

CHICAGO BUILDING ENERGY USE BENCHMARKING & TRANSPARENCY

**Illinois Energy Efficiency Stakeholder Advisory Group Update
January 25, 2015**



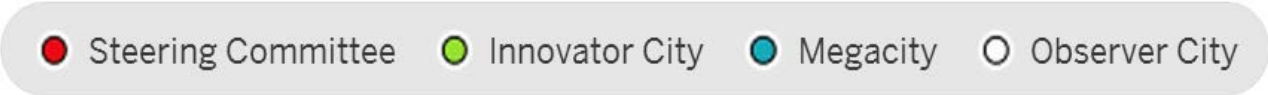
Jamie Ponce
Chicago Director of Energy & Climate Innovation
C40 Cities Climate Leadership Group



The C40 Cities Climate Leadership Group is a global network of cities working together to reduce GHG emissions and climate risk

C40 Cities Climate Leadership Group: Global Reach, Global Action

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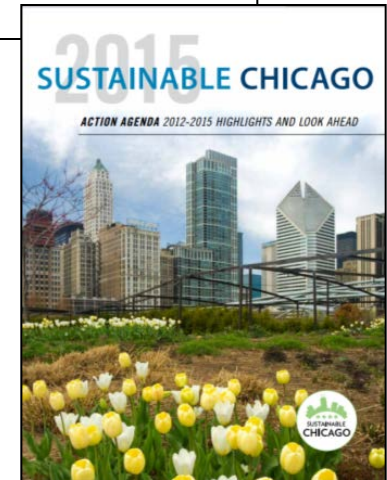
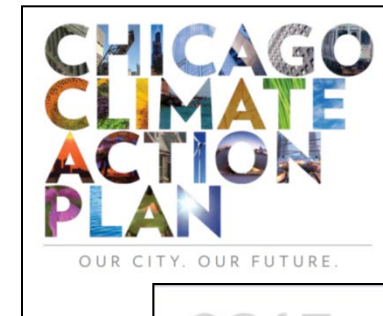


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Venice
Warsaw
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Yokohama

Chicago is delivering on ambitious goals to make our city more competitive, livable, & sustainable

City of Chicago Sustainability Strategy

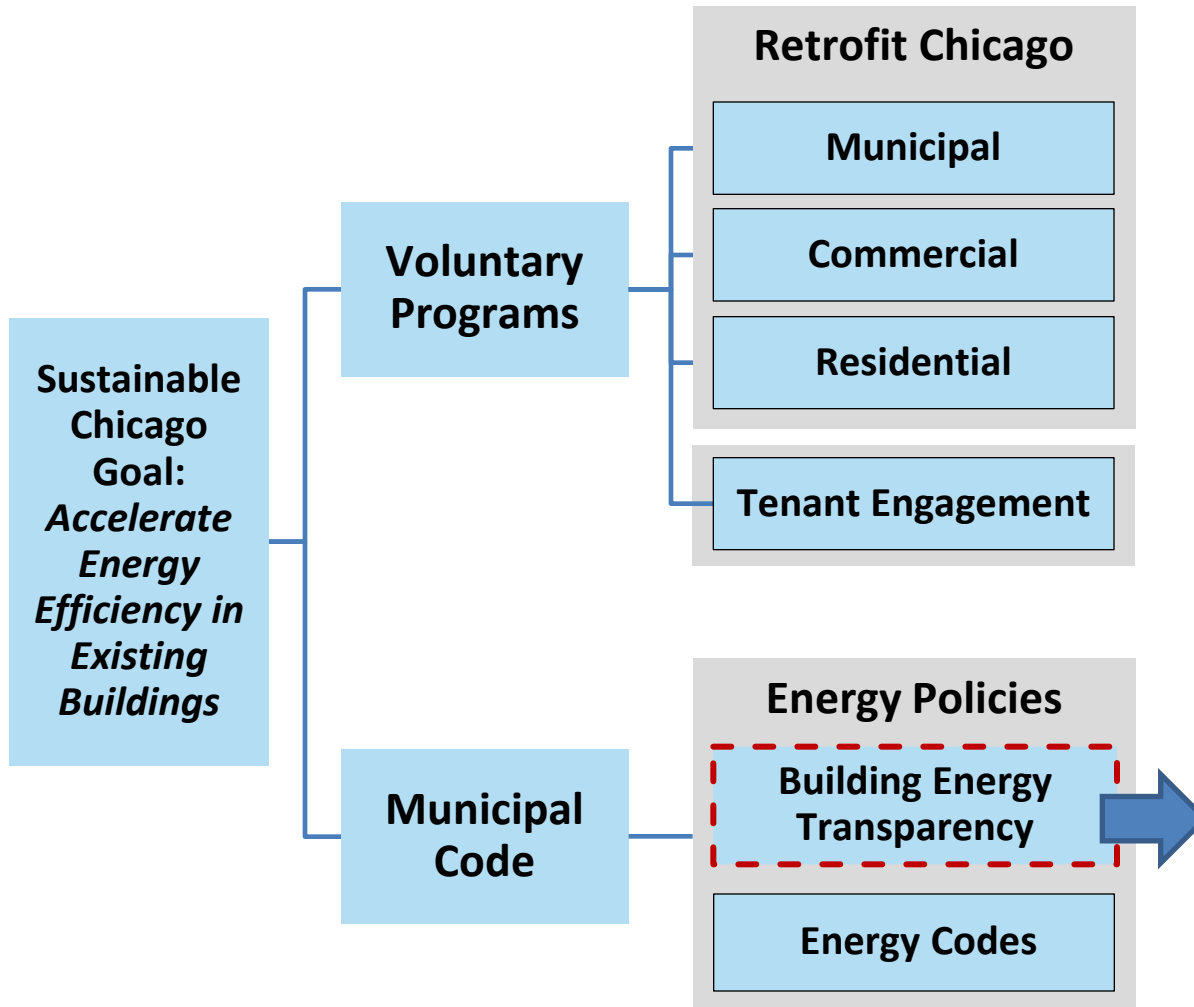
- The **Chicago Climate Action Plan** established a citywide vision for reducing emissions & climate risk:
 - 25% GHG reduction by 2020, 80% by 2050 (below 1990)
 - Strategic focus on energy, transportation, waste, & adaptation
- The **Sustainable Chicago Action Agenda** prioritized specific activities to strengthen our city:
 - 7 themes, 24 goals, and 100 actions
 - Coordinated, multi-sector efforts to address urgent needs & long-term opportunities



“Sustainable Chicago is anchored in Chicago’s rich history and 21st century aspirations. It is built on seven central strategies of a vibrant, prosperous, and inclusive city...that will continue to strengthen our city both today and well into the future .” – Mayor Emanuel

Building energy efficiency is critical to a sustainable Chicago; voluntary and policy efforts are needed to achieve our goals

Sample Paths to Building Energy Efficiency



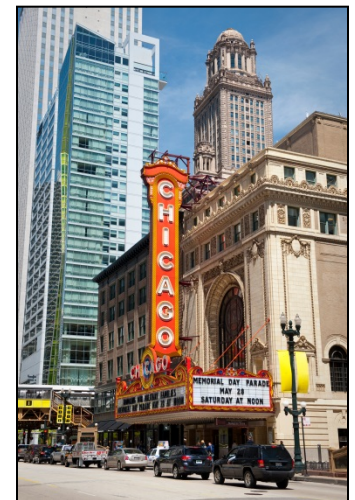
Chicago Energy Benchmarking:

Raising awareness of energy performance through information and transparency, with the goal of unlocking energy and cost savings opportunities for businesses and residents

Chicago's building energy benchmarking ordinance calls on the city's largest buildings to track, verify, and report energy use

Chicago Energy Benchmarking Essentials

- **Building energy efficiency represents huge economic and environmental opportunity:**
 - Chicago spends ~\$3 billion/year on building energy
 - Building energy use represents ~71% of Chicago's total GHG emissions
- **The ordinance drives building energy use awareness and transparency for commercial, institutional, and residential buildings >50,000 ft²:**
 - <1% of buildings, ~20% of all building energy use
- **The ordinance focuses on data accuracy & transparency:**
 - Buildings larger than 50,000ft² are required to:
 1. Track whole-building energy use (annually)
 2. Verify data accuracy (every three years)
 3. Report to the City (annually)
 - The City is authorized to make building-level energy performance data available to the public



2015 marked the second year of phased policy implementation that is enabling widespread building engagement and support

3-Year Policy Phase-In Timeline:

★ = Required data verification (every 3 years, ongoing)

□ = Required benchmarking and reporting (annual, ongoing)

Building Type	Building Size	Implementation Timeline			
		2014	2015	2016	2017
Commercial & Institutional	≥ 250,000 ft ²	★			★
	≥ 50,000ft ²		★		
Residential	≥ 250,000 ft ²		★		
	≥ 50,000 ft ²			★	

Milestones To-Date:



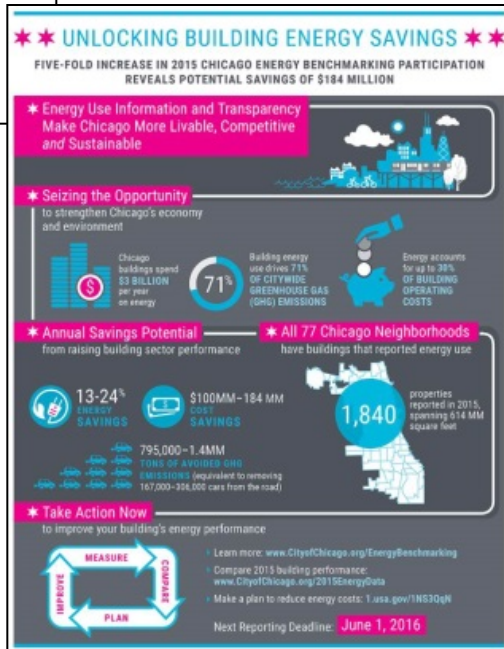
2015 reporting and analysis generated new insight into building energy use, creating a platform for partnership and action



2015 Highlights & Findings

- 1 Reach
- 2 Performance
- 3 Opportunity
- 4 Support
- 5 Engagement & Action

2015 Chicago Energy Benchmarking Report & Infographic



(Design by SocialRaise)

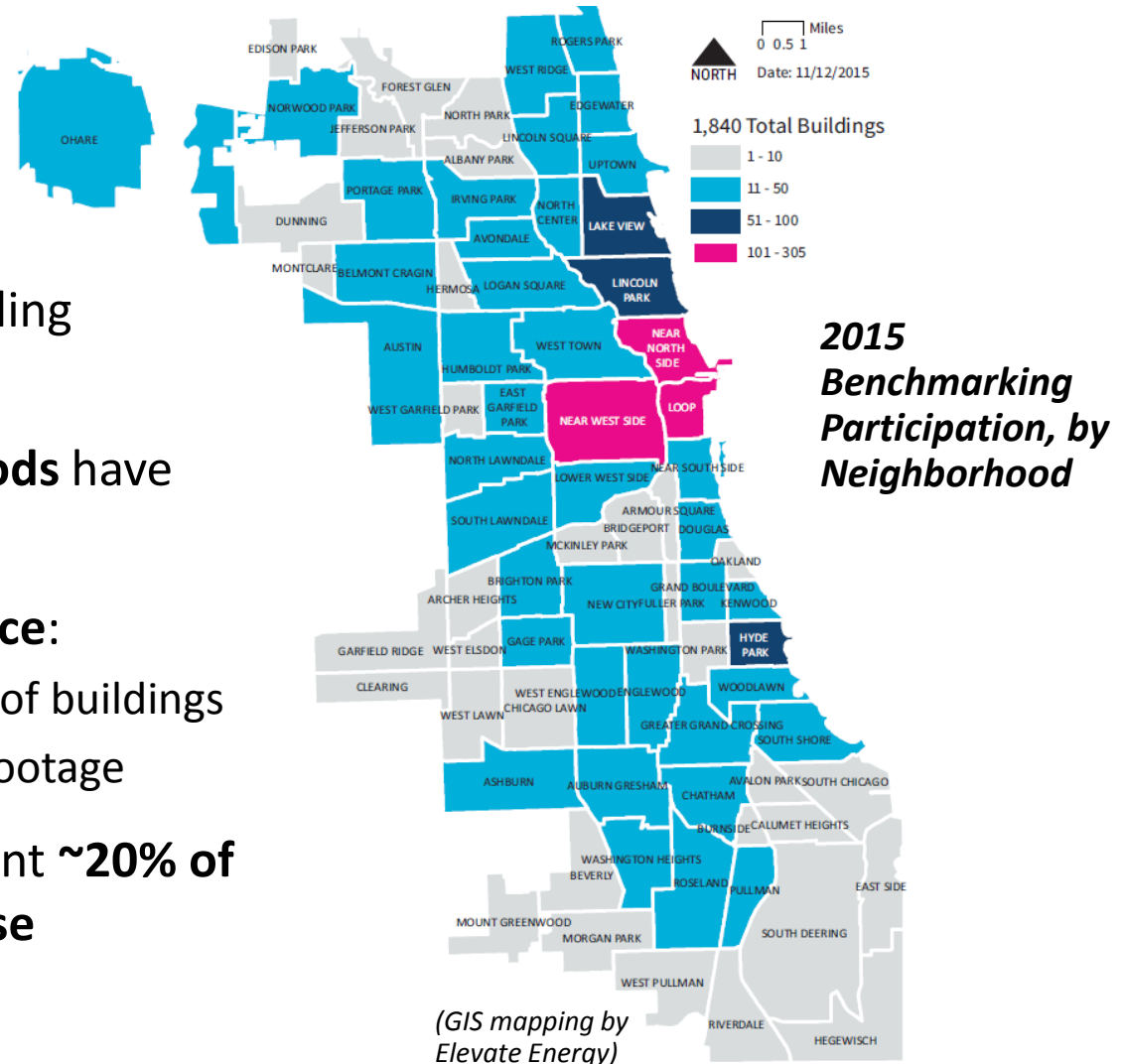
2015 Chicago Energy Benchmarking Working Group & Data Partners:



1.) Reach: 1,840 properties spanning 614MM square feet participated in Chicago Energy Benchmarking in 2015

2015 Highlights & Findings

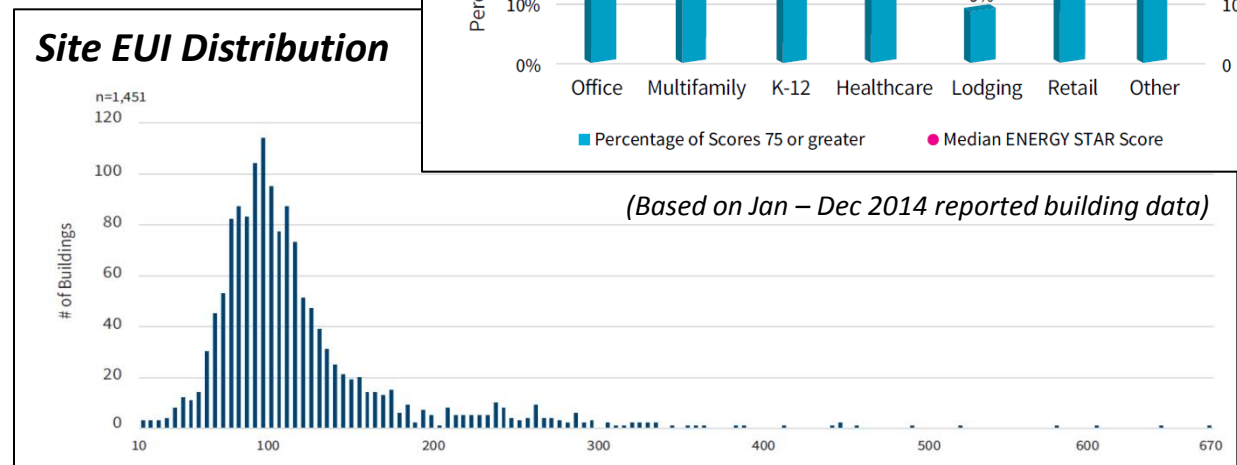
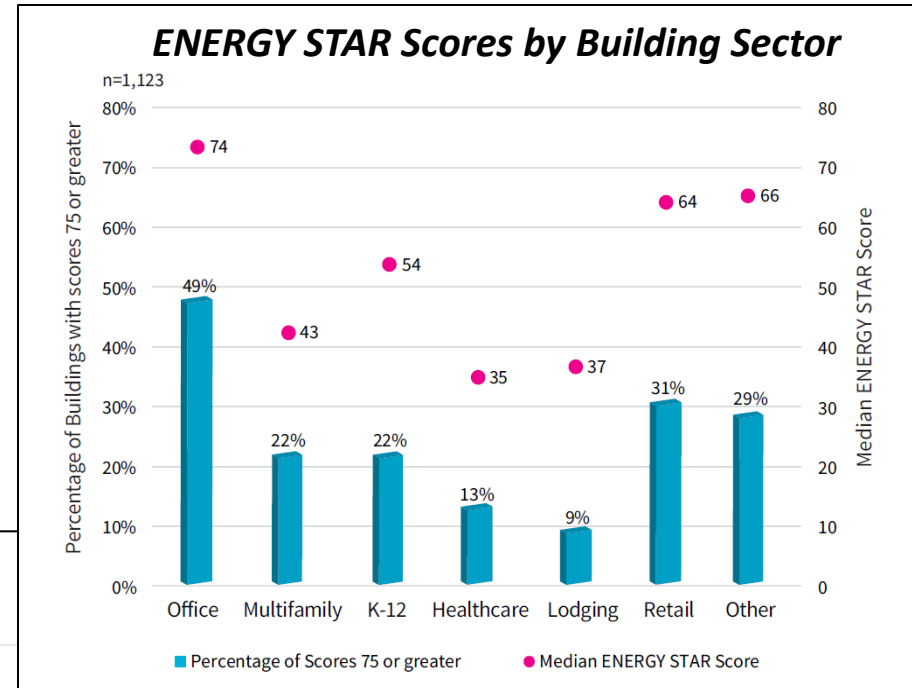
- **Five-fold expansion** in building participation since 2014
- **All 77 Chicago neighborhoods** have buildings that reported
- Continued **strong compliance**:
 - 84% reporting by number of buildings
 - 92% reporting by square footage
- Reporting buildings represent **~20% of citywide building energy use**



2.) Performance: Overall, Chicago buildings reported above-average scores, enabling detailed performance and trend analysis

2015 Highlights & Findings

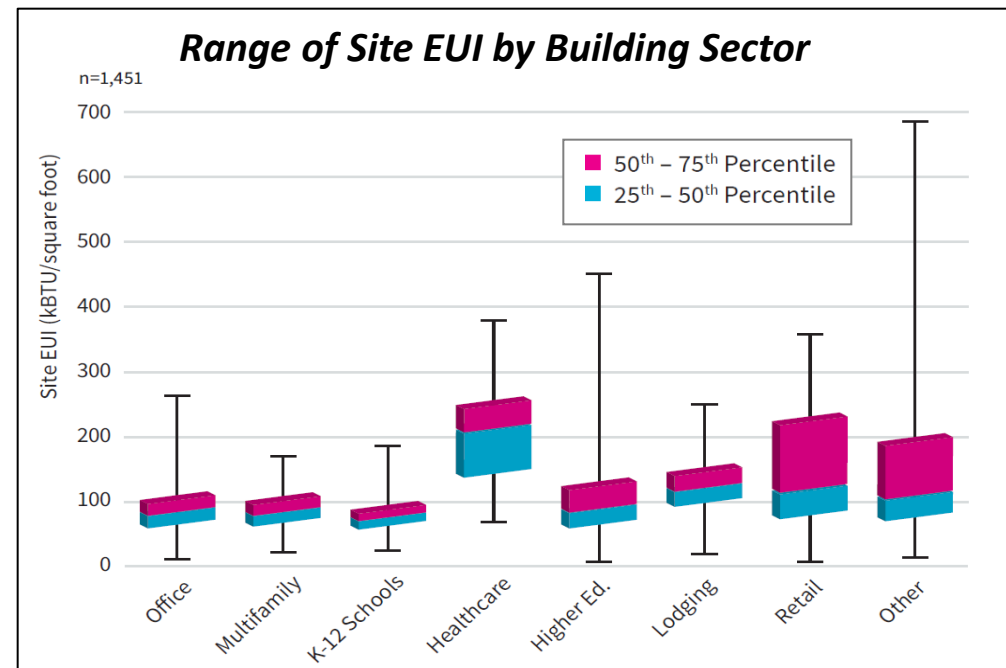
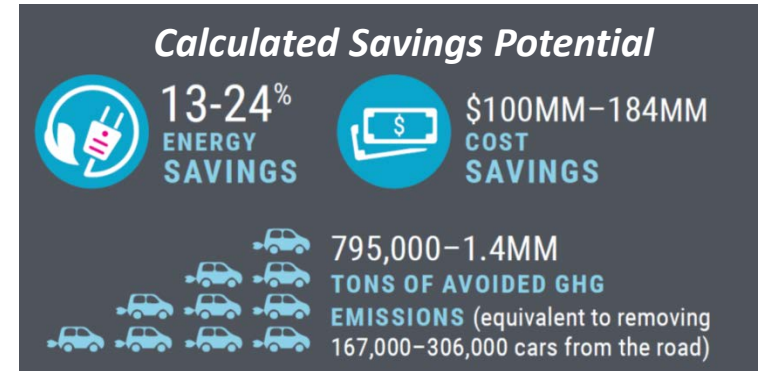
- **Median ENERGY STAR score of 58**
 - Offices, K-12 schools, retail, and ‘other’ properties reported median scores *above* national benchmark
 - Multifamily, lodging, and healthcare properties reported median scores *below* national benchmark
- **Slight decrease in same-building energy use**
- **Sector-level analysis of energy use intensity and estimated costs**



3.) Opportunity: Reported range of energy performance among similar buildings suggests 13-24% savings potential

2015 Highlights & Findings

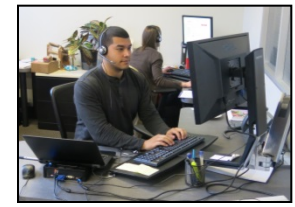
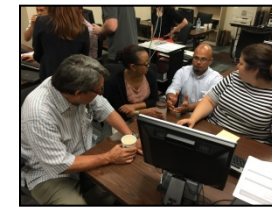
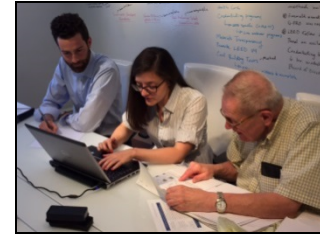
- **Significant savings potential** from raising performance of similar buildings to the 50% or 75% percentile (by property type and size)
 - 13-24% energy use reduction
 - \$100-184MM cost savings
 - 0.8-1.4MM tons CO₂e
- Ordinance **authorizes the City to share building-level performance data** with the public (beginning in year #2)



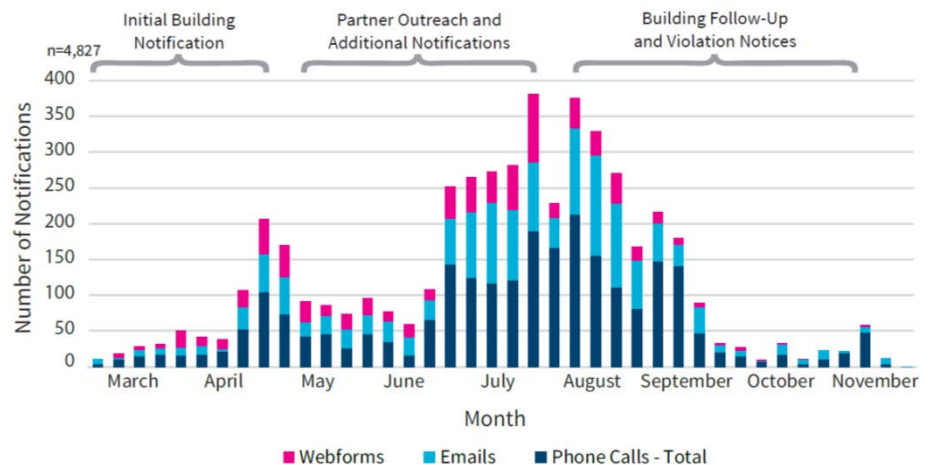
4.) Support: City and partners provided extensive outreach and building support, creating a foundation for further engagement

2015 Highlights & Findings

- **Ordinance created opportunities for training and building support:**
 - 4,800 Help Center interactions (phone, email, and web)
 - 20 free public trainings & drop-in support sessions
 - Pro-bono data verification assistance to 60 buildings (8.9MM ft²)
- **Whole-building electricity and natural gas use data available directly from ComEd & Peoples Gas**



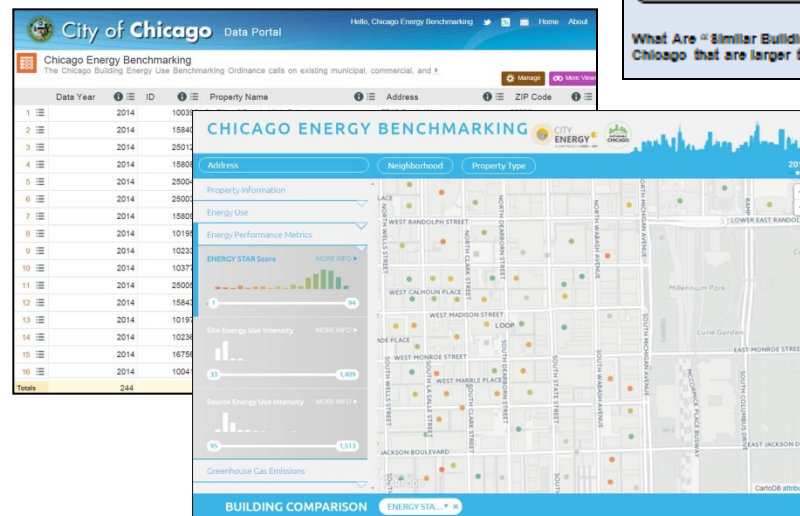
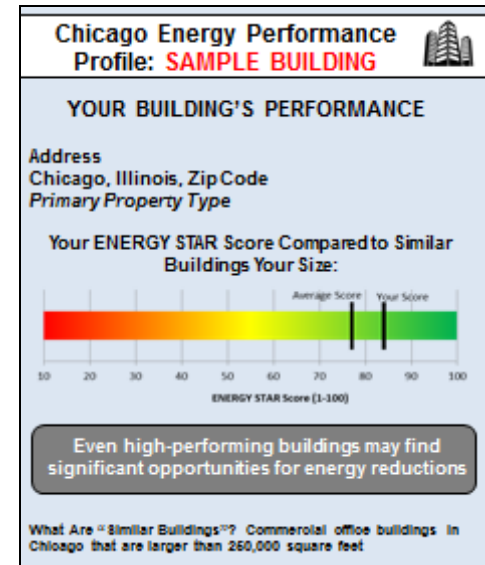
2015 Help Center Interactions: Phone, Email, & Web



5.) Engagement & Action: The City and partners are using benchmarking ordinance data to accelerate efficiency action

2015 Highlights & Next Steps

- Buildings that reported in 2015 will receive **Energy Performance Profiles** with feedback, context, and recommended actions to increase efficiency:
 - Expansion of 2014 building engagement efforts
 - Enhanced design, delivery, message testing, and tracking
- **Chicago Data Portal and Energy Performance Map** to share and visualize 2015 results
- **Cross-city learning** through local and global networks
- **Beyond Benchmarking** working group exploring additional opportunities



(Energy Performance Map & Sample Energy Performance Profile courtesy of City Energy Project)

Chicago Energy Benchmarking would not be possible without the support of implementing partners, utilities, and 85+ public allies

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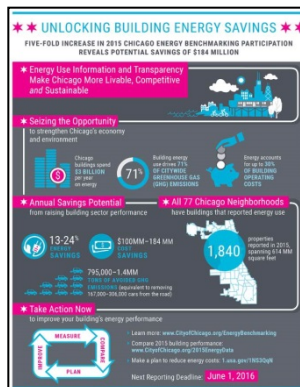
Discussion questions & links to additional information...

1. How can Chicago Energy Benchmarking data support SAG and partner efficiency efforts?
2. How can SAG partners help to drive strong 2016 benchmarking participation (including new multifamily buildings)?

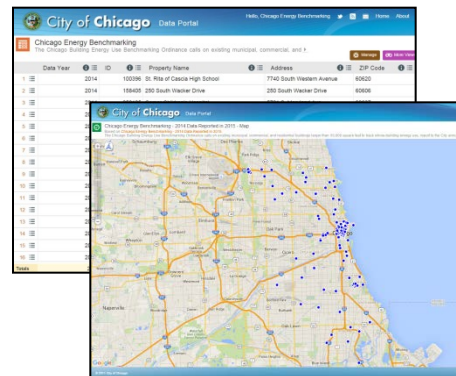
2015 Chicago Energy Benchmarking Analysis & Data:



[2015 Chicago Energy Benchmarking Report](#)



[2015 Chicago Energy Benchmarking At-A-Glance](#) (Infographic)



[Chicago Data Portal & Map](#)
(Building Data for Commercial & Institutional Properties > 250K square feet)



[2015 Chicago Energy Performance Map](#)
(City Energy Project data visualization)