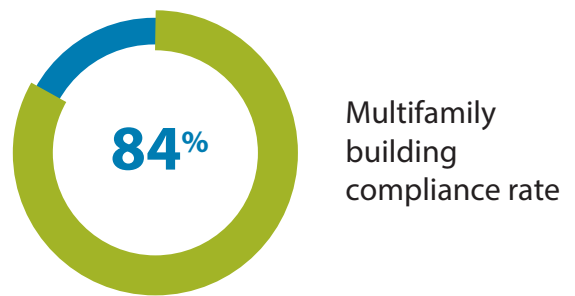
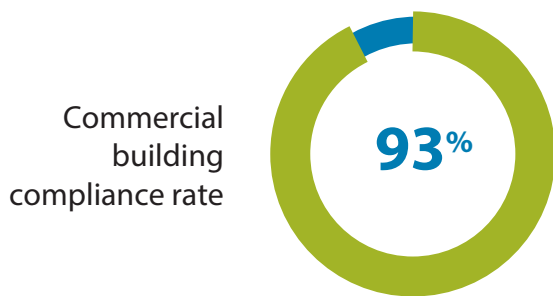
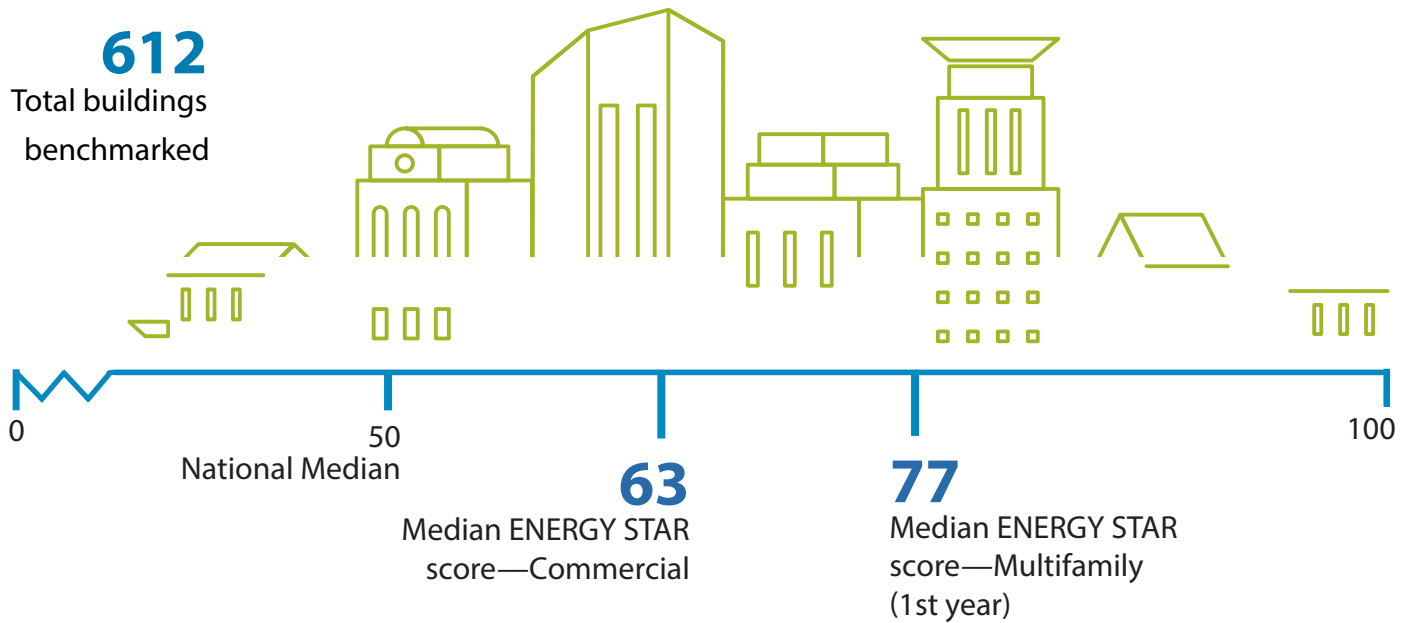
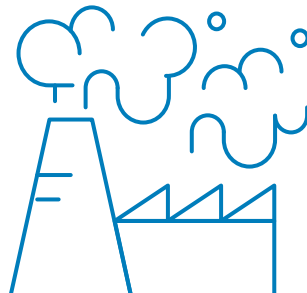


2018 Energy Benchmarking Report



16%
Benchmarked commercial contribution to citywide greenhouse gas emissions



3%
Benchmarked multifamily contribution to citywide greenhouse gas emissions



1%
Public commercial building energy use reduction (2015 to 2018)

5.5%
Private commercial building energy use reduction (2015 to 2018)



Summary

Like with a household budget or fitness trackers, measurement can lead to better management and progress towards targets. In 2013, with goals of improving building energy efficiency and reducing greenhouse gas emissions, the City of Minneapolis adopted the Commercial Energy Rating and Disclosure Policy—better known as "energy benchmarking." This policy requires

owners and managers of private commercial buildings 50,000 ft² and greater and public commercial buildings 25,000 ft² and greater to track energy performance to disclose annual results to the City. As the program evolved, the city's two utilities, CenterPoint Energy and Xcel Energy, developed automated data transfer tools to facilitate easier benchmarking. Once in place these

tools made it feasible for multifamily buildings to be benchmarked, and as a result, the City expanded the policy to residential buildings 50,000 ft² and greater in 2019. This report summarizes the results from the seventh year commercial building and the first year of benchmarking in multifamily buildings that are 100,000 ft² and larger.

Key Findings

Commercial

462 buildings | 121 million ft² | 75% of citywide commercial square footage

Even with more stringent **ENERGY STAR** ratings, which affected benchmarking results for the first time in 2018, Minneapolis commercial buildings at a score of 63 continue to exceed national median score of 50. The median site **EUI** is 85 kBtu/ft². Energy performance is improving in consistently benchmarked buildings, demonstrated by a total weather-normalized energy use intensity (EUI) reduction of 4% from 2015 to 2018. Although the square footage in these properties has risen by nearly a percent, total energy use decreased slightly from 7,508,942,410 kBtu to 7,506,776,658 kBtu annually. Over four years, consumption reductions have led to cumulative utility bill savings of an estimated \$14 million. Cumulative water consumption dropped 10% in consistently benchmarked buildings with median water use decreasing from 2,696 kGal in 2015 to 2,269 kGal in 2018.

Multifamily

150 buildings | 31 million ft² | 31% of citywide multifamily square footage

Minneapolis multifamily buildings comprised of apartments and condo buildings show high relative energy performance with a median **ENERGY STAR** score of 77. The median site **EUI** is 80 kBtu/ft². The median **water score** is 82 and median water use is 4,480 kGal.

Methodology

The underlying data in this analysis is user provided. The City takes great initiative to provide sufficient training and resources to building owners and managers to successfully benchmark and submit reports. However, no guarantee can be made as to the accuracy of the provided performance information.

In this report, trends in private buildings are analyzed from 2015 onward, which captures the first year of benchmarking commercial private buildings 50,000 ft² and greater.

Definitions:

ENERGY STAR Score: a 1–100 metric that normalizes energy use for climate, property type, year built, & other building characteristics. High values indicate high efficiency.

Energy use intensity (EUI): a simple efficiency metric that divides total whole building energy use by building area. Low values indicate high efficiency.

Water Score: a 1–100 water efficiency metric for multifamily buildings only that normalizes for property characteristics. High values indicate high efficiency.

Trends

Public Commercial Buildings

On the whole, consistently benchmarked public buildings collectively show a weather-normalized EUI reduction of 1% over seven years. However, performance among public entities varies. Hennepin County leads the group with a decline nearing 10%. The City of Minneapolis and Minneapolis Public Schools were on a similar trajectory until recent years and now show just 0.5% and 2% reductions respectively over the same time period. MetroTransit, which began voluntarily benchmarking in 2014, had parallel reductions into 2017, but an increase in 2018 resulted in an overall drop of 3% over 5 years. Though Minneapolis Park and Recreation Board properties display a stark increase from the first to second year, they have seen a slight dip since then, resulting in an overall increase of 7%

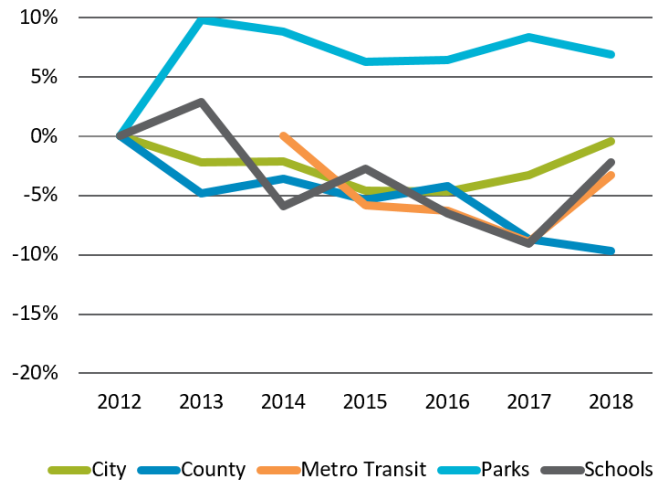
In 2018, Hennepin County and MetroTransit benchmarked water use. For those properties consistently benchmarked from 2014–2018, the two entities show water use savings of 21% and 17%, respectively.

Private Commercial Buildings

Consistently benchmarked private commercial properties used 5.5% less energy in 2018 than in 2014. However, energy use varies among individual properties, and trends are visible at the property type level. Continuing the trajectory from previous analyses, parking facilities continue to see the greatest reduction at 18%, as lighting—the biggest energy consumer in garages—continues to offer cost effective upgrade opportunities. Also notable are the 13%, 11% and 10% reductions in healthcare, college/university, and offices, respectively. Regarding offices, as the largest property type by count at 38% the savings represent nearly two thirds of the savings in the private property group. On the other end, worship facilities and arts/recreation institutions displayed the greatest increases in energy use at 9% and 6%, respectively.

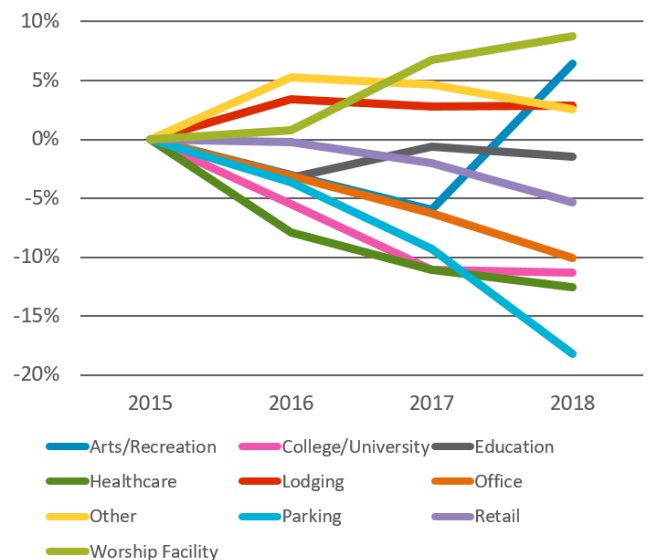
Compared to 2015, properties that continuously benchmarked water use through 2018 saw a collective 9% reduction.

Public Commercial EUI Trends
(weather-normalized)



-1% Energy Use Reduction

Private Commercial EUI Trends
(weather-normalized)



-5.5% Energy Use Reduction

Opportunities

Savings Spotlight: Becketwood Cooperative

There's no place like home, and when it comes to energy conservation, there aren't many homes like Becketwood Cooperative. Passionate members meet often and discuss possible options to use less energy, more sustainably. Staff share the enthusiasm — Maintenance Supervisor Brandt Pfeifer studied building commissioning to operate and re-tune equipment so that it runs efficiently. When it comes to energy conservation, residents and staff of Becketwood Cooperative work collaboratively and think proactively to find opportunities for savings. Maintenance Supervisor Brandt Pfeifer studied building commissioning in order to manage and re-tune equipment for efficient operation. Since 2013, Becketwood Cooperative has managed to reduce total energy use by over 23% and save more than \$53,000 annually on utility bills. Preventative maintenance has played a huge role in their success. "Emergencies cost far more than planned upgrades," stated Executive Manager Debbie Richman. Brandt added, "We try to take a systems approach to saving energy by replacing things sooner than later, so that we realize those financial savings faster ... with efficiency, success breeds success."

Since Brandt took over in 2006, Becketwood completed the following projects:

- R-25 insulation was added to the existing (R-19) roof insulation
- All common areas were converted to LEDs, and units are retrofitted during turnovers
- A new energy recovery unit uses waste heat to lower winter energy costs
- A new ENERGY STAR®-certified chiller saves over \$25,000 annually on summer cooling bills
- Windows have been upgraded to locally made, triple-paned models by Anderson Corporation
- ENERGY STAR-rated appliances (or better) are installed in each unit
- Low-flow faucets and showerheads and dual-flush toilets are installed for water savings

Realizing the value of energy efficiency

Debbie and Brandt say that their utility bill reductions have shown to them that energy improvements provide worthwhile returns on investment. Increased comfort and satisfaction has spread by word of mouth — Becketwood spends little on marketing, yet they have a hundreds-long waiting list for tenants.

Interested in energy-saving projects like these? Check out the programs the City of Minneapolis offers to help make energy efficiency improvements more affordable:

Energy Efficiency

Details: Green Cost Share Matching funds for up to 30% of project cost up to \$50,000 are available for businesses and multifamily buildings (4+ units). Projects requesting funds above \$50,000 must include a nonlighting component.

Learn more: minneapolismn.gov/environment/greencostshare

4D Efficiency

Details: Green Cost Share matching funds for up to 90% of project cost up to \$50,000 are available for multifamily participants in the 4d affordable housing incentive program who have made a 10-year declaration for 4d tax status.

Energy Evaluation

Details: The City supports free commercial audits through the Building Efficiency Adviser Program (BEAP). Buildings with high savings opportunity receive an energy audit and technical assistance in initiating improvement projects.

Learn more: mncee.org/beap

23%
total energy
reduction

“Emergencies cost far more than planned upgrades.”

Debbie Richman,
Executive Manager

\$53k
annual savings
on utility bills