

CITY OF  
CHICAGO  
ENERGY  
BENCHMARKING  
REPORT 2016

# Chicago Energy Benchmarking:

Opening doors to achieving over \$17 million in energy savings while supporting clean, high-wage jobs and reducing pollution

Initial 3 years of measuring Chicago buildings' energy use led to concrete savings with potential to grow to over \$200MM/year

---

Next Reporting Deadline:  
June 1, 2017

[www.CityofChicago.org/EnergyBenchmarking](http://www.CityofChicago.org/EnergyBenchmarking)  
[www.RetrofitChicago.net](http://www.RetrofitChicago.net)

2,650+ properties are now measuring, reporting, and verifying energy use, representing a wide array of buildings in every neighborhood.

### So what do those who save have in common?



#### A Commitment to Success

Dedication to reducing energy and taking action.



#### Leveraging Available Resources

Taking advantage of low- and no-cost options to identify improvement opportunities.



#### Following Through

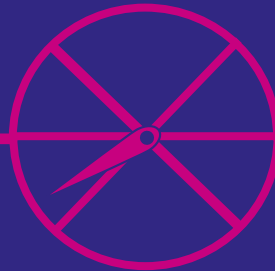
Implementing cost-effective changes to increase efficiency, and tracking outcomes.

### Types of results achieved



#### Lowered Utility Bills

With up to 25% of energy wasted, improving performance could save \$110-\$214MM/year across the city.



#### Optimal System Performance

Equipment can work better and can also improve indoor comfort and health for tenants and visitors.



#### Recognition

Increasing the performance and ENERGY STAR score for your property provides a marketplace advantage and can result in a national certification.

### What can you do?



#### Know the Score

Review the key metrics for your building and for nearby properties.



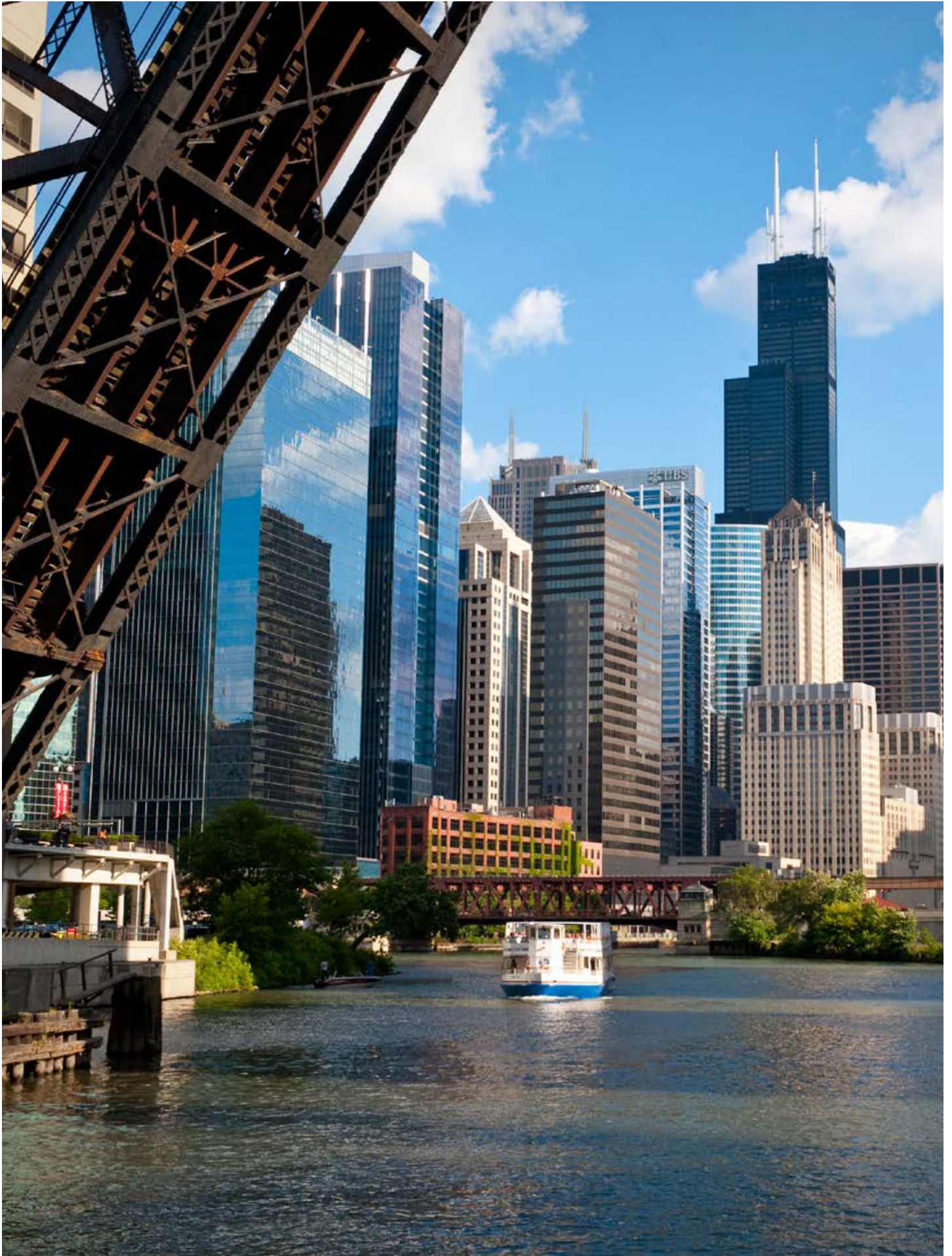
#### Make a Commitment

Develop a plan to increase your building's efficiency.



#### Take the Challenge

Participate in the Retrofit Chicago Energy Challenge.



# Office of the Mayor

Dear Fellow Chicagoans,

Three years ago in 2013, we passed the Chicago Energy Benchmarking Ordinance, landmark legislation designed to unlock energy and cost savings opportunities for businesses and residents. By raising awareness of energy performance through information and transparency, building owners, tenants, and others are enabled to make better decisions about how energy is used to power our buildings.

Since then, we have worked closely with our partners to move towards this goal by tracking and increasing the visibility of energy use in large buildings – both private and public – across our city. The owners of over 2,600 properties across every neighborhood in Chicago now participate in ongoing energy reporting. More importantly, the property teams that are tracking energy use are also now making smarter decisions about energy management, and are saving millions of dollars in utility costs per year.

The progress summarized in this report continues to demonstrate that we can collaborate to strengthen our economy; support clean, high-wage jobs; and protect the environment. Improving energy efficiency is a key strategy that is good for business, good for residents, and good for strengthening our neighborhoods.

We look forward to continuing to work together to reduce energy waste throughout our city, cut carbon pollution, and make Chicago even more efficient and sustainable.

Sincerely,

Rahm Emanuel  
Mayor, City of Chicago



# Executive Summary

By harnessing market forces, such as increased visibility and awareness of energy use, the Chicago Energy Benchmarking Ordinance is accelerating improvements to the energy performance of our city's buildings. In 2016, the City of Chicago passed a major milestone by reaching the end of a three year phase-in process for the benchmarking policy. Results from the past three years reveal the tremendous benefits available from energy benchmarking over time.

# Key Findings

With nearly 2,700 properties now tracking and reporting energy use, the importance of the energy used in buildings is gaining in prominence. Already, this increased scrutiny and the improved transparency of energy use information is having a major impact. An estimated \$17.8 million has already been saved from the energy bills of the 1,200+ properties that have benchmarked and reported for either two or three consecutive years. These results provide concrete evidence that regular benchmarking and reporting helps support increased efficiency, leading to lower utility costs, and improved building performance.

## 1. Reach

In 2016, 2,695 properties spanning nearly three-fourths of a billion square feet tracked and reported energy use, a 45% increase from 2015, and a 7-fold increase from 2014.

- There is at least one reporting property in each of Chicago's neighborhoods, and 87% of neighborhoods have five or more reporting properties.
- Over 3,500 properties are now included in the policy's coverage.
- Reporting properties represent 23% of citywide energy use.
- Compliance continued at a high rate, with a reporting rate of 91% by floor area and 80% by number of properties.

## 2. Impact

With three years of results, energy benchmarking reports are now indicating that regular tracking and reporting have a significant impact on supporting energy management:

- Properties that have reported consistently for three consecutive years have reduced energy use by 4%, leading to an estimated savings of \$11.6 million per year. This group of buildings have also improved their ENERGY STAR scores by 6.6%
- Properties with two consecutive years of reporting saw a collective energy reduction of 1.9%, saving an estimated \$6.2 million per year. Overall, this group improved their ENERGY STAR scores by 7.8%.

## 3. Performance and Opportunity

Chicago's buildings continue to demonstrate a high level of energy performance, but much opportunity still exists to address energy waste.

- With a median ENERGY STAR score of 59, one point higher than the 2015 median of 58, Chicago's reporting buildings are performing better than national medians.
- Up to 25% of energy in buildings may be wasted, and addressing this waste could save from \$110 to \$214 million per year.

## 4. Partnership and Support

The success of Chicago Energy Benchmarking would not be possible without our many partners and supporters.

- The Chicago Energy Benchmarking Help Center has now facilitated more than 10,000 phone calls and emails since 2014, an enormous level of support to the local real estate community.
- Local volunteers have provided more than 40 trainings and drop-in help sessions.
- 100 properties spanning over 12 million square feet including nonprofit organizations, houses of worship, and affordable housing properties have received pro-bono assistance for energy benchmarking and data verification.

The City of Chicago and its partners will continue to support energy benchmarking, and will also increase efforts to empower owners, operators, managers, and occupants to use benchmarking results to take further action on energy efficiency.

By continuing to accelerate energy efficiency in buildings across our neighborhoods, the City of Chicago's residents and business will not only reduce their costs, but will also benefit from improved economic competitiveness, increased comfort and health within their buildings, and an improved environment through reduced pollution.

# What's Next

Now that you have benchmarked your building, what is next? The following suggestions provide concrete actions that you and your team can take to begin improving energy performance.

## **Four Steps to Energy Savings**

- 1. Understand Your Performance**
- 2. Dive Deeper into Data**
- 3. Train Your Team**
- 4. Take the Challenge**



## 1. Understand Your Performance: Review Your Property's Results.

Review the building's energy benchmarking results, starting with two key metrics – energy use intensity (EUI) and the 1-100 ENERGY STAR Score.<sup>1</sup> If you are responsible for benchmarking a building, simply log into the ENERGY STAR Portfolio Manager tool to view this information – see the sample screen shot of the Portfolio Manager Metrics Summary below. Otherwise, you may need to review publicly-available information or ask the property owner or manager for the information.<sup>2</sup>

Next, understand your property's performance in light of results from similar properties:

### Local Results:

- Review your numbers and the averages for your property type on pages 66-67 of the Appendix
- Use the interactive Building Energy Performance Map, which shows results for properties that have reported data for two or more years in Chicago: <http://cityenergyproject.github.io/chicago/>

### National Results:

- To review data from similar properties across the nation, use the free Building Performance Database: <https://bpd.lbl.gov/#explore>

## 2. Dive Deeper into Data: Understand Energy Use in the Building.

Comparisons of monthly or annual usage from different time periods can start to provide more insights into your property's energy use. For example, a spike in usage at a specific time could be a red flag that building equipment is not performing correctly.

In addition, more detailed reviews of energy-consuming equipment and operations can help you gain a better understanding of possible improvements. Start by **conducting an energy assessment** if you have not done so in the last two to three years. The process will help you identify low-cost and no-cost opportunities specific to your property. Both of the local utilities, ComEd and Peoples Gas, offer **free** energy assessments to qualifying buildings. To find out more, contact the utilities today:

### ComEd:

- Phone: 855-433-2700
- Website: <https://www.comed.com/WaysToSave/ForYourBusiness/Pages/Other.aspx>

### Peoples Gas:

- Phone: 855-849-8928
- Website: <http://www.peoplesgasdelivery.com/business/rebates.aspx>

Metric	Dec 2012 (Energy Baseline)	Sep 2016 (Energy Current)	Change
ENERGY STAR score (1-100)	54	87	33(61.1%)
Source EUI (kBtu/ft²)	143.0	111.4	-32.5(-22.6%)
Site EUI (kBtu/ft²)	118.6	91.2	-27.4(-23.1%)
Energy Cost (\$)	28,851.78	27,317.99	-1533.79(-5.3%)
Total GHG Emissions (Metric Tons CO2e)	710.2	531.5	-178.7(-25.2%)
Water Use (All Water Sources) (kgal)	720,570.0	76,579.8	-643,990.2(-89.4%)
Total Waste (Disposed and Diverted) (Tons)	57.33	58.26	0.93(1.6%)

Screenshot from a sample ENERGY STAR Portfolio Manager Metrics Summary Table, Courtesy of the U.S. EPA.

<sup>1</sup>For more explanation of these metrics and how they can be used to gauge energy performance over time, please see the Appendix.

<sup>2</sup>The link to the public database of energy benchmarking information is available here: [www.CityofChicago.org/EnergyBenchmarking](http://www.CityofChicago.org/EnergyBenchmarking)

### 3. Train Your Team: Learn How to Capture Savings Through Energy Efficient Operations.

Numerous courses are available to provide training on how to identify and implement energy-saving projects. Consider one of the City-recognized trainings for energy benchmarking data verification, which are chosen to focus not just on benchmarking, but also how to identify and implement energy saving improvements and technologies. The full list of credentials is available online at: <https://www.cityofchicago.org/EnergyBenchmarking>

Additional resources and training opportunities are also listed on the City's website, ranging from a monthly ComEd Energy Efficiency Program newsletter, to local workshops and seminars, to guidance materials from the ENERGY STAR program and the Department of Energy. For more details, please visit: [https://www.cityofchicago.org/city/en/depts/mayor/supp\\_info/chicago-energy-benchmarking/Chicago\\_Energy\\_Benchmarking\\_Guidance\\_Matls.html#UtilityIncentives](https://www.cityofchicago.org/city/en/depts/mayor/supp_info/chicago-energy-benchmarking/Chicago_Energy_Benchmarking_Guidance_Matls.html#UtilityIncentives)

### 4. Take the Challenge: Develop a Longer-Term Commitment to Energy Savings.



The **Retrofit Chicago Energy Challenge** is a free, voluntary program available to any property owner or manager in the City of Chicago. The Energy Challenge (formerly known as the Commercial Building Initiative) is designed to provide recognition and support to those who are leading the way on energy efficiency efforts in Chicago. Current participants have reduced energy use by nearly 12%, saving approximately \$6.4 million in energy costs per year.

As of fall 2016, the Energy Challenge has 62 participating properties spanning 43 million ft<sup>2</sup> of building space, and the City has a goal to expand to 80 participants by the middle of 2017. Teams from all building types and sizes are welcome to join.

Upon joining the Energy Challenge, participants agree to:

- Reduce energy usage in one or more buildings by 20% over five years
- Begin actions to improve energy efficiency within six months (if not already started)
- Track progress and share successes
- Serve as an efficiency ambassador

If you would like to learn more, please visit: <http://www.retrofitchicago.net>

To request a one-on-one meeting or conference call with program staff to discuss if the program might be right for you, please send an email to: [Info@RetrofitChicago.net](mailto:Info@RetrofitChicago.net)



---

## Looking for more support?

If you are looking for a service provider to perform an energy assessment or assist in analyzing data, visit the U.S. Green Building Council-Illinois Energy Service Provider Directory.

This resource is an online database of companies that offer fee-for-service support for energy benchmarking, data verification, and other efficiency services. To view the database, please visit: <http://www.usgbc-illinois.org/resources/energy-services-database/>

---



---

[www.CityofChicago.org/Sustainability](http://www.CityofChicago.org/Sustainability)

@SustainChicago

[www.CityofChicago.org/EnergyBenchmarking](http://www.CityofChicago.org/EnergyBenchmarking)

[www.RetrofitChicago.net](http://www.RetrofitChicago.net)