing rain, debris avalanche
		Cold wave	Cold snap, frost
		Extreme cold weather	Cold days
	Extreme temperature - Hot	Heat wave	
		Extreme hot weather	Hot days
Climatological	Water scarcity	Drought	Lack of precipitation and seasonal melt (snow, glacial)
	Wild fire	Forest fire	
		Land fire	Bush fire, grass fire, pasture fire, scrub fire
Hydrological	Flood	Flash/surface flood	Glacial lake outburst
		River flood	
		Coastal flood	
		Groundwater flood	Waterlogging
	Wave action	Storm surge	Seiche
	Chemical change	Salt water intrusion	
		Ocean acidification	
Geophysical	Mass movement	Landslide	Lahar, mud flow, debris flow
		Avalanche	Debris avalanche, snow avalanche
		Rockfall	
	Subsidence		Sudden subsidence (sinkhole), long-lasting subsidence
Biological	Insects and micro-organisms	Water-borne disease	E.g. Cholera, Typhoid, Legionnaires' disease
		Vector-borne disease	E.g. Malaria, Dengue Fever, Yellow Fever, West Nile Virus, Bubonic Plague
		Air-borne disease	E.g. Pneumonic Plague, Influenza
		Insect infestation	E.g. Pine beetles, killer bees, termites

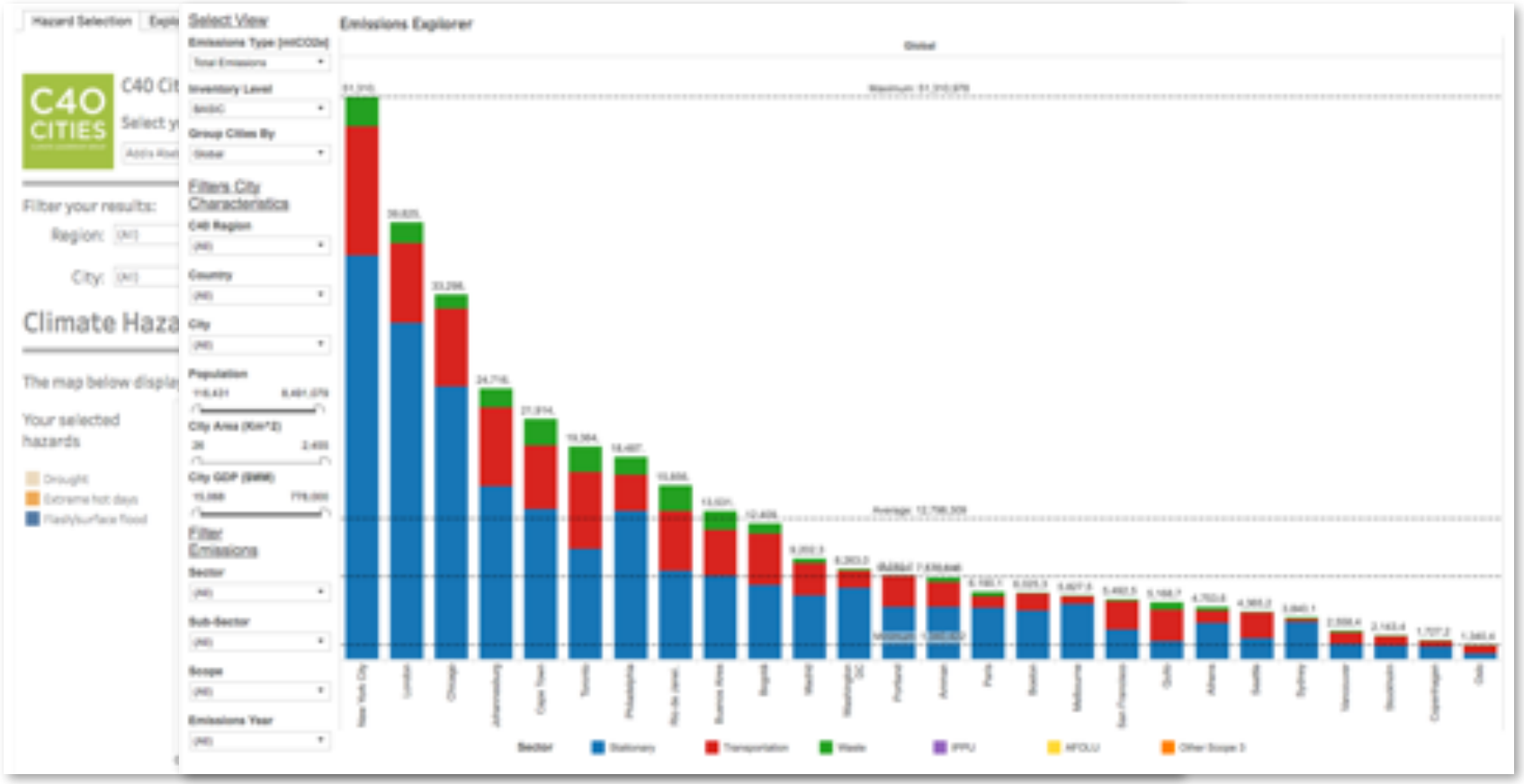
Providing direct access to data and custom data products facilitates connection, action, and monitoring

Online & Interactive dashboards

CLIMATE HAZARD MATCH TOOL

Providing direct access to data and custom data products facilitates connection, action, and monitoring

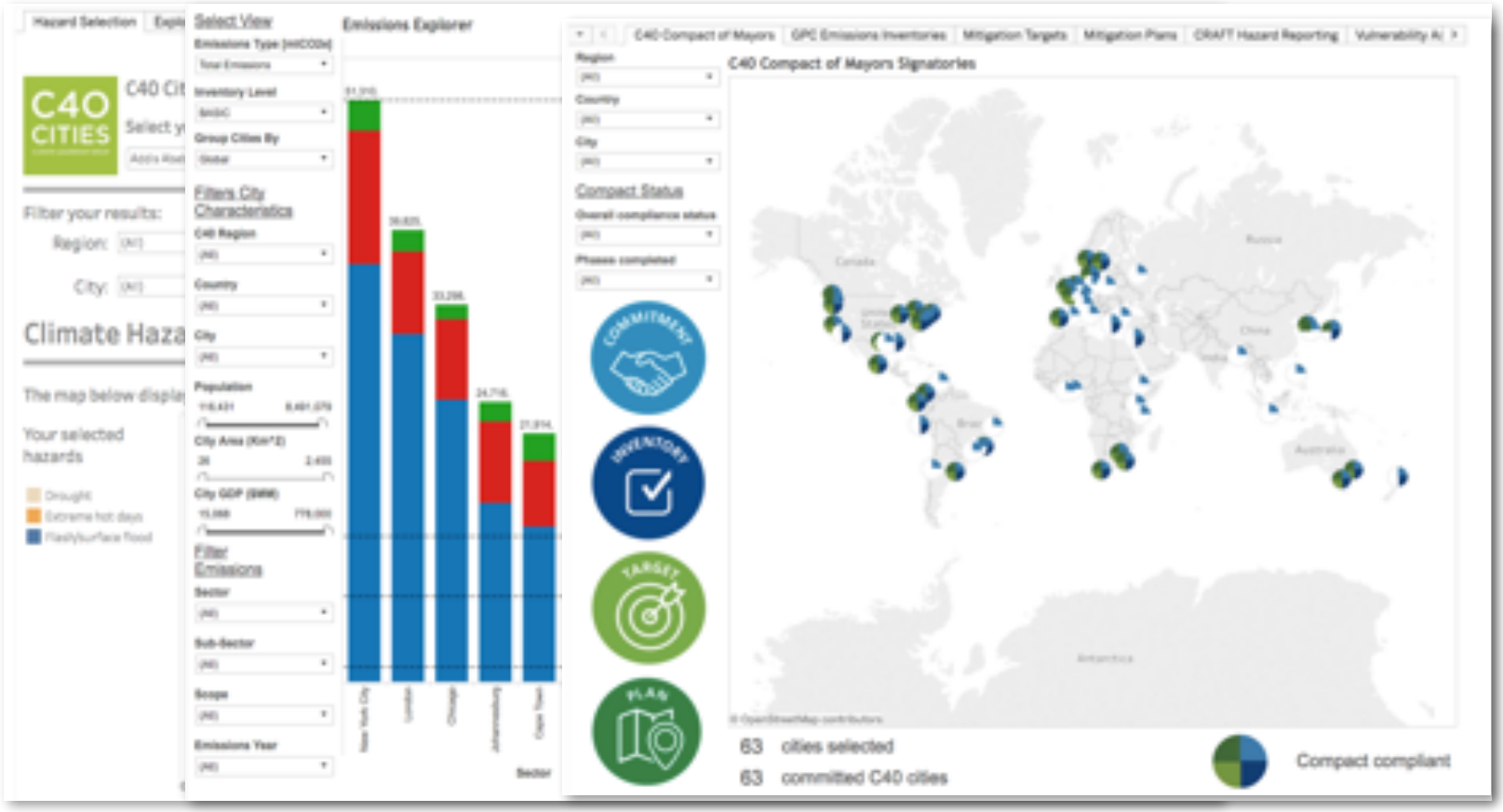
Online & Interactive dashboards



GPC EMISSIONS EXPLORER

Providing direct access to data and custom data products facilitates connection, action, and monitoring

Online & Interactive dashboards

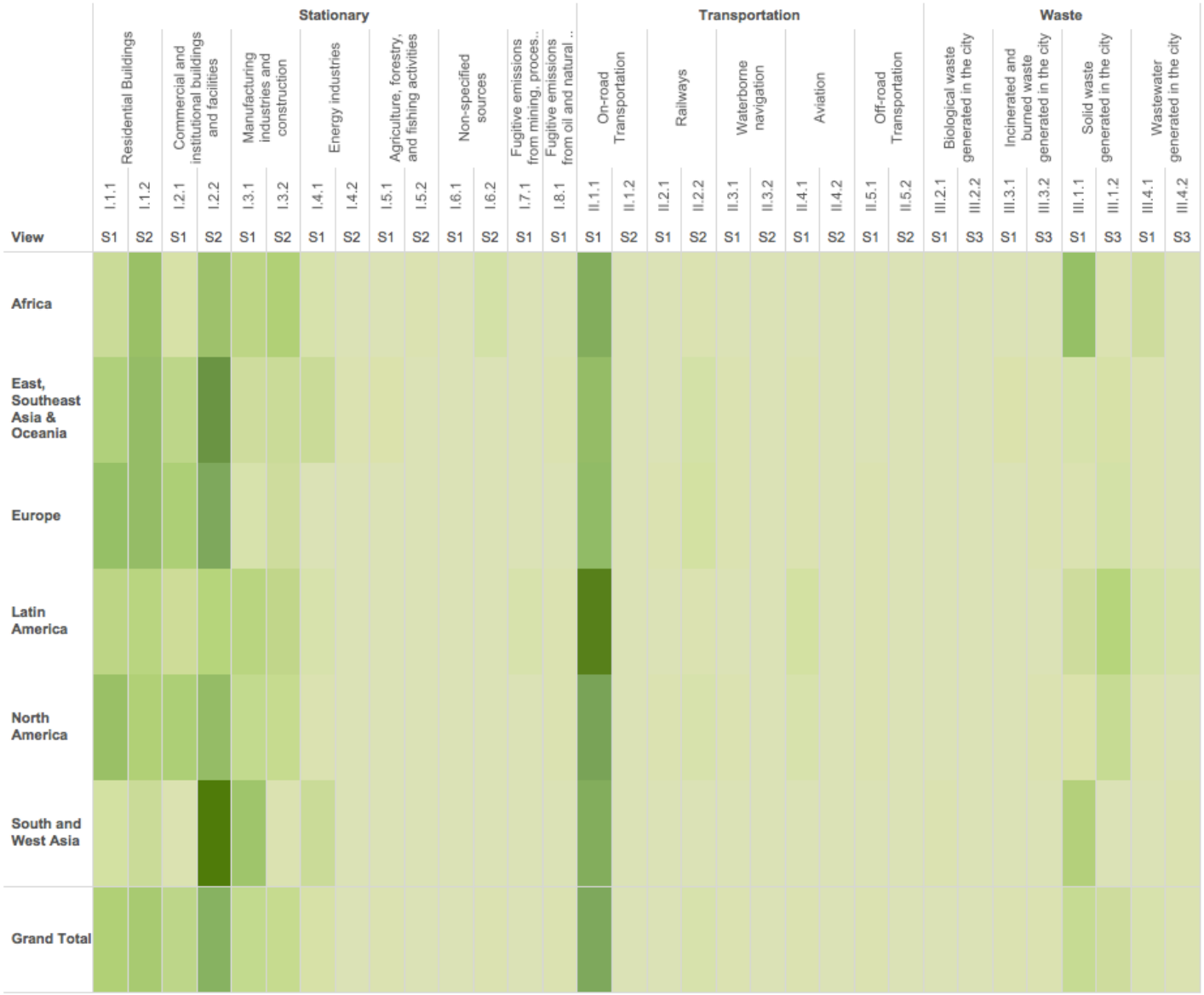


COMPACT OF MAYORS EXPLORER

C40 DATA AND ANALYTICS

Searchable platforms make city solutions accessible

Emissions data indicates key emissions sectors



And identifies data quality gaps

This heatmap displays average scores for the activity data and emission factors reported by cities and weighted according to the share of emissions from each activity. The two averages were multiplied to obtain an overall data quality score for each GPC sub-sector differentiated by scope.

Quito uses GIS to map ecosystems, estimate future deforestation rates, and prioritize adaptation measures

60%

Portion of Quito's high-altitude territory covered by vegetation

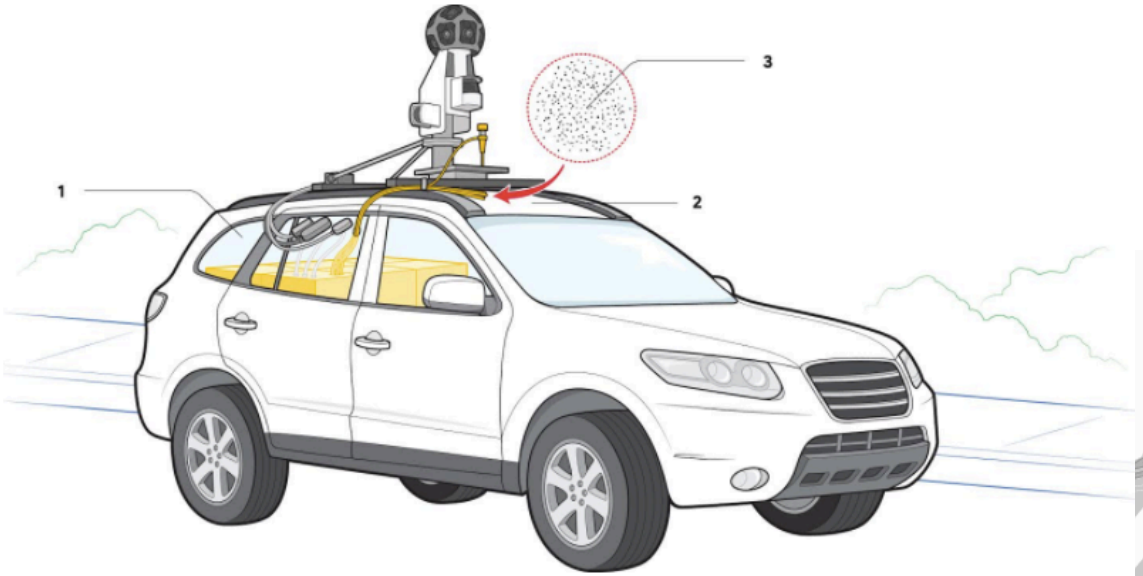
175,000

Hectares protected under a Municipal Protected Areas scheme.

5%

Annual emissions reduction from sequestration

Oakland, California worked with the EDF and Google to assess air quality with mobile sensors



Source: https://www.google.com/intl/en/about/stories/future-of-anti-pollution-tech/
https://www.edf.org/airqualitymaps

C40's work and partnerships evolve with key focal points

THANK YOU

C40 CITIES
CLIMATE LEADERSHIP GROUP