



Chicago Metropolitan Regional Climate Action



Global Congress for Climate Change & Sustainability Professionals

December 9, 2019

@MayorsCaucus

@IUC_NA

@ONTO2050



Welcome

Kevin Burns, Mayor, City of Geneva

Chairman, Metropolitan Mayors Caucus Environment
Committee and Energy Sub Committee

Ready for Climate Planning

Jared Patton, AICP

Chicago Metropolitan Agency for
Planning (CMAP)

Edith Makra

Metropolitan Mayors Caucus

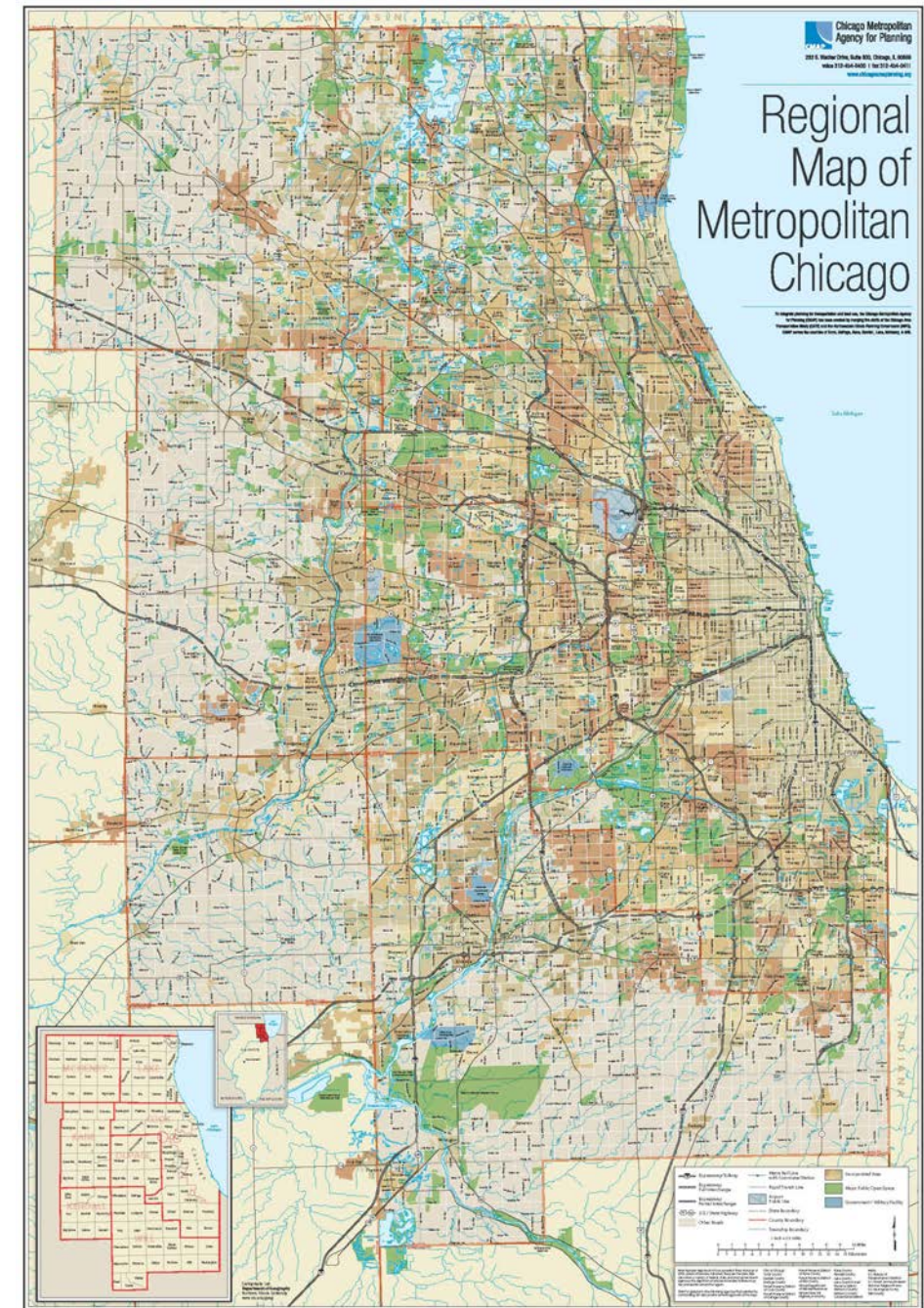


Regional Municipal Sustainability

- 284 Diverse communities
- Fragmented service delivery
- Sustainability resources are limited
- Collaboration is key



CMAP



Greenest Region Compact Goal

To align environmental issues, resources, and actions at the local, regional and national levels to guide municipalities to achieve greater environmental sustainability.

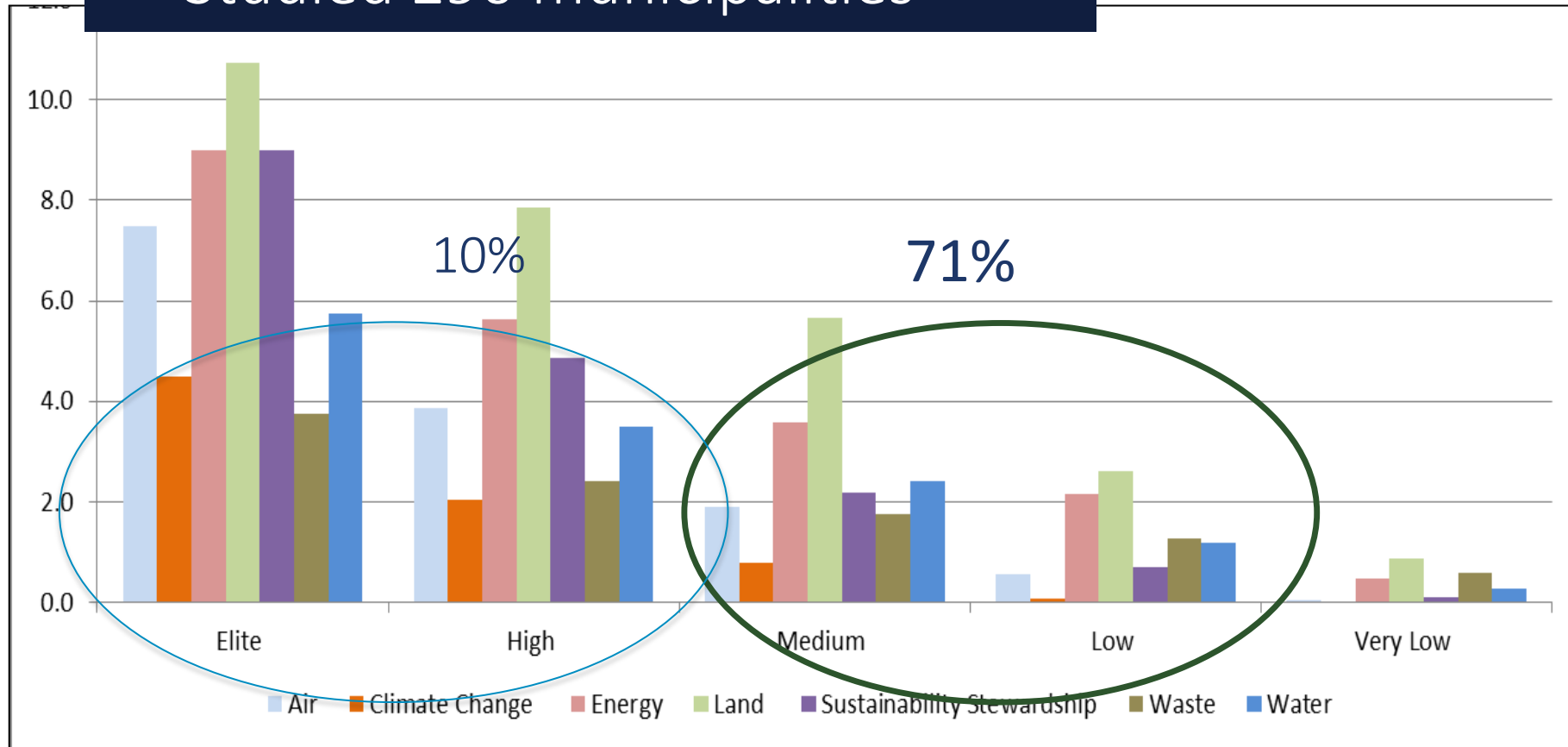


COLLABORATING FOR SUSTAINABLE COMMUNITIES

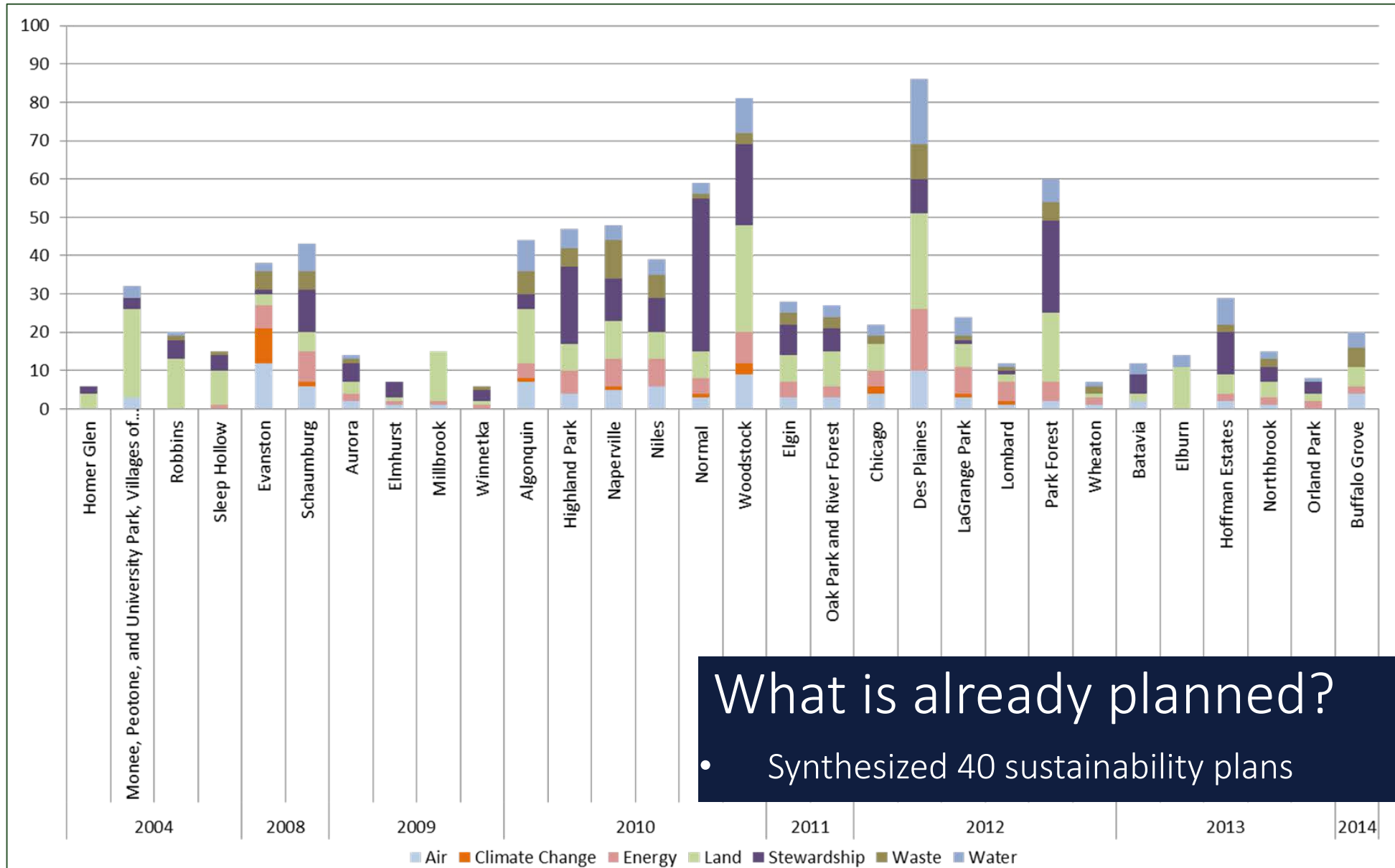
Building the GRC

What is already underway?

- Studied 290 municipalities



Building the GRC



What is already planned?

- Synthesized 40 sustainability plans



The Greenest Region Compact

Consensus Sustainability Goals in 10 Categories



Climate



Economic Development



Energy



Land



Leadership



Mobility



Municipal Operations



Sustainable Communities



Water



Waste

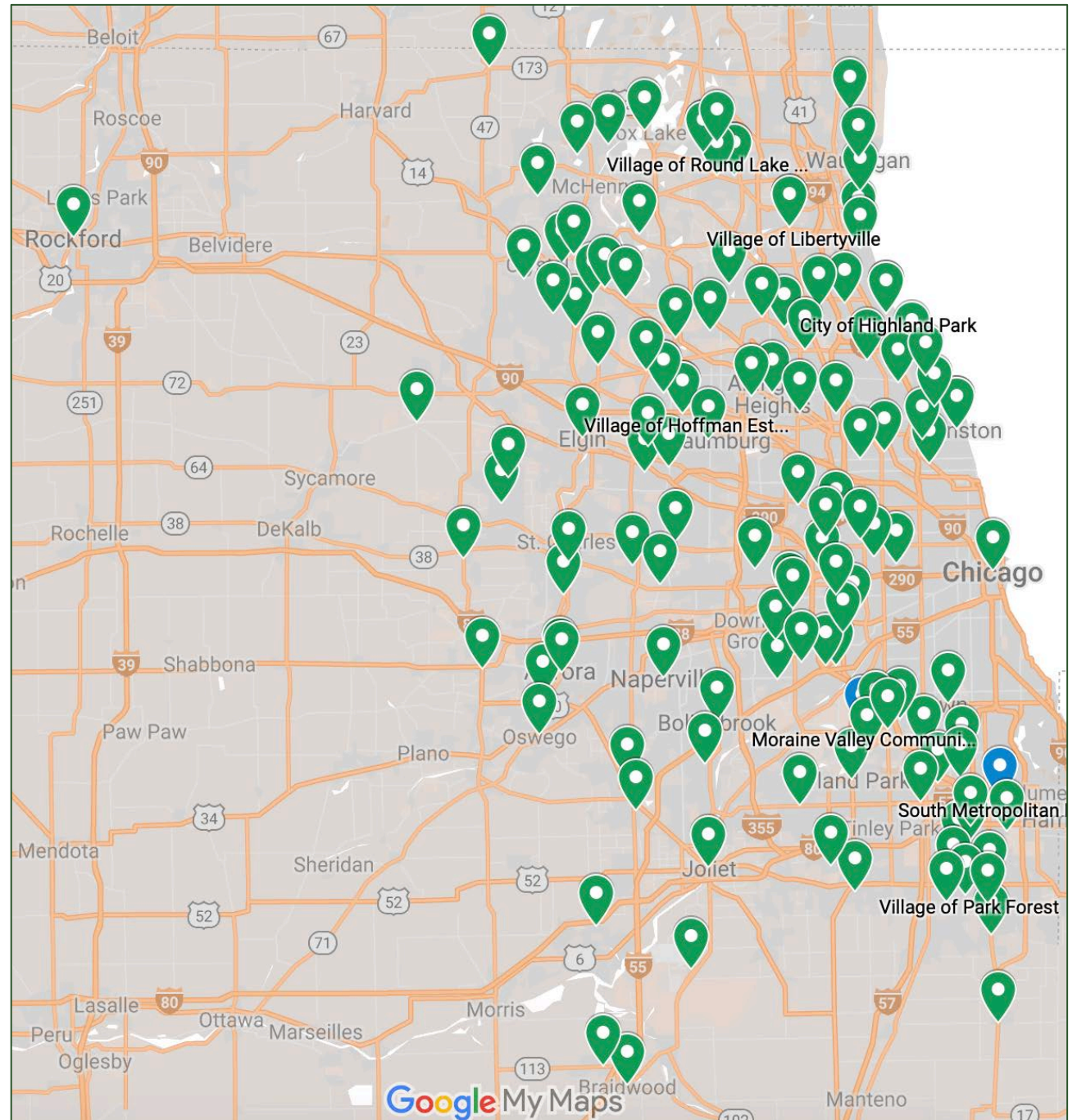
GRC Communities

125 municipalities

3 counties

10 COGS (council of gov'm't)

Have formally adopted the
Greenest Region Compact



Addressing GRC Goals together



Advance renewable energy
35 local gov's streamlined
solar codes & policies



*Dedicate staff to
sustainability initiatives*
GRCorps provides talent



Evolving Focus for MMC Munis

Environment

Clean Air Counts (2006)
GRC (2007)

Sustainability

GRC2 (2016)

Climate

now

Municipal actions need to accelerate and focus



Goal - Use Energy for Public Facilities Efficiently

- Strategies Already Underway

1	Access to Parks/Open Space
	Solid Waste Agency
2	membership/Curbside Recycling
3	Energy Efficiency retrofits public bldgs
4	Urban Forest stewardship
5	Water Metering

- Already Planned

1	Land Preservation
2	Building Retrofits
	Stormwater Management & Green Infrastructure
3	
4	Sust Com Outreach & Engagement
5	Smart Growth & TOD



Stationary Energy

283 local governments
76.5 million lbs avoided CO2

Spark for Regional Climate Plan from the European Union



International Urban Cooperation Program

- enables cities and regions to **learn and share** solutions to common urban challenges.
- Part of a long-term strategy by the European Union to foster **sustainable urban development** in cooperation with both the public and private sectors



2. Sub-national action under the Global Covenant of Mayors initiative



GLOBAL COVENANT
of MAYORS for
CLIMATE & ENERGY

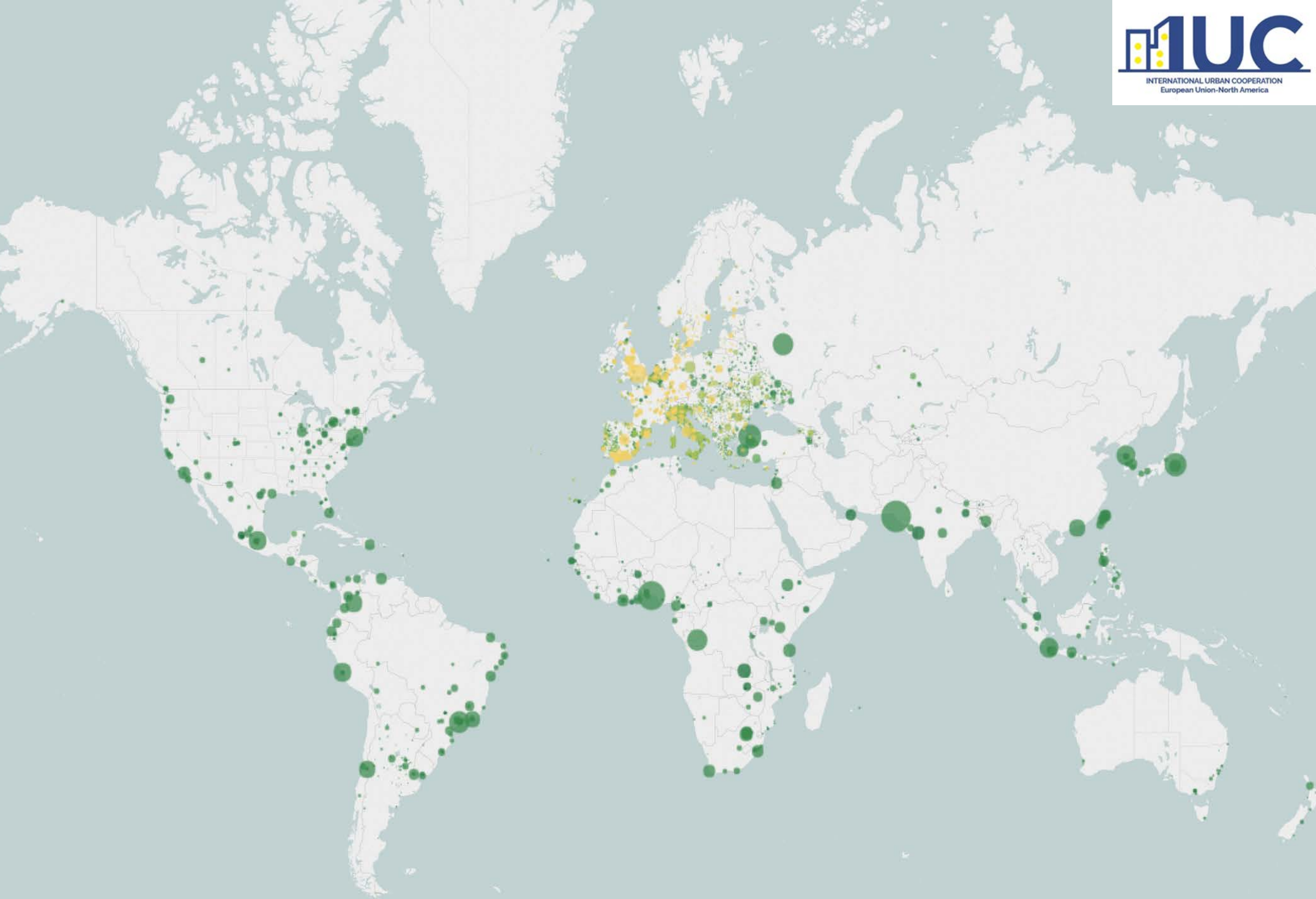
GCoM USA



GLOBAL COVENANT *of MAYORS for* CLIMATE & ENERGY

“A first-of-its-kind and largest global alliance of cities leading the fight against climate change, with support with support from city networks and other partners”

- Recognizes that climate action improves quality of life, creates new jobs and economic opportunities
- Values vertical alignment and *collaboration* across all levels of government to support local-level action
- Makes all *city-level data* on local climate actions publicly available on one consistent online platform
- Creates an evidence base for *increased investment* in low-carbon urban infrastructure



9,200+ CITIES

130+ COUNTRIES

800+ MILLION
PEOPLE

100+ GLOBAL
PARTNERS (city
networks, private
partners, research
institutions)

10+% OF THE
GLOBAL
POPULATION

GCoM Commitment

- ✓ GHG emission inventory;
- ✓ An assessment of climate risks and vulnerabilities;
- ✓ Ambitious, measurable and time-bound target(s);
- ✓ Ambitious climate change adaptation vision and goals;
- ✓ A formally adopted plan addressing climate change mitigation, climate resilience and adaptation, and access to sustainable energy.



Global Covenant of Mayors for Climate & Energy Commitment of

[Name of City or Local Government (please include type of jurisdiction (e.g. city/town/village, etc.))]
[Name of country/region]
[Local Government Logo if applicable]

I, [Name], [Mayor and /or title of equivalent mandated representative] of [name of city or jurisdiction] commit to the Global Covenant of Mayors for Climate & Energy (GCoM), joining thousands of other cities and local governments around the world currently engaged in climate leadership.

GCoM envisions a world where committed mayors and local governments – in alliance with partners – accelerate ambitious, measurable climate and energy initiatives that lead to an inclusive, just, low-emission and climate resilient future, helping to meet and exceed the Paris Agreement objectives.

Whatever the size or location, the mayors and local leaders committed to GCoM stand ready to take concrete measures with long-term impact to tackle the interconnected challenges of climate change mitigation and adaptation, as well as access to sustainable energy.

To implement this vision, we pledge to implement policies and undertake measures to (i) reduce / avoid¹ greenhouse gas (GHG) emissions, (ii) prepare for the impacts of climate change, (iii) increase access to sustainable energy, and (iv) track progress toward these objectives.

Specifically, within three years of this commitment², we pledge to develop, adopt³, use and regularly report on the following:

- A community-scale GHG emission inventory, following the recommended guidance;
- An assessment of climate risks and vulnerabilities;
- Ambitious, measurable and time-bound target(s) to reduce/avoid GHG emissions;
- Ambitious climate change adaptation vision and goals, based on quantified scientific evidence when possible, to increase local resilience to climate change;
- An ambitious and just goal to improve access to secure, sustainable and affordable energy; and
- A formally adopted plan(s) addressing climate change mitigation / low emission development, climate resilience and adaptation, and access to sustainable energy.

The targets and action plans for mitigation / low emission development must be quantified and consistent with or exceed relevant national unconditional⁴ commitments defined through the UNFCCC (Intended) Nationally Determined Contribution (NDC). The targets and action plans should be in line with National Adaptation Plans, where these exist; and should be consistent with the principles around energy access and urban sustainability embodied in the Sustainable Development Goals (SDGs).

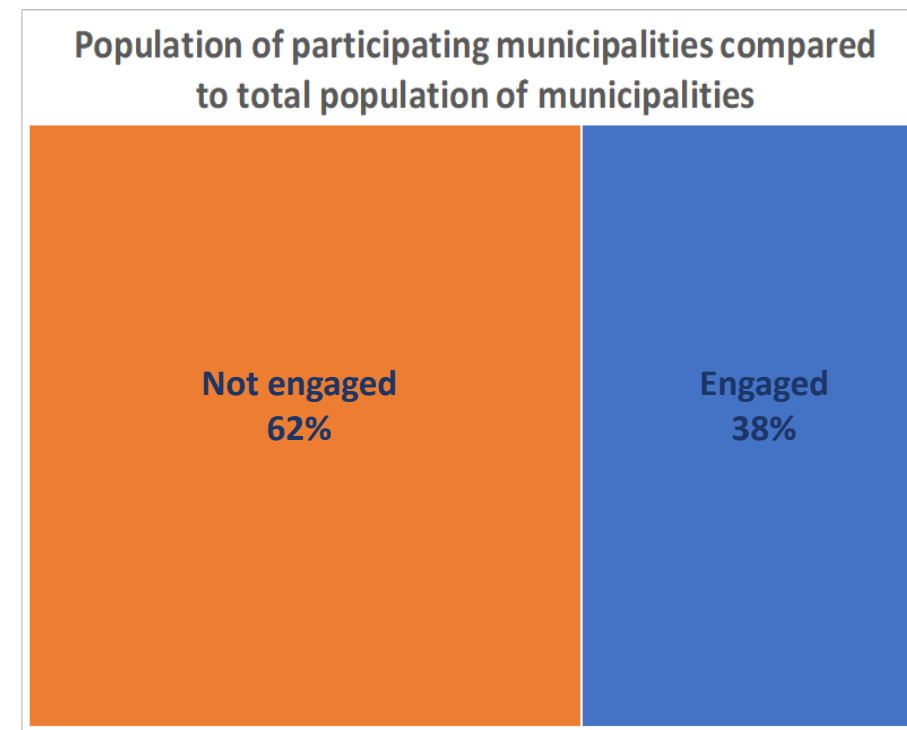
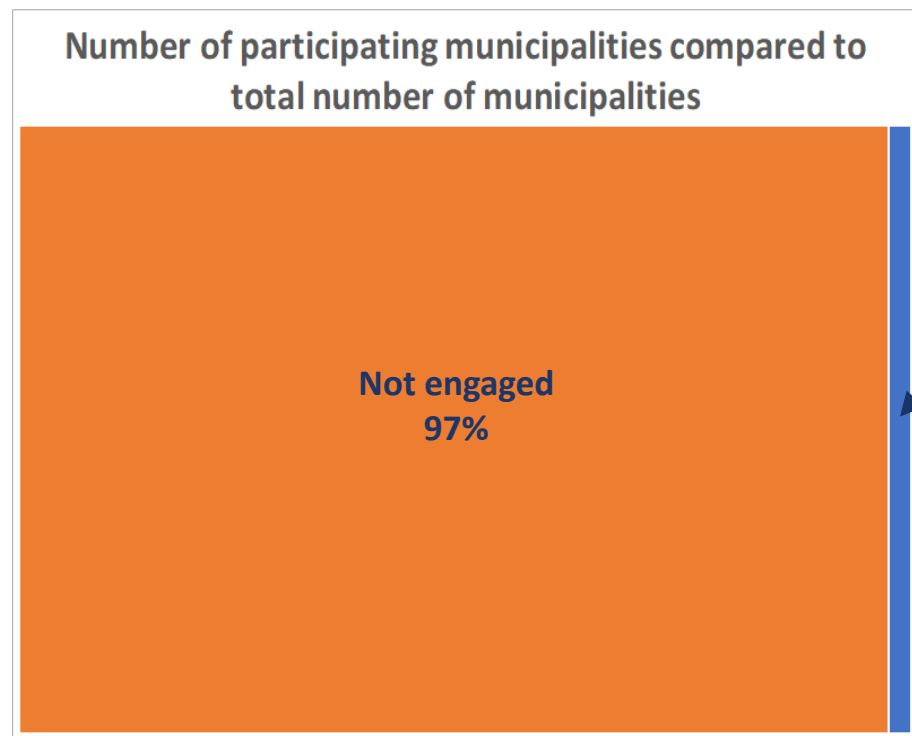


GCoM Requires Accountability through the Common Reporting Framework

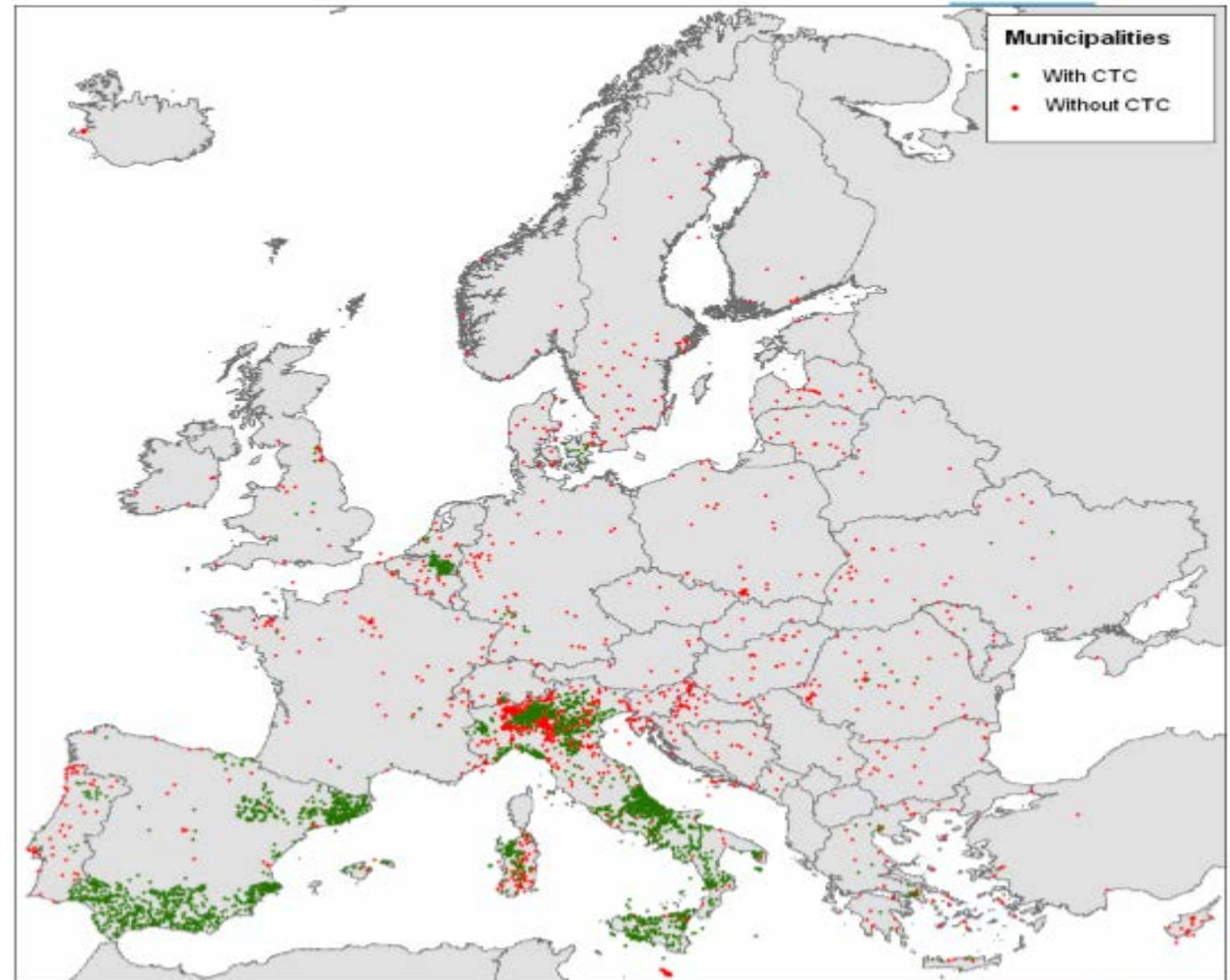
The **Common Reporting Framework (CRF)** aligns city and regional climate action with global best practices.

It provides a standardized platform for reporting and tracking progress.

‘Metro-scale Climate Leaders’



220 'Covenant Territorial Coordinators' (CTCs) in EU lead municipal engagement in GCoM



Source: European Commission Joint Research Centre

Metro-scale Climate Leaders Selected



**GCoM USA Regional and
Metro-scale Climate Leaders**



- Technical support
- Knowledge exchange between US regions and other regions
- Promotion of regional case studies through GCoM



*To comply with GCoM
commitment:*

Already completed:

- ✓ GHG Inventory
- ✓ Biz as Usual (BAU) Projections
- ↻ GHG Reduction Targets
- ↻ Emissions Scenarios
- ✓ GRC to inform action development

To be completed by October 2020:

- Climate Risk and Vulnerability Assessment
- Climate Action Plan

Ongoing

- Utilize Common Reporting Framework



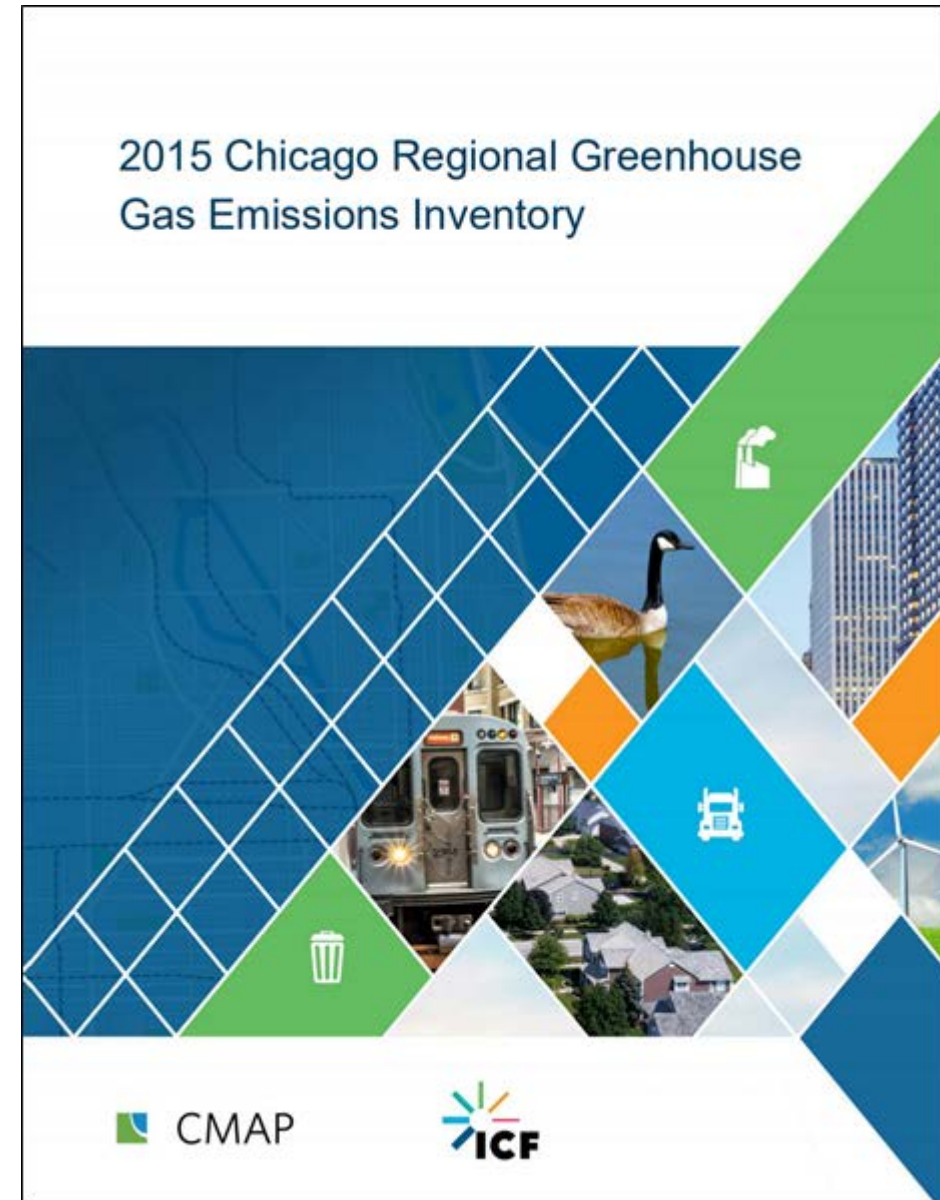
2015 Chicago Region GHG Emissions Inventory

Jared Patton

CMAP

Background

- *New inventory for 2015*
 - *Update 2010 inventory*
 - *Basic projections*
- *Inform ON TO 2050*

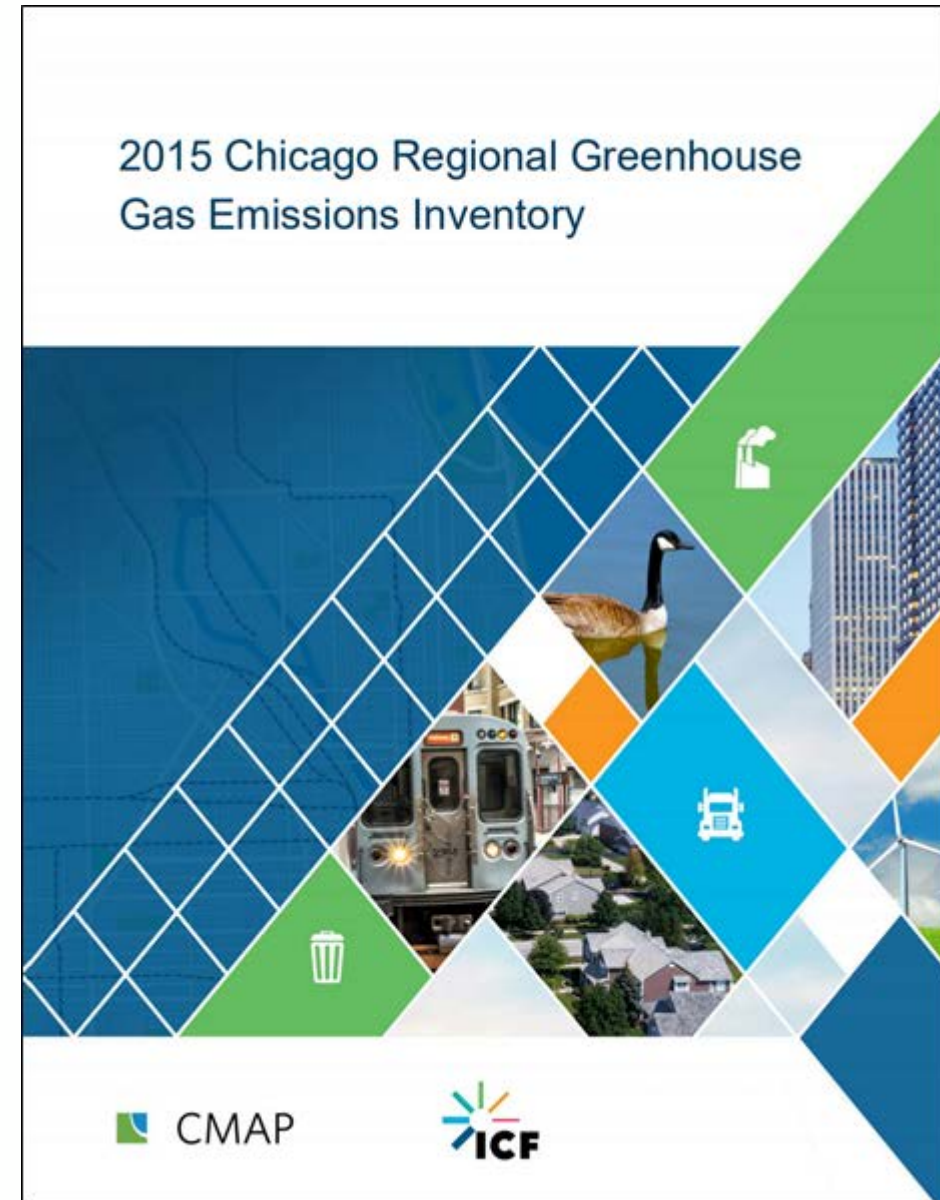


What is not included:

- *Interregional aviation*
- *Land use & agriculture*
- *Embedded emissions*

Additional notes:

*Not a count of actual emissions or
renewable energy capacity*





2015 Regional Emissions by Sector



Stationary Energy



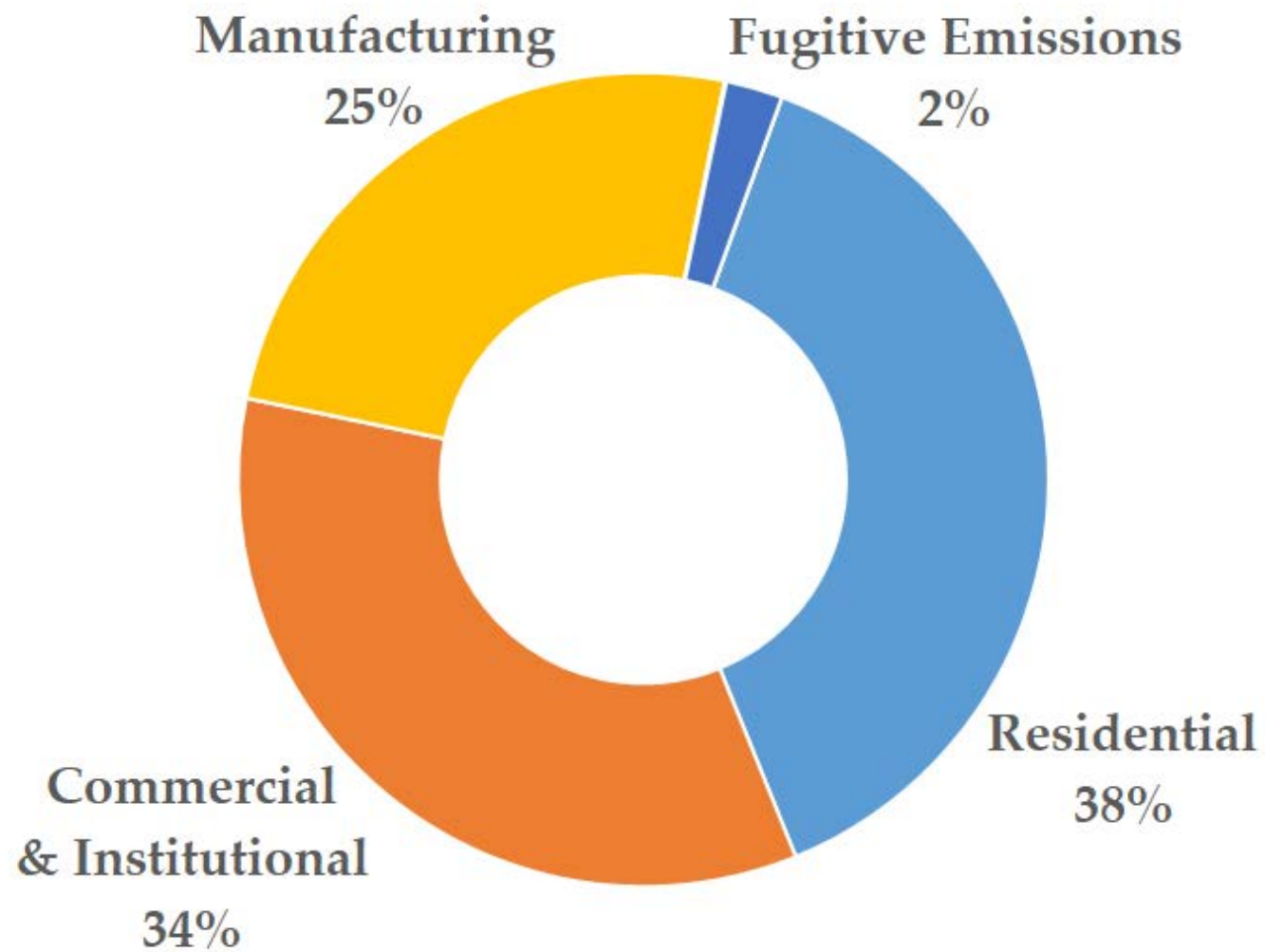
Waste



Transportation

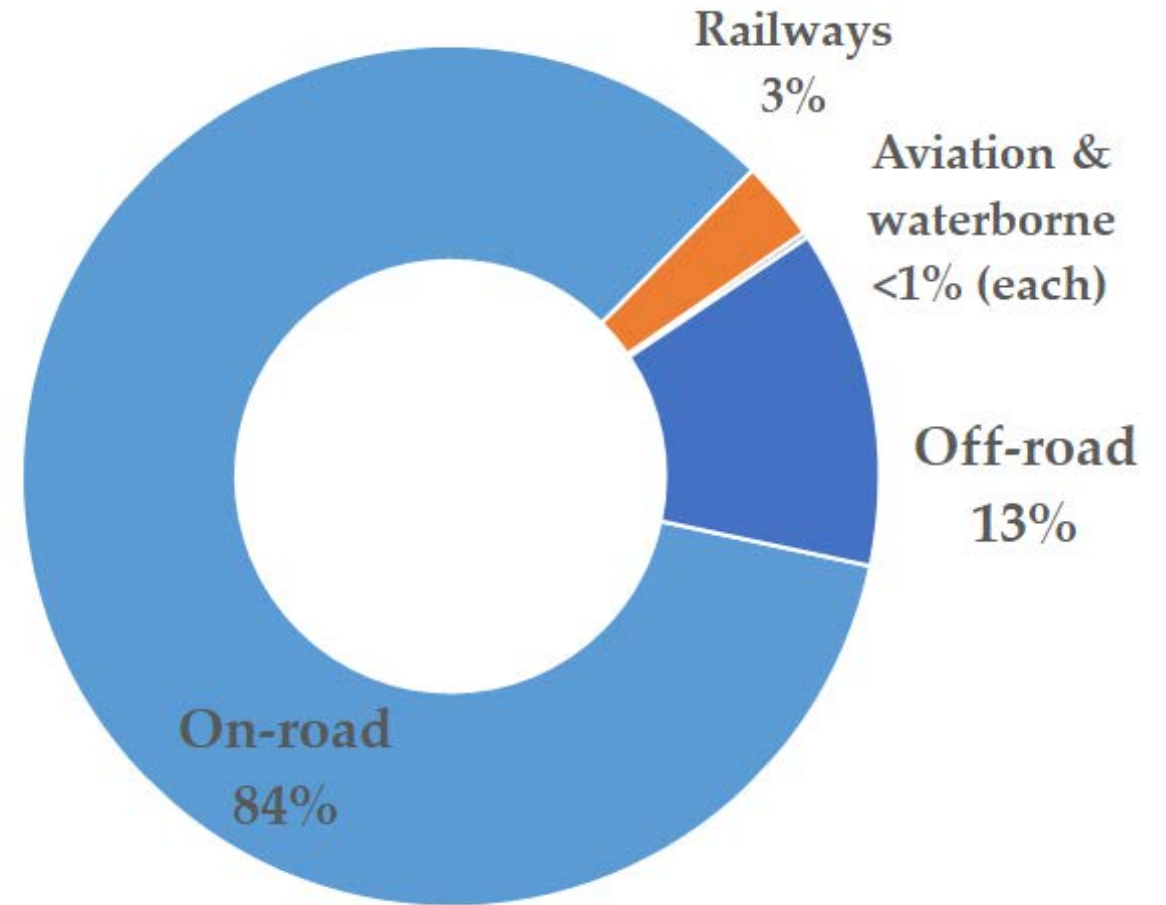


Stationary Energy



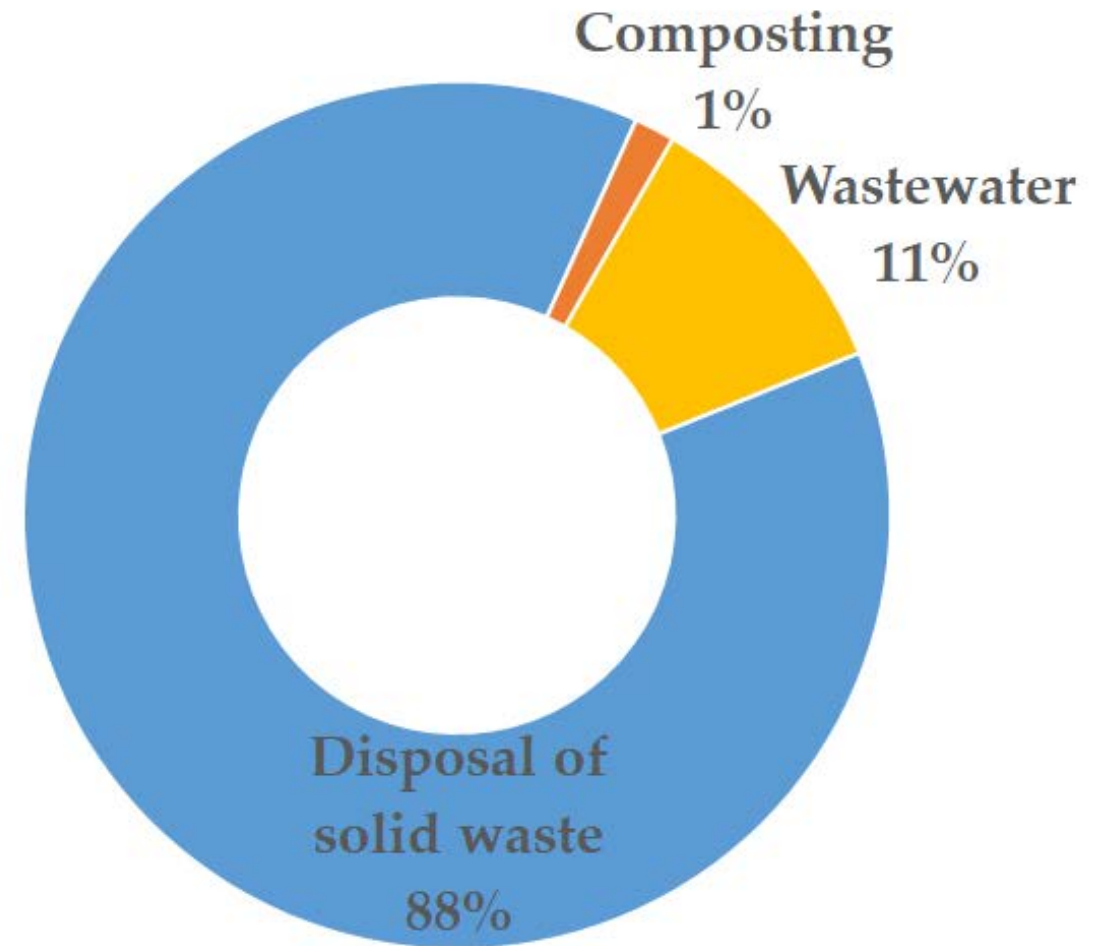


Transportation





Waste





TOTAL EMISSIONS

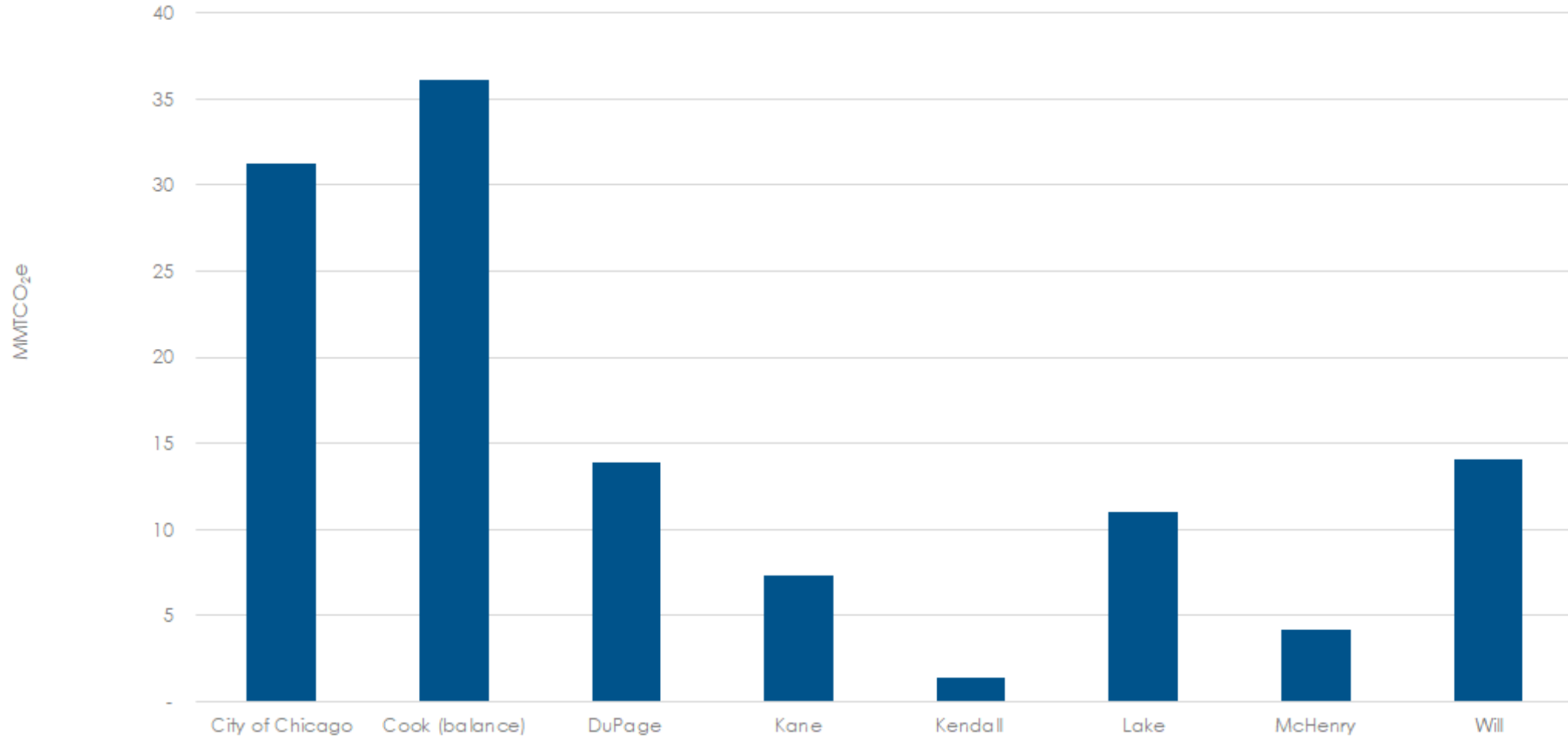
119
MMTCO₂e

PER CAPITA EMISSIONS

13.97
MTCO₂e/PERSON

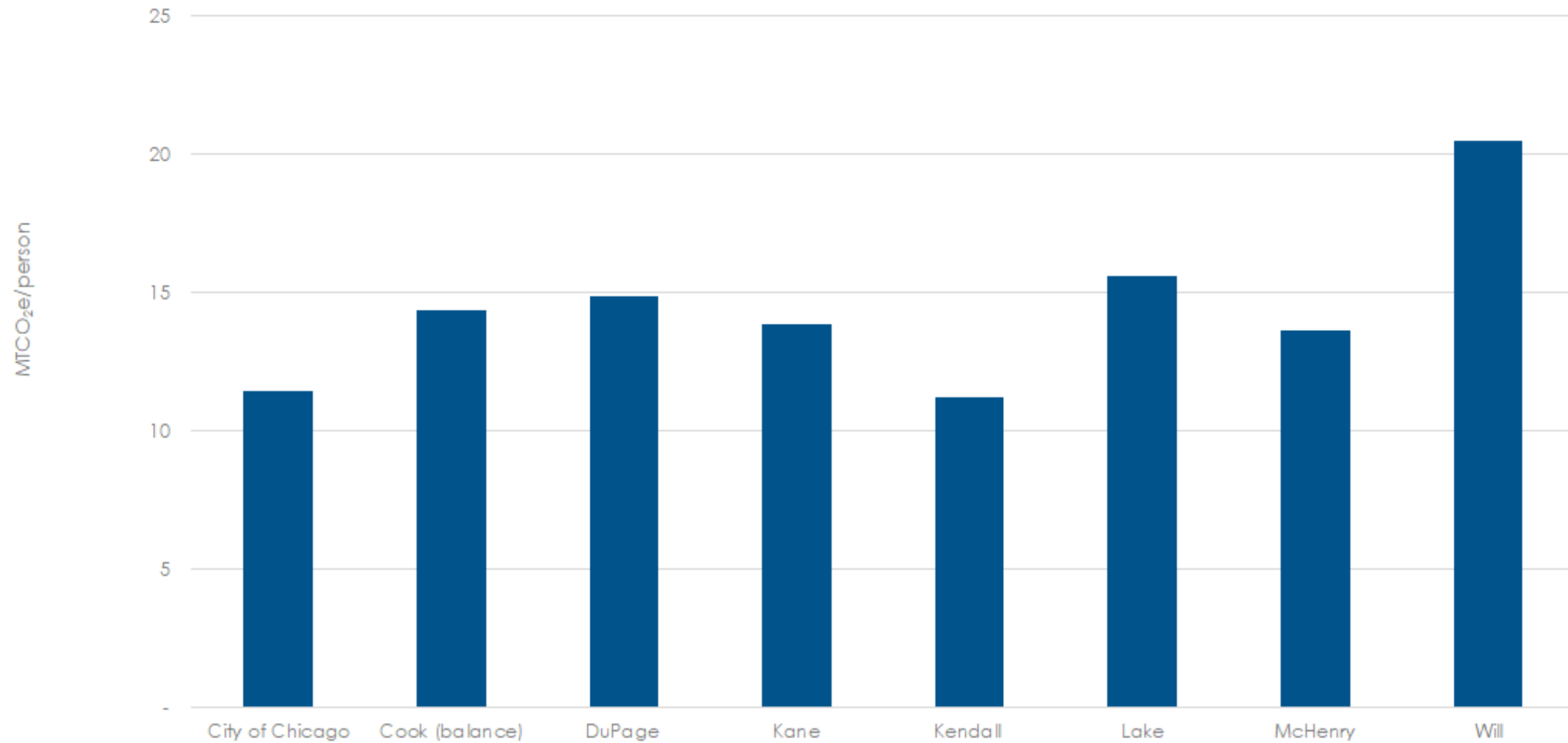


Total emissions (2015)





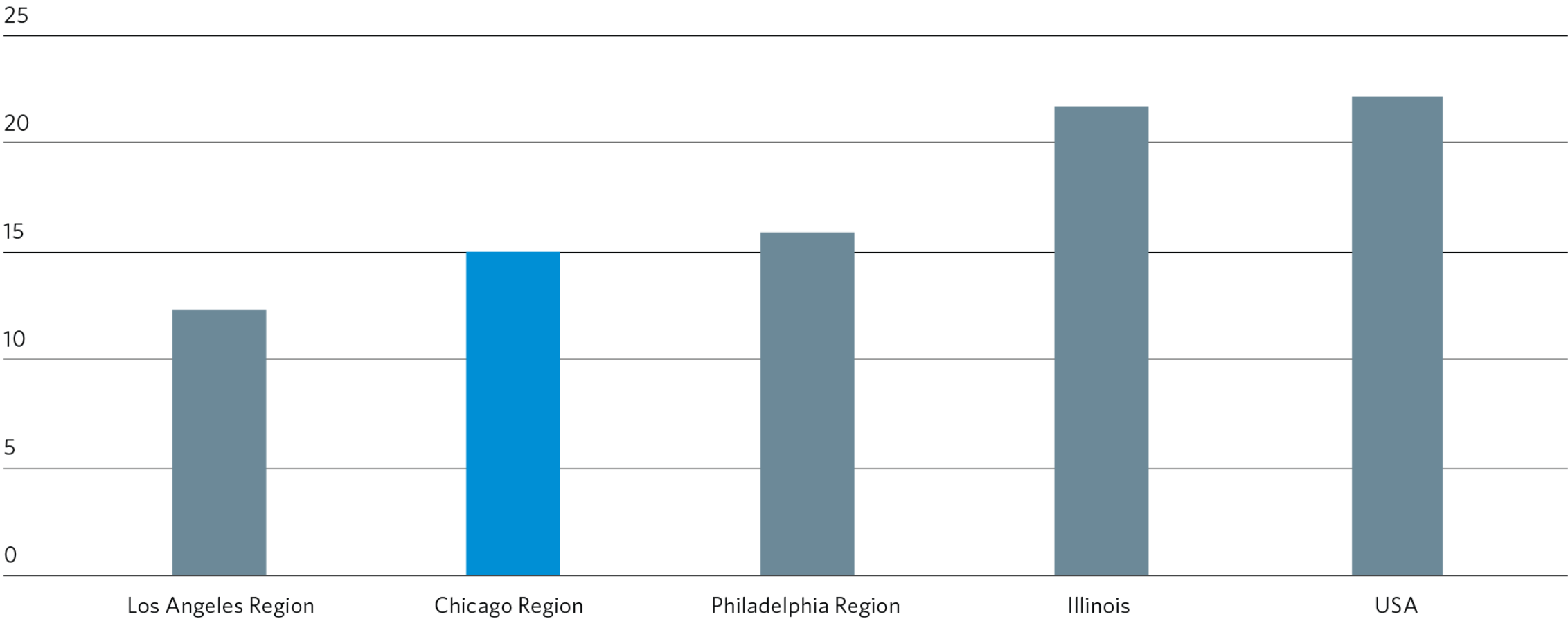
Per capita emissions (2015)





Per capita GHG emissions, CMAP region and select other geographies

Source: Chicago Metropolitan Agency for Planning 2012; Delaware Valley Regional Planning Commission, 2007; Southern California Association of Governments, 2012; World Resources institution, 2007; U.S. Environmental Protection Agency, 2010.

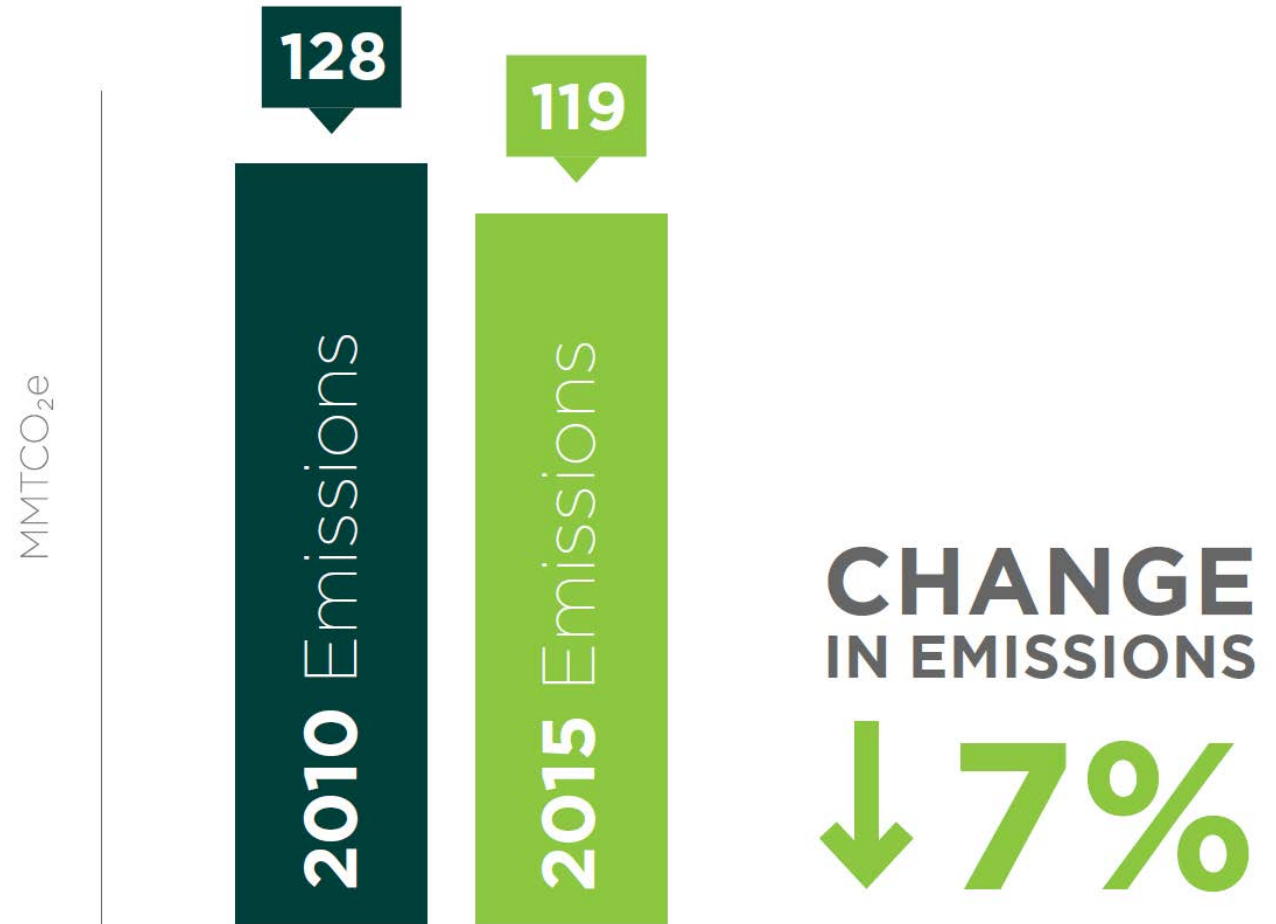


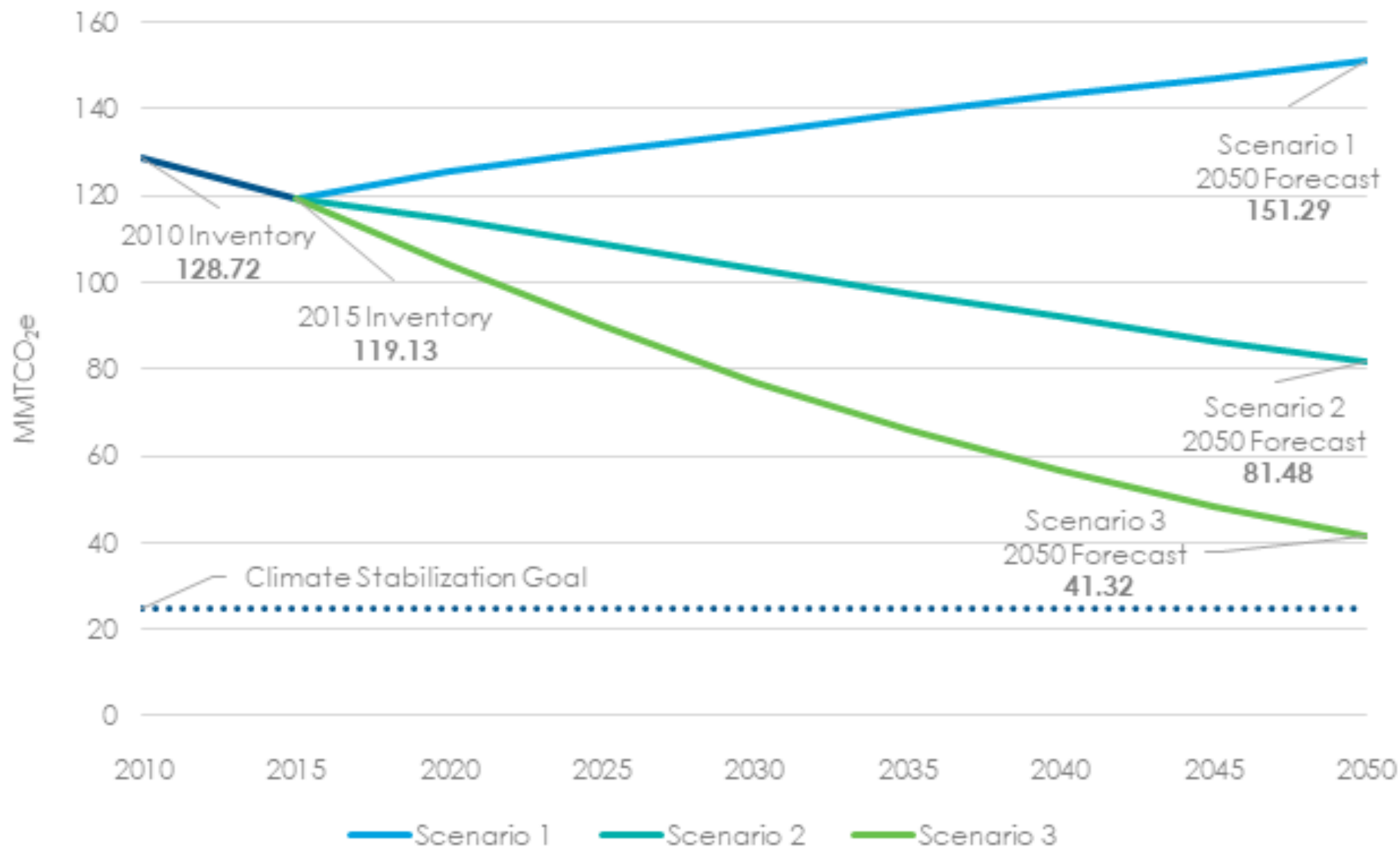
7% reduction 2010-2015
8.5% reduction per capita

Waste: 50% reduction

Buildings: 8% reduction

Transportation: 1% increase







Questions?



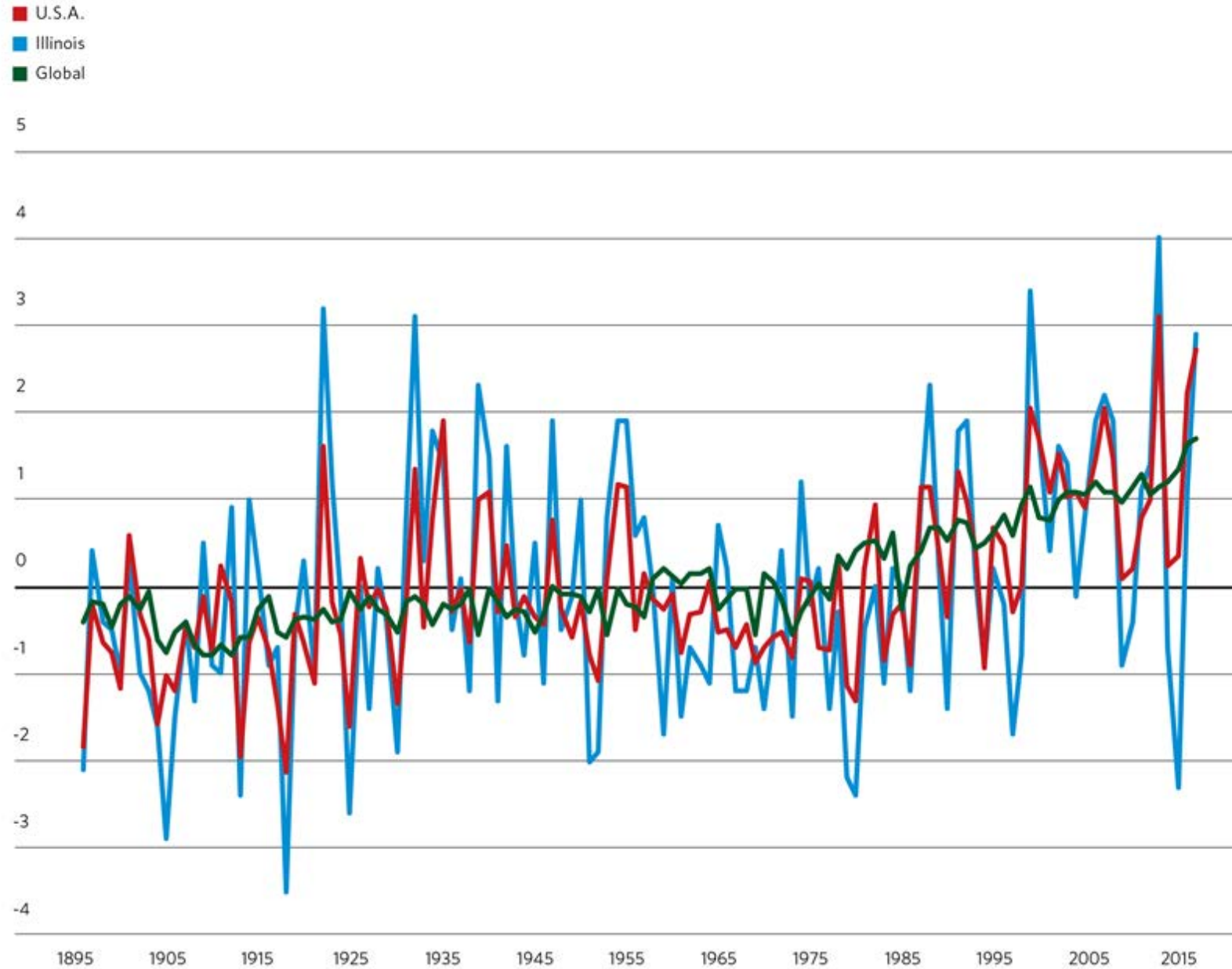
Climate vulnerability in Northeastern Illinois

Jared Patton

CMAP

Average temperature anomalies, in degrees Fahrenheit 1895-2015

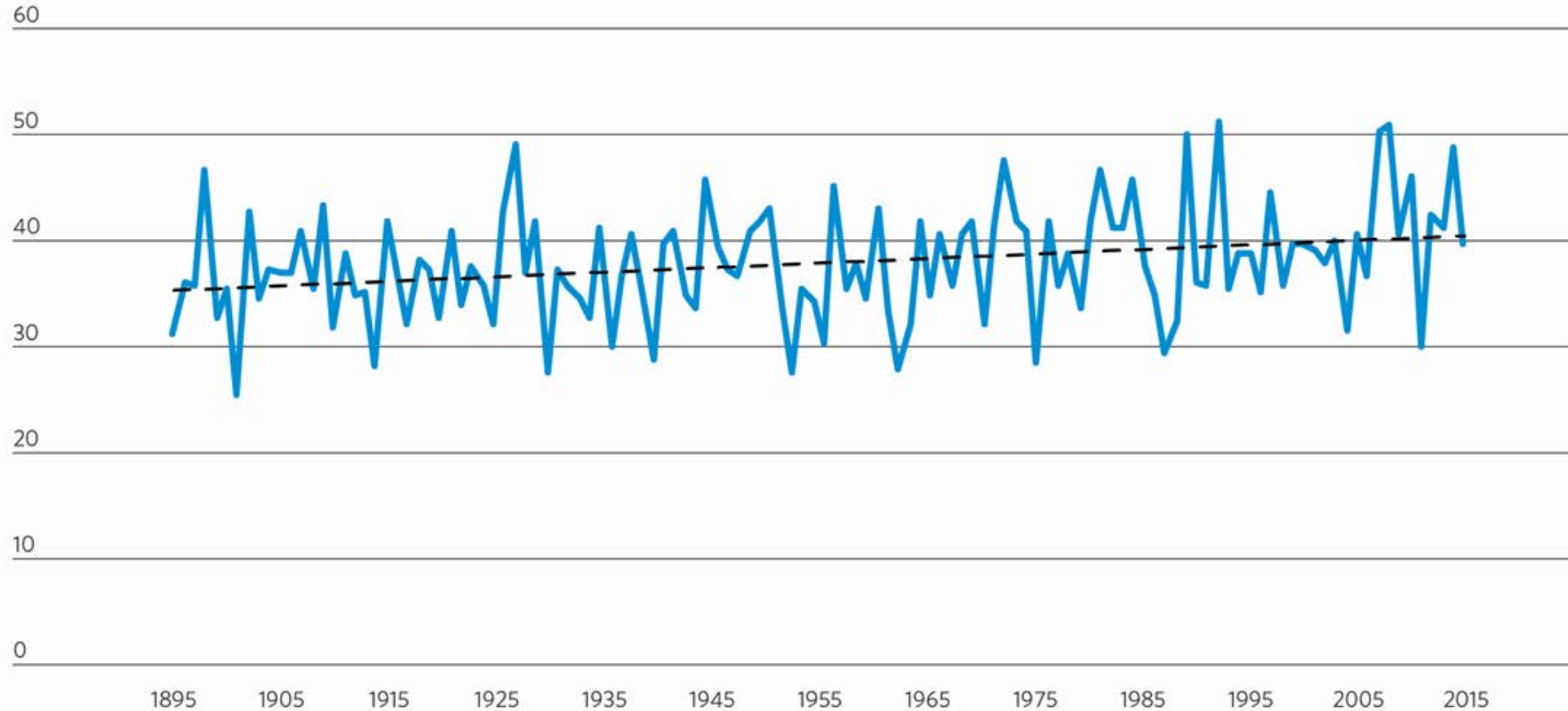
Source: National Centers for Environmental Information, "Climate at a Glance," National Oceanic and Atmospheric Administration, 2017.





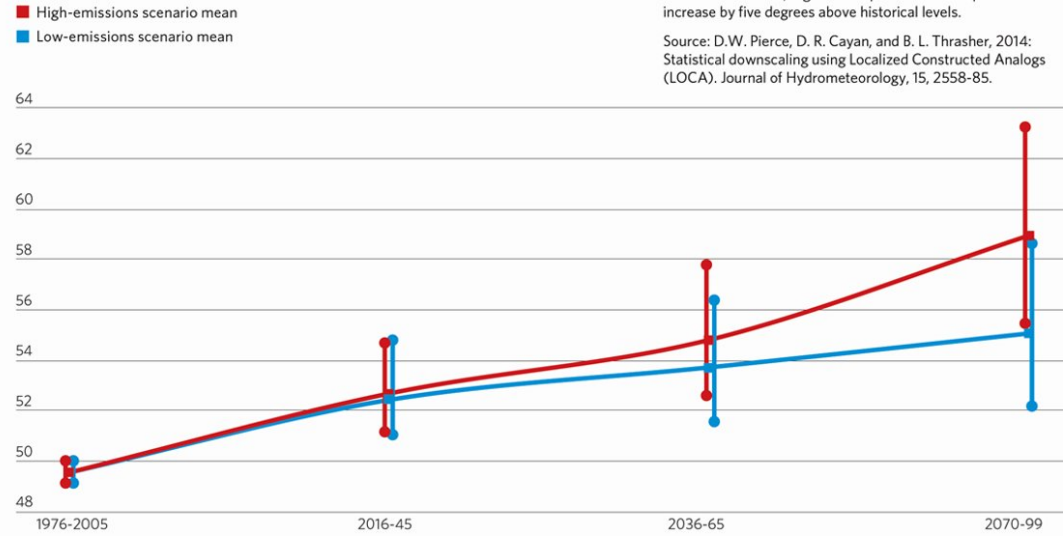
Average annual precipitation, in inches, Illinois, 1895-2015

Source: National Centers for Environmental Information, "Climate at a Glance," National Oceanic and Atmospheric Administration, 2017.





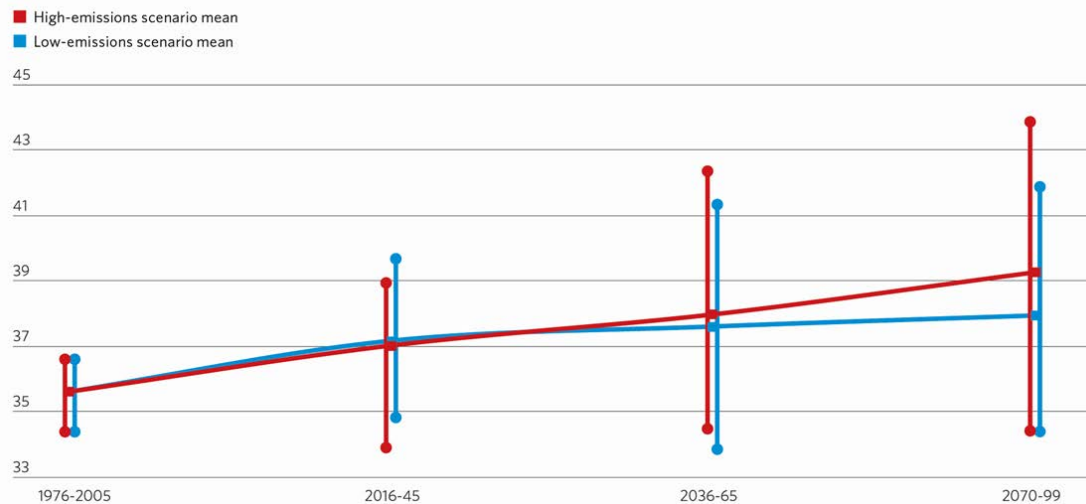
Range of projected daily average temperature, in degrees Fahrenheit, in northeastern Illinois



Temperature

- Warmer average temperatures
 - Precipitation
 - Ecosystem services
- Higher highs and higher lows
- More freeze/thaw events

Range of projected annual total precipitation, in inches, in northeastern Illinois



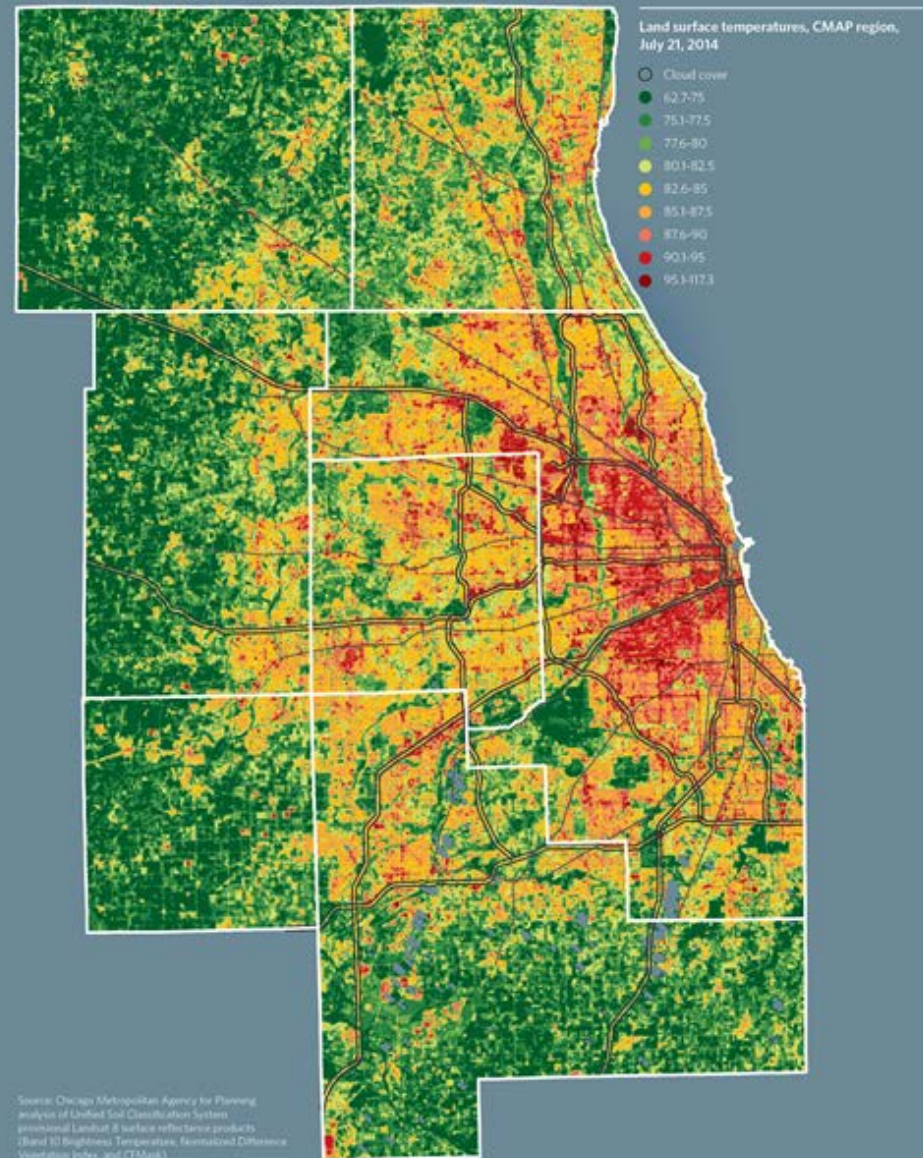
Precipitation

- More heavy rain events
- More periods of drought-like conditions
- Seasonal shifts



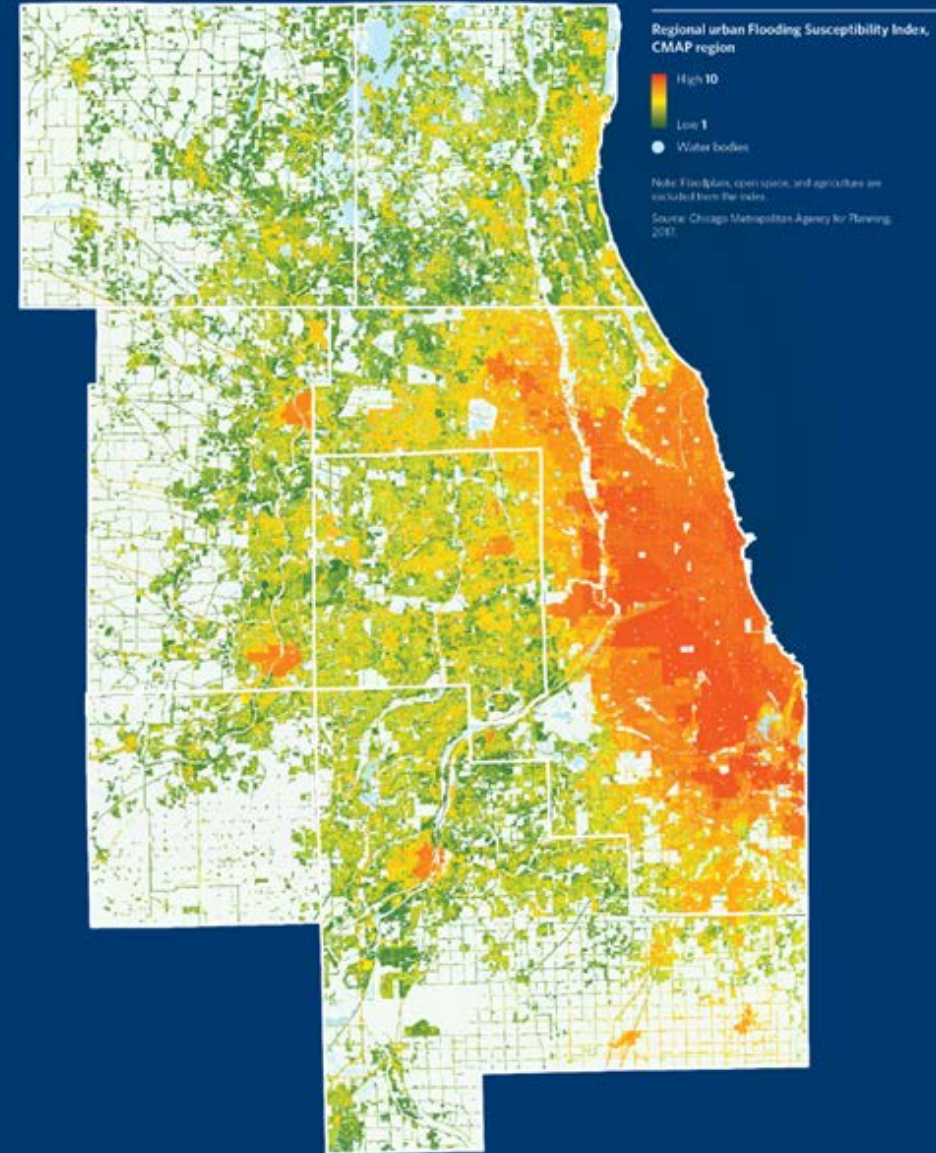
Warming temperatures

- Health impacts
- Infrastructure damage
- Agriculture and tourism
- Air quality
- Quality of life



Increased precipitation

- *Property damage*
- *Travel disruptions*
- *Economic impacts*
- *Quality of life*





External impacts

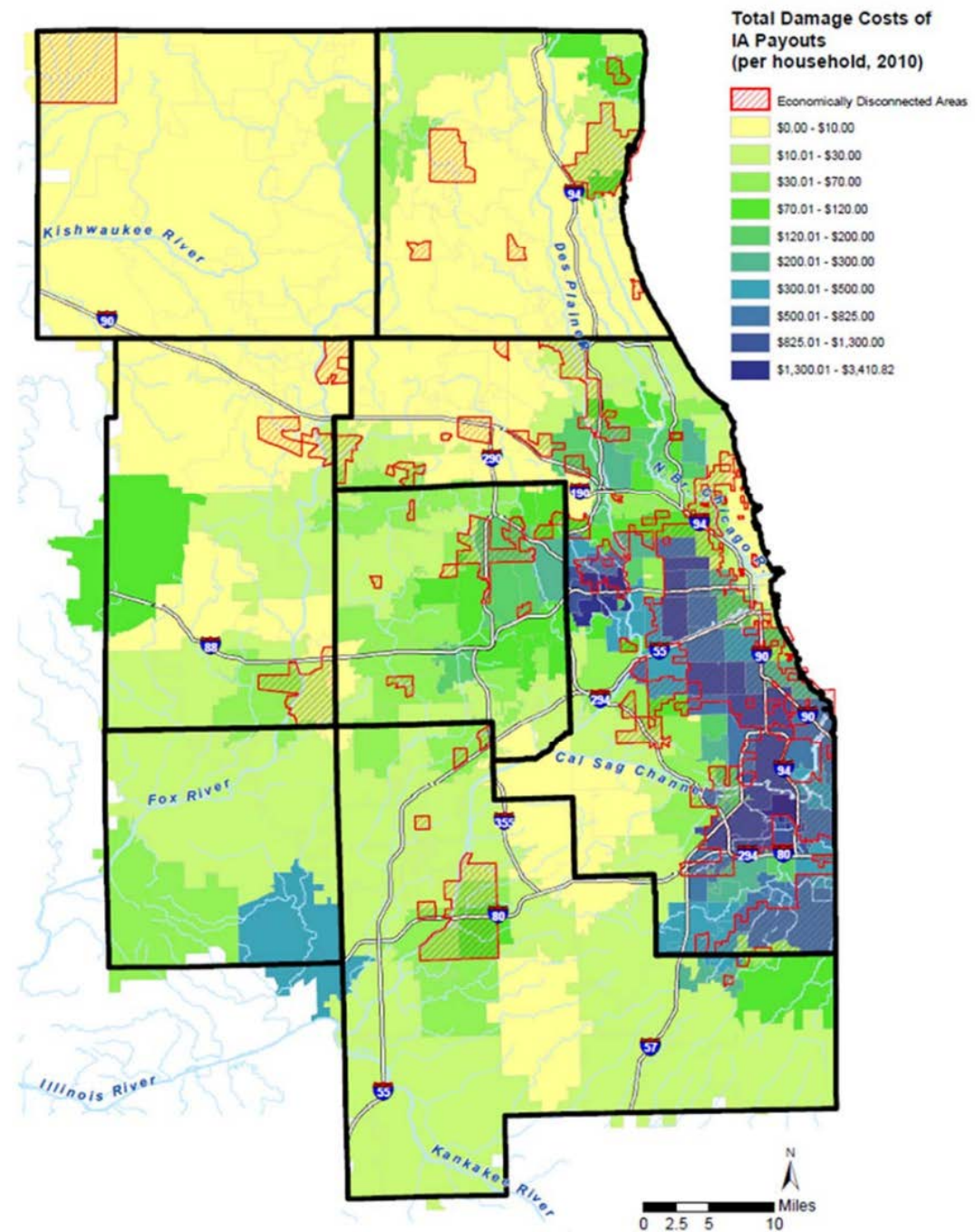
- Sea level rise
- Natural disasters
- Economic disruptions
- Federal funding
- Migration





Uneven impacts

- *Low income and minority communities have the greatest vulnerability*
- *Impacts are not uniform within communities*

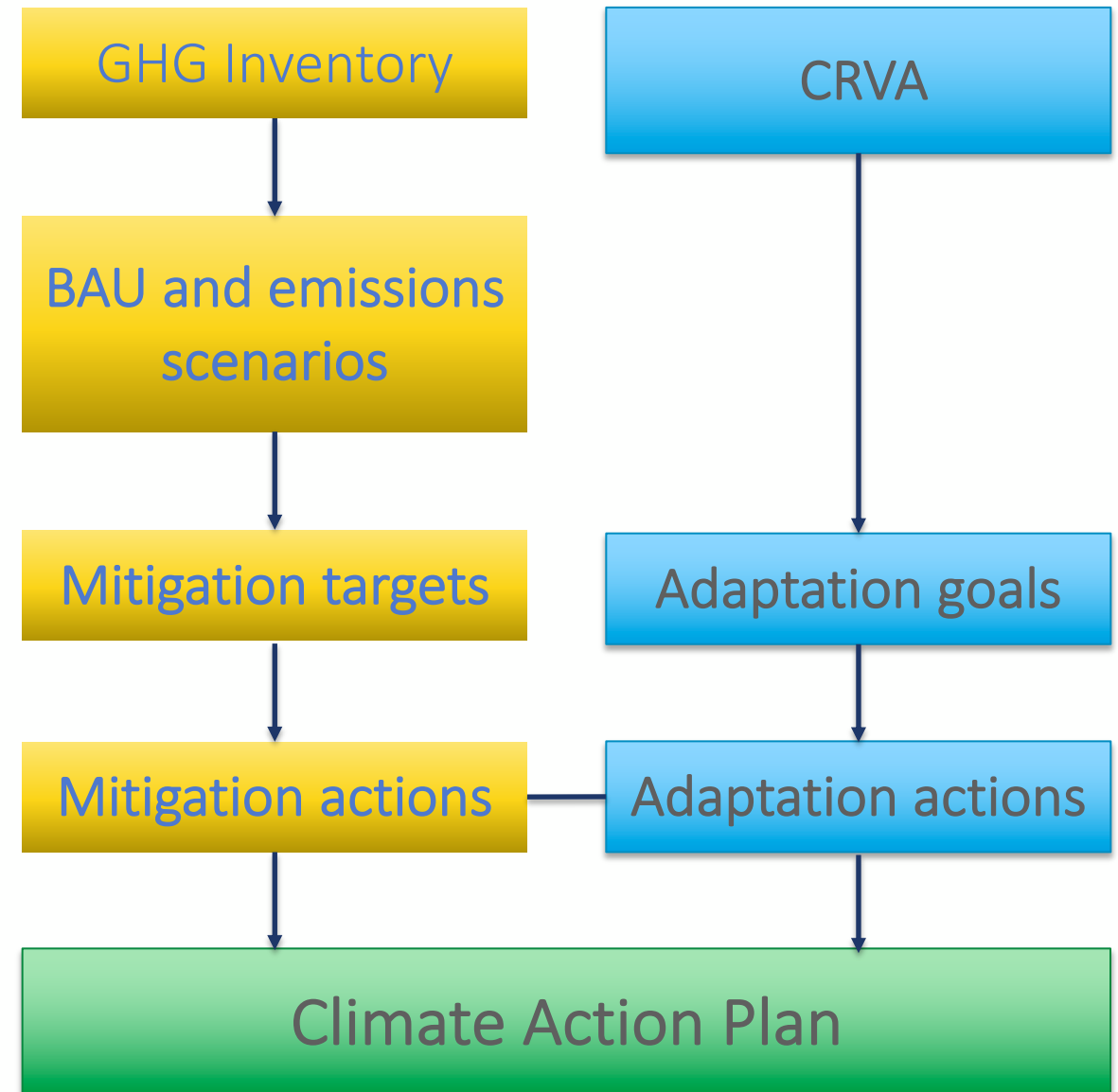


Source: Chicago Metropolitan Agency for Planning, 2017.



Climate Action Plan Model

- Vision statement
- Greenhouse Gas (GHG) Inventory
- Climate Risk and Vulnerability Assessment (CRVA)
- Business as Usual (BAU) and emissions scenarios
- GHG mitigation targets
- Goals and actions
- Action leads, feasibility, cost, and implementation timeline





Greenest Region Compact Framework

Connect Local Strategies and Goals to Regional Climate Targets

Edith Makra

Metropolitan Mayors Caucus



**Greenest
Region
Compact**

COLLABORATING FOR SUSTAINABLE COMMUNITIES

The GRC in 3 Parts



1. Compact
2. Framework
3. Collaboration to address GRC goals



Building the GRC

1. What actions are already underway in the region?

➤ **Inventoried environmental achievements for 290 municipalities**

2. What is already planned?

➤ **Analyzed existing sustainability plans**


- 30 local plans
- 9 regional/national plans
- 1149 specific sustainability goals



The GRC Framework

- Compilation of all Common Objectives, Strategies
 - Aligns with regional, national, global objectives
 - Links to resources & existing programs
- Adaptable Framework
- Use it to create a *community* sustainability plan
- Communities set priorities
- No metrics or reporting



SUSTAINABLE COMMUNITIES	Goal Category	 GOAL	OBJECTIVE				Department	Already achieved	In Progress	Planned-next 6 mos.	Planned-next 12-18 mos.	Interested in pursuing	Not planned	Not relevant
			> STRATEGY											
			+ ADVANCED STRATEGY											
			Schaumburg Initiative(s)											
Arts and Culture	Promote cultural vibrancy in the community	SC1	Preserve and maintain the community's historic assets											
			Purchase and maintenance of the Schweikher House; creation of the Schweikher House Foundation				CDD	X						
			Purchase of the Turret House which is used for Community Services Department.				CSD	X						
			The Olde Schaumburg Centre District protects historical buildings				CDD	X						
		SC2	Integrate historical and cultural assets through community programming											
			Guided tours of the Schweikher house, studio and grounds are offered throughout the year.				CDD	X						
			Oral History Series: Three, 30-minute video programs highlighting the 100+ year history of the area and featuring interviews with long-time residents and local historians 2001/2				CART	X						
		SC3	Formalize support for culture and the arts											
			Creation of the Department of Cultural Services, dedicated to bringing performing arts to the community				CART	X						
			Construction and operation of a performing arts center, the Prairie Center for the Arts				CART	X						
			The village formed the 1% for Art program in 2000.				CART	X						
		SC4	Engage community volunteers through an arts/culture-oriented citizen advisory group.											
			Schaumburg Cultural Commission comprised of staff and community members, to foster and develop arts & culture programming				CART	X						

COMMUNICATION

The City Council has indicated a preference for informing residents and businesses about opportunities to advance sustainability rather than actions. This elevates the act of communication as a strategic plan. Much of the work will be coordinated by departments and committees providing subject

2017 Actions

- The City Manager's Office will continue sustainability information and resource and government agencies are shared.

NATURAL AREAS

Highland Park is known for the proactive stewardship of its natural environment. The City has worked diligently to care for its trees, ravines, and other habitats through code protections and widespread public education efforts. Multiple departments and commissions have a role to play.

2017 Actions

City Manager's Office

- The Natural Resources Commission (education and communication, abatement), fertilizers, pesticide, and fertilizer Manager's Office of it should be undertaken.

Public Works

- The Public Works Department through the Million Poles Highland Park. Public Manager's Office.

2018-19 Actions

City Manager's Office

- Assist Natural Resources Commission reduction effort.
- City Council noted an gardening plots. In 20 new community garden Alliance members to d

- T
- d

ECONOMIC DEVELOPMENT

The City of Highland Park has a robust commercial sector and an active Chamber of Commerce. The Chamber is a member of the Green Alliance however Green Alliance has been limited in recent years. The City Manager's Development Division conducts regular outreach with the City's business and Chamber's important roles in engaging the local business community.

LEADERSHIP

The City has received numerous awards, and accolades for the years, but there are always more to discover. Updating recognitions could better position it for grants. Recognition accomplishments and enhances the City's reputation for leadership.

Highland Park also has a strong history of collaborating with the GIS Consortium or the North Shore. The City's leadership on the election was a great success. New opportunities while also achieving policy objectives.

Recognition efforts will be led by the City Manager's Office.

MOBILITY

Mobility is a broad subject including the City's own vehicle fleet as well as the bike and pedestrian network, alternative fuel vehicles, and mass transit. Highland Park has a very strong Bike/Walk Plan published in 2012, and Public Works is the lead department responsible for implementing its recommendations every year.

It drainage improvements in 2017 for the and signage plan will be completed in 2018.

WATER

Highland Park sits on the shore of Lake Michigan, and has its own water plant; the City understands the value of water. The City's efforts in this short term strategic plan will be to protect its surface and groundwater sources, with both the City Manager's Office and Public Works taking a leadership role.

2017 Actions

City Manager's Office

- The Natural Resources Commission has suggested that the City needs stronger enforcement of its phosphate ban, and to address the use of pesticides and salt, to regulations. The City Manager's Office will engage public leadership. Those departments have of new enforcement efforts on staff workload and

WASTE MANAGEMENT

Waste management can be a vexing subject for municipalities working to advance sustainability. On the one hand, the goals of reducing waste and increasing recycling have been active for decades. On the other hand, the goals have not yet been achieved and, in the case of Highland Park, there is room to expand participation in residential and commercial recycling and composting. The City Manager's office will lead the effort to reduce the City's volume of solid waste and to increase participation in recycling programs and composting.

2017 Actions

- In August, the City Manager's Office will discuss setting new, achievable goals with Lakeshore Recycling Systems (LRS) and the Solid Waste Agency of Lake County (SWALCO) to increase volume (higher percent of total waste is recycled and composted) and to increase participation (higher percent of residential and commercial accounts actively recycling and composting). The goals will address municipal operations, residents and businesses, and consider how to engage commercial units even though recycling is not mandated for these building types.
- The City Manager's Office will collaborate with LRS and SWALCO to increase the effectiveness of recycling at events by enabling composting and engaging volunteer guides and container monitors. The 2017 goal is to feature composting bins during at least one public event.

2018-19 Actions

- Collaborate with LRS and SWALCO to increase the City's recycling and composting rate by volume (% of total waste) and by participation (% of total accounts recycling/composting).

Additional Considerations

Solid Waste and Recycling

There are many gains to be had in reducing the city-wide volume of solid waste and increasing the volume of recycled waste and composted material. The City was an early leader in making curbside composting available to residents, but without a strong promotional campaign, households and businesses have been slow to participate. The City will coordinate with LRS to promote composting through printed recycling bin hangers and flyers distributed with invoices to all LRS customers within the City.



GRC Framework for *Regional* Climate Action Plan

Achievable Community Scale Strategies

GRC Goal – Advance renewable energy

GRC Strategy –

- Streamline solar codes & policies

SolSmart program

Outcome

- 35 SolSmart designees
- 2400% increase in rooftop PV (photovoltaic)
- 9 MW capacity

Not Achievable Strategy –

- Host PV on municipal facilities



GRC Framework for *Regional* Climate Action Plan

Achievable Community Scale Strategies

GRC Goal – Reduce Greenhouse Gas Emissions

GRC Strategy –

Reduce emissions from municipal operations

Asphalt

- Warm-mix asphalt vs hot-mix asphalt
- 30-40% less CO₂
- 60-70% less NO_x

Not Achievable Strategy –

- Electrify bus fleet

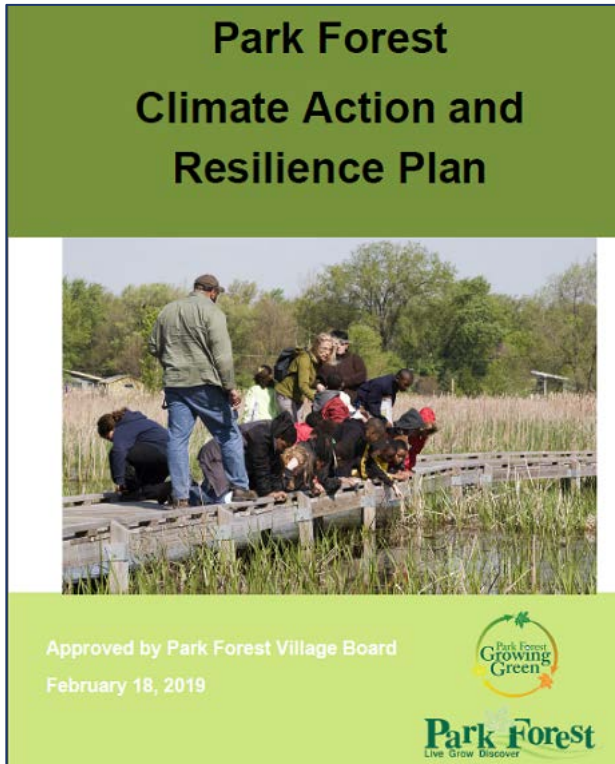


General Emissions Reduction Target:



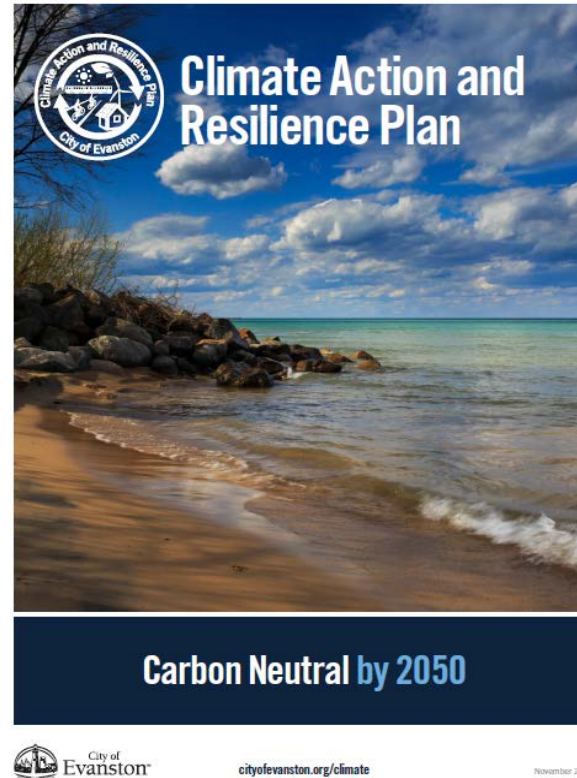
Uphold commitment to the Paris Agreement -

- 26 - 28% relative to 2005 levels by 2025
- and 80% by 2050



Park Forest

Reduce GHG 26% below 2010 levels by 2025



Evanston

Carbon neutrality by 2050



Chicago

Reduce GHG 80% below 1990 levels by 2050

Group Exercise

Choose GRC Goals of interest

For each goal:

1. Rank strategies for degree of difficulty for a municipality to address

1 easiest – 5 most difficult

Objective: Identify top 1 or 2 strategies that municipalities can do now

2. For those strategies that are difficult at the municipal scale:

- a. What are the barriers?
- b. Which strategies should be addressed at a regional scale?

Objective: Identify 1-2 strategies that need regional collaboration to work

3. Report Out

Choose a GRC Goal Category



1 All Energy Goals



2 Land use policies/ Natural Resource Stewardship/
Urban Forestry



3 All Mobility Goals



4 All Waste & Recycling goals



5 Stormwater Management and Green Infrastructure/
Water Policy



Moving Forward - Collaboratively

Kevin Burns, Mayor, City of Geneva

Chairman, Metropolitan Mayors Caucus Environment
Committee and Energy Sub Committee



2019

2020

2021

2022

2023



GRC

Workshops

Socialize This Work

GHG

Climate Risk &
Vulnerability
Assessment

Additional Funding

ON TO 2050

Reporting & Tracking Framework

Regional Climate
Action Plan

Regional Follow-up Projects



Chicago Metropolitan Regional Climate Action



Edith Makra emakra@mayorscaucus.org

Jared Patton jpatton@cmmap.illinois.gov

@MayorsCaucus

@IUC_NA

@ONTO2050

@ClimateOfficers

@ISSP_Org