Chicago Metropolitan Regional Climate Action

MMC Environment Committee
Village of Montgomery
January 21, 2020

@MayorsCaucus  @IUC_NA  @ONTO2050
Welcome

Matt Brolley,
Mayor, Village of Montgomery

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
Outline

Municipal Sustainability & the Greenest Region Compact (GRC)

Global Covenant of Mayors for Climate & Energy
  Regional & Metro Scale Climate Leaders Project

Climate Action Plan Development
  – Regional Greenhouse Gas Inventory
  – Climate Risks & Vulnerability

Local to Regional
  GRC Framework

Small Group Exercise
Reconvene & Close
Regional Municipal Sustainability

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

126 municipalities
3 counties
10 COGS (council of govm’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

#1

653% growth in Montgomery

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[Image of a group of people holding signs with SolSmart logos, and a group holding a banner for GRCorps Greenest Region Corps.]
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**

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<tbody>
<tr>
<td>1</td>
<td>Access to Parks/Open Space</td>
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<td>2</td>
<td>Solid Waste Agency membership/Curbside Recycling</td>
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<td>3</td>
<td>Energy Efficiency retrofits public bldgs</td>
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<td>4</td>
<td>Urban Forest stewardship</td>
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<td>5</td>
<td>Water Metering</td>
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- **Already Planned**

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<td>1</td>
<td>Land Preservation</td>
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<td>2</td>
<td>Building Retrofits</td>
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<td>3</td>
<td>Stormwater Management &amp; Green Infrastructure</td>
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<td>4</td>
<td>Sust Com Outreach &amp; Engagement</td>
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<td>5</td>
<td>Smart Growth &amp; TOD</td>
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69% 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

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

Wherever 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 / avoid 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 commitment, we pledge to develop, adopt, 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 ambition and just goal to improve access to secure, sustainable and affordable energy;
- 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 unconditional commitments defined through the UNFCCC’s (intended) Nationally Determined Contributions (NDCs). The target 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'
Engagement of US Local Government in Climate Change Initiatives

Number of participating municipalities compared to total number of municipalities:
- Not engaged: 97%
- Engaged: 3%

Population of participating municipalities compared to total population of municipalities:
- Not engaged: 62%
- Engaged: 38%
Climate action happens better with regional collaboration

Source: European Commission Joint Research Centre
Metro-scale Climate Leaders Selected

- Denver/Boulder Region
  48 municipalities (TBC)
  (4 GCoM members)

- Metropolitan Kansas City
  119 municipalities

- Chicago Metropolitan Region
  275 municipalities
  (5 GCoM members)

- Metro Washington DC
  24 municipalities
  (5 GCoM members)

- 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
Greenhouse gas emissions by subsector for Chicago region, 2015

- Residential buildings, 26%
- Commercial and institutional buildings, 24%
- Manufacturing industries, 17%
- Fugitive emissions, 2%
- On-road, 24%
- Railways, 1%
- Off-road, 4%
- Disposal of solid waste, 2%
- Other, 0.43%*
TOTAL EMISSIONS

119

MMTCO$_2$e

PER CAPITA EMISSIONS

13.97

MTCO$_2$e/PERSON
Total emissions (2015)
Per capita emissions (2015)
Per capita GHG emissions, CMAP region and select other geographies

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

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

Temperature

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

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

- Greenhouse Gas Inventory
- Biz as Usual and emissions scenarios
- Mitigation targets
- Mitigation actions

Climate Risk & Vulnerability Assessment

- Adaptation goals
- Adaptation actions

Climate Action Plan
Greenest Region Compact Framework

Connect Local Strategies and Goals to Regional Climate Targets

Edith Makra
Metropolitan Mayors Caucus
The GRC in 3 Parts

1. Compact
2. Framework
3. Collaboration to address GRC 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
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<thead>
<tr>
<th>Energy</th>
<th>Policy</th>
<th>Goal</th>
<th>Objective</th>
<th>Strategy</th>
<th>Advanced Strategy</th>
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<tbody>
<tr>
<td>Renewable</td>
<td>Support the adoption of renewable energy technologies in the community</td>
<td>&gt; Adopt codes and permitting practices that support renewable energy systems in the community</td>
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<td>Technology</td>
<td>E13a</td>
<td>&gt; Develop renewable energy capacity targeting underutilized public properties (i.e. brownfields)</td>
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<td></td>
<td>E16</td>
<td>+ Collaborate to provide access to community solar</td>
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<td>E+17</td>
<td>Facilitate the adoption of renewable energy technologies (i.e. solar, geothermal) by adapting building and zoning codes</td>
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<td>E+29</td>
<td>+ Negotiate franchise agreement with utilities to exercise lump sum payment option to finance clean energy</td>
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**Notes:**
- Sol Smart – MMC Cohort

**Contact Initials:**
- Sol Smart – MMC
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 CO$_2$
- 60-70% less NO$_x$

**Not Achievable Strategy** –
- Electrify bus fleet
GHG Emissions Reduction Target
General Emissions Reduction Target:

Uphold commitment to the Paris Agreement -

• 26 - 28% relative to 2005 levels by 2025
• and 80% by 2050
Park Forest
Climate Action and Resilience Plan
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 a GRC Goal Category

1. Energy
2. Land use policies
3. Land Stewardship/ Urban Forestry
4. Mobility
5. Mobility/ Clean Fleets
6. Waste & Recycling
7. Stormwater Management/ Green Infrastructure
8. Water Distribution
Group Exercise

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 mitigation 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 mitigation strategies that need regional collaboration to work

3. Report Out
2019
GRC
Mitigation Workshops
GHG
Climate Risk & Vulnerability Workshops
ON TO 2050
Regional Climate Action Plan

2020

2021
Socialize This Work
Additional Funding
Reporting & Tracking Framework

2022

2023
Regional Follow-up Projects
Chicago Metropolitan Regional Climate Action

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