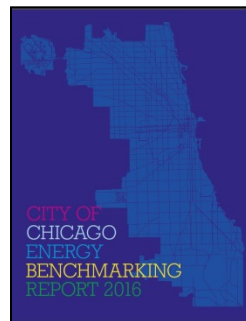


CITY OF CHICAGO ENERGY BENCHMARKING UPDATES

**Retrofit Conference
October 12, 2017**



**Amy Jewel
Senior City Advisor, City Energy Project**

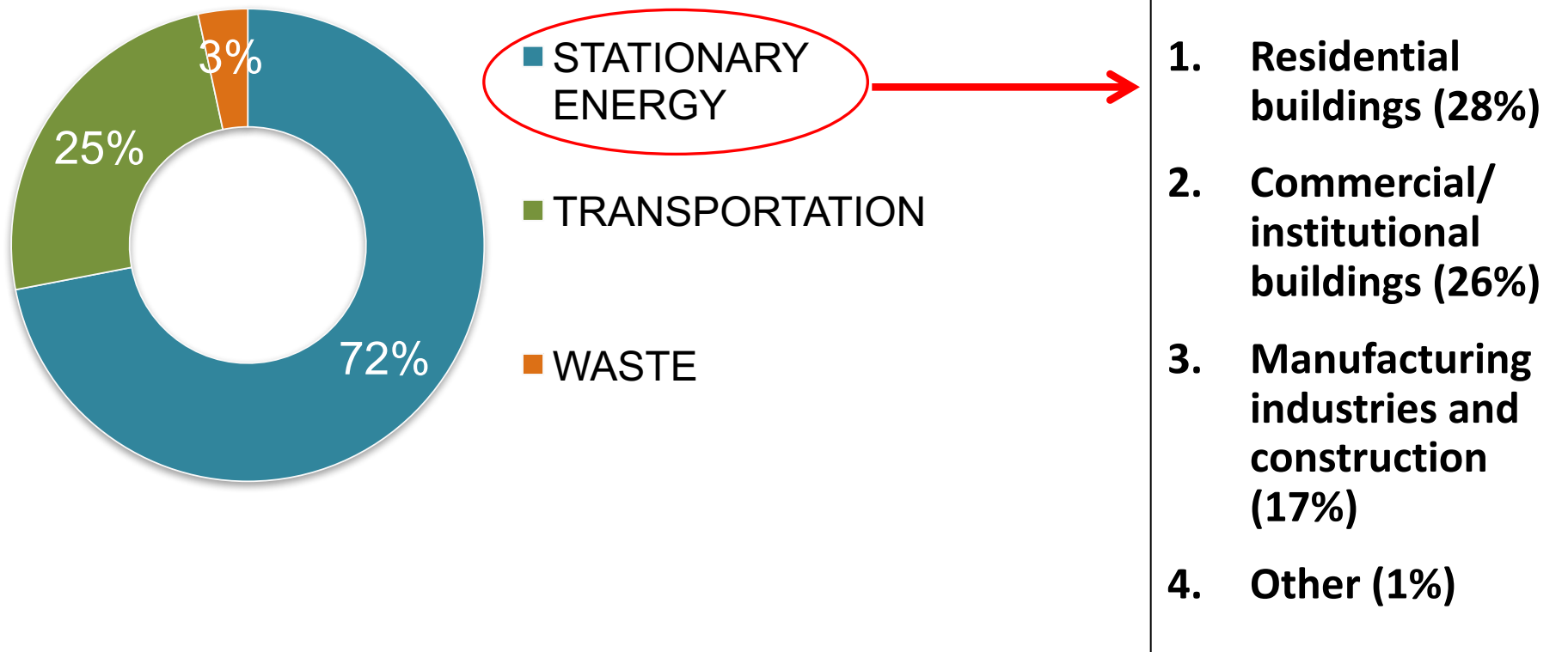


Agenda

- **Overview of Chicago's Sustainability Strategy**
- **Chicago's Energy Efficiency Initiatives**
 - **Energy Benchmarking Ordinance**
 - **Retrofit Chicago**
- **Q & A**

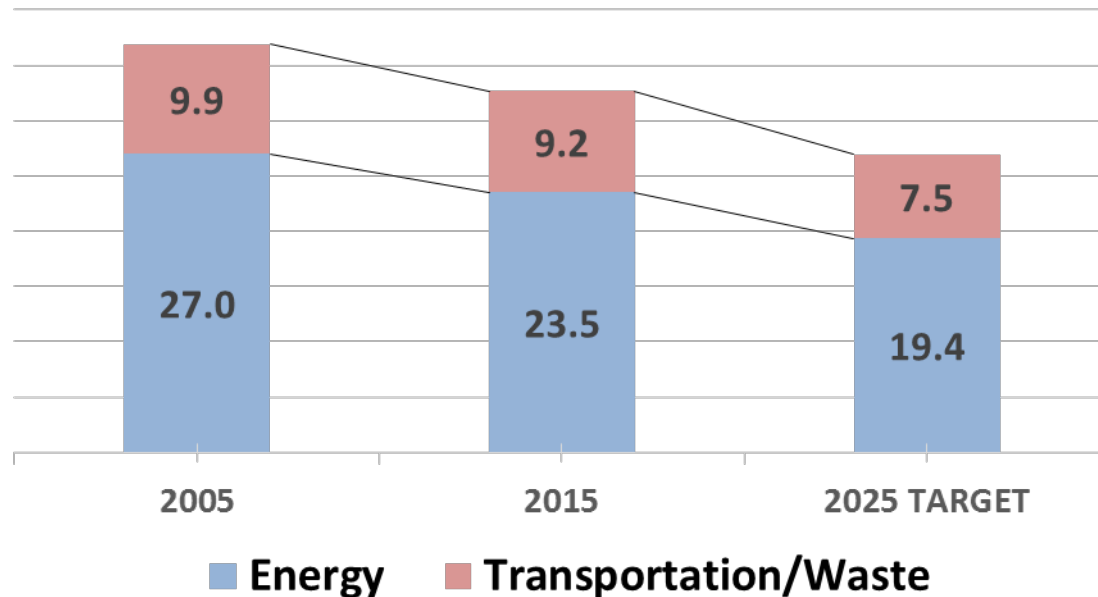
The City must reduce emissions from energy use in buildings in order to meet climate goals

Chicago's 2015 Greenhouse Gas Emissions, by Source



The goals in the Paris Climate Commitment will require aggressive, ongoing carbon reductions

Chicago's Carbon Emissions



Figures are in millions of tons of carbon

Energy transparency and encouraging retrofits are two key strategies for improving efficiency in buildings

Key Strategies for Energy Efficiency

**Increase
energy
transparency
and
awareness**



**Encourage
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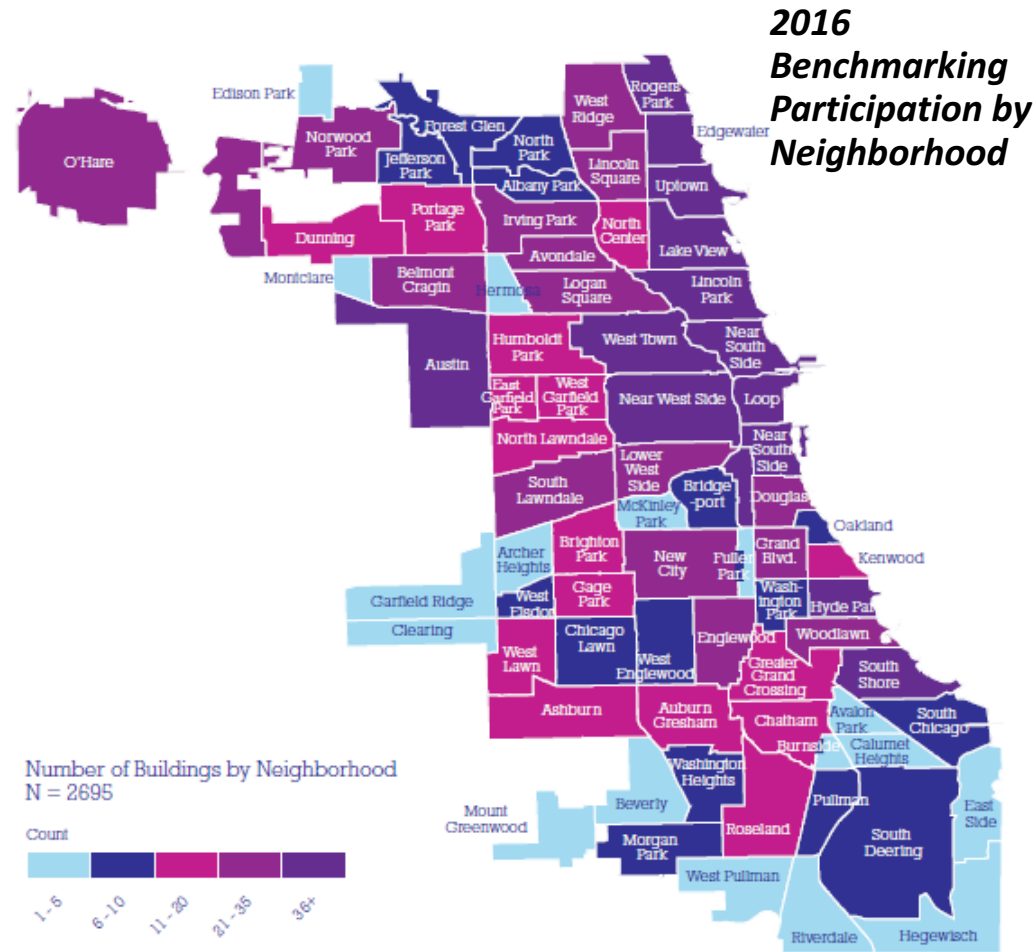
- **Chicago's Energy Benchmarking Ordinance:** drives energy use awareness and transparency for buildings larger than 50,000 ft²
- **Residential energy disclosure:** Includes energy cost information in MLS listings for single-family homes or 2-4 unit buildings
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- Citywide **streetlight retrofit**
- **Retrofit Chicago's Energy Challenge:** Supports and celebrates large buildings' commitment to efficiency
- Streamlining retrofits for **single-family homes and units** in multifamily buildings



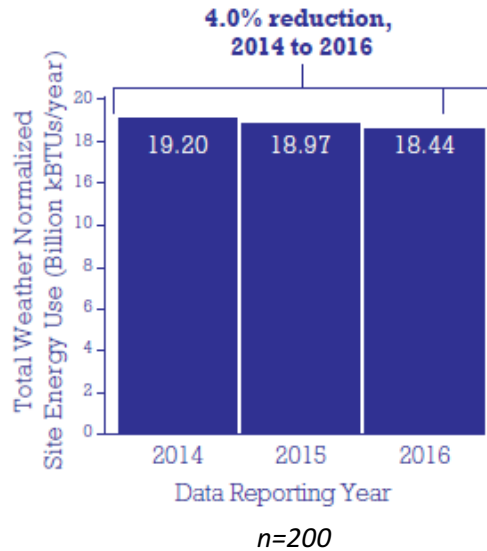
2016 reporting continued to expand across every neighborhood

2016 Reporting Summary

-  ***2,695 total reporting buildings, including 100+ voluntary reporters***
-  ***733 million square feet of space in reporting buildings***
-  ***Reporting buildings represent ~23% of citywide energy use***
-  ***All neighborhoods have at least 1 reporting building, and 87% have 5 or more***



Energy benchmarking reports are now indicating that regular tracking & reporting are associated with energy reductions

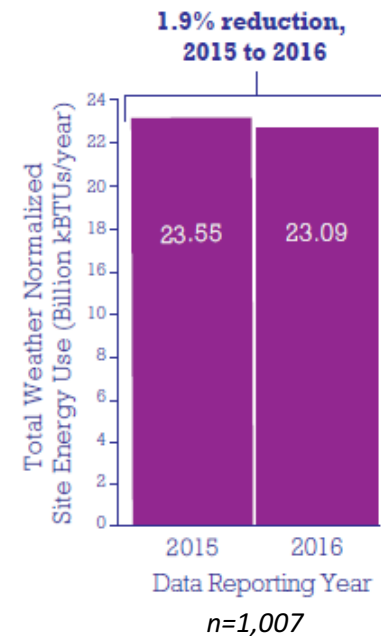


Properties consistently reporting from 2014-2016

- 4% energy use reduction (weather-normalized)
- Estimated \$11.6 M in savings
- Increase in median ENERGY STAR Score from 76 to 81

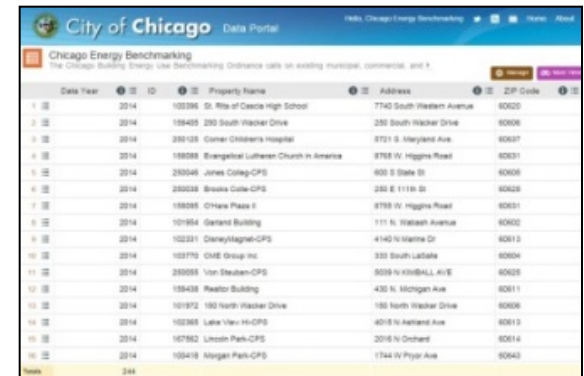
Properties consistently reporting from 2015-2016

- 1.9% energy use reduction (weather-normalized)
- Estimated \$6.2M in savings
- Increase in median ENERGY STAR Score from 51 to 55



Chicago Energy Benchmarking information has been released publicly on the Data Portal and other sites

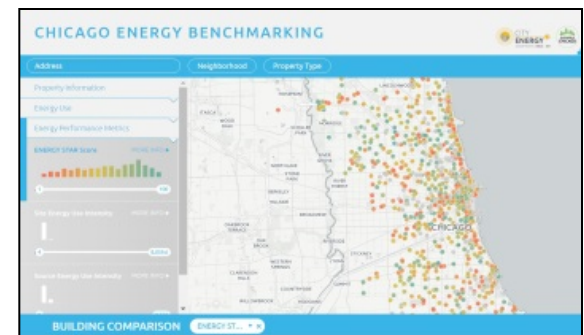
- **Chicago Data Portal** provides downloadable building-specific data:
 - Building-specific energy performance information
 - Full list of buildings required to comply (the “Covered Buildings List”)
- **City of Chicago / City Energy Project’s Energy Performance Map** visualizes results and creates custom comparisons:
 - Can filter properties by area, by type, or by other characteristics



The screenshot shows the 'Chicago Data Portal' interface. At the top, it says 'City of Chicago Data Portal' and 'Chicago Energy Benchmarking'. Below this, there's a table with columns: 'Data Year', 'ID', 'Property Name', 'Address', and 'ZIP Code'. The table lists various buildings, including 'Rita of Cassia High School', '250 South Wacker Drive', 'Carter Children's Hospital', 'Evangelical Lutheran Church in America', 'Jones College-CPS', 'Brooks College-CPS', 'Chicago Plaza I', 'Garland Building', 'DanehyMagnet-CPS', 'CHS Group Inc.', 'Von Steuben-CPS', 'Pewett Building', '180 North Wacker Drive', 'Lake View H-CPS', 'Lincoln Park-CPS', and 'Horgan Park-CPS'. Each row includes a 'Data Year' of 2014, an 'ID', the 'Property Name', the 'Address', and the 'ZIP Code'.

Data Year	ID	Property Name	Address	ZIP Code
2014	103396	Rita of Cassia High School	7740 South Western Avenue	60620
2014	104400	250 South Wacker Drive	250 South Wacker Drive	60606
2014	201129	Carter Children's Hospital	8721 S. Maryland Ave.	60637
2014	188088	Evangelical Lutheran Church in America	8788 N. Higgins Road	60631
2014	260046	Jones College-CPS	600 S. State St.	60605
2014	260038	Brooks College-CPS	280 E. 111th St.	60628
2014	188089	Chicago Plaza I	8788 N. Higgins Road	60631
2014	101954	Garland Building	111 N. Wabash Avenue	60602
2014	102231	DanehyMagnet-CPS	4140 N. Marine Dr.	60612
2014	102770	CHS Group Inc.	331 South LaSalle	60604
2014	260089	Von Steuben-CPS	5039 N. Kossuth Ave.	60625
2014	104438	Pewett Building	430 N. Michigan Ave.	60611
2014	101872	180 North Wacker Drive	180 North Wacker Drive	60606
2014	102388	Lake View H-CPS	4018 N. Ashland Ave.	60613
2014	107982	Lincoln Park-CPS	2016 N. Orchard	60614
2014	103418	Horgan Park-CPS	1744 N. Paulk Ave.	60643

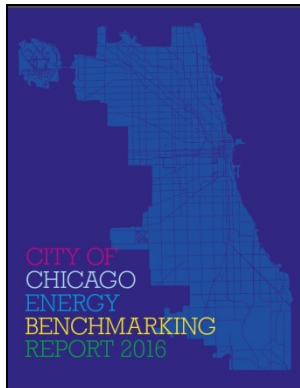
Chicago Data Portal



Energy Performance Map

Additional Resources

2016 Chicago Energy Benchmarking Analysis & Data:



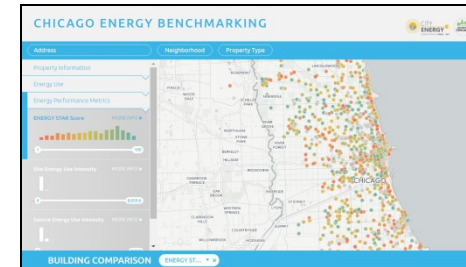
[2016 Chicago Energy Benchmarking Report](#)



[2016 Chicago Energy Benchmarking At-A-Glance](#) (Infographic)

Rank	Year	Property Name	Address	ZIP Code
1	2014	102008 St. Rita of Jesus High School	7742 South Western Avenue	60620
2	2014	158408 280 South Western Drive	280 South Western Drive	60608
3	2014	250105 Corner Children's Hospital	8721 S. Maryland Ave.	60637
4	2014	188006 Evangelical Lutheran Church in America	8142 N. Higgins Road	60631
5	2014	230046 James College-CPS	850 S. State St.	60605
6	2014	250038 Brooks College-CPS	250 E. 111th St.	60628
7	2014	188008 Citicorp Plaza II	8758 N. Higgins Road	60631
8	2014	101094 General Building	111 N. Dearborn Avenue	60610
9	2014	102070 CME Group Inc	4141 N. LaSalle St.	60613
10	2014	102070 CME Group Inc	333 South LaSalle	60604
11	2014	250008 Von Steuben-CPS	8028 N. Kimball Ave.	60625
12	2014	188008 Rector Building	400 N. Dearborn Ave.	60611
13	2014	101872 180 North Western Drive	180 North Western Drive	60606
14	2014	167862 Lincoln Park-CPS	4018 N. Ashland Ave.	60613
15	2014	167862 Lincoln Park-CPS	2016 N. Orchard	60614
16	2014	100016 Morgan Park-CPS	17441 N. Maple Ave.	60643

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



[2016 Chicago Energy Performance Map](#)
(City Energy Project data visualization)

Or, visit www.CityofChicago.org/EnergyBenchmarking for links to all reports & resources

Proposed Updates: Rate buildings & provide more public disclosure *(proposed in NYC; required in EU, Australia)*

Goal: Make ENERGY STAR scores simpler to understand & increase transparency

Two separate concepts:

1. Provide a star rating to buildings based on ENERGY STAR scores
 - 85% of reporting buildings benchmarking get a score today, which is a national standard for rating building energy performance
 - Would be based on a four-star system (modeled on the Chicago flag)
 - Buildings would receive Zero to Four Stars







Flag of the City of Chicago

Idea #1: Rate buildings & provide more public disclosure (NYC, EU, Australia)

Goal: Make ENERGY STAR scores simpler to understand & increase transparency

Current Rating Framework:

Note: Buildings out of compliance with benchmarking would receive zero stars

			
Score of 1-40	Score of 41-60 OR Score of 11-40 and 10 point improvement from starting score	Score of 61-80 OR Score of 41-60 and 10 point improvement from starting score	Score of 81-100 OR Score of 61-80 and 10 point improvement from starting score

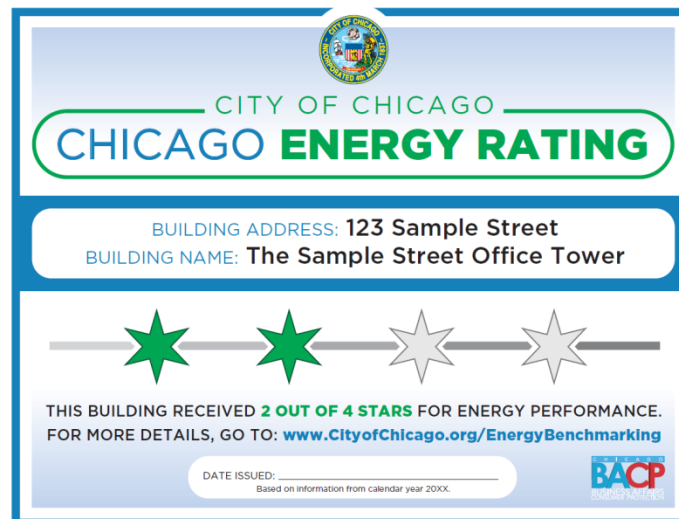
Idea #1: Rate buildings & provide more public disclosure (NYC, EU, Australia)

Goal: Make ENERGY STAR scores simpler to understand & increase transparency

Two separate concepts:

2. Posting/Display of the grades

- Currently the 1-100 score is provided to building owners and also posted on City's data portal; could add rating to the Data Portal
- Could require buildings to post the rating publicly in a prominent location
- At time of sale or lease, similar to Residential Energy Data Disclosure



DRAFT MOCK-UP

Energy transparency and encouraging retrofits are two key strategies for improving efficiency in buildings

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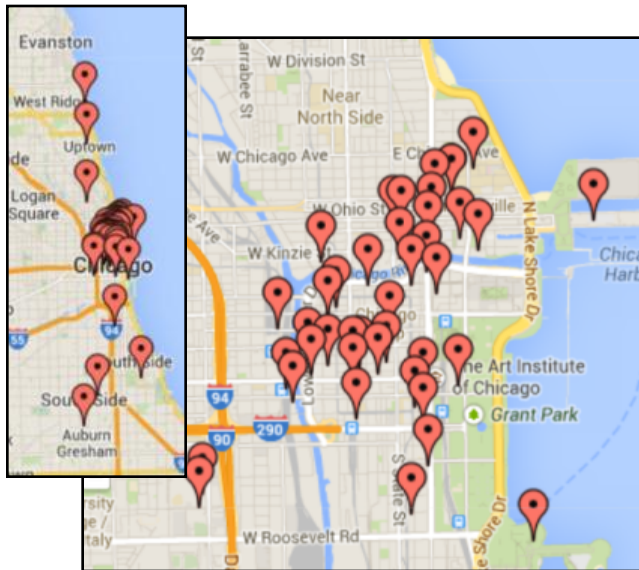
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Overview: Retrofit Chicago Energy Challenge



Rafael Emanuel



- **Objective:** Accelerate energy efficiency in the City's largest private and non-profit buildings to save money, increase asset value, drive economic development, and reduce emissions
- **Commitment:** Chicago Energy Challenge participants agree to:
 - Reduce energy usage in one or more buildings by 20+% in the next 5 years
 - Begin work within 6 months
 - Track progress and share successes
- **Impact:** Average energy savings of ~12%:
 - Thirteen properties have reduced energy by 20% or more
 - Energy cost reductions of over \$6 million/year

Benefits of Joining the Retrofit Chicago Energy Challenge

- **Technical Support:** Several resources to assist in meeting 20% energy reduction target
 - Attend quarterly peer learning exchanges on proven solutions
 - See clear progress reports showing energy baseline, target, and achievements to-date
 - Receive application support for utility rebates, programs, etc.
- **Receive Recognition:** City and partner-issued communications
 - Join the Challenge and set apart the property's brand as a sustainability leader
 - Receive credit for retrofit work already completed or in-process
 - Be included in City-issued press releases and program announcements
 - Apply to win program awards to gain additional recognition

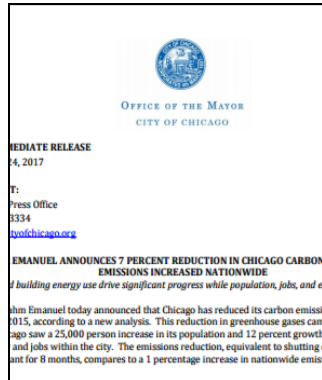


Additional Resources

Retrofit Chicago Energy Challenge



[Summary of the Engineer Roundtables](#)



[Most Recent Program Press Release](#)
(January 2017)



[Summary of the Annual Awards Ceremony](#)
(November 2016)



[Retrofit Chicago Best Practices Report](#)

Or, visit www.RetrofitChicago.net for detailed program information & resources

Contact Information

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Office of the Mayor

City of Chicago

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