

# ENERGY AND WATER BENCHMARKING REPORT

COOK COUNTY  
BUREAU OF ASSET MANAGEMENT

20  
23



*Based on 2022 Calendar Year Data for County-Owned Facilities*



# LETTER

## COOK COUNTY ENERGY AND WATER BENCHMARKING REPORT

### ANNUAL UPDATE

Dear Cook County Resident,

Cook County continues to be a leader in promoting sustainable and efficient operations at its facilities. The Cook County Energy and Water Benchmarking Report is issued each year to track annual usage at County owned-and-operated facilities per a 2014 Benchmarking Ordinance.

This report provides valuable information to support President Toni Preckwinkle's goals for Cook County to be carbon neutral by 2050, to use 100% renewable electricity by 2030, and to support programs such as the Policy Roadmap.

The Bureau of Asset Management also introduced the Green Buildings Program to set a framework to ensure capital projects prioritize energy and water efficiency, which depends on benchmarking each year to reach performance targets. This benchmarking report helps support the Clean Energy Plan, introduced in 2020 and created as a framework to meet quantifiable energy and greenhouse gas reduction goals.

#### **Highlights for the 2023 Energy and Water Benchmarking Report:**

- 33% of the benchmarked properties reduced their energy usage over the last year
- 68% of sites reduced their greenhouse gas emissions among the benchmarked properties with the Energy Star methodology for emissions calculation
- 47% of benchmarked properties reduced their water usage over the last year
- 5 new health facilities were added to the benchmarking portfolio

Tracking these metrics each year is a step forward to meet energy, greenhouse gas emissions, and water reduction goals as well as to target future renewable energy projects. We look forward to continuing to make progress in these areas for Cook County owned-and-operated buildings.

Sincerely,

Elizabeth Granato  
Bureau Chief

Jamie Meyers  
Energy Manager





Cook County Policy Roadmap  
Five-Year Strategic Plan for Offices Under the President

**POLICY ROADMAP**

Benchmarking helps reach and track policy roadmap goals, especially in the Sustainable Communities and Smart Communities Tracks



**COOK COUNTY PROGRAMS BENEFIT FROM BENCHMARKING THE DATA FROM ENERGY, WATER, AND GREENHOUSE GAS EMISSIONS USAGE EACH YEAR TO MEET COUNTY-WIDE GOALS.**

The 5 Pillars of the Green Buildings Program

Every change made to County properties should use these pillars and goals as part of the decision-making process.

**GREEN BUILDINGS PROGRAM**

The 2022 Goals of the Green Buildings Program

Energy	Water	Waste	Technology	Community
<b>Goal</b>	<b>Goal</b>	<b>Goal</b>	<b>Goal</b>	<b>Goal</b>
Carbon Neutral by 2050	30% water usage reduction by 2025	80% diversion rate by 2050	Use technology to drive operating decisions for buildings	Create a positive impact on County residents
Issue an RFP for off-site renewable energy	Install new cooling tower on DOC Campus	Issue an RFP for recycling at select facilities	Provide access to building energy data to building engineers	Use survey information to better understand and plan for EV adoption

# 2022 Annual Summary

**In 2022..**

**68%**  
**of sites reduced**  
**GHG Emissions**

**48% of buildings**  
**improved**  
**Energy Star Score**

**5 new health buildings**  
**added:**  
**6.9 Million kWh electricity**  
**207,274 therms gas**  
**2,877 TGAL water**  
**4,216 metric tons CO<sub>2</sub>e**

**47% of sites**  
**reduced water**  
**usage**

**38% of sites**  
**improved in**  
**Energy Use**  
**Intensity**

**Continued hybrid work provided some energy and water reductions with fewer people using the buildings' water and plug load at once. Some pandemic operations policies were also still in place impacting energy use at Cook County buildings.**

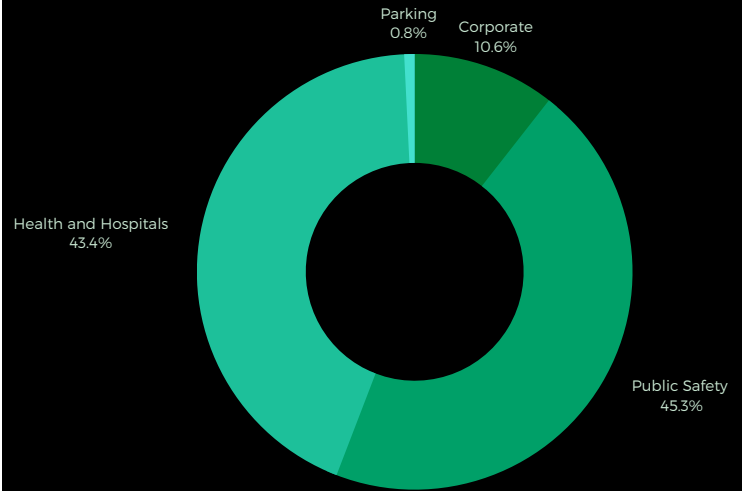
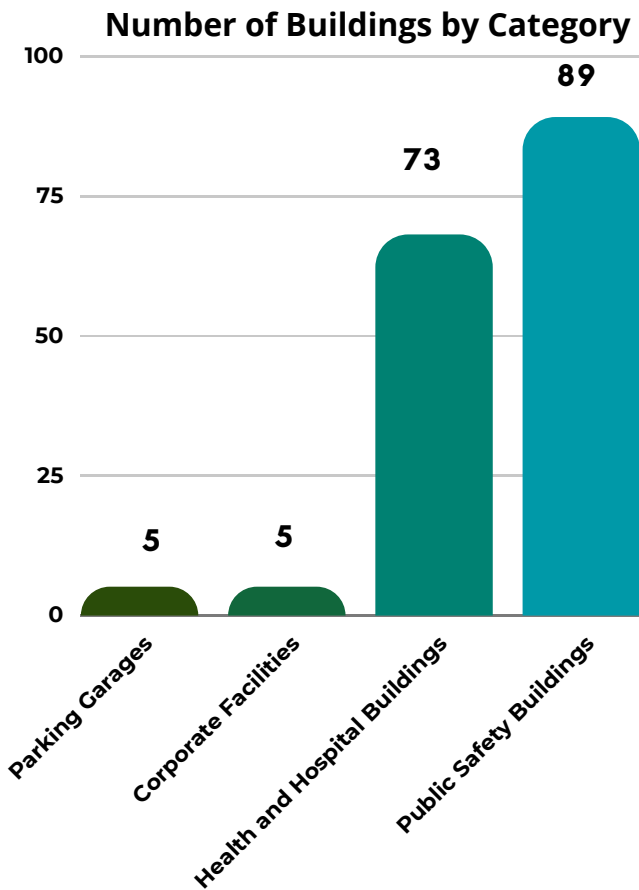
# STATISTICS

2022 ANNUAL UPDATES

## COOK COUNTY'S BUILDING PORTFOLIO

Cook County's Energy and Water Benchmarking report helps to inform energy and water project decisions for increased savings, mark progress toward energy, water, and greenhouse gas reduction goals, and track year to year changes. Cook County owned-and-operated facilities cover approximately 19 million square feet. Cook County's buildings aim to serve residents for County-supported needs from protecting citizens to promoting resilient and healthy communities.

*Changes to the portfolio: Hektoen, a former medical lab, was de-commissioned in 2019. Cicero Health Center's lease was terminated in February 2020. Near South Health clinic was vacated in early 2021. 5 new health facilities were added: Arlington Heights Health Center(leased), Belmont-Cragin Health Center, Blue Island Health Center, N. Riverside Health Center(leased), and the CCHHS Professional Building.*



### SOURCE ENERGY USE BY PORTFOLIO CATEGORY (IN KBTU)

Cook County has a wide range of buildings in its portfolio including Corporate Facilities, Public Safety buildings, Health and Hospital facilities, and parking structures. Source Energy measures a weather-normalized use of energy for annual comparisons.

### WHICH FACILITIES ARE BENCHMARKED?

COOK COUNTY TRACKS 45 SITES IN THE ENERGY STAR PORTFOLIO MANAGER TOOL. SOME OF THESE SITES HAVE MORE THAN ONE BUILDING ON EACH SITE, FOR A TOTAL OF 172 BUILDINGS OVERALL.



# SUCCESS STORIES

**Energy efficiency projects and no-cost schedule changes save energy, reduce greenhouse gas emissions, and reduce operational expenses for Cook County.**

Three examples of facilities with significant annual energy reductions from 2021 to 2022 include the Department of Corrections Parking Garage, Juvenile Temporary Detention Center (JTDC) East Building, and Provident Hospital.

**1,017,000 KWH**

**estimated electricity usage saved at the DOC Parking Garage**

Upgrading the lighting to LED is estimated to save 1,017,000 kWh at the Department of Corrections (DOC) Parking Garage (pictured to the right)

## OTHER SITES

### Energy Efficiency Projects

- Juvenile Temporary Detention Center (JTDC) East Building lighting upgrades estimated to save 1,462,160 kWh
- Provident Hospital condensate upgrade is estimated to save 45,350 therms



## ENERGY CHALLENGE

The STIC with it energy competition continued this year with an extension into heating season. This challenge involved using data Tools to understand building operations, identifying no cost energy savings opportunities through an energy treasure hunt, identifying capital project requests from Seeing where energy is used, identifying no cost energy savings opportunities through an energy treasure hunt, identifying capital project requests from these results, and developing a heating season checklist for energy saving opportunities.

**THE PROCESS**

**STIC**  
With it: Energy Saving Challenges.

A RECOGNITION PROGRAM TO REDUCE ENERGY FROM YOUR BASELINE

**1.) SEE WHERE ENERGY IS USED - WITH AN ENERGY TREASURE HUNT**

Note any areas for potential improvement on space plans and see where energy is being used in your building.

**2.) TOOLS**

Connect with Comed Energy Advisor to see interval data and apply insights to energy reductions. Login to Asset Planner to see energy trends and reports.

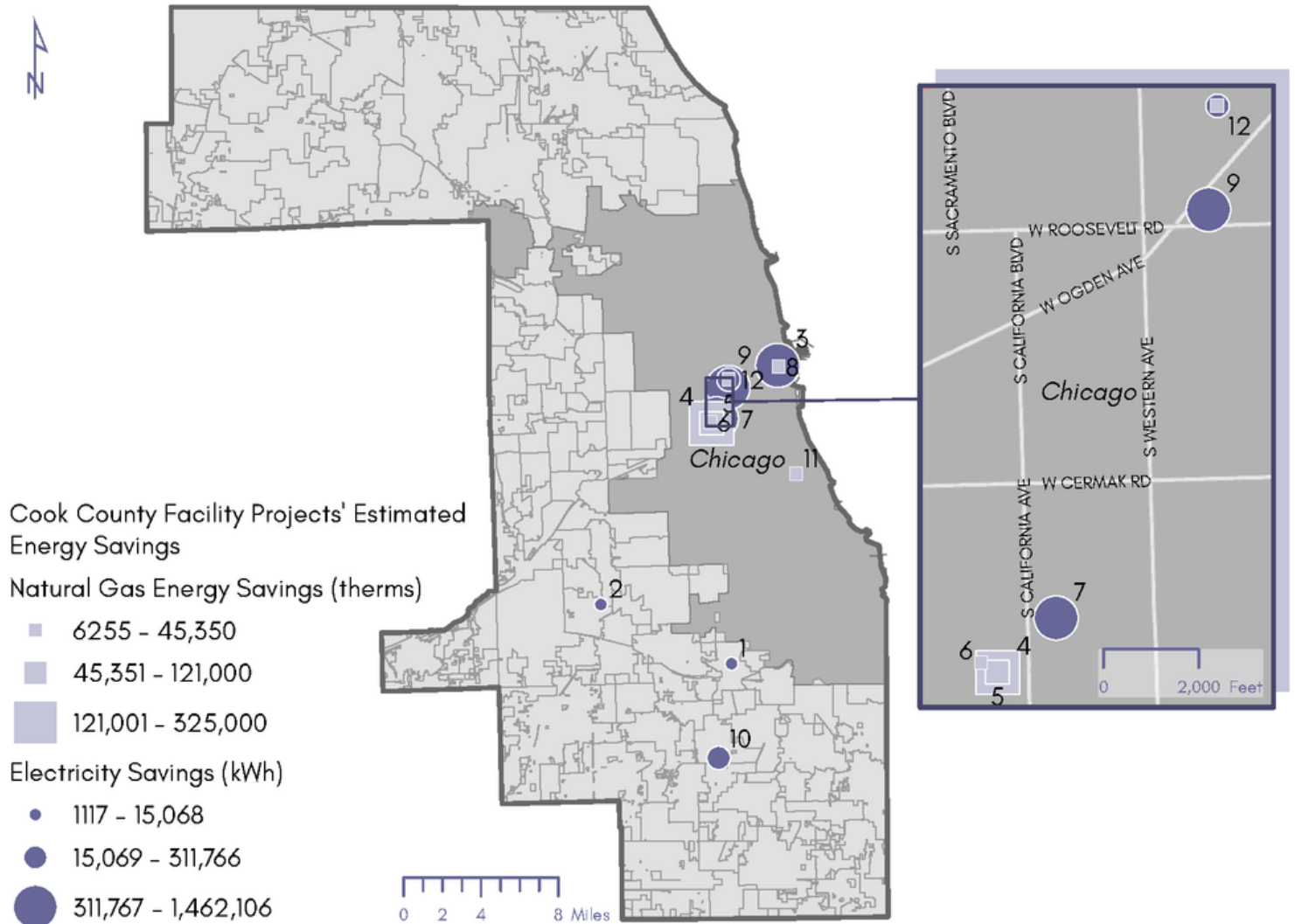
**3.) IMPLEMENTATION**

Implement suggestions with your own creative solutions or Energy Advisor suggestions one at a time to see savings from baseline energy use.

**4.) CREATE A LASTING PLAN**

Integrate additional findings that require a budget and plan for next year's STIC with it energy savings.

# 2022 Energy Efficiency Projects at Cook County Government Facilities



Map #	Building Name	Project Type
1	Blue Island Health Center Parking Lot	Lighting
2	Bridgeview Courthouse	Lighting
3	County Building	Variable Frequency Drive
4	DOC Campus	Insulation
5	DOC Campus	Steam Traps
6	DOC Kitchen	Demand Control Ventilation
7	DOC Parking Garage	Lighting
8	Dunne Building	Building Automation
9	JTDC East	Lighting
10	Markham Courthouse	Variable Frequency Drive
11	Provident Hospital	HVAC
12	Rob't J. Stein Institute of Forensic Medicine	HVAC, Chillers, Cooling Tower, Pumps

# ENERGY STAR SCORES

**An Energy Star Score compares like facilities to a national database for standardized energy use comparisons.**

Top performers receiving an Energy Star Score above 75 (the certification standard) include Skokie Courthouse, the George W. Dunne Administration Building, Bridgeview Courthouse, Rolling Meadows Courthouse, and Markham Courthouse. Logan Square Health Center also improved due to occupancy changes.

Property	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Skokie Courthouse (2nd District)	58	51	58	62	76	82	88	92	87	87
Bridgeview Courthouse (5th District)	35	24	24	32	45	44	78	80	84	87
George W Dunne Administration Building	65	68	73	73	77	73	79	78	85	86
Markham Courthouse (6th District)	31	27	33	32	47	43	68	77	79	82
Rolling Meadows Courthouse (3rd District)	49	43	43	56	69	70	78	82	81	81
Logan Square Health Center	51	36	38	34	30	38	37	41	47	80
Jefferson Building	33	29	38	42	34	30	43	56	66	69
Maywood Courthouse (4th District)	17	16	23	26	28	32	49	53	63	62
Domestic Violence Courthouse	43	38	45	40	48	50	61	68	66	59
Cook County Building	18	27	29	30	34	29	46	53	51	56
Rockwell Warehouse	53	53	52	53	51	52	49	54	56	54
Whitcomb Building	27	29	36	36	39	47	49	54	52	54
Cicero Records Center	N/A	46	36	40	39	38	36	43	33	34
Hawthorne Warehouse	17	18	18	17	18	20	21	33	46	32
Piszczek TB Clinic	16	19	20	25	27	31	33	37	26	14
Stroger Hospital Campus	7	12	16	13	12	6	8	9	11	12
Cottage Grove Health Center	20	22	27	6	1	1	1	2	17	11
Provident Hospital	1	1	1	3	3	2	3	3	2	7
Robbins Health Center	54	57	50	13	3	4	2	3	2	2
CORE Center	1	1	1	1	1	1	1	1	1	1
Englewood Health Center	1	1	1	1	1	1	1	1	1	1

**48%**

**of properties improved**

10 of the 21 sites able to be scored improved in Energy Star Score over the last year

**75**

**The score needed to achieve Energy Star Certification Threshold**

### Why does this matter?

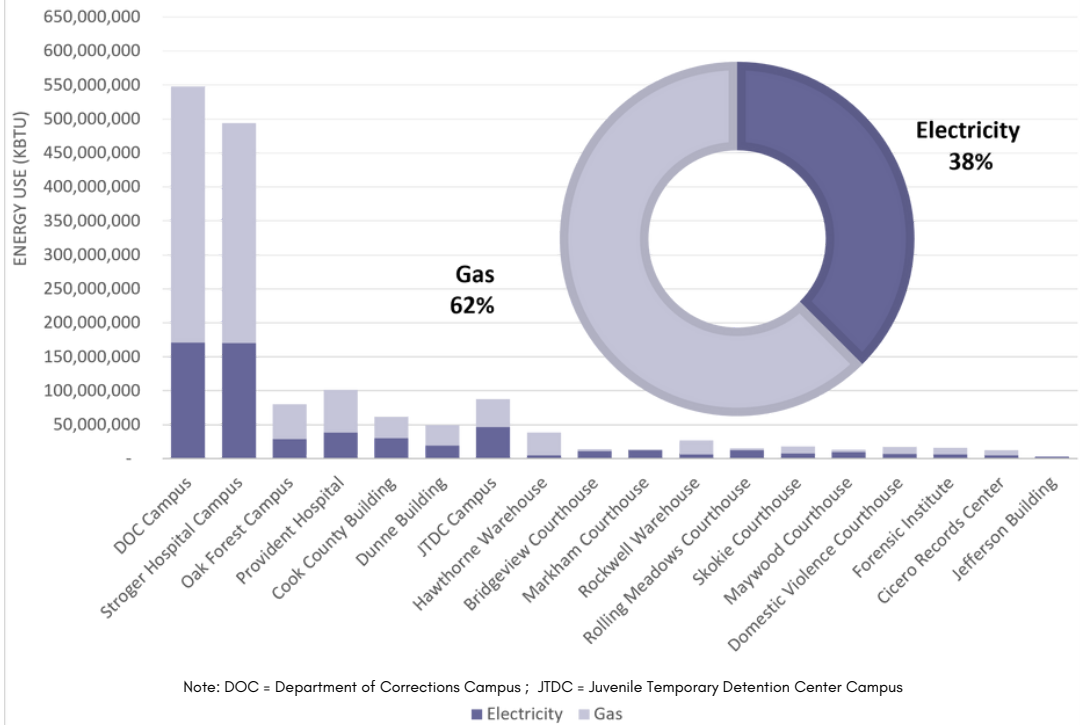
An Energy Star Score allows for direct annual usage comparisons with weather impacts taken out of the equation. Buildings with unique usage patterns and campuses do not qualify for this scoring metric, but are still able to use normalized data for annual comparison. Source Energy Use Intensity (EUI) is the metric used for properties that don't qualify for an Energy Star Score. Of the 172 buildings benchmarked, 38% improved in Source EUI. This metric tracks the efficiency of energy use per area occupied in a building.



## PORTFOLIO ENERGY USE

Cook County buildings have shifted to using more natural gas for energy needs with 62% of the energy use from natural gas, and 38% from electricity in 2022. This energy distribution varies by building. Some facilities, such as the Jefferson building to the right of the graph, only use electricity. However, some other buildings, such as the Hawthorne Warehouse, use mostly gas to power operations.

### FACILITY ENERGY USE BY FUEL TYPE



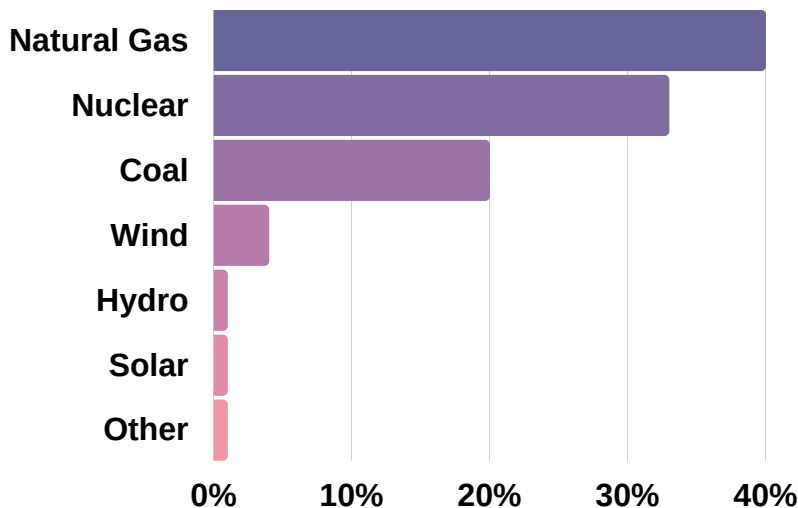
## COOK COUNTY'S SOURCE ENERGY USAGE

Cook County's benchmarked buildings used **2,960,428,695 kBtu** in 2022, a 2% increase compared to 2021. This was equivalent to a 1% reduction in electricity (kWh) and a 7% increase in gas usage (therms). This slight increase is likely due to adding 5 new health clinics to the benchmarking portfolio, and more heating degree days. Overall, continued improvement in energy savings will be needed for reaching energy reduction goals.

**One of these energy reduction goals is Cook County's participation in the Better Buildings Challenge, which involves a 20% reduction goal by 2025 from the 2013 baseline year data. 2022 marked achievement of that goal with a 25% reduction in portfolio energy use per square foot.**

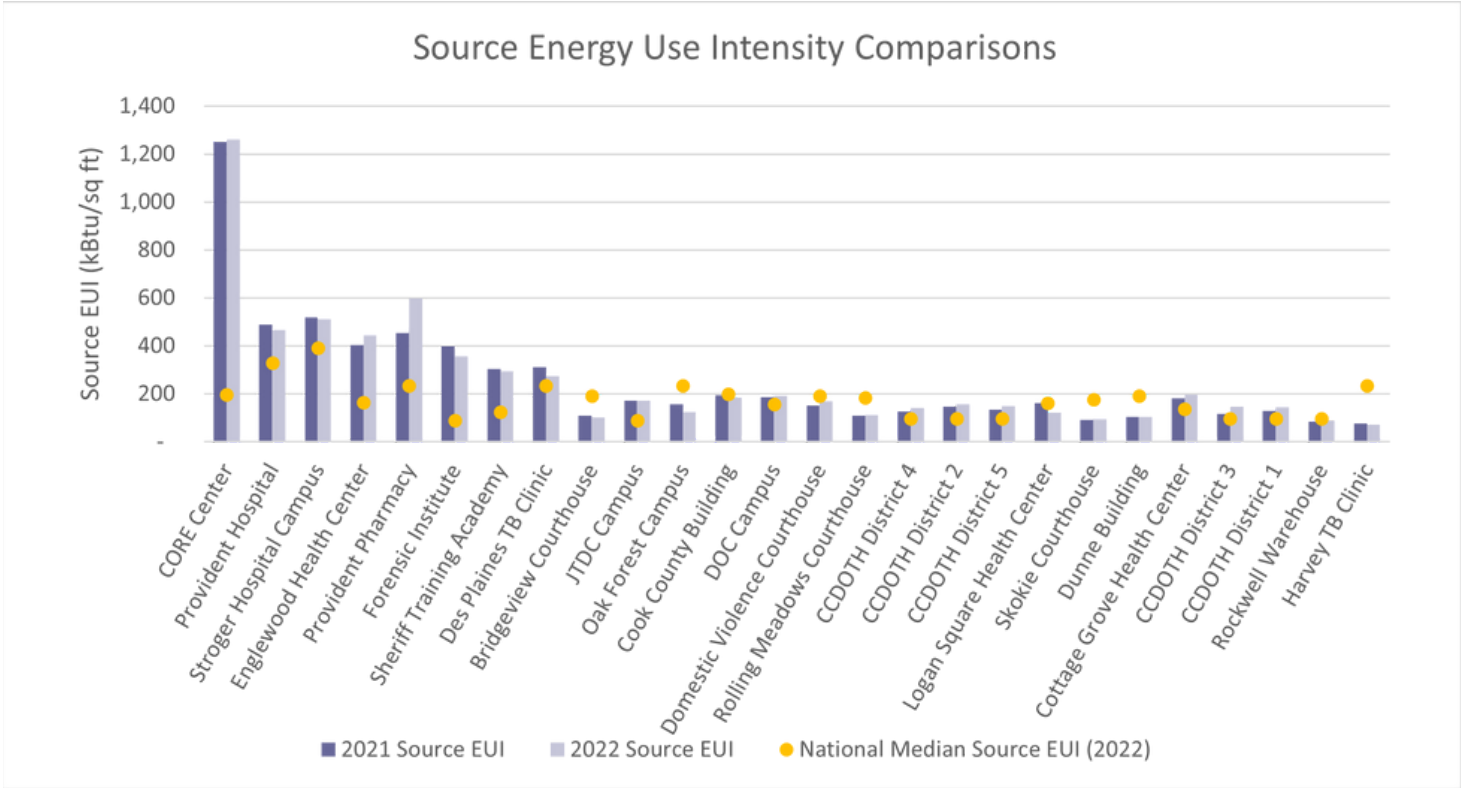


<https://betterbuildingsolutioncenter.energy.gov/partners/cook-county-il>



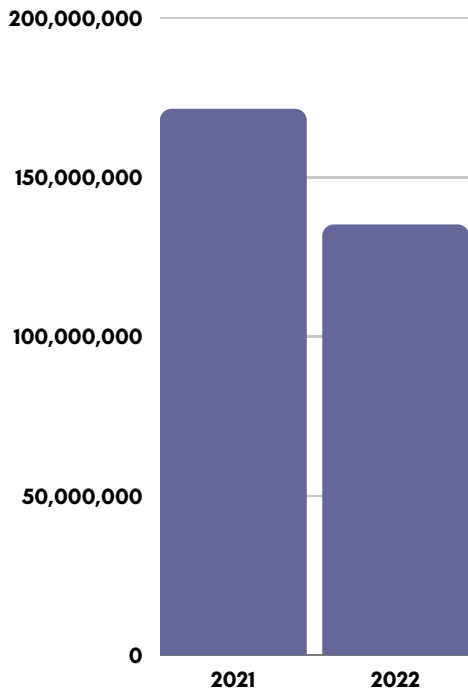
## 2022 ELECTRICITY GRID COMPOSITION (COMED)

The calendar year ending December 2022 had the following grid mix from ComEd, Cook County's electricity provider. Noteworthy points include that nuclear and natural gas make up the highest percentages of the total grid mix, and wind increased by 1%.



### SOURCE ENERGY USE INTENSITY (EUI)

The graph above shows annual energy usage comparisons between 2021 and 2022. Source Energy Use Intensity (EUI) normalizes data to directly compare usage to indicate how efficiently buildings use energy per square foot of occupied space. Cook County buildings improved in Source EUI at 38% of the sites benchmarked in 2022. The yellow dots show what the national median for a similar building type would be to indicate which facilities performed better than the median.



## SOURCE ENERGY USE (KBTU)

Source energy, measured in kBtu, includes both annual electricity and natural gas usage for a site. Specific values for each facility can be found in Appendix B. This chart highlights reductions in source energy use in kBtu for Oak Forest Campus, which reduced energy by 21% in 2022 compared to the previous year. Oak Forest Campus saved energy by optimizing the campus operations for occupancy and weather conditions. Other facilities that reduced more than 6% in total source energy usage include:

- Logan Square Health Center (-25%)
- Oak Forest Campus (-21%)
- Des Plaines TB Clinic (-12%)
- Forensic Institute (-11%)
- Bridgeview Courthouse (-7%)

**Oak Forest Campus Annual Source Energy Use (kBtu)**

# GREENHOUSE GAS REDUCTIONS

Cook County has two greenhouse gas emission reduction goals:

- 45% reduction in greenhouse gas emissions by 2030
- Carbon neutral by 2050

# 68%

of benchmarked sites reduced GHG emissions in 2022

# CO2E

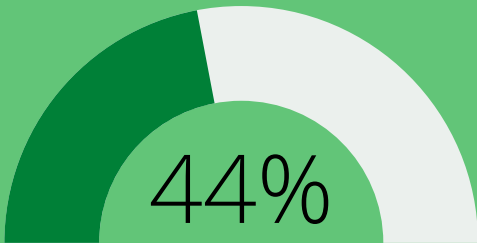
143,330 metric tons

Greenhouse gas emissions are tracked in metric tons of carbon dioxide equivalent emissions or CO2e. The total benchmarked emissions in 2022 were 143,330 metric tons of CO2e. This is based on the Energy Star emission factors which have not been updated as frequently.

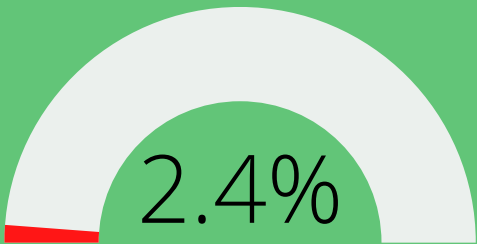


## Progress Toward Carbon Neutral

Cook County released a Clean Energy Plan to form a pathway to reach greenhouse gas emissions reduction goals and 100% renewable electricity for County-owned buildings. As of 2022, **Cook County is close to meeting its first goal to reduce greenhouse gas emissions 45% by 2030** from a 2010 baseline, with just over 1% to go to achieve it. Mechanisms that have contributed to greenhouse gas emissions reductions since 2010 include energy efficiency projects, building automation system upgrades, solar installations at the Domestic Violence Courthouse and Bridgeview Courthouse, decommissioning properties, the building engineer energy challenges, natural gas efficiency projects, and lower emissions from the electricity grid mix in the Midwest.



Greenhouse gas reductions since 2010

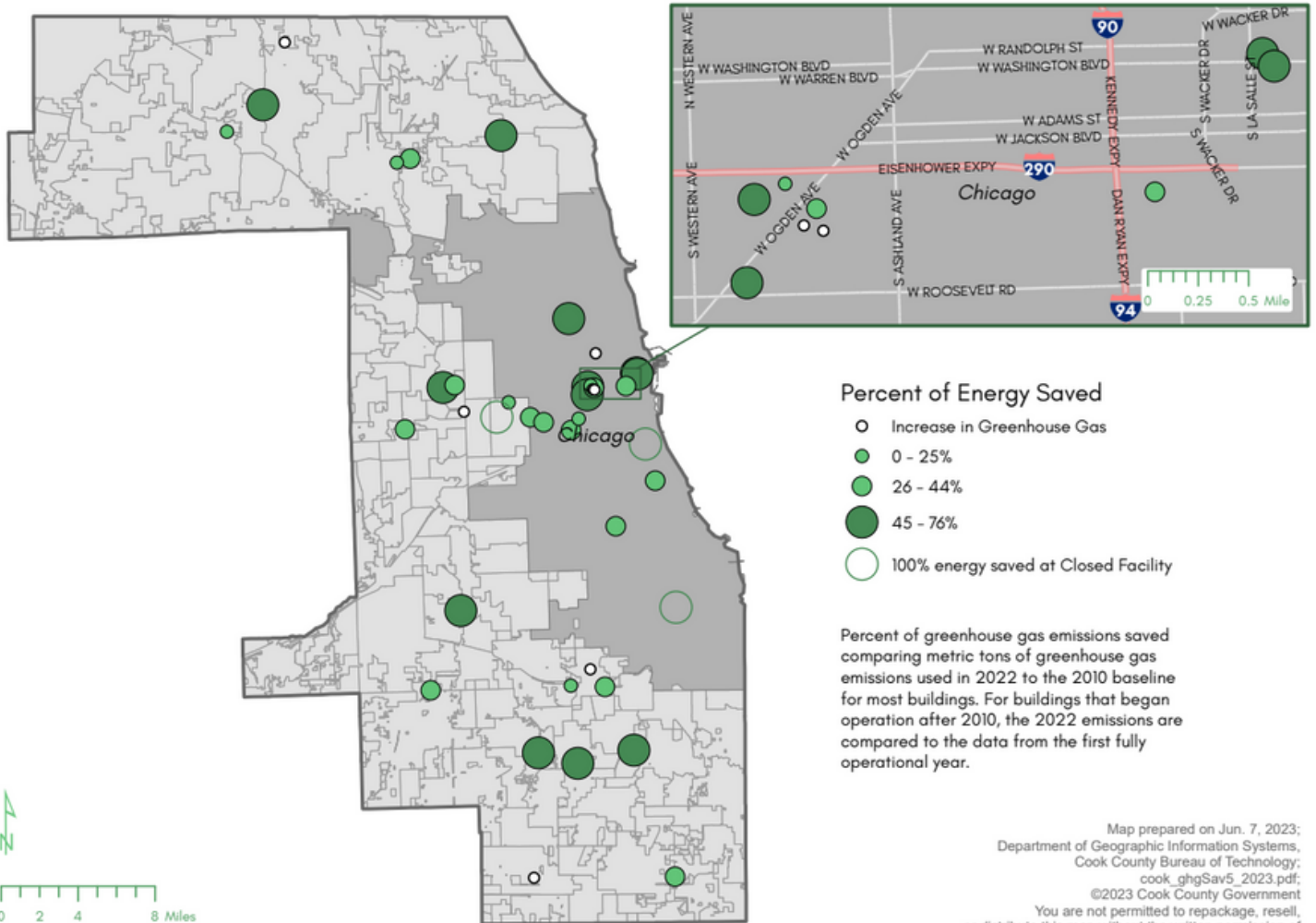


Annual portfolio increase from 2021 to 2022

# Cook County's Clean Energy Plan Progress Map

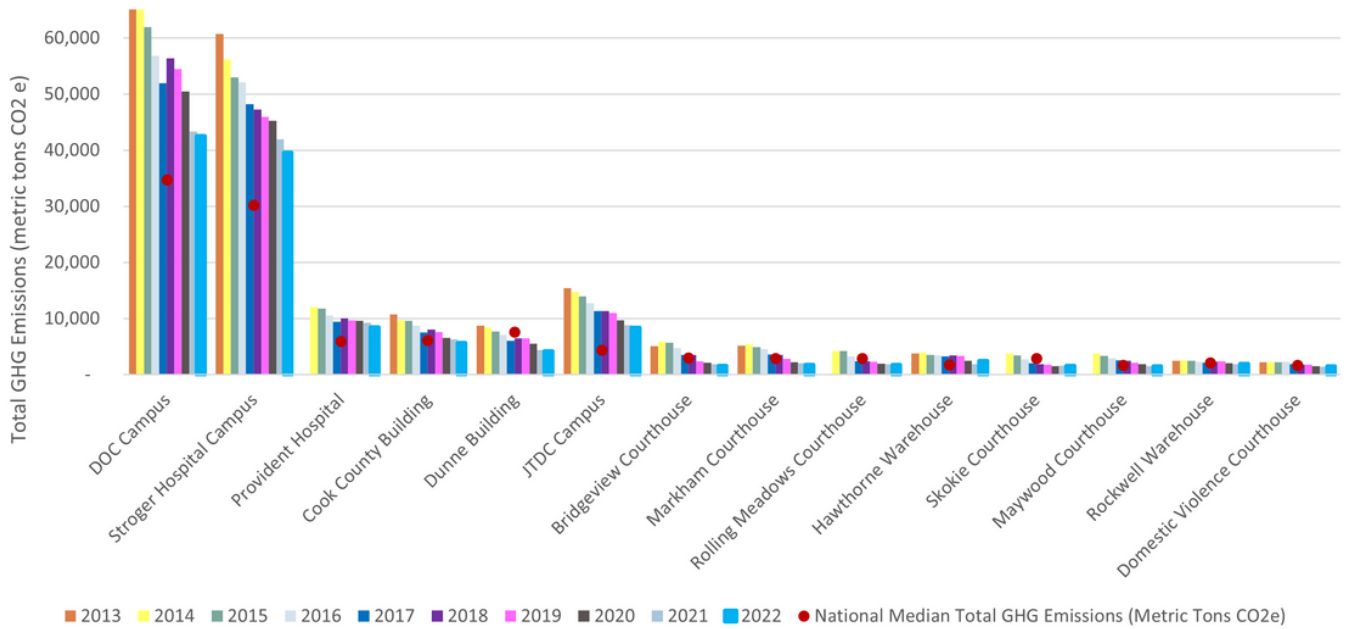
*Cook County is close to reaching its first goal of a 45% greenhouse gas reduction from a 2010 baseline as of 2022 building operations data with a 44% greenhouse gas reduction to date. Properties in darker green have achieved at least a 45% reduction, marking a significant impact toward the achievement of the reduction goal.*

Greenhouse Gas Reductions at Cook County Government Facilities

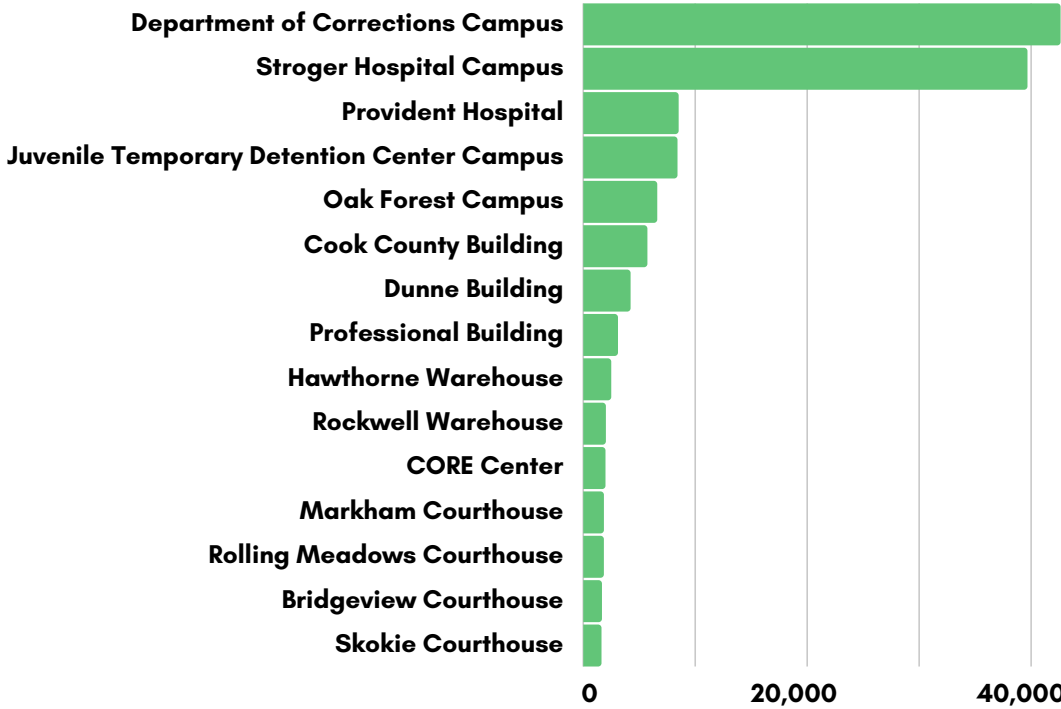




Total Greenhouse Gas Emissions vs. National Median



**WHAT CHANGED FOR GHG REDUCTIONS**  
 Of the benchmarked buildings, about 68% of sites reduced annual emissions compared to the previous year. The chart above uses Energy Star data and shows a snapshot of the portfolio since benchmarking began in 2013. The emissions values are compared to the red dot values, which represent the 2022 national median emissions for similar sized buildings. Most sites reduced GHG emissions between 2021 and 2022. Buildings with significant annual GHG reductions over 10% included: Cook County Building, Bridgeview Courthouse, Markham Courthouse, Forensic Institute, Oak Forest Campus, Des Plaines TB Clinic, Logan Square Health Center, and Jefferson Building. Note: Energy Star is a few years behind in upgrading GHG emissions factors. As the current electricity GHG factor increased for the first time in this region, data may differ from other Cook County Reports using the most up to date information available.



**GHG EMISSIONS BY BUILDING 2022**

This chart shows emissions by building in metric tons of CO2e for the 15 highest emitting sites. The remaining sites make up about 8% of total portfolio emissions. The Department of Corrections Campus continues to have the largest greenhouse gas emissions footprint at about 30% of portfolio emissions.



# Cook County's First Off-Site Power Purchase Agreement to use 100% renewable electricity at 18 County-owned-and-operated facilities

## COOK COUNTY SOLAR PPA

Cook County-electricity buyer

Constellation-retail energy supplier

Swift Current-solar developer

1

### ADDITIONAL: 23.75 MW SOLAR

- This is equal to about 49,000 MWH of electricity usage each year
- Annual Greenhouse Gas savings in IL are equivalent to approximately 4,377 homes' energy use for one year

2

### RELIABLE AND RESILIENT: 100% OF ELECTRICITY USE AT 18 COOK COUNTY BUILDINGS

These accounts are from health clinics, office buildings, warehouses, and highway maintenance facilities

3

### LOCAL: ILLINOIS

- Located in Morgan County and Sangamon County, IL near Cook County, IL
- Around 450 local jobs (about 18 of which are directly tied to Cook County's portion of the project)

4

### CO-BENEFITS: ~\$432,000 OVER 12 YEARS

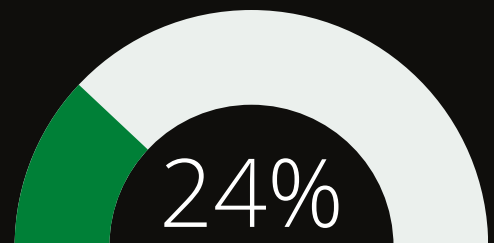
- Constellation and Swift Current will both contribute annual donations for solar and energy job training programs
- Habitat protection (pollinator friendly habitat) and CEJA workforce requirements for local prevailing wage jobs will be met

5

### COST CONSCIOUS: 12 YEAR FIXED PRICE TERM

Starting in March 2025, includes a fixed energy rate for 12 years during a time when energy prices have traditionally been volatile

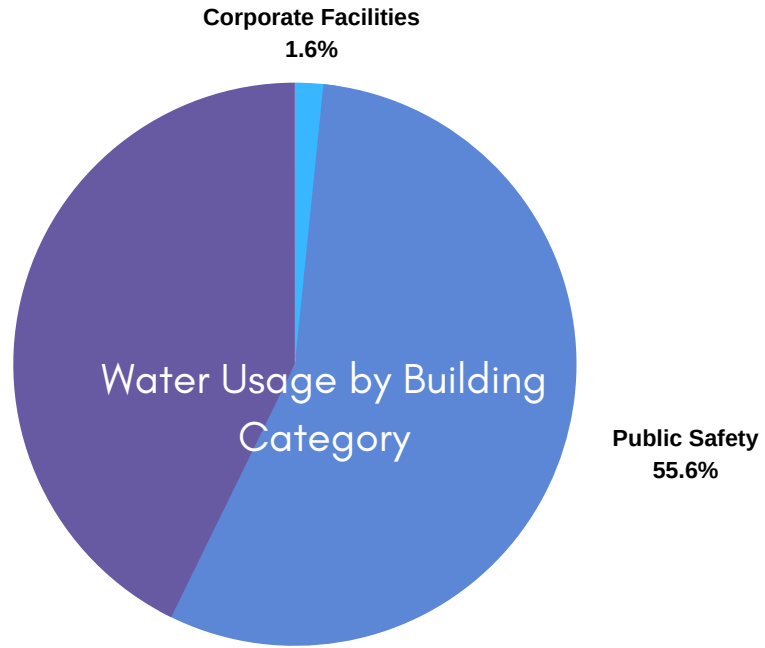
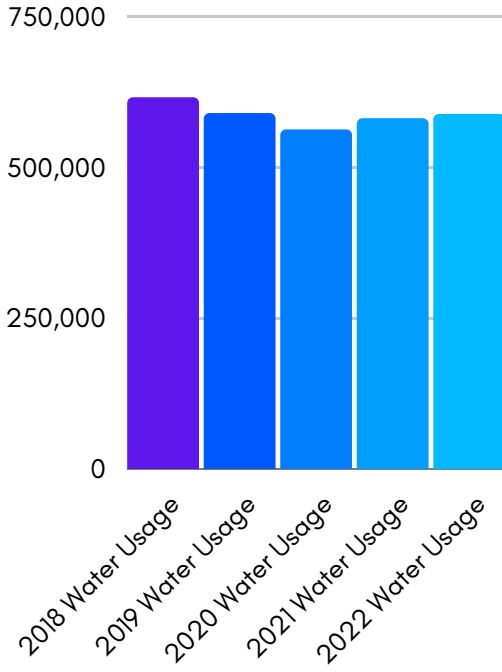
Cook County has signed its first off-site renewable energy supply agreement, which will cover about 24% of its building portfolio electricity use starting in March 2025. This project goes beyond energy to include community co-benefits including the creation of jobs, investment in training programs, and development of a pollinator friendly habitat.



*Cook County's First Power Purchase Agreement (PPA) for renewable energy was reached as part of a broader transaction with Constellation and Swift Current Energy*

Progress toward 100% renewable electricity goal Starting in 2025

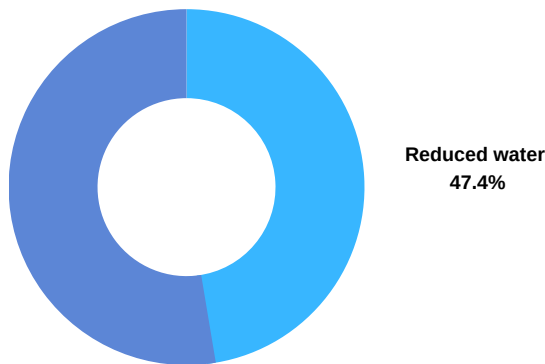
**Annual Water Usage in 1,000 gallons**



**WATER CHANGES**

In 2022, Cook County used about 586,596,000 gallons of water across the portfolio of benchmarked buildings, which was a 1.2% increase in usage compared to the previous year. Water data continues to get more accurate over time as meters are read more frequently and actual reads increase. Three new health facilities were added to the portfolio, which contributed about 0.5% of this year's annual increase, or 2,877,000 gallons of water. This year's water data shows the majority of water use occurring at public safety and health and hospitals facilities. This was the second year that Stroger Hospital Campus had more accurate meter reads and this amount was added to the total annual water usage. To account for this, the year-to-year reduction looked at the comparison by adding estimates for Stroger Hospital Campus for 2018-2020. Robbins Health Clinic did not have data for the second half of the year, and appeared lower as a result.

**Percentage of Benchmarked Sites with Water Reductions**



**WATER USAGE IMPROVEMENTS**

Water usage data can help highlight infrastructure upgrades, detect potential leaks, and target efficiency measures (as some energy equipment relies on water to function properly). COVID-19 impacted water use with reduced occupancy in some of the County's facilities leading to some sites reducing water usage while other sites increased water usage for health needs. The top 4 facilities with significant reductions in water use were:

- Provident Hospital: -3,282,000 gallons
- Forensics: -1,920,000 gallons
- Dunne Building: -518,000 gallons
- Rolling Meadows Courthouse: -229,000 gallons

**During 2022, some employees were able to work remotely part-time, which led to reduced water usage at about 47% of benchmarked sites.**

# Next Steps

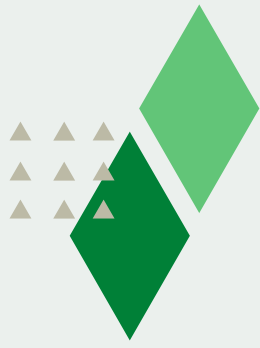
**Implement another year of STIC\* with it energy saving challenges for building engineers 2023**

**Power Purchase Agreement implementation in 2025 to get about 24% of the way to 100% renewable electricity goal**

**Water Project at the Department of Corrections**

**Selected for Clean energy to Communities (C2C) NREL Expert Match analysis to inform building electrification at pilot County Buildings**

**\*STIC=  
S ee Where Energy is Used  
T ools  
I mplementation  
C reate a Lasting Plan**



# Appendix A: 2022 County-Owned Properties Benchmarked

## Corporate Facilities

### George W. Dunne Office Building

*69 W. Washington St., Chicago, IL 60602  
Size: 787,888 square feet*

### Cook County Building

*118 N. Clark St., Chicago, IL 60602  
Size: 638,592 square feet*

### Rockwell Warehouse

*2323 S. Rockwell St., Chicago, IL 60608  
Size: 447,418 square feet*

### Hawthorne Warehouse

*4545 W. Cermak Rd., Chicago, IL 60623  
Size: 354,672 square feet*

### Cicero Records Center

*1330 S. 54th Avenue, Cicero, IL 60804  
Size: 260,725 square feet*

## Parking Garages

### Skokie Courthouse Parking

*5600 Old Orchard Rd., Skokie, IL 60077  
Size: 483,451 square feet*

### Provident Hospital Parking

*5010 South Forestville Ave., Chicago, IL 60615  
Size: 245,541 square feet*

### Rolling Meadows Courthouse Parking

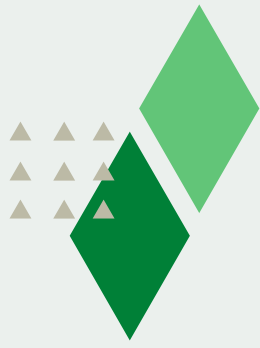
*2121 Euclid Ave., Rolling Meadows, IL 60008  
Size: 554,767 square feet*

### JTDC Parking

*1101 S. Hamilton Ave., Chicago, IL 60612  
Size: 788,777 square feet*

### Rockwell Warehouse Garage

*2323 S. Rockwell St., Chicago, IL 60608  
Size: 4,788 square feet*



# Appendix A: 2022 County-Owned Properties Benchmarked

## Public Safety

### Department of Corrections Campus

26th/S. California, Chicago, IL 60608

Size: 4,468,310 square feet

### Domestic Violence

#### Courthouse

555 W. Harrison St., Chicago, IL 60607

Size: 187,268 square feet

### Skokie Courthouse (2nd District)

5600 Old Orchard Rd., Skokie, IL 60077

Size: 345,743 square feet

### Maywood Courthouse Campus (4th District)

Includes Maywood Courthouse, Jefferson, Whitcomb and Sheriff Training Buildings

1500 Maybrook Dr., Maywood, IL 60153

Size: 276,999 square feet

### Markham Courthouse (6th District)

16501 S. Kedzie Ave., Markham, IL 60428

Size: 317,652 square feet

### CCDOH Maintenance Facility (District 2)

9801 Ballard Rd., Des Plaines, IL 60016

Size: 61,911 square feet

### CCDOH Maintenance Facility (District 4)

8900 W. 135th St., Orland Park, IL 60462

Size: 68,444 square feet

### Sheriff Central Warrants

937 Wood St., Chicago, IL

Size: 19,436 square feet

### Juvenile Detention Center

1100 S. Hamilton Ave., Chicago, IL 60612

Size: 611,255 square feet

### Juvenile West Courthouse

1100 S. Hamilton Ave., Chicago, IL 60612

Size: 412,596 square feet

### Rolling Meadows Courthouse (3rd District)

2121 Euclid Ave., Rolling Meadows, IL 60008

Size: 335,205 square feet

### Bridgeview Courthouse (5th District)

10220 S. 76th St., Bridgeview, IL 60455

Size: 335,205 square feet

### CCDOH Maintenance Facility (District 1)

2325 N. Meacham Rd., Schaumburg, IL 60173

Size: 56,568 square feet

### CCDOH Maintenance Facility (District 3)

901 W. 26th St., LaGrange, IL 60526

Size: 46,323 square feet

### CCDOH Maintenance Facility (District 5)

13600 S. Ashland Ave., Riverdale, IL 60827

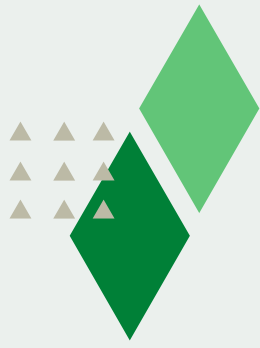
Size: 78,092 square feet

### Institute of Forensic Medicine

2121 W. Harrison St., Chicago, IL 60612

Size: 79,368 square feet





# Appendix A: 2022 County-Owned Properties Benchmarked

## Health and Hospitals

### **Oak Forest Hospital Campus**

15900 S. Cicero Ave., Oak Forest, IL 60452  
Size: 1,097,997 square feet

### **Stroger Hospital Campus**

1901 W. Harrison St., Chicago, IL 60612  
Size: 1,596,300 square feet

### **Provident Hospital**

500 E. 51st St., Chicago, IL 60615  
Size: 341,042 square feet

### **Provident Outpatient Pharmacy**

430 E. 50th Pl., Chicago, IL 60615  
Size: 6,577 square feet

### **Ruth M. Rothstein Core Center**

2020 W. Harrison St., Chicago, IL 60612  
Size: 79,368 square feet

### **Cottage Grove Health Center**

1645 Cottage Grove Ave., Ford Heights, IL 60411  
Size: 13,370 square feet

### **Blue Island Health Center**

12757 S. Western Avenue, Blue Island, IL 60406  
Size: 42,276 square feet

### **N. Riverside Health Center-Leased**

1800 S. Harlem, N. Riverside, IL 60546  
Size: 20,676 square feet

### **CCHHS Professional Building**

1950 W. Polk St, Chicago, IL 60612  
Size: 282,000 square feet

### **Near South Health Clinic**

3525 S. Michigan Ave., Chicago, IL 60653  
Size: 11,394 square feet  
Vacated early 2021

### **Edward Piszczek TB Clinic**

7556 W. Jackson Blvd., Forest Park, IL 60130  
Size: 19,352 square feet

### **Des Plaines TB Clinic**

9325 Church St., Des Plaines, IL 60016  
Size: 2,489 square feet

### **Belmont- Cragin Health Center**

5501 W. Fullerton Ave., Chicago, IL 60639  
Size: 25,000 square feet

### **Englewood Health Center**

1135 W. 69th St., Chicago, IL 60621  
Size: 10,770 square feet

### **Harvey TB Clinic/Cook County Assistance Center**

15948 S. Halsted St., Harvey, IL 60426  
Size: 2,723 square feet

### **Robbins Health Center**

13450 S. Kedzie Ave., Robbins, IL 60472  
Size: 14,306 square feet

### **Prieto Health Center**

2424 S. Pulaski Rd., Chicago, IL 60623  
Size: 16,972 square feet

### **Arlington Heights Health Center- Leased**

3250 Arlington Heights Road, Arlington Heights,  
IL 60074  
Size: 24,948 square feet

### **Logan Square Health Center**

2840 W. Fullerton Ave., Chicago, IL 60647  
Size: 8,169 square feet  
Decommissioned 2022

# Energy Star Portfolio Manager

## Technical Information

- Energy Star Portfolio Manager updates its conversion factors frequently, with only the most recent technical guides available on the webpage
- This year's methodology was updated as of October 2020
- The following tables from Energy Star's Technical Guides explain their methodology used in the database calculations for the October 2020 update
- Energy Star tends to lag a year behind the most recent eGrid updates for greenhouse gas emissions calculations

Figure 1 – Source-Site Ratios for all Portfolio Manager Energy Meter Types

Energy Type	U.S. Ratio	Canadian Ratio
Electricity (Grid Purchase)	2.80	1.96
Electricity (Onsite Solar or Wind - regardless of REC ownership)	1.00	1.00
Natural Gas	1.05	1.01
Fuel Oil (No. 1,2,4,5,6, Diesel, Kerosene)	1.01	1.01
Propane & Liquid Propane	1.01	1.04
Steam	1.20	1.33
Hot Water	1.20	1.33
Chilled Water	0.91	0.57
Wood	1.00	1.00
Coal/Coke	1.00	1.00
Other	1.00	1.00

Greenhouse Gas Emissions Factor



Figure 1 – Direct GHG Emissions Factors for the U.S. and Canada

Fuel Type	CO <sub>2</sub> eq Emissions			
	United States	Canada		
	(kg/MBtu)	(kg/MBtu)	(g/L)	(kg/tonne)
Natural Gas	53.11		<i>By Province</i>	
Propane	64.25	64.52	1,548	-
Fuel Oil (No. 1)	73.50	75.13	2,763	-
Fuel Oil (No. 2)	74.21	75.13	2,763	-
Fuel Oil (No. 4)	75.29	75.13	2,763	-
Fuel Oil (No. 5,6)	75.35	78.86	3,176	-
Diesel Oil	74.21	74.09	2690	-
Kerosene	77.69	71.96	2,570	-
Coal (anthracite)	104.44	94.76	-	2,488
Coal (bituminous)	94.03	100.36	-	2378
Coke	114.42	116.36	-	3,180

# ACKNOWLEDGEMENTS

COOK COUNTY  
ENERGY AND WATER  
BENCHMARKING REPORT

## **Bureau of Asset Management**

Elizabeth Granato	Bureau Chief
Jamie Meyers	Energy Manager
Kate Buczek	Energy Analyst

## **Department of Capital Planning**

Earl Manning	Director
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## **Department of Facilities Management**

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Pat Nolan	Operating Engineer IV
Bob Rassano	Electrical Foreman

## **Bureau of Administration**

### **Department of Environment and Sustainability**

Deborah Stone	Director
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### **Office of Research, Operations, and Innovation**

Sam Molaro	Industrial Engineer III
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### **Department of Geographic Information Systems**

David Arfa	System Analyst III
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## Appendix B: 2022 Energy Benchmarking Results of County-Owned Properties

The following table summarizes the 2022 benchmarking results for each building. Data has been downloaded from Energy Star Portfolio Manager.

Green indicates an improvement/reduction in emissions and red indicates an increase in annual emissions.

Property Name	Primary Property Type	Year Built	No. of Bldgs	ENERGY STAR Score	Site EUI (kBtu/ft <sup>2</sup> )	Source EUI (kBtu/ft <sup>2</sup> )	Source Energy Use (kBtu)	Site Energy Use (kBtu)	Electricity Use - Grid Purchase (kWh)	Natural Gas Use (therms)	GHG Emissions (Metric Tons CO <sub>2</sub> e)	GHG Emissions Intensity (kgCO <sub>2</sub> e/ft <sup>2</sup> )
<b>George W Dunne Office Building</b>	Office	1965	1	86	60	105	85,954,628	49,657,144	5,663,142	303,345	4,156	5.1
<b>Cook County Building</b>	Office	1906	1	56	97	184	117,777,135	61,733,512	8,869,024	314,724	5,658	8.9
<b>Rockwell Warehouse</b>	Non-Refrigerated Warehouse	1927	1	54	60	89	39,835,761	26,945,573	1,933,162	203,496	1,950	4.4
<b>Hawthorne Warehouse</b>	Non-Refrigerated Warehouse	1905	1	32	78	99	49,005,096	38,338,268	1,465,402	333,383	2,429	4.9
<b>Cicero Records Center</b>	Non-Refrigerated Warehouse	2008	1	34	49	87	22,559,886	12,704,739	1,544,115	74,362	1,089	4.2
<b>2nd District Courthouse Complex - Skokie</b>	Courthouse	1980	1	75	62	122	42,335,982	21,424,514	3,322,767	100,872	2,029	5.9
<b>2nd District Courthouse (Skokie)</b>	Courthouse	1980	1	87	52	94	32,317,745	17,846,572	2,274,132	100,872	1,558	4.5
<b>2nd District Courthouse (Skokie) Parking Structure</b>	Parking	2002	1	N/A	7	21	10,060,517	3,593,042	1,053,060	Not Available	473	1.0
<b>3rd District Courthouse Complex - Rolling Meadows</b>	Courthouse	1987	1	77	48	120	40,360,690	16,190,906	3,912,282	28,422	1,909	5.7
<b>3rd District Courthouse (Rolling Meadows)</b>	Courthouse	1987	1	81	45	112	37,398,704	15,133,054	3,602,243	28,422	1,770	5.3
<b>3rd District Courthouse (Rolling Meadows) Parking Structure</b>	Parking	1987	1	N/A	2	5	2,845,515	1,016,256	297,847	Not Available	134	0.2

Property Name	Primary Property Type	Year Built	No. of Bldgs.	ENERGY STAR Score	Site EUI (kBtu /ft²)	Source EUI (kBtu /ft²)	Source Energy Use (kBtu)	Site Energy Use (kBtu)	Electricity Use - Grid Purchase (kWh)	Natural Gas Use (therms)	GHG Emissions (Metric Tons CO2e)	GHG Emissions Intensity (kgCO2e/ft²)
<b>4th District Courthouse Campus - Maywood</b>	Courthouse	1975	4	N/A	74	177	48,891,390	20,369,822	4,606,109	46,538	2,317	8.4
Jefferson Building	Office	1965	1	69	61	170	8,018,071	2,863,597	839,272	Not Available	377	8.0
Whitcomb Building	Office	1965	1	54	61	170	3,938,792	1,406,711	412,284	Not Available	185	8.0
Sheriff Training Academy	Other - Public Services	1967	1	N/A	130	294	6,371,427	2,812,635	572,460	8,594	303	14.0
4th District Courthouse (Maywood)	Courthouse	1975	1	62	73	169	31,247,804	13,531,415	2,853,763	37,944	1,484	8.0
5th District Courthouse - Bridgeview	Courthouse	1989	1	87	41	101	33,772,680	13,769,270	3,234,792	27,322	1,599	4.8
Domestic Violence Courthouse	Courthouse	1890	1	59	96	170	31,758,536	17,940,047	2,167,314	101,542	1,513	8.1
6th District Courthouse - Markham	Courthouse	1980	1	82	45	118	37,573,019	14,259,433	3,785,063	13,448	1,773	5.6
Juvenile Temporary Detention Center Campus	Prison/Incarceration	1973	3	N/A	86	170	174,196,171	87,639,806	13,762,245	406,830	8,346	8.2
JTDC Parking Structure	Parking	1993	1	N/A	2	7	5,397,837	1,927,799	565,005	Not Available	254	0.3
Institute of Forensic Medicine	Other - Public Services	1982	1	N/A	205	355	28,204,538	16,296,952	1,857,769	99,582	1,364	17.2
Cook County Department of Corrections Campus	Prison/Incarceration	1926	57	N/A	120	191	874,793,283	547,986,166	50,145,331	3,766,402	42,560	9.3



Property Name	Primary Property Type	Year Built	No. of Bldgs.	ENERGY STAR Score	Site EUI (kBtu/ft <sup>2</sup> )	Source EUI (kBtu/ft <sup>2</sup> )	Source Energy Use (kBtu)	Site Energy Use (kBtu)	Electricity Use - Grid Purchase (kWh)	Natural Gas Use (therms)	GHG Emissions (Metric Tons CO <sub>2</sub> e)	GHG Emissions Intensity (kgCO <sub>2</sub> e/ft <sup>2</sup> )
<b>CCDOH Maintenance Facility District 1</b>	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1954	4	N/A	122	144	8,150,083	6,898,876	151,777	63,810	407	7.2
<b>CCDOH Maintenance Facility District 3</b>	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1950	3	N/A	105	147	6,809,031	4,848,519	287,738	38,668	335	7.2
<b>CCDOH Maintenance Facility District 2</b>	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1990	4	N/A	123	155	9,593,954	7,587,743	272,454	66,581	476	7.7
<b>CCDOH Maintenance Facility District 4</b>	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1969	5	N/A	116	140	9,594,298	7,930,495	212,239	72,063	478	7.0
<b>CCDOH Maintenance Facility District 5</b>	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1987	3	N/A	123	150	11,686,205	9,614,932	266,375	87,061	582	7.5
<b>Oak Forest Hospital Campus</b>	Medical Office	1910	52	N/A	73	123	134,971,546	79,961,595	8,543,270	508,120	6,538	6.0
<b>CORE Center</b>	Medical Office	1998	1	1	679	1,261	39,776,513	21,413,872	2,895,988	115,328	1,914	60.7
<b>Provident Hospital Campus</b>	Hospital (General Medical & Surgical)	1981	2	7	275	476	177,905,241	102,854,489	11,707,925	629,070	8,603	23.0
<b>Provident Hospital</b>	Hospital (General Medical & Surgical)	1981	2	4	272	467	174,636,479	101,687,074	11,365,775	629,070	8,449	22.6
<b>Provident Hospital Parking Structure</b>	Parking	1991	1	N/A	5	13	3,119,639	1,114,157	326,541	Not Available	147	0.6
<b>Stroger Hospital Campus</b>	Hospital (General Medical & Surgical)	2002	4	12	309	511	816,249,892	493,969,414	49,837,878	3,239,226	39,603	24.8
<b>Cottage Grove Health Center</b>	Medical Office	2000	1	11	124	197	2,635,885	1,651,300	151,067	11,359	128	9.6

Property Name	Primary Property Type	Year Built	No. of Bldgs.	ENERGY STAR Score	Site EUI (kBtu/ft <sup>2</sup> )	Source EUI (kBtu/ft <sup>2</sup> )	Source Energy Use (kBtu)	Site Energy Use (kBtu)	Electricity Use - Grid Purchase (kWh)	Natural Gas Use (therms)	GHG Emissions (Metric Tons CO <sub>2</sub> e)	GHG Emissions Intensity (kgCO <sub>2</sub> e/ft <sup>2</sup> )
Piszczek TB Clinic	Medical Office	1957	1	14	176	264	5,103,326	3,404,487	256,006	25,310	250	12.9
Des Plaines TB Clinic	Medical Office	1991	1	N/A	142	274	681,717	354,213	51,883	1,772	33	13.1
Logan Square Health Center	Medical Office	1962	1	80	66	121	985,847	540,241	70,105	3,010	48	5.8
Englewood Health Center	Medical Office	2000	1	1	244	443	4,772,960	2,632,507	336,431	14,846	230	21.4
Harvey TB Clinic	Medical Office	1962	1	N/A	58	72	196,148	156,618	5,309	1,385	10	3.6
Robbins Health Center	Medical Office	2000	1	2	176	277	3,957,515	2,520,081	219,633	17,707	193	13.5
Prieto Health Center	Medical Office	1994	1	27	97	196	3,324,183	1,639,383	268,436	7,235	159	9.4
Provident Hospital Pharmacy	Medical Office	2005	1	1	297	598	3,931,873	1,956,105	314,514	8,830	188	28.6
Rockwell Warehouse Garage	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1927	1	N/A	257	323	1,544,167	1,231,958	41,971	10,888	77	16.0
Sheriff Central Warrants	Police Station	1955	1	N/A	104	159	3,091,142	2,015,227	163,315	14,580	151	7.8
Professional Building	Clinic/Office	2018	1	Not Available	117	224	63,125,388	32,933,522	4,780,637	166,220	3,031	10.7
Blue Island Health Center	Clinic	2018	1	Not Available	110	292	12,355,469	4,642,837	1,252,803	3,683	583	13.8
Arlington Heights Health Center	Clinic	2018	1	Not Available	86	153	3,824,492	2,149,716	262,484	12,541	185	7.4
Belmont Cragin Health Center	Clinic	2021	1	Not Available	104	186	4,641,839	2,590,934	321,782	14,930	224	9.0
North Riverside Health Center	Clinic	2017	1	Not Available	100	195	4,039,798	2,061,546	314,047	9,900	194	9.4

NOTE: NO. OF BLDGS. IN ( ) INDICATE CAMPUS PORTFOLIOS WHERE THE BUILDINGS ARE COUNTED ELSEWHERE TO AVOID DOUBLE COUNTING

# Appendix C: 2022 Water Benchmarking Results

Water data from billing usage data sets and water use intensity calculations.

Facility Name	Type	City	TGAL Consumption	UOM	Water Intensity (gal/sq. ft)	UOM
<b>DOC</b>	PS	Chicago	<b>290,392</b>	1,000 Gallons	<b>65.0</b>	Gallons/sq. ft
<b>Oak Forest Campus</b>	HH	Oak Forest	<b>97,480</b>	1,000 Gallons	<b>88.8</b>	Gallons/sq. ft
<b>JTDC Campus</b>	PS	Chicago	<b>19,184</b>	1,000 Gallons	<b>10.6</b>	Gallons/sq. ft
<b>Provident Hospital</b>	HH	Chicago	<b>31,927</b>	1,000 Gallons	<b>93.6</b>	Gallons/sq. ft
<b>Cook County Building</b>	CF	Chicago	<b>5,904</b>	1,000 Gallons	<b>9.2</b>	Gallons/sq. ft
<b>Forensic Institute</b>	PS	Chicago	<b>4,631</b>	1,000 Gallons	<b>58.3</b>	Gallons/sq. ft
<b>Maywood Courthouse</b>	PS	Maywood	<b>1,787</b>	1,000 Gallons	<b>9.7</b>	Gallons/sq. ft
<b>Dunne Building</b>	CF	Chicago	<b>2,062</b>	1,000 Gallons	<b>2.5</b>	Gallons/sq. ft
<b>Rolling Meadows Courthouse</b>	PS	Rolling Meadows	<b>1,166</b>	1,000 Gallons	<b>3.5</b>	Gallons/sq. ft
<b>Rockwell Warehouse*</b>	CF	Chicago	<b>75</b>	1,000 Gallons	<b>0.2</b>	Gallons/sq. ft
<b>Markham Courthouse</b>	PS	Markham	<b>2,610</b>	1,000 Gallons	<b>8.2</b>	Gallons/sq. ft
<b>Bridgeview Courthouse</b>	PS	Bridgeview	<b>1,002</b>	1,000 Gallons	<b>3.0</b>	Gallons/sq. ft
<b>Skokie Courthouse</b>	PS	Skokie	<b>1,257</b>	1,000 Gallons	<b>3.6</b>	Gallons/sq. ft
<b>Domestic Violence Courthouse</b>	PS	Chicago	<b>1,350</b>	1,000 Gallons	<b>7.2</b>	Gallons/sq. ft
<b>Hawthorne Warehouse</b>	CF	Chicago	<b>1,120</b>	1,000 Gallons	<b>2.3</b>	Gallons/sq. ft
<b>CORE Center</b>	HH	Chicago	<b>793</b>	1,000 Gallons	<b>10.0</b>	Gallons/sq. ft
<b>Jefferson Building*</b>	PS	Maywood	<b>538</b>	1,000 Gallons	<b>11.4</b>	Gallons/sq. ft
<b>Provident Pharmacy</b>	HH	Chicago	<b>47</b>	1,000 Gallons	<b>7.1</b>	Gallons/sq. ft
<b>Piszczek TB Clinic</b>	HH	Forest Park	<b>422</b>	1,000 Gallons	<b>21.8</b>	Gallons/sq. ft
<b>CCDOH District 5</b>	PS	Blue Island	<b>1,483</b>	1,000 Gallons	<b>19.0</b>	Gallons/sq. ft
<b>Des Plaines TB Clinic</b>	HH	Des Plaines	<b>44</b>	1,000 Gallons	<b>17.5</b>	Gallons/sq. ft
<b>CCDOH District 3</b>	PS	LaGrange Park	<b>310</b>	1,000 Gallons	<b>6.7</b>	Gallons/sq. ft
<b>Whitcomb Building</b>	PS	Maywood	<b>159</b>	1,000 Gallons	<b>6.9</b>	Gallons/sq. ft
<b>Robbins Health Center**</b>	HH	Robbins	<b>225</b>	1,000 Gallons	<b>15.7</b>	Gallons/sq. ft
<b>Prieto Health Center</b>	HH	Chicago	<b>230</b>	1,000 Gallons	<b>13.6</b>	Gallons/sq. ft
<b>Cottage Grove Health Center</b>	HH	Chicago Heights	<b>141</b>	1,000 Gallons	<b>10.5</b>	Gallons/sq. ft
<b>CCDOH District 4</b>	PS	Orland Park	<b>150</b>	1,000 Gallons	<b>2.2</b>	Gallons/sq. ft
<b>CCDOH District 1</b>	PS	Schaumburg	<b>56</b>	1,000 Gallons	<b>1.0</b>	Gallons/sq. ft
<b>Cicero Records Center</b>	CF	Cicero	<b>322</b>	1,000 Gallons	<b>1.2</b>	Gallons/sq. ft
<b>Englewood Health Center</b>	HH	Chicago	<b>122</b>	1,000 Gallons	<b>11.3</b>	Gallons/sq. ft
<b>Logan Square Health Center</b>	HH	Chicago	<b>100</b>	1,000 Gallons	<b>12.2</b>	Gallons/sq. ft
<b>CCDOH District 2</b>	PS	Des Plaines	<b>223</b>	1,000 Gallons	<b>3.6</b>	Gallons/sq. ft
<b>Provident Parking Structure</b>	PK	Chicago	<b>0</b>	1,000 Gallons	<b>0</b>	Gallons/sq. ft
<b>Harvey TB Clinic</b>	HH	Harvey	<b>0</b>	1,000 Gallons	<b>0</b>	Gallons/sq. ft
<b>Stroger Hospital Campus</b>	HH	Chicago	<b>116,410</b>	1,000 Gallons	<b>65.4</b>	Gallons/sq. ft
<b>Professional Building</b>	HH	Chicago	<b>2,173</b>	1,000 Gallons	<b>7.7</b>	Gallons/sq. ft
<b>Blue Island Health Center</b>	HH	Blue Island	<b>583</b>	1,000 Gallons	<b>13.8</b>	Gallons/sq. ft
<b>Belmont Cragin Health Center</b>	HH	Chicago	<b>121</b>	1,000 Gallons	<b>4.8</b>	Gallons/sq. ft

All Water data was based on available billing information. A few of these sites are undergoing further analysis to ensure usage accuracy. Last 3 accounts are new to the 2023 report.

Notes: \*Usual data in 2021 was different than in 2022, bills will continue to get accurate in the future, and in the future usage where data is missing or overbilled will use estimates.

\*\*Estimated usage was used for part of 2022 as there were missing months of usage.

## Appendix D: Assumptions for Calculations

- **Energy:**

Source energy is used for all performance metrics in Cook County's portfolio for the 2023 Benchmarking Report. Source energy accounts for losses that are incurred in the storage, transport, and delivery of fuel to the building. Source Energy data involves a scale factor, which was most recently updated for 2018 data and beyond. For this reason, source energy data was compared over the past three years instead of the full duration of benchmarking to aid in comparison with the same underlying conditions.

- **GHG Emissions:**

This report looks only at building greenhouse gas Scope 2 emissions from electricity and natural gas use. Greenhouse gas percentage values may differ from 2010 reduction goals to achieve the 100% reduction by 2050 as not all buildings are benchmarked and the baseline years differ. The first Benchmarking Report was issued in 2013 and additional facilities were phased in during subsequent years based on square footage brackets determined in the Benchmarking Ordinance. Therefore, benchmarking uses year to year comparisons for GHG emissions as the most accurate method. The emissions factor used for GHG calculations in this Benchmarking Report comes directly from Energy Star Portfolio Manager and may not be updated as frequently as the eGrid value. Five new properties to the portfolio were added to this year's report as a full year of data is now available in portfolio manager to report out.

- **Water:**

Water usage data was compared on a building-by-building basis to get a full year of data. As water billing happens at different frequencies rather than monthly, annual totals were calculated based on a full year coherent with the facility's billing cycle. Since this is only the 7th full year of water data, outlying values are in progress of being understood and for the time being are assumed to be different than expected due to billing differences, infrastructure leaks, etc. This was the second year for more consistent data for Stroger Campus. For this reason, Stroger Hospital consumption was estimated for the years 2018, 2019, and 2020 during annual comparisons. Hektoen (now unoccupied) and Cicero Health Center were left off this year's totals as they were vacated in 2019 and early 2020, respectively. The Near South Health Center was vacated at the beginning of 2021 and removed as well.