

City of Minneapolis



2012 Energy Benchmarking Report

Public Buildings

November 2013



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More information on the Commercial Building Rating and Disclosure Policy available at:

<http://www.ci.minneapolis.mn.us/environment/energy/>

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Acknowledgements

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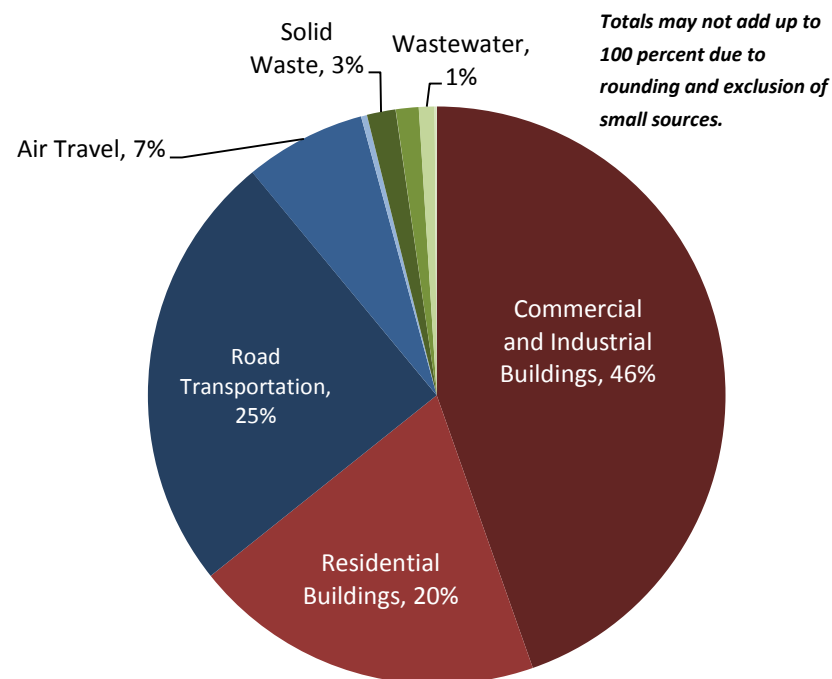
Executive Summary

In February of 2013 the Minneapolis City Council unanimously adopted ordinance 47.190 requiring commercial buildings over 50,000 square feet and public buildings over 25,000 square feet to annually benchmark their energy and water consumption and report this information to the City. Minneapolis is the first city in the Midwest to adopt a benchmarking and disclosure policy, and the seventh in the nation. Building energy disclosure is intended to increase energy performance awareness among building owners, tenants, energy experts, policymakers and the general public.

This first annual report includes benchmarking results for calendar year 2012 from over 21.3 million square feet in 102 publicly-owned buildings, including those owned by the City of Minneapolis, the Minneapolis Park and Recreation Board, Minneapolis Public Schools and Hennepin County. Beginning in 2014, commercial buildings over 100,000 square feet will be required to report their benchmarking results to the City, with buildings over 50,000 square feet required to begin benchmarking in 2015.

The results of this report can be used to save taxpayers money on energy costs in public buildings. Research has shown that benchmarking can result in cost savings for building owners, managers and tenants, and can inject money back into the local economy. If all 102 buildings in this report reduced their energy use 10 percent, over \$2.5 million in energy costs and over 15,000 metric tons of greenhouse gas emissions would be avoided.

According to the 2010 greenhouse gas emissions inventory for Minneapolis, energy use in commercial and industrial buildings accounts



Greenhouse gas emissions from community-wide activities, 2010

for 46% of the community-wide emissions in the city. In 2012 the City Council adopted goals to reduce citywide greenhouse gases 15 percent by 2015 and 30 percent by 2025, from a 2006 baseline. The City also has a goal to reduce greenhouse gas emissions from municipal operations by 1.5 percent annually. The commercial building benchmarking and disclosure ordinance was among a set of strategies aimed at increasing energy efficiency in buildings that was part of the Minneapolis Climate Action Plan, adopted in June of 2013. The plan provides a roadmap for meeting those emissions reductions goals, and outlines a goal to achieve 20 percent energy efficiency in commercial/industrial buildings by 2025.

Benchmarking results for 2012 reveal a large range in building types and energy usage patterns, often reflecting the unique uses, operating conditions, and schedules found in public buildings. This data will be useful as public entities analyze opportunities for energy efficiency improvements and, in the case that a public entity has an energy efficiency or climate protection goal, help them track progress.

Because this is the first year of reporting, the process to collect this data is considered a learning experience, both in the mechanism to benchmark and report the data, and in the scores that resulted. The expanded use of benchmarking and public accountability means that opportunities to improve these scores – increase the energy efficiency of buildings – can be pursued.

Key Findings

102 public buildings were included in this report from the portfolios of the City of Minneapolis, Minneapolis Park & Recreation Board, Minneapolis Public Schools and Hennepin County. The City secured voluntary agreements with these other public entities to report the energy performance on their buildings over 25,000 square feet. Each entity chose which buildings to include in the report.

Benchmarking and efficiency improvements are already leading to significant savings. From 2009 – 2012, energy efficiency investments in City buildings have saved more than \$6 million in energy costs. Hennepin County's tune-up of the Central Library is saving over \$102,000 in energy costs every year.

Additional energy efficiency improvements could lead to significant cost and emissions savings. If all 102 buildings reduced their energy use 10 percent, over \$2.5 million in energy costs and over 15,000 metric

About ENERGY STAR Scores

The 1 – 100 ENERGY STAR score shows how a building's energy consumption measures up against similar buildings nationwide. A score of 50 represents median energy performance, while a score of 75 or better indicates a building is a top performer.

The U.S. Department of Energy conducts a national survey to gather data on building characteristics and energy use from thousands of buildings across the United States. This survey data is used to develop ENERGY STAR scores.

Based on the information entered about a building, such as its size, location, number of occupants, number of PCs, etc., the score's algorithm estimates how much energy the building would use if it were the best performing, the worst performing, and every level in between. It then compares the actual energy data entered to the estimate to determine where the building ranks relative to its peers.

All of the calculations are based on source energy and account for the impact of weather variations, as well as changes in key property use details.

tons of greenhouse gas emissions would be avoided. If the top quartile of buildings ranked by energy use intensity (the most energy intensive buildings) reduced energy use 10 percent, the public would save over \$900,000 in energy costs and over 4,500 metric tons of greenhouse gas emissions would be avoided.

The correlation between building age and energy use intensity is not as strong as might be expected. The age of a building accounts for only 11% of the variability in energy intensity between buildings of different

ages. Older buildings that have been retrofitted with modern systems can obtain high EnergyStar ratings and low EUI values. (City Hall scores an 87, with an energy use intensity of 84 kbtu/ft²). Energy codes that have been updated in the last twenty years have enabled higher performance for newer buildings that manage their energy use.

Public buildings participating in disclosure are responsible for 3 percent of citywide greenhouse gas emissions. The buildings included in this disclosure report were responsible for 149,000 metric tons of CO₂e emissions in 2012, while 4.9 million metric tons were associated with citywide activities in 2012. This demonstrates the opportunity present in public sector buildings to contribute to the City's climate action goals.

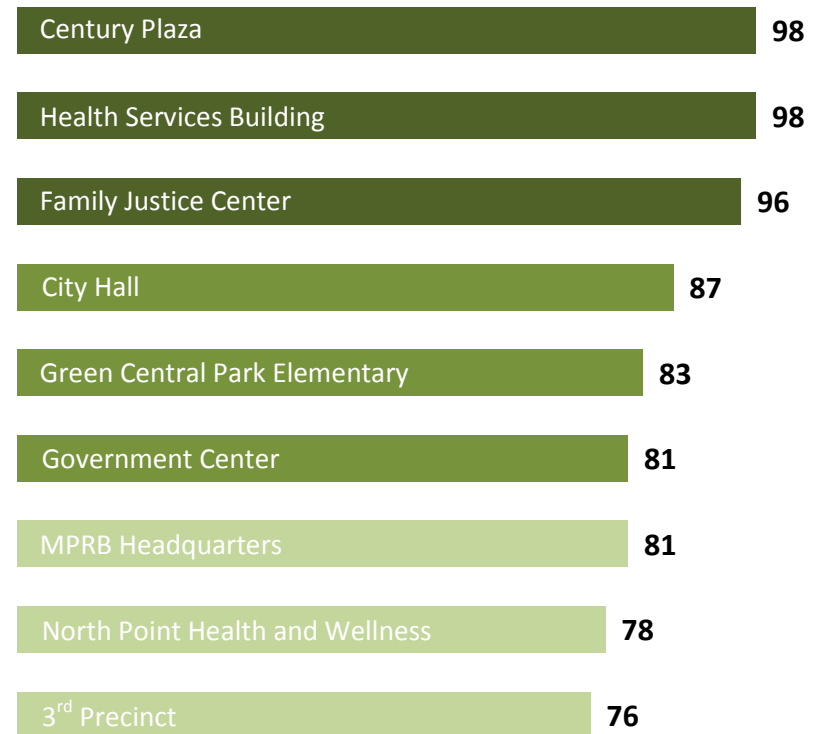
50 percent of the buildings in the report were eligible for an ENERGY STAR score. Because of the usage type or other constraints, 51 buildings were not eligible to receive a score. ENERGY STAR Portfolio Manager, the benchmarking tool used for reporting, does not generate a score for properties such as the Convention Center, libraries, parking ramps, fire stations or maintenance facilities.

The median ENERGY STAR score was 46. Of the buildings that were eligible for a score, the median was 46. The average score was 52, compared to a national average of 50.

There was a wide variety of both ENERGY STAR scores and energy use intensities across the portfolios. The category of public buildings includes a wide variety of building types, and a wide range of energy use intensity (kbtu / sq. foot) and resulting scores. Office buildings were among the top performers, including Century Plaza, the Health Services Building and Minneapolis City Hall. Green Central Park Elementary also scored highly. The Central Library had very low energy use intensity for

Top Performing Public Buildings

By ENERGY STAR score



a building of its type, although it is not eligible for a score. Some buildings showed very high energy intensity because of special uses – such as ice rinks and water treatment and distribution systems.

Background on Building Benchmarking & Disclosure

In February of 2013 the Minneapolis City Council unanimously adopted ordinance 47.190 requiring commercial buildings over 50,000 square feet and publicly-owned buildings over 25,000 square feet to annually benchmark their energy and water consumption and report this information to the City. The purpose of the ordinance is to use market forces – not performance or design mandates – to build energy performance awareness and motivate building owners and tenants to invest in energy efficiency improvements. Buildings are the largest source of greenhouse gas pollution in Minneapolis. Promoting the benefits of energy efficiency improvements to building owners – and connecting them to resources – can reduce energy use and air pollution. Cities where rating and disclosure policies are already in place are motivating investment in existing buildings and showing an increased demand for energy efficiency services, creating more local green jobs.

This ordinance requires public buildings to benchmark and disclose their energy use before any private buildings. The City of Minneapolis sought partnerships with Hennepin County, the Minneapolis Park & Recreation Board, and the Minneapolis Public Schools, who all voluntarily submitted benchmarking results for many of their buildings for public disclosure. Disclosure of these scores will help these public entities show how they are stewarding public resources.

Commercial Benchmarking and Disclosure Ordinance

Compliance Schedule

Publicly-owned over 25,000 ft²

2013: First year data will be published on City's website (annually thereafter).

Privately owned commercial use over 100,000 ft²

- **June 1st, 2014** – first date data must be sent to the City (annually thereafter)
- **August 30th, 2015** – first year data will be published on City's Website.

Privately owned commercial use over 50,000 ft²

- **June 1st, 2015** – first date data must be sent to the City (annually thereafter)
- **August 30th, 2016** – first year data will be published on City's Website.





Benchmarking: Making an Efficient Building Even Better

When the third generation of the Central Library was built in 2006 it got a brand-new design with state-of-the-art energy efficient features. However, after time, Hennepin County Property Services staff realized that some of those features weren't being used fully and they decided the building could use a tune-up. **This unique approach to energy benchmarking uncovered an additional \$102,000 per year in energy savings.**

Facility staff found that the actual energy use in the Central Library could be reduced by some simple operational changes. Overall, the Central Library's energy use has decreased by forty percent since 2008. The fine-tuning of the building in 2012 contributed to a significant portion of the library's cost-savings. The building now serves as an inspiration to owners and managers of other buildings: there are always opportunities to save energy—and money.

Benefits of benchmarking

Green Jobs. A Rating and Disclosure Policy has the potential to motivate investment in existing buildings and create jobs in the energy management, benchmarking, auditing and installation/retrofit industries. Examples from cities where policies are in place, such as New York, show increased demand for energy services and growth in energy management companies. Minneapolis has adopted specific targets for increasing green jobs and green companies in the city, and green building policies may help the city reach these goals.

Environmental Benefit. The Minneapolis City Council has adopted targets for community-wide greenhouse gas reduction of 15% by 2015 and 30% by 2025. In 2010, energy use in commercial and industrial buildings accounted for over 46% of Minneapolis' community-wide emissions. Policies focused on these building types, like Rating and Disclosure, are critical to achieving the City's goals.

Benefits to the local economy. While most of the dollars spent on energy leave the community (to pay for energy resources), savings realized for energy efficiency mean dollars can be redirected to other purposes, like reinvesting in businesses or hiring more workers. The energy efficiency retrofit industry also cannot be "outsourced", energy efficiency investments can provide local jobs.

Energy savings in existing buildings. In any given year, existing buildings represent over 90% of the building stock in Minneapolis, and a similar amount of the energy consumption from the buildings sector. Rating and disclosure is a tool that can promote energy efficiency in the existing building sector.

Characteristics of Covered Properties

102 buildings are included in the 2012 report. They include buildings owned by the City of Minneapolis, Hennepin County, Minneapolis Public Schools, and the Minneapolis Park and Recreation Board.

Minneapolis Public Schools buildings make up the largest percentage of buildings in the report, with 50 buildings, or 49 percent of the total. Schools are also the most geographically dispersed building type, while most other public buildings are located near downtown.

Minneapolis also owns a number of parking ramps, which are included in the report. After schools, there are more parking ramps than any other building type in the report. Parking ramps also constitute the greatest total square footage among the building types, with the square footage of schools second.

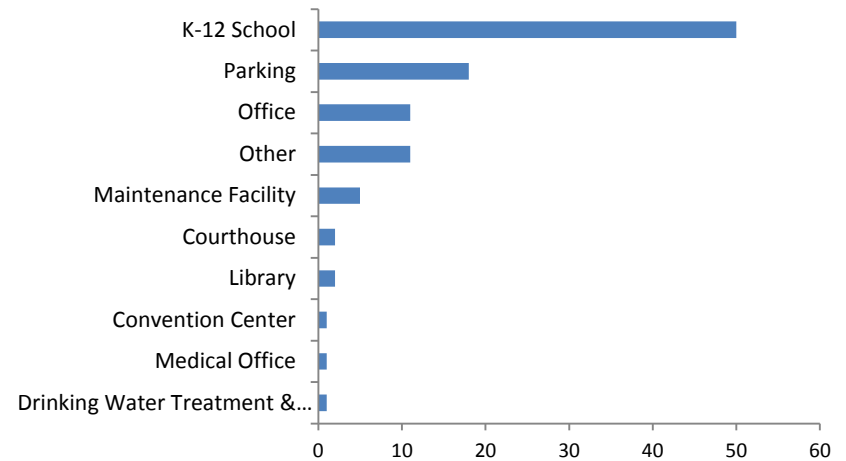
The median year built of the buildings in the report is 1976 and the average is 1970. 15 buildings, or 15 percent of the total, were built in 1925.

Energy Use

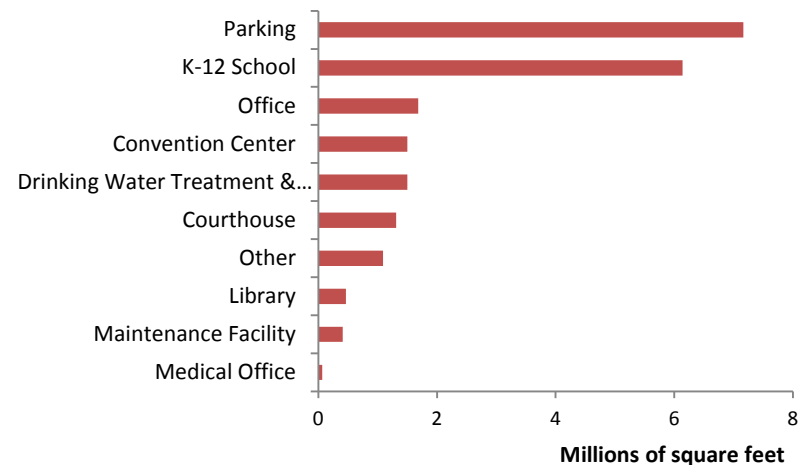
The report contains information on the energy use of covered buildings for the report year including total greenhouse gas emissions, site and source energy use intensity (EUI).

In public buildings, energy use intensity can vary substantially. Public buildings often contain unique uses, such as drinking water treatment facilities, ice rinks or jails. Many facilities operate around the clock, unlike office buildings, which see significantly less use at night.

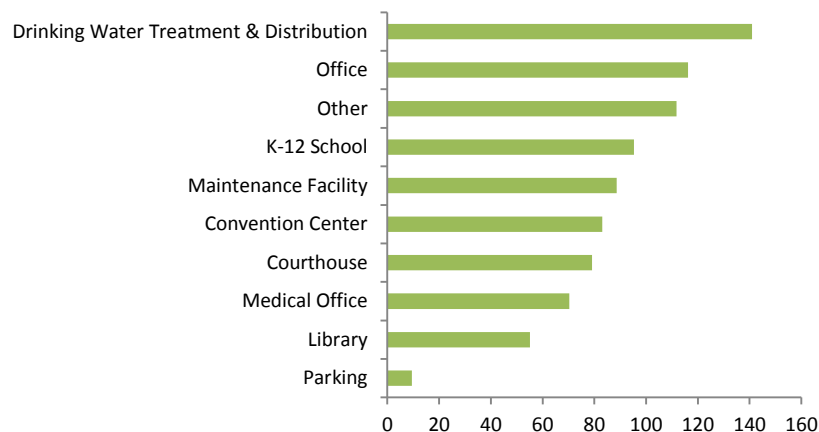
Count of Property Types



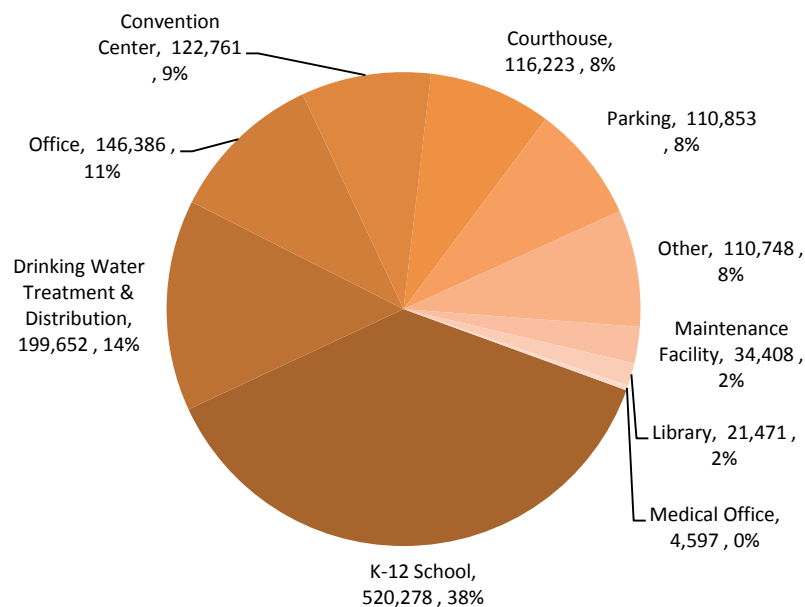
Total square footage of property types



Average Weather-Normalized Site EUI
(kbtu/sq ft)



Benchmarked Energy Use by Building Type
2012, MMBtu



Many public facilities are also not eligible for ENERGY STAR scores given their unique usage types. Convention centers, libraries, parking ramps and public safety facilities are examples of buildings in this report that did not receive a score¹.

The City's water treatment and distribution campus was one of the highest users of energy per square foot, along with the Park Board's Parade Ice Garden and some public schools. Treating and pumping water and maintaining ice rinks are very energy-intensive activities, mostly unique to public buildings. The buildings using the lowest amount of energy per square foot included the Central Library at 44.9 kbtu/square foot, schools like Anwatin Middle School and Lyndale School (45 and 46 kbtu/square foot), the City's LEED platinum-certified Hiawatha Maintenance Facility (49.3 kbtu/square foot), and some of the City's parking ramps.

The highest performing buildings by ENERGY STAR score² include three owned by Hennepin County at the top of the list – Century Plaza (98), the Health Services Building (98), and the Family Justice Center (96). City hall, managed jointly by the City and Hennepin County, scored an 87. The Park and Recreation Board Headquarters scored an 81, and the highest scoring school was Green Central Park Elementary with an 83.

¹ For a full list of building types eligible for an ENERGY STAR score visit: <http://1.usa.gov/1gCiZui>

² ENERGY STAR scores take into account other characteristics of a building besides total energy use including age, use and performance of similar buildings nationwide. See the info box on page 4.

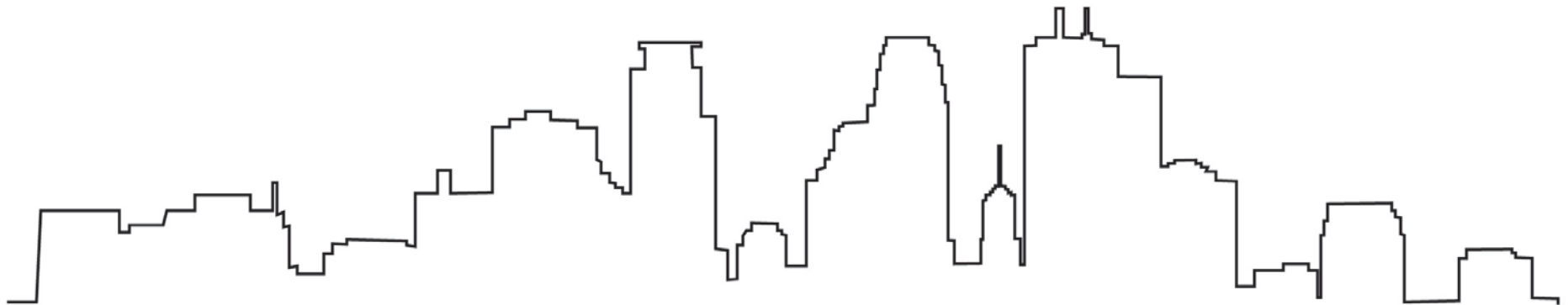
Conclusion

This report provides an initial snapshot of the energy performance of public buildings in Minneapolis for the year 2012. As the first full year of the implementation of the Commercial Building Benchmarking and Disclosure Policy, this will provide a baseline of data from which to compare future results. In addition to complying with city ordinance, the intention of the report is to bring more transparency to energy use in the public sector, and to help inform building owners, managers and decision makers about what properties have the most opportunity for cost and energy savings. Those public entities who've reported their energy data will continue to refine their scores and identify opportunities to make their buildings more energy efficient.

In this first year of reporting, there were some challenges in collecting and interpreting data. In some cases, best estimates were necessary

for inputs like square footage. ENERGY STAR scores were not available for all buildings, due to the unique nature and uses of some public buildings. The City will continue to refine and verify data about its own buildings for future reports, as well as work with partner entities and organizations to fill in the gaps and make corrections to the data where necessary.

This policy is part of comprehensive strategy by the City of Minneapolis to reduce greenhouse gas emissions and improve the efficiency of public and private buildings. Minneapolis will continue to implement energy-saving strategies in city buildings and operations to make progress towards adopted goals. Subsequent reports and multiple years of data will allow the tracking of performance over time, in publicly- and privately-owned buildings across the city.



City of Minneapolis Buildings

Property Name	ENERGY STAR Score	Property Type	Address	Postal Code	Floor Area (Buildings & Parking) (ft²)	Year Built	Total GHG Emissions (MtCO2e)	Site EUI (kBtu/ft²)	Weather Normalized Site EUI (kBtu/ft²)	Source EUI (kBtu/ft²)	Weather Normalized Source EUI (kBtu/ft²)
10th and Hennepin Ramp	Not Available	Parking	935 Hennepin Avenue	55403	276,000	1998	834.8	19.5	Not Available	Not Available	Not Available
10th and LaSalle Ramp	Not Available	Parking	915 LaSalle Avenue	55403	360000	2001	521.3	8.7	9.5	20.6	21.6
3rd Precinct	76	Office	3000 Minnehaha Avenue South	55406	34645	2010	455.1	86.4	91.3	199.3	202.1
City Hall	87	Office	350 South 5th Street	55415	680000	1895	7036	84.1	87	153	156.8
City of Lakes	46	Office	309 2nd Avenue South	55401	47833	1958	809	130	141.8	263.6	276.8
Currie Maintenance Facility	Not Available	Maintenance Facility	1200 Currie Ave North	55403	171200	1980	1639.4	94.5	110.3	157.1	173.7
Emergency Operations Training Center	Not Available	Other	25 37th Avenue NE	55421	32150	2010	276.8	60	65.5	131.9	138.5
Federal Courthouse Ramp	Not Available	Parking	333 3rd Avenue South	55415	105,000	1997	396.7	25.1	Not Available	Not Available	Not Available
Fire Station # 06	Not Available	Other	121 E 15TH ST	55403	27160	1980	247.9	77.6	85.8	145.1	152
Government Center Ramp	Not Available	Parking	415 south 3rd Street	55401	350,000	1974	538.4	10.7	Not Available	Not Available	Not Available
Haaf Ramp	Not Available	Parking	424 4th Street South	55415	260,000	1993	Not Available	27.1	Not Available	Not Available	Not Available
Hamilton School (Police Training)	51	Office	4131 Dupont Avenue North	55412	41326	1960	648.5	150.5	163.4	255.8	267.2
Harmon Ramp	Not Available	Parking	25 South 11th Street	55403	175,000	2003	409.6	12.8	Not Available	Not Available	Not Available
Harriet Maintenance Facility	Not Available	Maintenance Facility	6036 Harriet Avenue South	55419	53364	1959	349.3	60.7	70	105.9	115.7
Hawthorne Ramp	Not Available	Parking	31 North 9th Street	55403	630,000	1999	1813.9	21.8	Not Available	Not Available	Not Available
Hiawatha Maintenance Facility	Not Available	Maintenance Facility	1901 East 26th Street	55404	55894	2010	549.6	49.3	51.8	143.4	147.8
Hilton Ramp	Not Available	Parking	1030 2nd Avenue South	55403	400,000	1992	680.3	7.8	Not Available	Not Available	Not Available
Leamington Ramp	Not Available	Parking	1001 2nd Avenue South	55403	700,000	1991	1222.6	17.3	Not Available	Not Available	Not Available
Mill Quarter Ramp	Not Available	Parking	711 South 2nd Street	55403	120,000	2005	250	9.6	Not Available	Not Available	Not Available
Minneapolis Convention Center	Not Available	Convention Center	1301 Second Avenue South	55403	1500000	1989	17044.5	81.8	83.1	164.2	166.1
Orchestra Hall Ramp #1	Not Available	Parking	1111 Marquette Avenue South	55403	239,000	1976	480.1	9.2	Not Available	Not Available	Not Available
Orchestra Hall Ramp #2	Not Available	Parking	1111 Marquette Avenue South	55403	148,000	1989	155.8	4.8	Not Available	Not Available	Not Available
Plaza Ramp	Not Available	Parking	117 South 12th Street	55403	319,000	1989	838.1	16.2	Not Available	Not Available	Not Available
Public Service Center	52	Office	250 South 4th Street	55401	93010	1980	1583.3	129.5	144.3	240.2	257.2
Riverfront (Guthrie) Ramp	Not Available	Parking	212 9th Avenue South	55403	250,000	2005	561.9	10.3	Not Available	Not Available	Not Available
Royalston Maintenance	Not Available	Maintenance Facility	661 5th Avenue North	55405	71029	1998	593.4	85.5	101.3	138.2	155

City of Minneapolis Buildings

Property Name	ENERGY STAR Score	Property Type	Address	Postal Code	Floor Area (Buildings & Parking) (ft²)	Year Built	Total GHG Emissions (MtCO2e)	Site EUI (kBtu/ft²)	Weather Normalized Site EUI (kBtu/ft²)	Source EUI (kBtu/ft²)	Weather Normalized Source EUI (kBtu/ft²)
Facility											
TAD 4 and 4 to 5 Skyway	Not Available	Parking	318 2nd Avenue North	55403	450,000	1993	1832.8	27.4	Not Available	Not Available	Not Available
TAD 5 and 5-7 Skyway	Not Available	Parking	516 2nd Avenue North	55403	618,000	1989	2010.8	21.3	Not Available	Not Available	Not Available
TAD 7 and C/L Skyway	Not Available	Parking	101 North 9th Street	55403	1,650,000	1991	3032.7	10.6	Not Available	Not Available	Not Available
Traffic Maintenance Facility (300 Border)	Not Available	Maintenance Facility	300 Border Avenue	55405	61416	1962	660.8	100.3	109.4	174.3	182.7
Vineland (Walker) Ramp	Not Available	Parking	727 Vineland	55403	115,000	2004	542	25.7	Not Available	Not Available	Not Available
Water Treatment and Distribution Campus	Not Available	Drinking Water Treatment & Distribution	4500 Marshall Street NE	55421	1500000	1930	32014.4	133.1	140.9	321	328.1

Hennepin County Buildings

Property Name	ENERGY STAR Score	Property Type	Address	Postal Code	Floor Area (Buildings & Parking) (ft²)	Year Built	Total GHG Emissions (MtCO2e)	Site EUI (kBtu/ft²)	Weather Normalized Site EUI (kBtu/ft²)	Source EUI (kBtu/ft²)	Weather Normalized Source EUI (kBtu/ft²)
1800 Chicago	Not Available	Office	1800 Chicago S.	55404	102815	1996	1275	114.9	123	201.7	206.3
Minneapolis Central Library	Not Available	Library	300 Nicolet Mall	55401	426374	2004	3427.57	44.9	46.3	117.6	117.6
Century Plaza	98	Office	330 south 12th st	55404	297650	1934	2730.29	53.5	55.5	137.9	138.5
Family Justice Center	96	Courthouse	110 S. 4th St.	55415	227422	1956	1778.49	53.6	56.6	120.4	122
Forensic Sciences Building	Not Available	Office	530 Chicago Avenue South	55415	62602	1974	Not Available	229.9	248.4	362.8	385.1
Government Center	81	Courthouse	300 S. Sixth	55487	1086239	1974	Not Available	95.8	101.5	200.7	209.2
Health Services Building	98	Office	525 Portland Ave South	55415	198739	1989	Not Available	50.9	52.8	109.4	111
Juvenile Justice Center/Detention Center	Not Available	Other	626 S. Sixth	55415	199219	1983	Not Available	77.7	82.2	157.8	163.3
North Point Health and Wellness	78	Medical Office	1313 Penn Ave N	55411	67205	1995	793.89	68.4	70.3	177.5	176.2
North Regional Library	Not Available	Library	1315 Lowry Avenue North	55411	38993	1971	316.91	60.1	63.8	126.8	128.1
Public Safety Facility	Not Available	Other	401 4 Ave South	55415	381568	2001	Not Available	121.9	127.7	227.5	234.5

Minneapolis Public School Buildings

Property Name	ENERGY STAR Score	Property Type	Address	Postal Code	Floor Area (Buildings & Parking) (ft²)	Year Built	Total GHG Emissions (MtCO2e)	Site EUI (kBtu/ft²)	Weather Normalized Site EUI (kBtu/ft²)	Source EUI (kBtu/ft²)	Weather Normalized Source EUI (kBtu/ft²)
Andersen Elementary	44	K-12 School	2727 10th Ave S	55407	233252	1976	403.41	64.7	69.5	141.4	146.5
Anishinabe Elementary	30	Office	2225 East Lake Street	55407	51000	1975	109.88	97.7	107.5	233.4	252.3
Anthony Middle School	30	K-12 School	5757 Irving Ave S	55419	139806	1957	913.6	70.1	78.8	109.7	120.2
Anwatin Middle School	59	K-12 School	256 Upton Ave S	55405	144157	1960	727.45	45	49.8	81.5	86.9
Armatage Elementary	46	K-12 School	2501 West 56th Street	55410	91500	1952	619.18	73.6	84.1	114	129.3
Bancroft Elementary	45	K-12 School	1315 East 38th Street	55407	72176	1925	546	83.3	93.5	127.8	139.2
Barton Elementary	44	K-12 School	4237 Colfax Ave S	55409	80464	1925	739.91	75.2	82.1	146	153.2
Bryn Mawr Elementary	37	K-12 School	252 Upton Avenue South	55405	99669	1962	910.83	89.9	99.7	150.5	160.8
Burroughs Elementary	58	K-12 School	1601 West 50th Street	55419	162320	2002	1166.37	55.6	60.3	112.9	117.9
City View Elementary	Not Available	K-12 School	3350 4th Street North	55412	132372	1999	1179.78	66.7	72.2	139.3	145
Dowling Elementary	30	K-12 School	3900 West River Parkway	55406	90776	2007	1077.97	130.1	146.2	200.4	218.8
Edison Senior High	52	K-12 School	700 22nd Ave NE	55418	257922	1925	1896.7	77.5	86.4	123	132.3
Emerson Elementary	38	K-12 School	1421 Spruce Place	55403	57061	1925	663.17	134.2	149.2	198.6	211
Field Elementary	Not Available	K-12 School	4645 4th Ave South	55409	69530	1925	666.43	97.9	109.5	159.2	172.7
Green Central Park Elementary	83	K-12 School	3416 4th Ave S	55408	112715	1993	530.56	53.8	59.9	80.2	85.7
Hale Elementary	42	K-12 School	1220 East 54th Street	55417	74619	1930	270.58	93.7	103.1	156.5	164.6
Hall Elementary	40	K-12 School	1601 Aldrich Ave N	55411	79840	1960	705.19	82.2	90.8	143.8	152.8
Harrison -other	Not Available	Other	501 Irving Ave N	55405	52802	1998	478.57	78.3	86	145.4	153.4
Henry Senior High	65	K-12 School	4320 Newton Ave N	55412	227525	1926	1667.81	75	84.1	121.8	132.9
Hiawatha Elementary	Not Available	K-12 School	4201 42nd Ave S	55406	39042	1925	353.2	136.7	155.7	166.1	185.8
Jefferson Elementary	38	K-12 School	1200 West 26th Street	55405	133451	1925	892.06	72.6	81.1	112.5	121.4
Jordan Park	Not Available	K-12 School	1501 30th Ave N	55430	123293	1999	1970.46	120.8	118.6	250.2	242.9
Keewaydin Elementary	Not Available	K-12 School	5209 30th Ave S	55417	44050	1934	556.73	145.2	162.8	215.6	234.1
Kenny Elementary	39	K-12 School	5720 Emerson Ave S	55419	61776	1954	504.73	91	101.8	138.4	149.7
Kenwood Elementary	43	K-12 School	2013 Penn Ave S	55405	61300	1925	445.82	71.3	79.1	119.7	127.8
Lake Harriet Lower Campus (Audubon)	Not Available	K-12 School	4030 Chowen Ave S	55410	37540	1925	395.79	116.4	130.2	178.2	192.6
Lake Harriet Upper Campus (Fulton)	49	K-12 School	4912 Vincent Ave S	55410	77238	1925	636.47	81.5	90.5	135.9	145.2

Minneapolis Public School Buildings

Property Name	ENERGY STAR Score	Property Type	Address	Postal Code	Floor Area (Buildings & Parking) (ft²)	Year Built	Total GHG Emissions (MtCO2e)	Site EUI (kBtu/ft²)	Weather Normalized Site EUI (kBtu/ft²)	Source EUI (kBtu/ft²)	Weather Normalized Source EUI (kBtu/ft²)
Longfellow Elementary	Not Available	K-12 School	3017 E 31st Street	55406	44813	1925	485.69	133.3	150.1	188.1	205.7
Loring Elementary	49	K-12 School	2600 44th Ave N	55412	60096	1928	433.87	82.8	92.8	123.1	133.6
Lucy Laney Elementary	35	K-12 School	3333 Penn Ave N	55412	111726	2000	1198.83	82.1	88.2	168.3	172.8
Lyndale Elementary	70	K-12 School	3333 Grand Ave S	55408	91786	1966	545.06	46.3	50.3	93.5	97.7
Marcy Elementary	51	K-12 School	415 4th Ave SE	55414	76906	1992	710.59	68.8	73.7	144.3	147.9
Nellie Stone Johnson Elementary	36	K-12 School	807 27th Ave N	55411	123000	2001	1201.94	76.5	82.2	153.9	157.8
North Senior High	Not Available	K-12 School	1500 James Ave N	55411	283568	1972	3855.72	114.9	125.8	217.2	228.6
Northeast Middle	Not Available	K-12 School	2955 Hayes Street NE	55418	176336	1956	1880.56	107.9	119.9	176.7	189.3
Northrop at Ericsson	36	K-12 School	4315 31st Ave S	55406	57874	2007	283.25	38.7	39.2	77.2	78.9
Olson Middle School	Not Available	K-12 School	1607 51st Ave N	55430	117825	1962	1407.74	114.5	126.7	195.7	208.5
Pillsbury Elementary	50	K-12 School	2250 Garfield Street NE	55418	83906	1991	671.04	61.2	66.4	125.5	130.9
Pratt Community Center	66	K-12 School	66 Malcom Street SE	55414	42032	1925	214.62	46.4	51.1	82.7	87.7
Ramsey Elem / Washburn Senior	45	K-12 School	201 West 49th Street	55409	403234	1925	3880.6	87.1	96	155.8	165.1
Roosevelt Senior High	37	K-12 School	4029 28th Ave S	55406	307029	1925	2790.75	92.5	102.8	150.8	161.6
Sanford Middle School	32	K-12 School	3524 42nd Ave S	55406	122380	1926	760.22	86.3	97.8	111.3	123.4
Seward Elementary	69	K-12 School	2309 28th Ave S	55406	77300	1965	724.8	76.6	84.4	148.8	159
Sheridan Elementary	Not Available	K-12 School	1201 University Ave NE	55413	126286	1932	1264.72	120.6	135.9	172.9	189.5
South Senior High	35	K-12 School	3131 19th Ave S	55407	278843	1968	3060.16	84.5	91.6	172.3	179.9
Southwest Senior High	47	K-12 School	3414 West 47th street	55410	254560	1939	2556.77	99.3	112.8	165.6	186
Sullivan Elementary	30	K-12 School	3100 E 28th Street	55406	204925	1991	1931.46	80.8	88.6	151	159.1
W. Harry Davis Academy Elementary	36	K-12 School	1510 Glenwood Ave	55405	94282	1995	680.77	63.2	69.4	116.1	122.6
Waite Park Elementary	Not Available	K-12 School	1800 34th Ave S	55418	59085	1950	670.02	101.5	110.8	183.2	191
Wenonah Elementary	45	K-12 School	5625 23rd Ave S	55417	42648	1952	442.2	107.5	119.7	172.8	185.5
Whittier Elementary	50	K-12 School	315 West 26th Street	55404	129998	1997	998.39	55.5	59.8	119.3	123.9
Wilder / Transition Plus	Not Available	Other	3345 Chicago Ave	55407	193000	1975	1841.75	106.2	111.8	161.6	167.5
Windom Elementary	34	K-12 School	5821 Wentworth Ave S	55419	67466	1925	650.28	81.7	89.5	154.1	162.2

Minneapolis Park and Recreation Buildings

Property Name	ENERGY STAR Score	Property Type	Address	Postal Code	Floor Area (Buildings & Parking) (ft²)	Year Built	Total GHG Emissions (MtCO2e)	Site EUI (kBtu/ft²)	Weather Normalized Site EUI (kBtu/ft²)	Source EUI (kBtu/ft²)	Weather Normalized Source EUI (kBtu/ft²)
MPRB Headquarters	81	Office	2117 W River Rd	55411	75327	2001	833.29	59.9	63.1	164.7	170
Northeast Ice Arena	Not Available	Other	1306 Central Ave N	55411	32772	1996	377.48	91.5	99.6	181.9	190.4
Parade Park Ice - North	Not Available	Other	610 Kenwood Parkway	55403	40195	1988	Not Available	Not Available	Not Available	Not Available	Not Available
Parade Park Ice - South	Not Available	Other	600 Kenwood Pkwy	55403	34351	1988	1113.8	262.4	286.1	513.8	538.6
Phillips Pool & Gym Park	Not Available	Other	2323 11th Ave S	55404	41395	1978	426.48	73	77.1	159.5	160.6
Southside Operations Center	Not Available	Other	3800 Bryant Ave S	55409	58683	1986	642.76	86.5	95.7	172.8	186.1

Glossary of terms

Btu - British Thermal Unit

A unit of energy, which can represent both thermal energy and electricity. One BTU is the amount of energy required to raise one pound of water one degree Fahrenheit. These are some Btu conversions for other units of energy:

1 kWh of electricity = 3413 Btu
1 therm of natural gas = 100,000 Btu
kBtu = 1,000 Btus
mmBtu = 1,000,000 Btus

ENERGY STAR Rating

The 1-100 ENERGY STAR score was developed by the Environmental Protection Agency (EPA) and provides a metric for comparison with other similar buildings across the country. The score accounts for differences in climate, occupancy and operating hours. A score of 50 represents median energy performance, while a score of 75 or better indicates a building is a top performer. For more information, read [How the 1-100 ENERGY STAR score is calculated](#).

Energy Auditing

An evaluation of a building's energy performance, to assess how much energy is being used and to identify opportunities to improve efficiency. The process typically involves a review of energy bills as well as a site visit to examine the building shell and mechanical systems.

Energy Benchmarking

The process of comparing a building's energy performance to other similar properties, based on a standard metric. Energy Star Portfolio Manager was the software used to benchmark the public buildings in this report, and the metric for comparison is Energy Use Intensity (EUI).

Energy Use Intensity (EUI)

The metric used for comparing buildings in Energy Star, EUI expresses a building's energy use relative to its size. In this report it is expressed as kBtu/ft², and is calculated by taking the total energy consumed in a year (in kBtu) and dividing it by the floor area of the building (in ft²).

Source EUI

Source energy represents the total amount of raw fuel that is required to operate the building. It incorporates all transmission, delivery, and production losses. By taking all energy use into account, the metric provides a complete assessment of energy efficiency in a building.

Site EUI

Site energy represents the amount of heat and electricity consumed by a building as reflected in your utility bills. This is a relevant metric for facility managers, to understand how a building's energy use has changed over time. Site EUI does not, however, account for the environmental impacts of transmission and delivery of energy. Site energy sources for public buildings in this report include: electricity, natural gas, chilled water and steam.

This report includes both the Site and Source EUI for all buildings reported.

Total GHG Emissions (MtCO₂e)

The metric used in this report for greenhouse gas emissions, which represent a million metric tons of carbon dioxide equivalents. Equivalent CO₂ (CO₂e) is a universal standard measurement for greenhouse gasses and their ability to trap heat in the atmosphere. These greenhouse gasses include carbon dioxide, methane, nitrous oxide and chloroflouro-carbons. Greenhouse gas emissions for individual buildings are calculated using the [ENERGY STAR Portfolio Manager Methodology for Greenhouse Gas Inventory and Tracking Calculations](#).

Weather normalized

When energy use is adjusted to account year-to-year weather differences, allowing for comparison of a building to itself over time. Through this procedure, the energy in a given year is adjusted to express the energy that would have been consumed under 30-year average weather conditions.