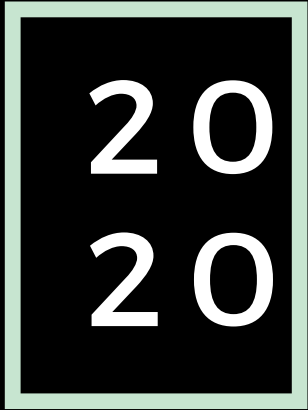
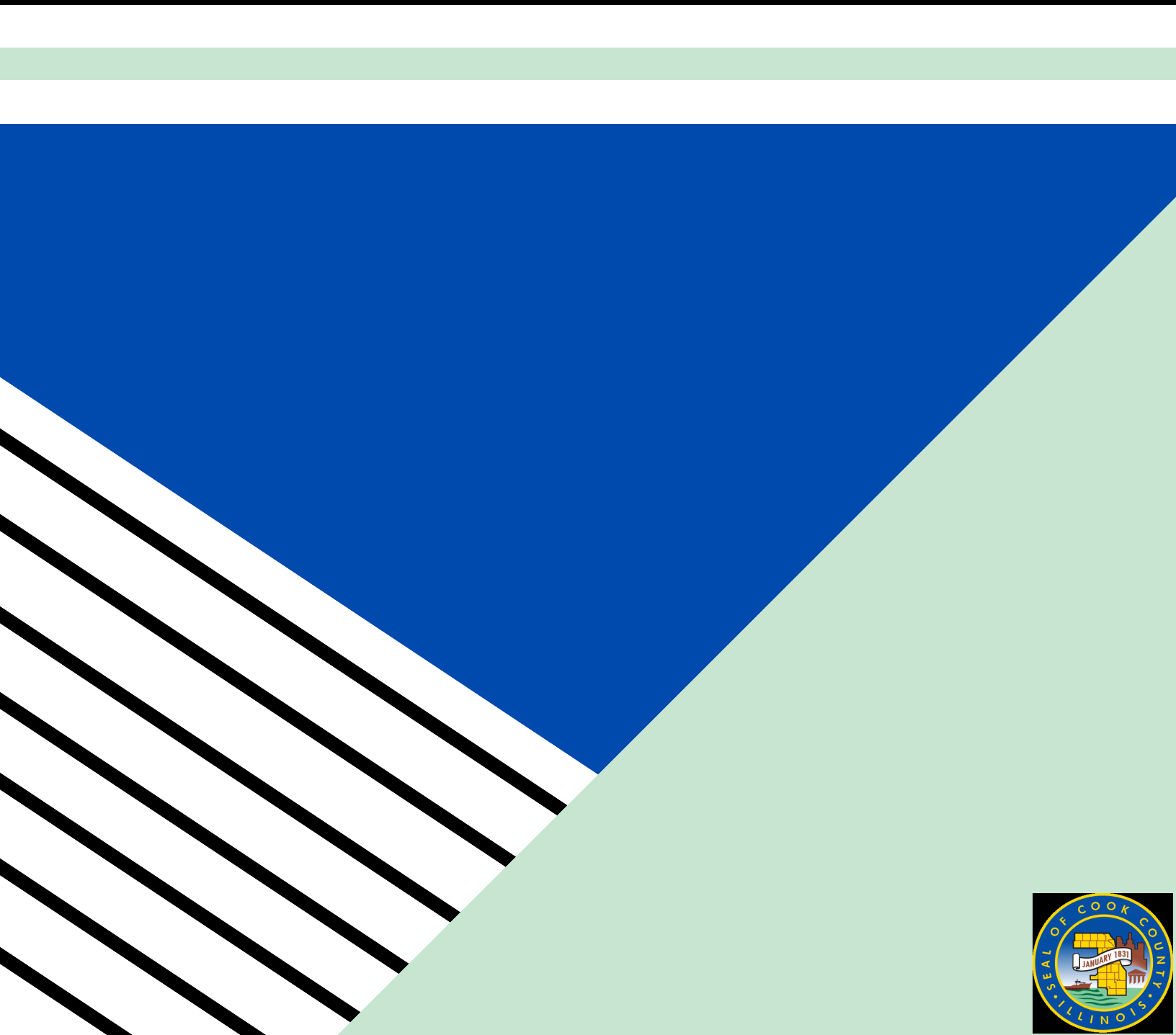


ENERGY AND WATER BENCHMARKING REPORT

COOK COUNTY
BUREAU OF ASSET MANAGEMENT



Based on 2019 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, 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 both President Toni Preckwinkle's goal for Cook County to be carbon neutral by 2050 and supporting 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.

Highlights for the 2020 Energy and Water Benchmarking Report include:

- 67% of the benchmarked properties reduced their energy usage over the last year
- 4% reduction in greenhouse gas emissions
- 5% reduction in water usage over the last year

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

Sincerely,

Elizabeth Granato
Interim Bureau Chief

Jamie Meyers
Energy Manager



ACKNOWLEDGEMENTS

COOK COUNTY
ENERGY AND WATER
BENCHMARKING REPORT

Bureau of Asset Management

Elizabeth Granato	Interim Bureau Chief
Jamie Meyers	Energy Manager
Kate Buczek	Energy Consultant

Department of Capital Planning and Policy

Earl Manning	Director
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Department of Facilities Management

Bilqis Jacobs–El	Director
Bob Rassano	Electrical Foreman
Pat Nolan	Operating Engineer IV

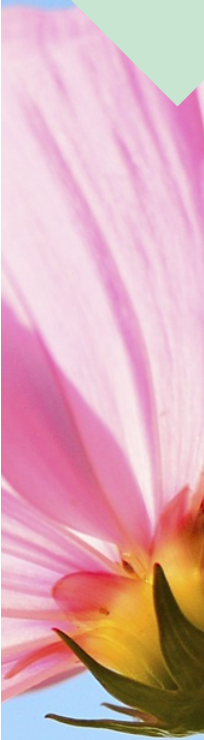
Bureau of Administration

Department of Environment and Sustainability

Deborah Stone	Director
Sarah Edwards	Program Manager

Office of Research, Operations, and Innovation

Jerry Pray	Director
Sam Molaro	Industrial Engineer III





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 ENERGY, WATER, AND GREENHOUSE GAS EMISSIONS USAGE DATA 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 2019 Goals of the Green Buildings Program

Energy	Water	Waste	Technology	Community
Goal	Goal	Goal	Goal	Goal
Carbon Neutral by 2050	30% water usage reduction by 2025	80% diversion rate by 2050	80% of buildings to incorporate smart building technology by 2025	Create a positive impact on County residents
Develop 100% renewables plan for County electricity usage	Develop water conservation measures for the Department of Corrections campus	Incorporate a waste and recycling component to the County benchmarking ordinance	Create an inventory and upgrade schedule for building automation systems	Develop sustainability standards as part of the workplace strategy design standards

2019 Annual Summary

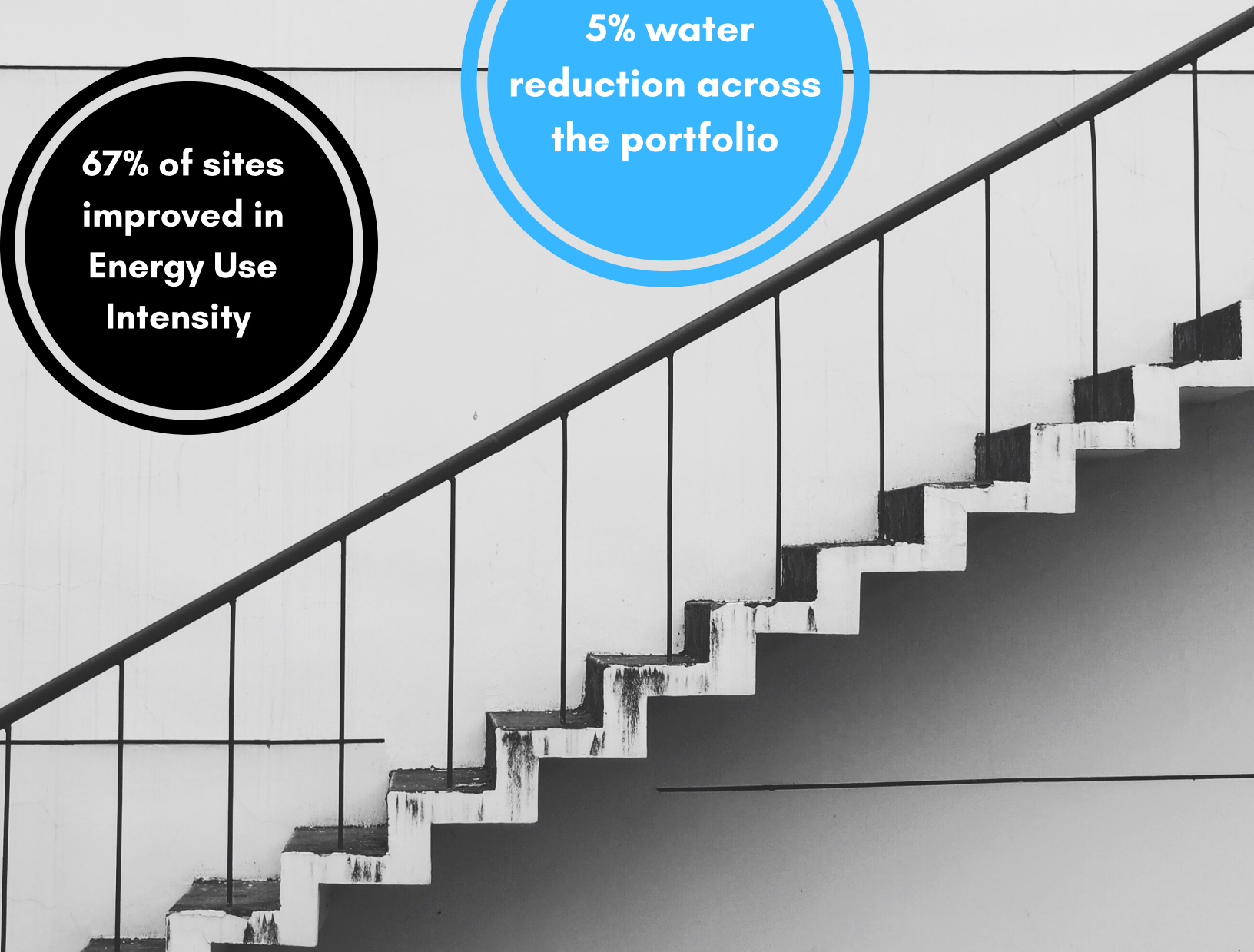
In 2019...

**69% of sites
reduced GHG
Emissions**

**65% of buildings
improved
Energy Star Score**

**5% water
reduction across
the portfolio**

**67% of sites
improved in
Energy Use
Intensity**



STATISTICS

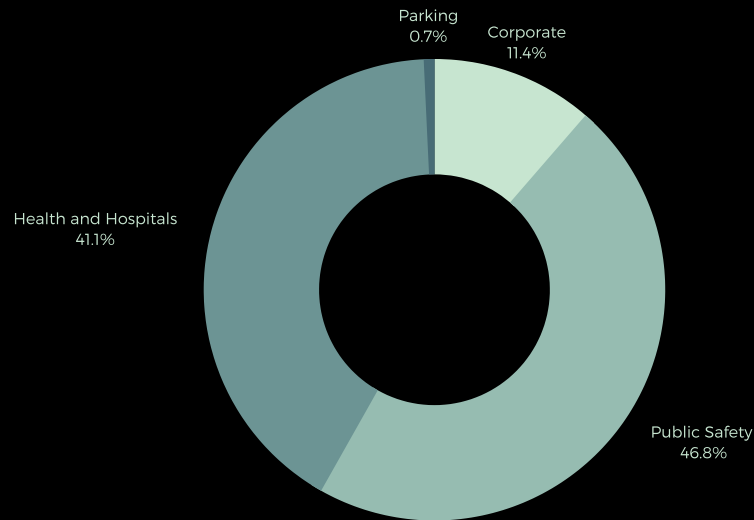
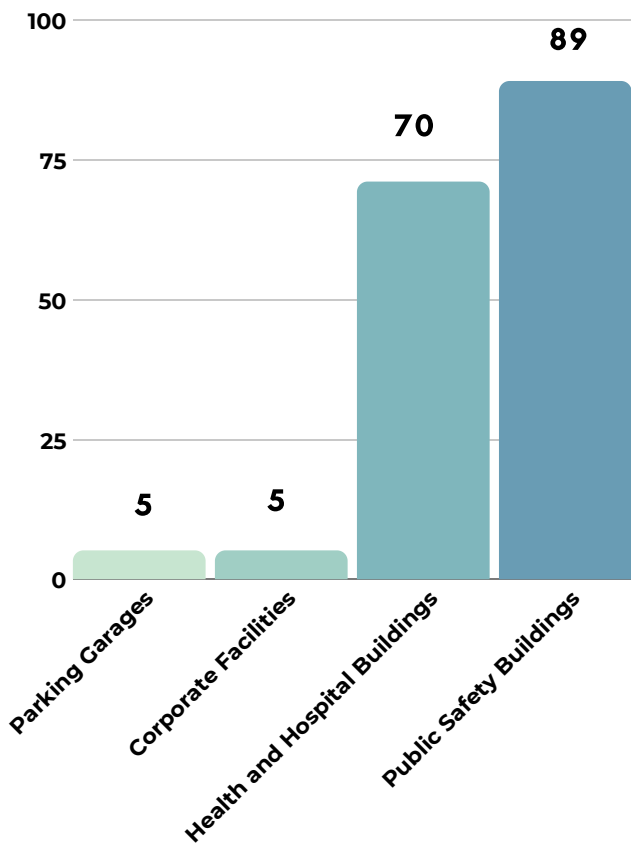
2019 ANNUAL UPDATES

COOK COUNTY'S BUILDING PORTFOLIO

Cook County's Energy and Water Benchmarking report helps to inform energy and water project decisions for increased savings, to mark progress toward energy, water, and greenhouse gas reduction goals, and to 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 decommissioned in 2019.

Number of Buildings by Category



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.

WHAT IS BENCHMARKED?

COOK COUNTY TRACKS 42 SITES IN THE ENERGY STAR PORTFOLIO MANAGER TOOL. SOME OF THESE SITES HAVE MORE THAN ONE BUILDING ON EACH SITE, FOR A TOTAL OF 170 BUILDINGS OVERALL.

SUCCESS STORIES

Energy Efficiency projects save energy, reduce greenhouse gas emissions, and reduce operational expenses for Cook County.

Two examples of facilities with significant annual energy reductions from 2018 to 2019 include the Englewood Health Center and the Provident Pharmacy.

45%

source energy saved

Energy reduction from new building automation system at the Englewood Health Center (pictured to the right)

55%

source energy saved

At the Provident Pharmacy, HVAC upgrades in the renal dialysis clinic resulted in significant energy savings



Energy Behavior Change Program Update

Cook County's Department of Environment and Sustainability and Bureau of Asset Management expanded the Energy Behavior Change Pilot to include an additional facility in 2019: The Cook County Building at 118 N. Clark St. This campaign encouraged employees to turn off their computer monitors when leaving work. Data was collected at evening desk audits throughout the campaign. Compared with an initial 20% of monitors turned off at the County Building, after the most recent audit, the campaign has reached:

53% of monitors turned off

1,100 employees

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, Rolling Meadows Courthouse, and the Bridgeview Courthouse.

65%

of properties improved

15 of the 23 sites able to be scored improved in Energy Star Score over the last year

75

The score needed to achieve Energy Star Certification Threshold

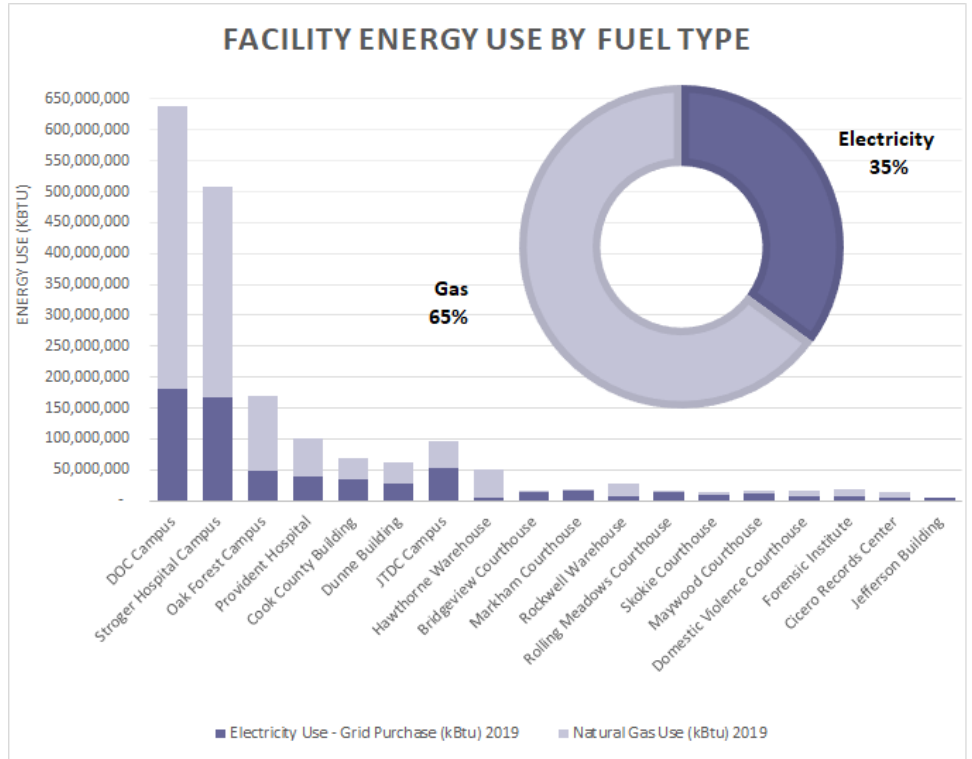
Property	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Skokie Courthouse (2nd District)	100	70	75	58	51	58	62	76	82	88
George W Dunne Administration Building	58	59	66	65	68	73	73	77	73	79
Rolling Meadows Courthouse (3rd District)	N/A	44	52	49	43	43	56	69	70	78
Bridgeview Courthouse (5th District)	23	38	44	35	24	24	32	45	44	78
Markham Courthouse (6th District)	14	27	40	31	27	33	32	47	43	68
Domestic Violence Courthouse	33	42	48	43	38	45	40	48	50	61
Rockwell Warehouse	55	56	60	53	53	52	53	51	52	49
Whitcomb Building	39	33	33	27	29	36	36	39	47	49
Maywood Courthouse (4th District)	10	13	16	17	16	23	26	28	32	49
Cook County Building	9	16	14	18	27	29	30	34	29	46
Jefferson Building	29	34	37	33	29	38	42	34	30	43
Logan Square Health Center	58	57	56	51	36	38	34	30	38	37
Cicero Records Center	N/A	N/A	N/A	N/A	46	36	40	39	38	36
Piszczek TB Clinic	20	11	22	16	19	20	25	27	31	33
Hawthorne Warehouse	17	14	16	17	18	18	17	18	20	21
Stroger Hospital Campus	7	7	7	7	12	16	13	12	6	8
Near South Health Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10	10	7
Robbins Health Center	43	40	48	54	57	50	13	3	4	2
Provident Hospital	31	N/A	N/A	1	1	1	3	3	2	3
Cottage Grove Health Center	27	15	22	20	22	27	6	1	1	1
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

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 170 buildings benchmarked, 67% 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 65% of the energy use from natural gas, and 35% from electricity in 2019. This energy make up varies by building. Some facilities (for example the Jefferson building in the graph to the right) only use electricity, while some other buildings (for example the Hawthorne Warehouse) use mostly gas to power operations.

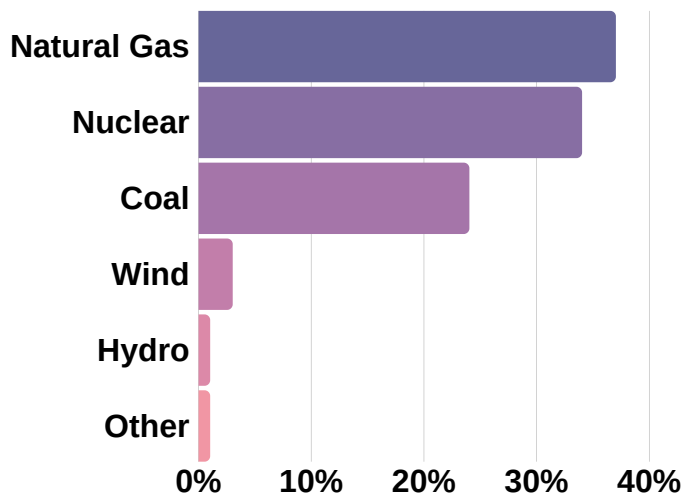


Note: DOC = Department of Corrections Campus ; JTDC = Juvenile Temporary Detention Center Campus

COOK COUNTY'S ENERGY USAGE

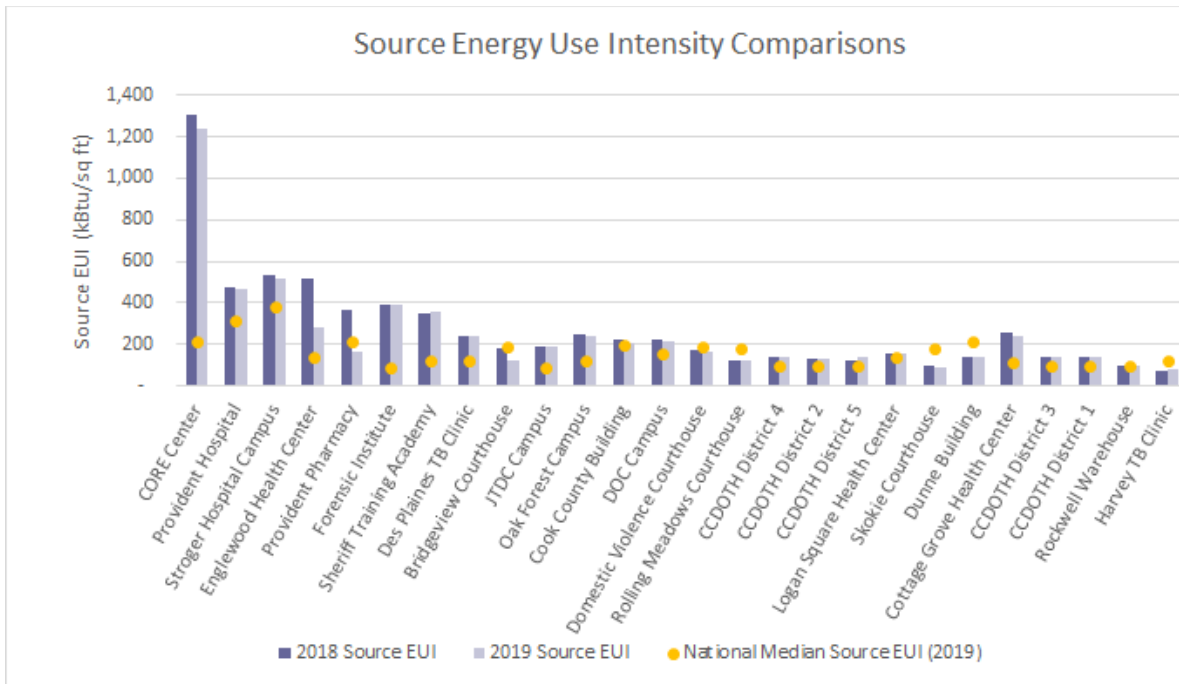
Cook County's benchmarked buildings used **3,230,086,423 kBTU** in 2019, a 4% reduction compared to 2018. This was equivalent to a 6% reduction in electricity (kWh) and a 1% reduction in gas usage (therms). This overall improvement is a step forward for reaching energy reduction goals. One of these energy 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. 2019 marked a 17% reduction toward that goal.

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



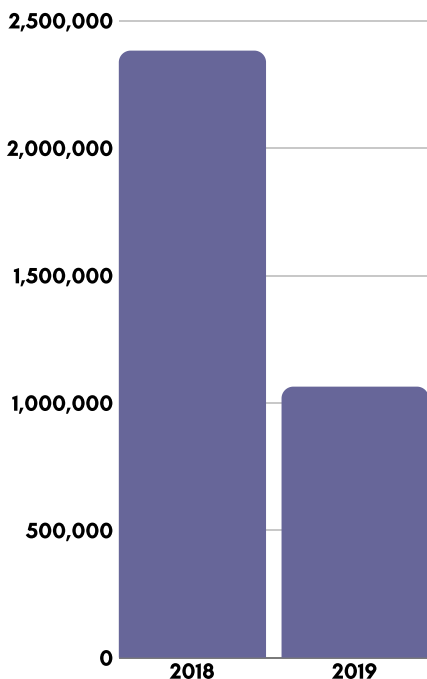
2019 ELECTRICITY GRID COMPOSITION (COMED)

The calendar year ending December 2019 had the following grid mix from Comed, Cook County's electricity provider. Noteworthy points include a decline in coal and an increase in natural gas making up the total grid mix.



SOURCE ENERGY USE INTENSITY (EUI)

The graph above shows annual energy usage comparisons between 2018 and 2019. 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 usage at 67% of the sites benchmarked in 2019. The orange 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 the Provident Pharmacy, which reduced energy by 55% in 2019 compared to the previous year. Other facilities that reduced more than 10% in total source energy usage include:

- Englewood Health Center (-45%)
- Bridgeview Courthouse (-32%)
- Provident Hospital Parking (-22%)
- Markham Courthouse (-21%)
- Sheriff Central Warrants (-15%)
- Maywood Courthouse (-10%)

Provident Pharmacy Annual Source Energy Use (kBtu)

GREENHOUSE GAS REDUCTIONS

Cook County has two greenhouse gas emissions reduction goals.

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

4%

**greenhouse gas emissions
reduced in 2019**

For the 170 benchmarked buildings

CO₂E

180,284 metric tons

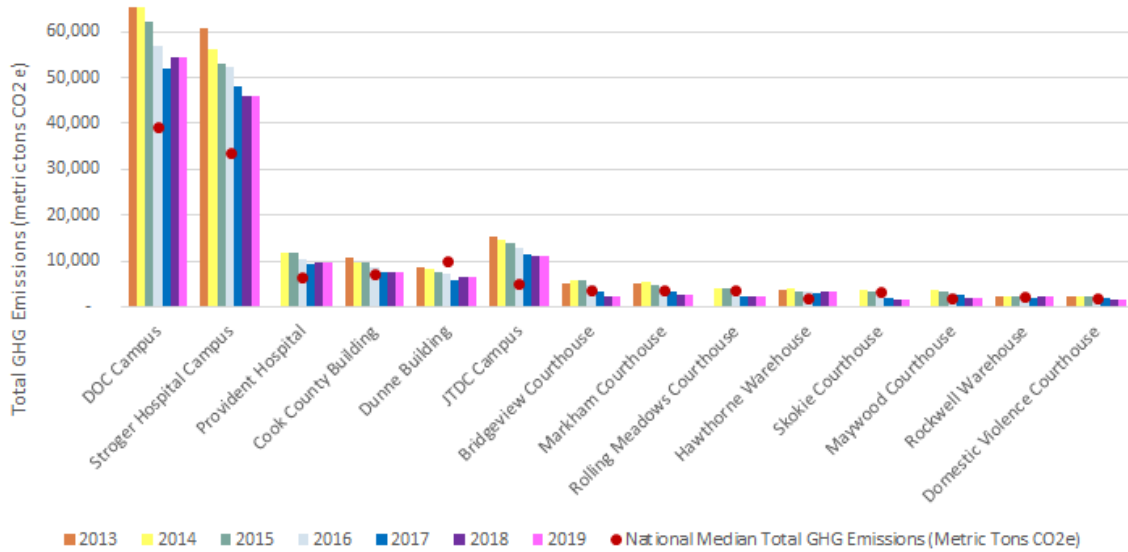
Greenhouse gas emissions are tracked in metric tons of carbon dioxide equivalent emissions or CO₂e. The total benchmarked emissions in 2019 were 180,284 metric tons of CO₂e.



Progress Toward Carbon Neutral

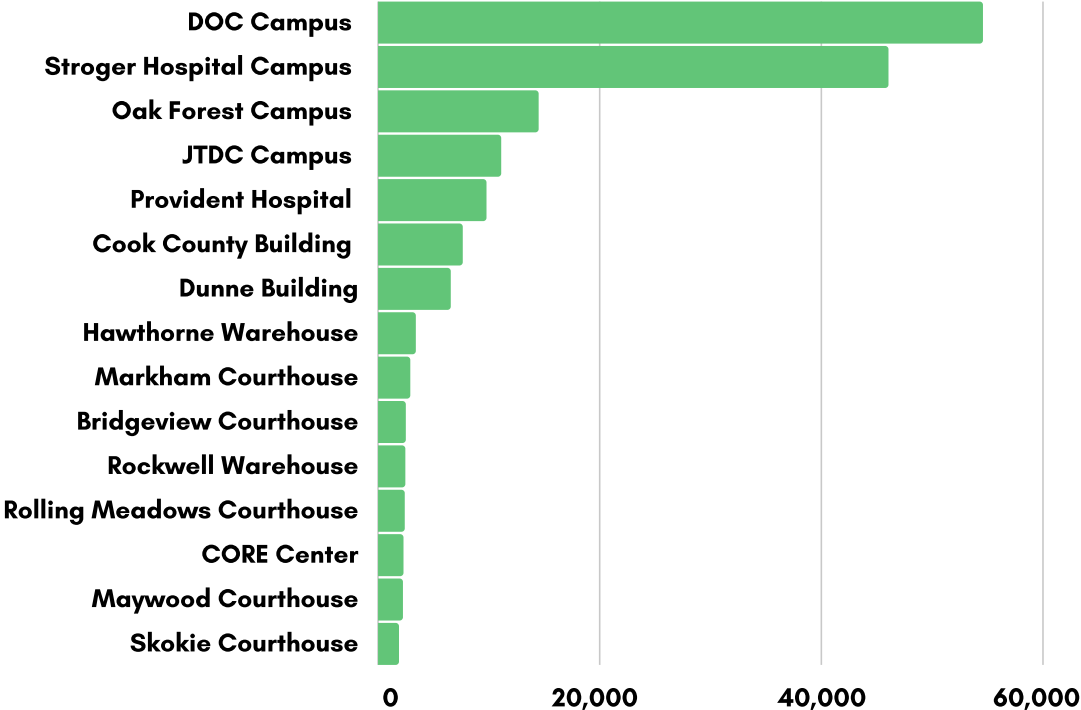
Cook County released a Clean Energy Plan to form a pathway to reach greenhouse gas emissions reduction goals and 100% renewable electricity for County-owned buildings. Mechanisms that have contributed to greenhouse gas emissions reductions since 2010 include energy efficiency projects, building automation system upgrades, solar installations at the Domestic Violence Courthouse and Bridgeview Courthouse, and lower emissions from the electricity grid mix in the Midwest.

Total Greenhouse Gas Emissions vs. National Median



WHAT CHANGED FOR GHG REDUCTIONS

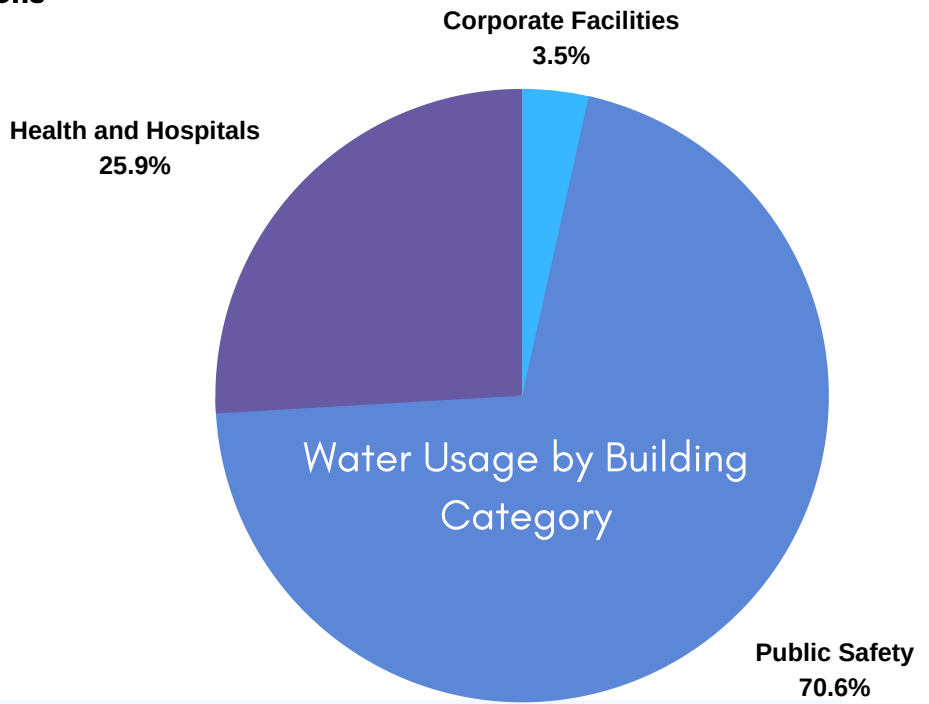
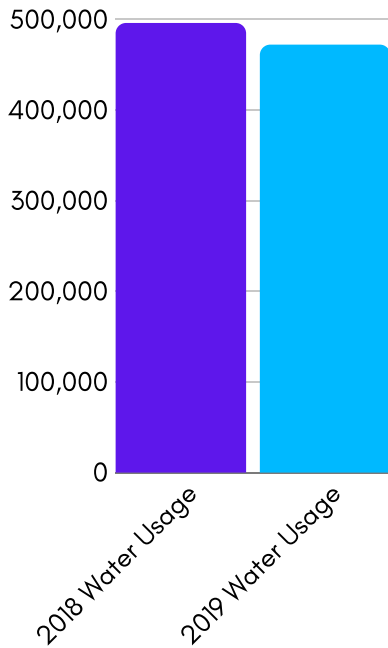
Of the benchmarking buildings, there was a 4% decrease in total greenhouse gas emissions over the last year, with 69% of sites reducing annual emissions. The chart above shows a snapshot of the portfolio since benchmarking began in 2013. The emissions values are compared to the red dot values, which represent the 2019 national median emissions for similar sized buildings. Buildings with significant GHG reductions over 10% included: Maywood Courthouse, Bridgeview Courthouse, Markham Courthouse, Englewood Health Center, Provident Pharmacy, Provident Parking structure, and Sheriff Central Warrants.



GHG EMISSIONS BY BUILDING 2019

This chart shows emissions by building in metric tons of CO2e for the 15 highest emitting sites. The remaining sites make up about 6% of total portfolio emissions. The Department of Corrections Campus continues to have the largest greenhouse gas emissions footprint at about 30% of portfolio emissions.

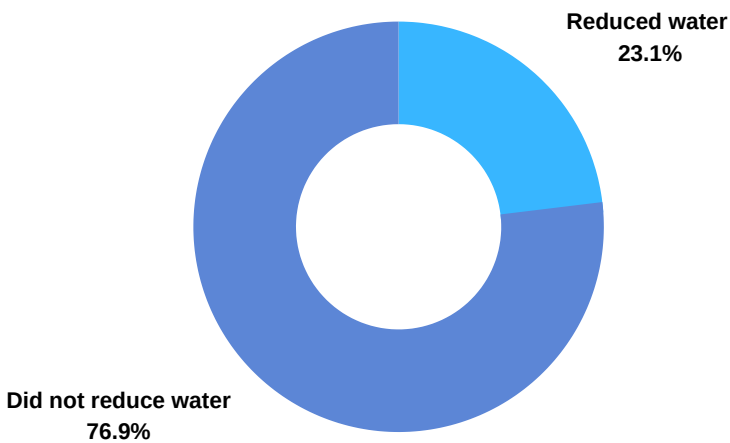
Annual Water Usage in 1,000 gallons



WATER CHANGES

In 2019, Cook County used about 468,629,000 gallons of water across the portfolio of benchmarked buildings, which was a 5% reduction 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. This year's water data shows the majority of water use occurring at public safety and health and hospitals facilities. Note Stroger Hospital Campus is left off this year's total and last year's comparison data as the meter data recently received back-dated actual reads that reflect multiple years of usage.

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). Facilities with water improvements over the last year included:

- Forensic Institute (-1%)
- Rockwell Warehouse (-3%)
- Logan Square Health Clinic (-4%)
- DOC (-11%)
- CCDOTH Dist. 2 (-19%)
- Markham Courthouse (-20%)
- Rolling Meadows Courthouse (-26%)
- CCDOTH Dist. 4 (-26%)
- CORE Center (-54%)

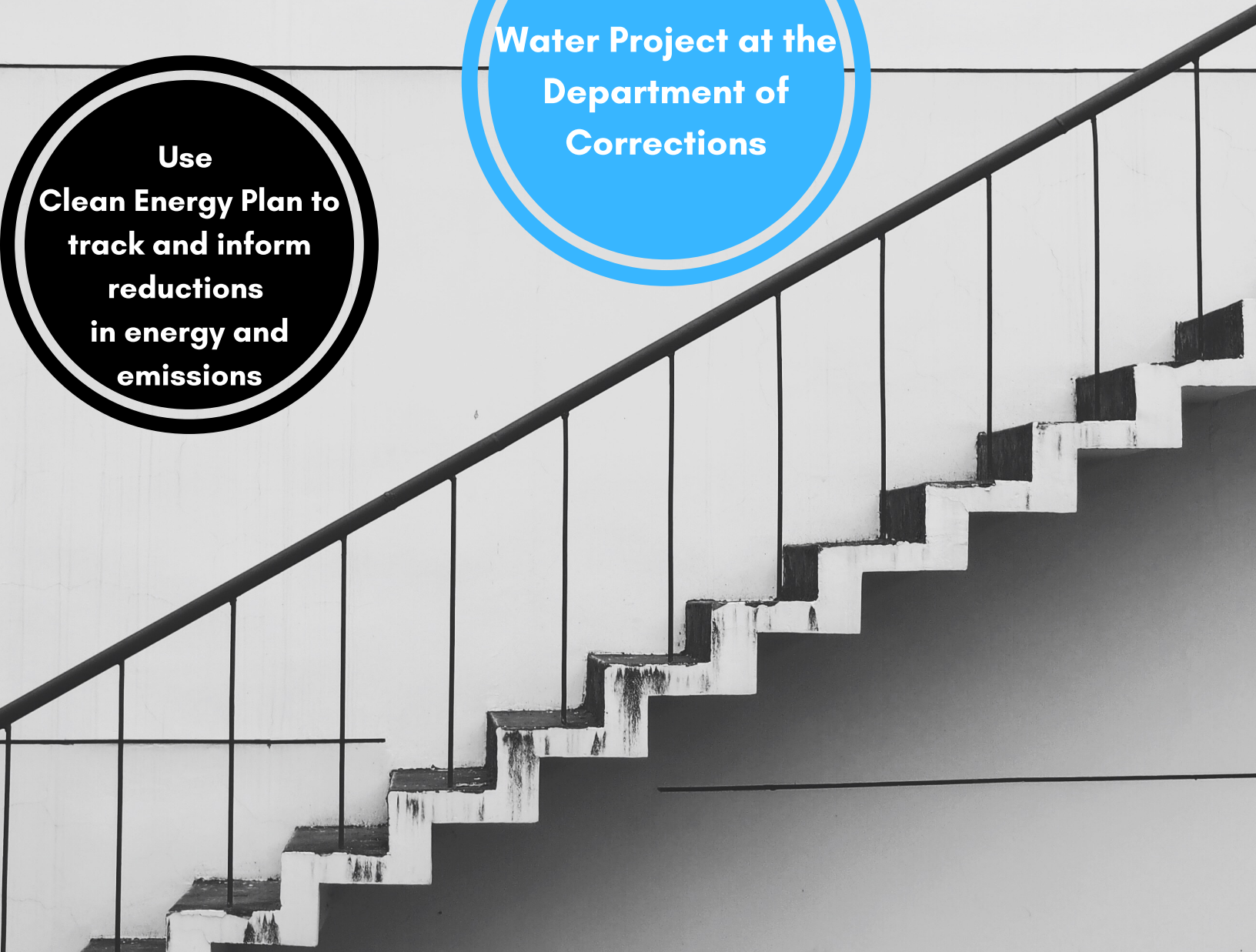
Next Steps

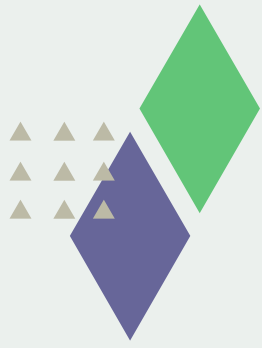
**Pilot energy saving
program for building
engineers**

**Energy Efficiency
Projects and deep
energy audits**

**Water Project at the
Department of
Corrections**

**Use
Clean Energy Plan to
track and inform
reductions
in energy and
emissions**





Appendix A: 2019 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

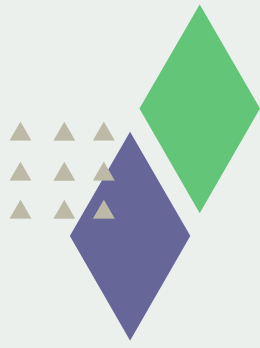
*2121 Euclid Ave., Rolling Meadows, IL 60008
Size: 554,767 square feet*

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: 2019 County-Owned Properties Benchmarked

Public Safety

Department of Corrections Campus

26th/S. California, Chicago, IL 60608

Size: 787,888 square feet

Juvenile Detention Center

1100 S. Hamilton Ave., Chicago, IL 60612

Size: 611,255 square feet

Domestic Violence

Courthouse

555 W. Harrison St., Chicago, IL 60607

Size: 187,268 square feet

Juvenile West Courthouse

1100 S. Hamilton Ave., Chicago, IL 60612

Size: 412,596 square feet

Skokie Courthouse (2nd District)

5600 Old Orchard Rd., Skokie, IL 60077

Size: 345,743 square feet

Rolling Meadows Courthouse (3rd District)

2121 Euclid Ave., Rolling Meadows, IL 60008

Size: 335,205 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

Bridgeview Courthouse (5th District)

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

Size: 335,205 square feet

Markham Courthouse (6th District)

16501 S. Kedzie Ave., Markham, IL 60428

Size: 317,652 square feet

CCDOTH Maintenance Facility (District 1)

2325 N. Meacham Rd., Schaumburg, IL 60173

Size: 56,568 square feet

CCDOTH Maintenance Facility (District 2)

9801 Ballard Rd., Des Plaines, IL 60016

Size: 61,911 square feet

CCDOTH Maintenance Facility (District 3)

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

Size: 46,323 square feet

CCDOTH Maintenance Facility (District 4)

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

Size: 68,444 square feet

CCDOTH Maintenance Facility (District 5)

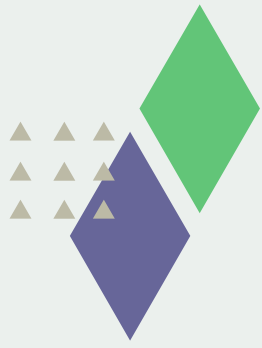
13600 S. Ashland Ave., Riverdale, IL 60827

Size: 78,092 square feet

Sheriff Central Warrants

937 Wood St., Chicago, IL

Size: 19,436 square feet



Appendix A: 2019 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

Near South Health Clinic

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

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

Logan Square Health Center

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

Englewood Health Center

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

Harvey TB Clinic

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

Appendix B: 2019 Energy Benchmarking Results of County-Owned Properties

The following table summarizes the 2019 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 ²)	Source EUI (kBtu/ft ²)	Source Energy Use (kBtu)	Site Energy Use (kBtu)	Electricity Use - Grid Purchase (kWh)	Natural Gas Use (therms)	GHG Emissions (Metric Tons CO ₂ e)	GHG Emissions Intensity (kgCO ₂ e/ft ²)
George W Dunne Office Building	Office	1965	1	79	75.9	139.4	114,557,333	62,321,894	8,226,317	342,537	6,489	7.9
Cook County Building	Office	1906	1	46	108.6	208.1	132,877,288	69,327,673	10,062,506	349,944	7,571	11.9
Rockwell Warehouse	Non-Refrigerated Warehouse	1927	1	49	63.4	97.1	43,437,792	28,385,835	2,283,146	205,957	2,390	5.3
Hawthorne Warehouse	Non-Refrigerated Warehouse	1905	1	21	102.2	127.6	63,142,778	50,549,077	1,685,856	447,969	3,336	6.7
Cicero Records Center	Non-Refrigerated Warehouse	2008	1	36	50.5	87	22,687,553	13,157,393	1,485,897	80,875	1,273	4.9
2nd District Courthouse Complex - Skokie	Courthouse	1980	1	76	53	119.3	41,260,231	18,324,377	3,687,763	57,417	2,398	6.9
2nd District Courthouse (Skokie)	Courthouse	1980	1	88	42.9	91	31,477,239	14,830,451	2,663,752	57,417	1,817	5.3
2nd District Courthouse (Skokie) Parking Structure	Parking	2002	1	N/A	7.3	20.4	9,844,395	3,515,855	1,030,438	N/A	585	1.2
3rd District Courthouse Complex - Rolling Meadows	Courthouse	1987	1	75	50.7	125.4	42,028,824	16,985,473	4,051,930	31,603	2,468	7.4
3rd District Courthouse (Rolling Meadows)	Courthouse	1987	1	78	48.3	118.8	39,822,505	16,197,502	3,820,989	31,603	2,337	7
3rd District Courthouse (Rolling Meadows) Parking Structure	Parking	1987	1	N/A	1.5	4.3	2,379,029	849,653	249,019	N/A	141	0.3

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)
4th District Courthouse Campus - Maywood	Courthouse	1975	4	N/A	90.7	219.3	60,754,782	25,114,732	5,758,551	54,666	3,559	12.8
Jefferson Building	Office	1965	1	43	86.6	242.5	11,461,210	4,093,289	1,199,674	N/A	681	14.4
Whitcomb Building	Office	1965	1	49	64.8	181.5	4,212,934	1,504,619	440,979	N/A	250	10.8
Sheriff Training Academy	Other - Public Services	1967	1	N/A	142.8	354.9	7,696,739	3,096,982	744,416	5,570	452	20.8
4th District Courthouse (Maywood)	Courthouse	1975	1	49	88.8	202	37,346,070	16,406,330	3,369,523	49,095	2,173	11.8
5th District Courthouse - Bridgeview	Courthouse	1989	1	78	48.9	123.3	41,346,994	16,384,661	4,043,393	25,886	2,433	7.3
Domestic Violence Courthouse	Courthouse	1890	1	61	84.3	165.6	31,014,824	15,787,070	2,420,769	72,072	1,757	9.4
6th District Courthouse - Markham	Courthouse	1980	1	68	56.7	151	47,964,673	18,016,017	4,864,822	14,172	2,837	8.9
Juvenile Temporary Detention Center Campus	Prison/Incarceration	1973	3	N/A	93.3	188	192,508,940	95,567,579	15,435,098	429,030	11,040	10.8
Juvenile Temporary Detention Center	Prison/Incarceration	1974	1	N/A	89.9	164.9	100,810,186	54,937,149	7,222,605	302,936	5,709	9.3
Juvenile Courthouse	Courthouse	1993	1	50	91.8	203.7	84,033,214	37,892,737	7,410,121	126,094	4,876	11.8
JTDC Parking Structure	Parking	1993	1	N/A	3.5	9.7	7,675,633	2,741,297	803,428	N/A	456	0.6
Institute of Forensic Medicine	Other - Public Services	1982	1	N/A	237.8	393.8	31,253,065	18,869,807	1,915,888	123,328	1,743	22
Cook County Department of Corrections Campus	Prison/Incarceration	1926	57	N/A	139.7	216.3	988,562,158	638,609,937	53,264,064	4,564,219	54,511	11.9

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)
CCDOTH Maintenance Facility District 1	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1954	4	N/A	118.3	142.5	8,058,451	6,692,453	172,731	61,031	422	7.5
CCDOTH Maintenance Facility District 3	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1950	3	N/A	95.9	138.1	6,396,904	4,444,404	289,781	34,557	348	7.5
CCDOTH Maintenance Facility District 2	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1990	4	N/A	106.8	132.6	8,210,090	6,612,538	212,180	58,886	433	7
CCDOTH Maintenance Facility District 4	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1969	5	N/A	114.7	137	9,379,790	7,852,991	189,943	72,049	491	7.2
CCDOTH Maintenance Facility District 5	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1987	3	N/A	107.6	140	10,932,646	8,400,225	353,778	71,931	583	7.5
Oak Forest Hospital Campus	Medical Office	1910	52	N/A	154.1	238.2	261,581,097	169,148,178	14,063,892	1,211,622	14,419	13.1
CORE Center	Medical Office	1998	1	1	665.1	1241.3	39,163,658	20,983,577	2,869,017	111,945	2,223	70.5
Provident Hospital Campus	Hospital (General Medical & Surgical)	1981	2	3	271.2	472.4	176,673,760	101,428,783	11,752,392	613,296	9,929	26.5
Provident Hospital	Hospital (General Medical & Surgical)	1981	2	3	267.7	462.7	173,040,170	100,131,072	11,372,054	613,296	9,713	26
Provident Hospital Parking Structure	Parking	1991	1	N/A	5.3	14.9	3,657,323	1,306,187	382,821	N/A	217	0.9
Stroger Hospital Campus	Hospital (General Medical & Surgical)	2002	4	8	317.8	518	826,912,774	507,378,454	49,265,678	3,392,839	45,986	28.8
Cottage Grove Health Center	Medical Office	2000	1	1	143.7	237.2	3,171,015	1,920,999	193,262	12,616	177	13.2

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)
Piszczek TB Clinic	Medical Office	1957	1	33	148.4	232.3	4,494,539	2,872,221	247,648	20,272	248	12.8
Des Plaines TB Clinic	Medical Office	1991	1	N/A	179.8	236.1	587,610	447,444	19,728	3,801	31	12.6
Logan Square Health Center	Medical Office	1962	1	37	73.6	153.4	1,252,732	601,599	104,012	2,467	72	8.8
Englewood Health Center	Medical Office	2000	1	1	128.2	282.1	3,038,076	1,380,520	266,041	4,728	176	16.4
Harvey TB Clinic	Medical Office	1962	1	N/A	65.7	83.5	227,380	178,960	6,611	1,564	12	4.4
Robbins Health Center	Medical Office	2000	1	2	158.7	251.4	3,595,817	2,270,406	202,963	15,779	199	13.9
Cicero Health Center	Medical Office	1999	1	43	77.6	163.4	1,390,645	660,673	116,721	2,624	80	9.4
Prieto Health Center	Medical Office	1994	1	23	90.2	185.2	3,142,733	1,530,950	257,115	6,537	181	10.6
Provident Hospital Pharmacy	Medical Office	2005	1	69	69.1	161.3	1,060,643	454,506	97,708	1,211	62	9.4
Rockwell Warehouse Garage	Repair Services (Vehicle, Shoe, Locksmith, etc.)	1927	1	N/A	241.9	288.4	1,380,776	1,158,212	27,575	10,641	72	15.1
Sheriff Central Warrants	Police Station	1955	1	N/A	90.3	132.7	2,579,080	1,754,800	123,353	13,339	141	7.2
Near South Health Center	Medical Office	1994	1	7	162.9	284.3	3,238,956	1,855,900	216,088	11,186	182	16

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

Appendix C: 2019 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
DOC	PS	Chicago	285,083	1,000 Gallons	53.95	Gallons/sq. ft
Oak Forest Campus	HH	Oak Forest	94,690	1,000 Gallons	86.24	Gallons/sq. ft
JTDC Campus	PS	Chicago	23,472	1,000 Gallons	12.95	Gallons/sq. ft
Provident Hospital	HH	Chicago	21,988	1,000 Gallons	58.79	Gallons/sq. ft
Cook County Building	CF	Chicago	9,434	1,000 Gallons	14.77	Gallons/sq. ft
Forensic Institute	PS	Chicago	7,253	1,000 Gallons	91.38	Gallons/sq. ft
Maywood Courthouse	PS	Maywood	4,304	1,000 Gallons	23.29	Gallons/sq. ft
Dunne Building	CF	Chicago	3,174	1,000 Gallons	3.86	Gallons/sq. ft
Rolling Meadows Courthouse	PS	Rolling Meadows	2,374	1,000 Gallons	7.08	Gallons/sq. ft
Rockwell Warehouse	CF	Chicago	2,326	1,000 Gallons	5.20	Gallons/sq. ft
Markham Courthouse	PS	Markham	2,219	1,000 Gallons	6.99	Gallons/sq. ft
Bridgeview Courthouse	PS	Bridgeview	2,053	1,000 Gallons	6.13	Gallons/sq. ft
Skokie Courthouse	PS	Skokie	2,042	1,000 Gallons	5.91	Gallons/sq. ft
Domestic Violence Courthouse	PS	Chicago	1,480	1,000 Gallons	7.90	Gallons/sq. ft
Hawthorne Warehouse	CF	Chicago	1,328	1,000 Gallons	2.68	Gallons/sq. ft
CORE Center	HH	Chicago	830	1,000 Gallons	26.32	Gallons/sq. ft
Jefferson Building	PS	Maywood	716	1,000 Gallons	15.15	Gallons/sq. ft
Provident Pharmacy	HH	Chicago	396	1,000 Gallons	60.21	Gallons/sq. ft
Piszczek TB Clinic	HH	Forest Park	389	1,000 Gallons	20.10	Gallons/sq. ft
CCDOH District 5	PS	Blue Island	358	1,000 Gallons	4.58	Gallons/sq. ft
Des Plaines TB Clinic	HH	Des Plaines	303	1,000 Gallons	121.90	Gallons/sq. ft
CCDOH District 3	PS	LaGrange Park	281	1,000 Gallons	6.06	Gallons/sq. ft
Whitcomb Building	PS	Maywood	278	1,000 Gallons	11.95	Gallons/sq. ft
Robbins Health Center	HH	Robbins	195	1,000 Gallons	13.64	Gallons/sq. ft
Prieto Health Center	HH	Chicago	195	1,000 Gallons	11.48	Gallons/sq. ft
Cicero Health Center	HH	Cicero	190	1,000 Gallons	22.28	Gallons/sq. ft
Cottage Grove Health Center	HH	Chicago Heights	186	1,000 Gallons	13.93	Gallons/sq. ft
CCDOH District 4	PS	Orland Park	181	1,000 Gallons	2.64	Gallons/sq. ft
Near South Health Center	HH	Chicago	180	1,000 Gallons	15.80	Gallons/sq. ft
CCDOH District 1	PS	Schaumburg	172	1,000 Gallons	3.04	Gallons/sq. ft
Cicero Records Center	CF	Cicero	157	1,000 Gallons	0.60	Gallons/sq. ft
Englewood Health Center	HH	Chicago	121	1,000 Gallons	11.23	Gallons/sq. ft
Logan Square Health Center	HH	Chicago	116	1,000 Gallons	14.20	Gallons/sq. ft
CCDOH District 2	PS	Des Plaines	111	1,000 Gallons	1.80	Gallons/sq. ft
Provident Parking Structure	PK	Chicago	52	1,000 Gallons	0.21	Gallons/sq. ft
Harvey TB Clinic	HH	Harvey	0.03	1,000 Gallons	0.01	Gallons/sq. ft
Stroger Hospital Campus*	HH	Chicago	Further Analysis Underway	1,000 Gallons	Further Analysis Underway	Gallons/sq. ft

*Note: Water data was based on available billing information. A few of these sites are undergoing further analysis to ensure usage accuracy.

Appendix D: Assumptions for Calculations

- **Energy:**

Source energy is used for all performance metrics in Cook County's portfolio for the 2020 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 two 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 comes directly from Energy Star Portfolio Manager and may not be updated as frequently as the eGrid value.

- **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 fourth 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. One property left off this year's report for further study is Stroger Campus, as this year back dated usage was included for meters that hadn't been getting reads for several years. For this reason, Stroger Hospital and Hektoen (now unoccupied) were left off this year's totals and the percent comparison from 2018 and 2019 data for consistency.