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
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

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
  2. Solid Waste Agency membership/Curbside Recycling
  3. Energy Efficiency retrofits public bldgs
  4. Urban Forest stewardship
  5. Water Metering

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

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
• 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

“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”
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]

GCoM is one of the world’s largest-city-based climate actions. It commits mayors to work together to deliver on the climate action goals of the Paris Agreement.

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 guidelines;
- 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 our stated, medium-term, national and/or sub-national climate action plans. 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’
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%
220 ‘Covenant Territorial Coordinators’ (CTCs) in EU lead municipal engagement in GCoM

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

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

**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)
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: 69%
- Waste: 3%
- Transportation: 29%
69% Stationary Energy

- Manufacturing 25%
- Fugitive Emissions 2%
- Residential 38%
- Commercial & Institutional 34%
29% Transportation

- On-road: 84%
- Off-road: 13%
- Aviation & waterborne: <1% (each)
- Railways: 3%
3% Waste

- Composting: 1%
- Wastewater: 11%
- Disposal of solid waste: 88%
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

- 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

GHG Inventory → CRVA

BAU and emissions scenarios → Mitigation targets

Mitigation targets → Mitigation actions

Mitigation actions → Adaptation goals

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
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
<table>
<thead>
<tr>
<th>Category</th>
<th>Goal</th>
<th>Subgoals</th>
<th>Progress</th>
<th>Notes</th>
<th>Link to Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lead by demonstrating sustainable values and practices</td>
<td>MO1</td>
<td>Support or create an interdisciplinary team to coordinate internal sustainability efforts</td>
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<td></td>
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<td>MO2</td>
<td>Dedicate staff to direct sustainability initiatives</td>
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<td></td>
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<td>MO4</td>
<td>Educate and train staff on sustainability practices</td>
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<td></td>
<td></td>
<td>MO6</td>
<td>Formalize sustainability goals and plans</td>
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<td></td>
<td></td>
<td>MO6a</td>
<td>&gt;Adopt the Greenest Region Compact 2</td>
<td>Y</td>
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<td></td>
<td></td>
<td>MO6b</td>
<td>&gt;Use the GRC2 Framework to create a sustainability plan and formally adopt it</td>
<td>Y</td>
<td></td>
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<tr>
<td>Goal Category</td>
<td>Goal</td>
<td>GRC Framework for Schaumburg Initiative(s)</td>
<td>Department</td>
<td>Already achieved</td>
<td>In Progress</td>
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<tr>
<td>SUSTAINABLE COMMUNITIES</td>
<td>Arts and Culture</td>
<td>Promote cultural vibrancy in the community</td>
<td>SC1</td>
<td>Preserve and maintain the community’s historic assets</td>
<td>CDD</td>
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<td></td>
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<td>Purchase and maintenance of the Schweikher House</td>
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<td>Foundation</td>
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<td></td>
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<td>Purchase of the Turret House which is used for Community Services Department.</td>
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<td>The Olde Schaumburg Centre District protects historical buildings</td>
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<td></td>
<td></td>
<td>SC2</td>
<td>Integrate historical and cultural assets through community programming</td>
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<td>Guided tours of the Schweikher house, studio and grounds are offered throughout the year.</td>
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<td>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</td>
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<td>SC3</td>
<td>Formalize support for culture and the arts</td>
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<td>Creation of the Department of Cultural Services, dedicated to bringing performing arts to the community</td>
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<td>Construction and operation of a performing arts center, the Prairie Center for the Arts</td>
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<td>The village formed the 1% for Arts program in 2000.</td>
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<td>SC4</td>
<td>Engage community volunteers through an arts/culture-oriented citizen advisory group.</td>
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<td></td>
<td>Schaumburg Cultural Commission comprised of staff and community members, to foster and develop arts &amp; culture programming</td>
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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
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 NOₓ

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
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
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
GRC

GHG

ON TO 2050

Workshops
Climate Risk & Vulnerability Assessment
Regional Climate Action Plan

Socialize This Work
Additional Funding
Reporting & Tracking Framework
Regional Follow-up Projects
Chicago Metropolitan Regional Climate Action

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