ENERGY
BENCHMARKING
SCORECARDS

SHARING DATA TO MOTIVATE ACTION

USDN Benchmarking and Energy Data Collective Action Group

Action Team 1: Sharing Data to Motivate Action, Examples from Cities and Research Summary

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INTRODUCTION

This report was created by the Institute for Market Transformation (IMT) in conjunction with the Urban Sustainability Directors Network (USDN) Benchmarking and Energy Data Collection Action Group, with a focus on sharing building performance data to motivate action on energy efficiency.

This report helps implementers of benchmarking and transparency policies understand the latest techniques for developing energy benchmarking scorecards, also called energy benchmarking profiles, which present energy data to building owners as actionable information to drive investment in retrofits.

The first section of the report describes the elements of energy benchmarking scorecards and messaging approaches used by several cities. It includes recommended approaches and suggestions for new ideas informed by research and the Institute for Market Transformation's (IMT) experience working with jurisdictions on benchmarking data.

The second section showcases the process that Chicago, Denver, Minneapolis, Philadelphia, and Seattle used to develop their benchmarking scorecards. This section will help new policy implementers understand the basics of developing and distributing scorecards, enabling them to get scorecards into the hands of decisionmakers as effectively and efficiently as possible.

SECTION ONE:
ENERGY SCORECARD OBJECTIVES AND MOTIVATIONS

One of the main goals of benchmarking and transparency ordinances is to increase the visibility of energy performance data in the real estate market. Benchmarking and transparency policies do this in two ways:

- They draw the building owner's attention to their energy performance through the act of preparing and submitting their benchmarking reports. Evidence from an NMR Group survey of participants and non-participants in utility benchmarking workshops in California suggests that owners that benchmark their buildings are more likely to invest in energy improvements.[1]
- They make data about buildings' energy performance available to the marketplace, where prospective renters and investors can use it to inform their decisions, resulting in market prices that properly value energy efficiency.

To effect these changes at a transformative scale, jurisdictions implementing benchmarking and transparency ordinances need both the supply and demand sides of the real estate market to use the benchmarking data generated by the policy. This means jurisdictions must find ways to increase the accessibility and usability of benchmarking data for both building owners and their representatives (the supply side) and tenants and investors (the demand side). Several jurisdictions have developed energy benchmarking scorecards to improve the convenience and usability of benchmarking data on the supply side of the market.

Energy benchmarking scorecards are short, 1–2 page documents that jurisdictions send to building owners or their representatives (including property managers, chief engineers, and consultants), summarizing a building's benchmarking results and providing contextual information to help recipients interpret them. The purpose of energy benchmarking scorecards is to provide feedback to recipients on their building's energy performance and to encourage them to make operational and capital improvements. In general, cities that have released benchmarking scorecards have done this by:

- Using simple-to-understand language and graphs to distill complex energy performance data for users new to benchmarking data and to influence building owners and operators to take action
- Leveraging competition as a motivating force, by comparing the building's performance to similar local buildings
- Demonstrating how the building's energy performance has fared over time, as the energy performance of buildings can slip after years of use which could be remedied through retrocommissioning
- Estimating the energy and dollar savings that could be realized through energy efficiency improvements
- Informing recipients of actions they can take to save energy and decrease the cost of retrofits—thereby improving payback and return on investment—such as enrolling in utility incentive programs
- Confirming whether the building is in compliance with the benchmarking law, and highlighting certain provisions of the law such as data quality requirements

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CHICAGO AND SEATTLE'S RESEARCH ON BENCHMARKING SCORECARDS

Much of the content of this report was informed by the research conducted by the cities of Chicago and Seattle.

Chicago

In the spring of 2015, Chicago and its research partner, Seventhwave, ran focus groups with representatives from 14 commercial office buildings over 250,000 square feet that had complied with the city's benchmarking ordinance in the past year. During these focus groups, the City and Seventhwave tested draft versions of Chicago's energy benchmarking scorecard, which Chicago calls a "performance profile."

Because Chicago's focus groups included participants from large office buildings only—which are more likely to already monitor energy use—responses to the energy profiles may or may not be indicative of the reactions of individuals representing other building use-types or sizes. The City of Chicago and Seventhwave summarized their research findings in the American Council for an Energy-Efficient Economy (ACEEE) paper "Using Nudges and Energy Benchmarking to Drive Behavior Change in Commercial, Institutional, and Multifamily Buildings."

Seattle

In early 2015, Seattle worked with Resource Media to conduct interviews and focus groups with building managers, building owners, and service providers to learn about how they think about energy efficiency and to inform the design of their scorecards for 2015. Seattle then measured the open and download rates for their 2015 and 2016 scorecards and collected feedback from recipients through a survey. The insights from this research described in this report were extracted from the ACEEE paper "Speaking Their Language: Seattle's Collaborative Approach to Data-Driven Customer Engagement," the report "What Inspires Action: Understanding Motivations for Improving Building Energy Efficiency" by Resource Media, and the scorecard project summary by Milepost Consulting, the firm that designed Seattle's 2015 and 2016 scorecards.

The sub-sections below break down energy benchmarking scorecards into their constituent elements, describing for each its purpose, common approaches used by the cities that have developed scorecards thus far, insights collected from research conducted by the cities of Chicago and Seattle, and ideas for new approaches that jurisdictions could consider when developing their own benchmarking scorecards.

MOTIVATING DECISIONMAKERS: IDENTIFYING AND ENGAGING YOUR TARGET SCORECARD AUDIENCE

There are two main considerations in determining who should receive the scorecard, one of strategic nature and one related to process: (i) who has the ability to influence or make retrofit decisions, and (ii) for whom does the City have accurate, reliable contact information?

Cities should refine their scorecard metrics and messaging based on the role of the building contacts they have available to them, and if resources allow, develop tailored messages for different audience groups such as type of building contact or type of building. Jurisdictions already have the email address of the person submitting benchmarking information. This person could be the building owner, facilities manager, or even a consultant. It may be necessary to use other data sources such as tax assessor information or CoStar to find additional contacts for a building. Because the goal of a benchmarking scorecard is to motivate action on energy efficiency, the scorecard should be sent to a building contact who is able to heavily influence or make investment decisions for that building, which may be the owner or finance director. Facilities managers are also a good choice because they may be more familiar with energy performance metrics and can use the scorecard to make a pitch to

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building owners for energy efficiency investments. A City also has to strike the right balance between making scorecards easy to understand for the newcomer to energy performance metrics yet informative enough to be credible and motivating to a reader who is more sophisticated and already familiar with their building's energy usage.

The City of Seattle chose to send its scorecard by email to the contact who submitted benchmarking information through Portfolio Manager, but it also sent a paper copy of the scorecard through the mail to the owner the City had on file. In its focus groups, the City of Chicago found that there were role-specific differences in how individuals perceived energy benchmarking scorecards. Property managers were more interested in the ENERGY STAR score than energy use intensity (EUI) and showed greater interest in knowing how to achieve specific improvements in their score. Chief engineers, however, were more interested in EUI and expressed skepticism about the ENERGY STAR score as well as the use details of peer comparison buildings. If cities are able to discern the role of the submitter of a benchmarking report, they may be able to offer scorecards with messages customized for the individual recipient.

The easiest and cheapest way to distribute energy benchmarking scorecards is to email them; however, this is no guarantee that the intended recipient will open the email containing the scorecard. An attention-grabbing subject line will motivate the recipient to open the scorecard and share with other people connected to the building.

GRABBING THEIR ATTENTION: SENSIBLE OR SNAZZY SUBJECT LINES?

The easiest and cheapest way to distribute energy benchmarking scorecards is to email them; however, this is no guarantee that the intended recipient will open the email containing the scorecard. An attention-grabbing subject line will motivate the recipient to open the scorecard and share with other people connected to the building. The City of Chicago tested two subject lines for the email containing its scorecards. One subject line was more direct and action-oriented. Its message, "Chicago Energy Benchmarking Profile for [Building Name]," outperformed the more indirect message "Learn more about [Building]'s energy usage"; open rates were 44.2 percent and 31.9 percent, respectively. This evidence supports the idea that direct, to-the-point subject lines—or those that refer directly to a City program and compliance action—may be more effective than those that simply imply the offering of information.

REVEALING YOUR MESSAGE

In the header of their scorecards, three cities include an introductory message. A short introduction of a few sentences or less allows the City to present framing information on the scorecard and set the tone for the data being presented. IMT recommends that the introduction of a scorecard include the following:

- A clear explanation of the timeframe the scorecard's data covers, for example, January 2017–December 2018;
- Important identifying information and property use details, such as the building's address, benchmarking ID, gross floor area, and property use type. Many of the buildings covered by a benchmarking and transparency ordinance are part of portfolios held by a single ownership entity. This data lets the recipient know which building the scorecard is summarizing;
- A message thanking the recipient for providing their benchmarking data to the jurisdiction;
- High-level summary metrics of the building's performance for the year, namely ENERGY STAR score, energy use intensity, and if applicable, water use intensity. These tell the recipient at a glance how the building did on the most basic of performance metrics.

Minneapolis's introduction is short and to the point: "Thank you for providing 2015 building energy and water data to the City of Minneapolis. Your building's performance for calendar year 2015, based on the data submitted in 2016 is provided." Seattle added a second part that reads, "This energy performance profile shows how your building is doing year to year, and how it compares to similar [...] buildings in Seattle. See the backside for no- and low-cost resources and tips to help improve your building's energy performance." Similar to an email's subject line, the goal of the introduction is to set the tone of the scorecard and encourage the building contact to read further.

LEVERAGING COMPETITIVE SPIRIT WITH COMPARISONS

All of the scorecards examined for this report used comparisons to provide more contextual information for the building's energy performance that year and to motivate recipients to act to improve their results. There were three main comparisons that cities used in their scorecards:

- a peer comparison showing how the building performed relative to the distribution of energy performance results for similar local buildings;
- a specific ranking showing how the building ranked among similar local buildings;
- a past performance comparison showing the building's current year results relative to its performance in past years.

Peer Comparison: Distribution of Peer Buildings' Energy Performance

The idea behind peer comparisons is to show where the respective building stands in relation to buildings of similar use type and size. These buildings presumably make up the recipient building's market competition, so a comparison showing that a building's energy performance is lagging behind its peers should theoretically motivate its owner to make energy improvements. However, to be effectively motivating, the recipient needs to trust the legitimacy of the peer comparison. If the recipient does not believe that the buildings serving as the basis of comparison are truly its peers, or that their energy data and scores are accurate, then the comparison loses its validity and thus its persuasiveness.

Research by the City of Chicago showed that building owners were skeptical of the basis of peer comparison, suspecting that it was not based on a

MAKE PEER COMPARISON GROUPS SPECIFIC

Chicago's focus group participants expressed a desire to understand the basis of the comparisons made between their buildings and similar buildings. They also said that more specific peer groups would be more meaningful to them. The group suggested using finer size categories for similar building use-types, comparing all-electric buildings against each other, or comparing similar use-types that were built in the same decade. Such granular peer groups will be most applicable to the more common building use-types in a city, such as office and multifamily, for which there are a greater number of buildings to make such comparisons more statistically significant.

In Seattle, recipients representing hotels said that their scorecards would be more meaningful if they reported energy usage per room per night. Multifamily recipients were frustrated by their benchmarking results because they felt that they have little influence over tenant energy consumption. A scorecard that included information about residential tenant engagement programs could help multifamily recipients understand what they can do to help reduce tenant consumption.

MOTIVATING ACTION THROUGH METRICS AND STORIES

Chicago's focus group participants suggested that the energy profiles would be stronger if they showed how much a building would need to reduce its energy consumption to reach a better ENERGY STAR score or a better ranking in their peer comparison group.

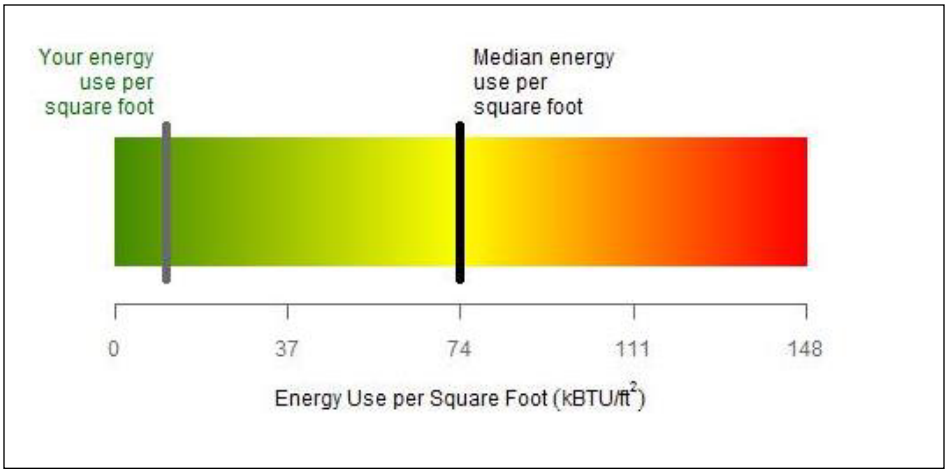
Seattle's focus group participants expressed interest in learning about how buildings similar to theirs enacted energy-saving measures and how those measures helped them financially. To motivate more owners to take energy-saving action, cities should consider developing one or two case studies for each peer comparison group that they can reference or link to in their scorecards.

true apples-to-apples comparison. The best way to address this skepticism is to be clear and specific about how the sample of comparable buildings was selected. Jurisdictions should include in their scorecards a description of what they consider a similar building in terms of use type, size, or other factors. For example, the City of Seattle, rather than comparing all multifamily buildings against each other, uses three comparison categories for multifamily: low-rise, mid-rise, and high-rise. In general, the more granular the comparison, the more meaningful to the recipient; however, a more granular comparison means a smaller number of buildings in the comparison sample, which can reduce the significance of the results.

The Cities of Denver and Seattle created web applications that allow scorecard recipients to create their own comparisons based on their own criteria. Jurisdictions considering developing their own benchmarking scorecards should strongly consider developing this functionality if they are also pursuing an online data visualization platform, as it allows recipients to develop customized comparisons that are more meaningful to them. Released in April 2018, Seattle's online benchmarking data map now incorporates individual building reports so that any user can explore metrics and graphics on how the building compares to its peers as well as to its previous performance.

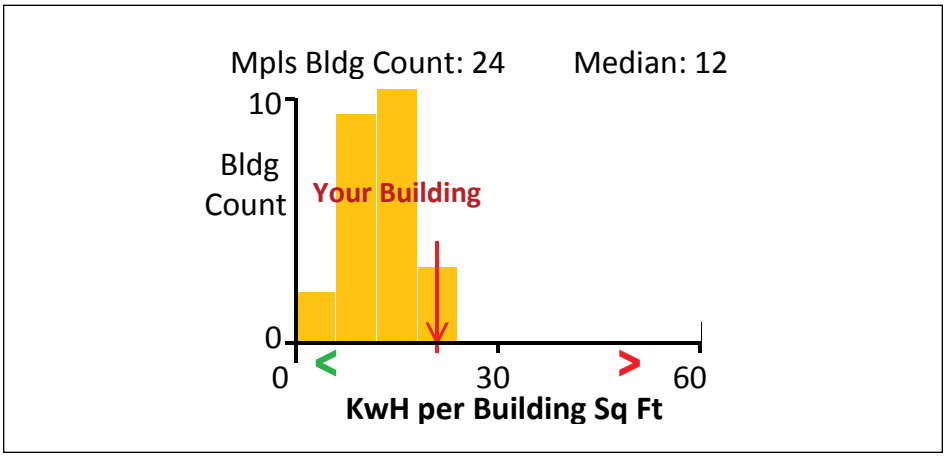
Jurisdictions should consider the appropriate metric to use for peer comparisons. An ENERGY STAR score is the most obviously appropriate metric for peer comparisons, as it is specifically designed to portray relative performance of buildings based on the statistically significant sample of buildings in the Energy Information Agency's Commercial Buildings Energy Consumption Survey—accounting for the many factors that influence energy consumption in a building such as use type, occupancy, and climate zone. However, not every building use type is eligible for an ENERGY STAR score and cities may not feel that their locality is represented fairly by a national metric.

Energy Use Intensity (EUI) is a more problematic metric for comparisons between buildings. It does normalize energy use for building size but it does not account for other factors such as the number of workers or operating hours. The usefulness of EUI as a comparison metric depends on the appropriateness of the comparison sample. The more closely the comparison sample resembles the size and use type of the building being examined, the more meaningful the energy use intensity comparison.



Chicago EUI Chart

The City of Minneapolis uses unique metrics in the comparisons it includes in its compliance report to building owners. The compliance report is separate from the scorecard the City sends building owners, though it serves an overlapping purpose of informing building owners about where their buildings' energy and water performance stands in relation to other buildings. For the compliance report, Minneapolis compares buildings against the distribution of fuel use intensity (natural gas, steam), electricity use intensity, and water use intensity of similar buildings. These metrics give the recipient more details about how their energy performance stacks up against their peers. Buildings that have electricity use below the median use for similar buildings, but fuel use substantially above the median, would know to examine their fuel use first for the most promising energy saving opportunities.

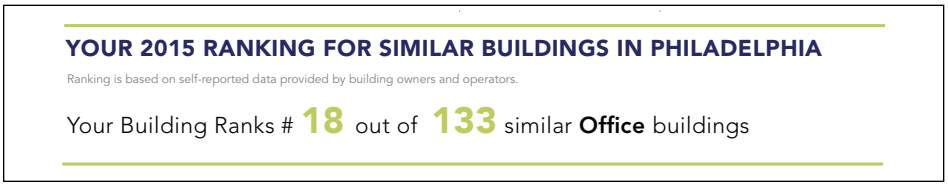


Minneapolis Compliance Report Chart for Hotel

Peer Comparison: Specific Ranking

The peer comparisons that most cities have used in their scorecards show the recipient how their building performs relative to the median for similar buildings. The specific ranking comparison makes the recipient's building's place in the distribution of energy performance more explicit. The specific ranking comparison is less abstract than a peer comparison based on median energy performance and thus could be more motivational.

To make the ranking specific and meaningful to the reader, the City of Denver also ranks the building against similar buildings in its neighborhood. By limiting the peer comparison group to those buildings in the same neighborhood, Denver hopes to make the comparison more salient by accounting for location. Only the cities of Denver, Philadelphia, and Seattle included specific rankings in their scorecards. There is no quantitative data to evaluate the effectiveness of the specific ranking on its own or relative to the peer comparison. Anecdotally, in the City of Seattle focus groups, building owners were concerned when their building received a low ranking, which led the City to exclude rankings in subsequent scorecard designs.

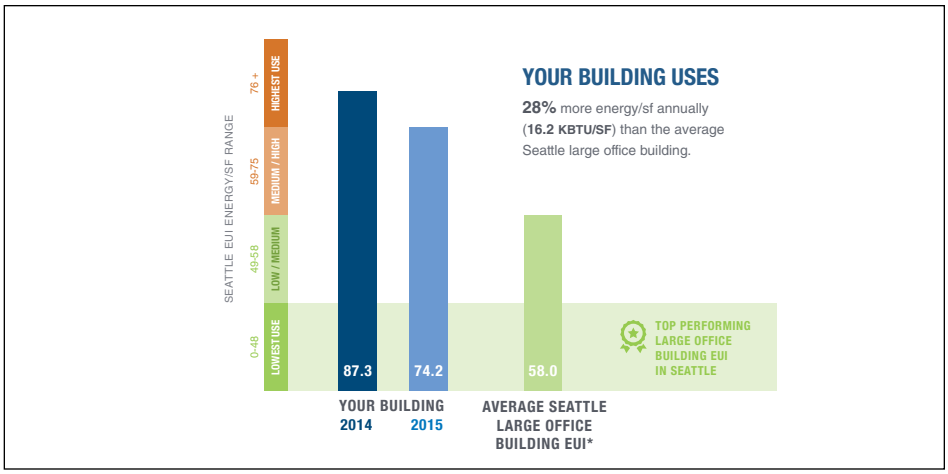


Philadelphia 2016 Performance Profile

Past Performance Comparison

Research from the City of Seattle and the City of Chicago showed that building owners and property managers expressed interest in seeing how their building has performed over time. Displaying a building's ENERGY STAR score or EUI results for the past few years on a chart could make a sudden drop in performance more noticeable to building owners and encourage them to take action to respond. Jurisdictions using a past performance comparison could also use it to provide positive feedback or recognition to buildings that notably improved their performance. As in Chicago, Seattle's focus group participants expressed interest in seeing how their building has performed year to year. They claimed that this information was more helpful to them than seeing how they performed relative to a peer group. Despite these claims, peer comparisons are a well-established means of effecting behavior change, so Seattle chose to include a peer comparison in their scorecard as well as showing the building's performance over time.[2,3]

Seattle Large Office Chart



One advantage of the past performance comparison is that it is not dogged by suspicions about the appropriateness of the comparison. For this reason alone, it is worth including in a benchmarking scorecard. Unlike the peer comparisons, the past performance comparison does not give the recipient any new information. Despite this, the comparison warrants inclusion in a scorecard because even though a building owner should ostensibly be aware of his or her building's past energy performance, many could benefit from the reminder. The City of Philadelphia combines the Past Performance Comparison and the Peer Comparison—Distribution of Similar Buildings in the same graphic. This allows the City to save space on the scorecard layout while benefitting from both comparison types.

Potential utility bill savings is one of the easiest-to-explain benefits of improving a building's energy performance, and it translates most directly into an owner's motivation to improve net operating income.

MONEY TALKS: PROJECTING AND PRESENTING ENERGY BILL SAVINGS

Potential utility bill savings is one of the easiest-to-explain benefits of improving a building's energy performance, and it translates most directly into an owner's motivation to improve net operating income. All scorecards estimate a plausible potential energy reduction for the recipient's building and then translate that number into cost savings for annual energy spend or a potential savings per square foot. The theory is that recipients will be motivated by the potential cost savings to pursue energy efficiency actions. In behavioral economics, loss

aversion is understood to be a more powerful motivator than potential gains, so jurisdictions may consider portraying potential cost savings as money being wasted. Whether or not recipients like the presentation is a different question than whether or not it is an effective motivator. Research from Chicago showed that focus group participants did prefer the loss aversion presentation, while Seattle has specifically avoided this type of messaging in their scorecards.[4]

The energy efficiency industry and its advocates have been making the case of energy efficiency based on cost savings for a very long time. A growing body of evidence suggests that energy cost savings are not the only potential financial benefit of energy efficiency.[5] Owners that make their buildings more energy-efficient often achieve higher net operating incomes, which was shown in a recent Department of Energy report to be 30 percent higher (NOI).[6] Higher net operating incomes mean that the building's value increases. Jurisdictions developing online scorecards should consider including a calculator to allow users to plug in their own data to simulate the effect on NOI and building valuation of different potential energy efficiency improvements. In Seattle's focus groups, the main motivation cited for investing in a building's energy efficiency is to benefit net operating income. Thus, Seattle's scorecards present an estimate of the building's amount spent per square foot on energy as well as a cost savings estimate based on an improvement in the building's energy performance to average or "top performer" status.[7]

Philadelphia Performance Profile (left); Seattle Performance Profile

PAVING THE WAY FOR THE BUILDING OWNER WITH SUGGESTED ENERGY IMPROVEMENTS

The purpose of the previously discussed elements of benchmarking scorecards is to motivate recipients to pursue actions to improve their buildings. To direct that motivation, each jurisdiction's scorecard includes a list of suggested actions that a building owner could take to improve the energy performance of their building. All encourage recipients to contact their local utilities for access to incentives and discounts on services such as energy audits or retro-commissioning. Most cities have suggested general improvement actions, such as joining the local building energy challenge program or attending an energy efficiency training. The City of Minneapolis takes this approach in its scorecard, but in its compliance report suggests more specific actions that building owners can take to reduce fuel, electricity, and water use. These include reducing temperature during operating hours, using setbacks for unoccupied space, and converting T-8 lighting to LED. Chicago's focus group participants thought that the energy profiles presented a good opportunity to keep recipients informed of current utility incentives and other available energy saving programs, such as their Retrofit Chicago challenge program.

When developing a list of suggested improvement actions, cities should strive to customize the suggestions to the use type of the building, especially calling out residential programs for multifamily buildings.

When developing a list of suggested improvement actions, cities should strive to customize the suggestions to the use type of the building, especially calling out residential programs for multifamily buildings. Cities should also consider providing detailed information about suggested utility programs. For each program, cities should include web links and contact information for the utility office or organization offering the program. Specific contact information could be created for the scorecard such as an email address or a web form that cities and utilities could use to track leads resulting from the scorecards.

There is relatively little data on how often recipients take the suggested actions in the scorecards. Seattle's focus group participants wanted the scorecards to include specific information about the utility incentives that were available for their buildings. They wanted to hear about specific actions or technologies that were eligible for incentive funding and not a general message to contact Seattle City Light. In response to this, Seattle worked with Seattle City Light (SCL) and Puget Sound Energy to provide a list of incentive programs and included descriptions of workshops on using Portfolio Manager and certification or recognition programs specific to the building use-type. These links appeared to be effective; SCL reported a threefold increase in the number of leads for its multifamily programs after the scorecards were distributed. Six different leads reported that they were contacting SCL because of the scorecards. Furthermore, the two workshops listed on the scorecards had 40 attendees.[8]

In reality, a scorecard can only reach so many people, and not every jurisdiction has the resources to develop tailored messages for multiple parties. Scorecards are not the only way to inform and motivate the right people. Jurisdictions with benchmarking ordinances have used the data and the data collection process in many different ways in order to target a variety of audiences. Some additional outreach methods include hosting trainings and data jams, creating challenge programs that target specific stakeholder types, and launching programs to provide incentives and technical support for energy efficiency improvements, such as New York City's Retrofit Accelerator Program.[9] Jurisdictions should consider scorecards as part of a wider array of initiatives designed to reach the stakeholders who submit benchmarking data and provide information and resources to encourage greater energy efficiency in buildings.

SECTION TWO:
EXAMPLES FROM FIVE LEADING CITIES

For staff looking to develop scorecards for the first time or to update existing scorecards it can be helpful to view examples of scorecards already in use. The section below includes information from five cities already using scorecards—Chicago, Denver, Minneapolis, Philadelphia, and Seattle—on how they designed and distributed their most recent energy benchmarking scorecards. Each city "showcase" below provides background on the approach the City used to:

- solicit input and design compelling content;
- distribute the scorecards to decisionmakers;
- create the metrics and messages they included to motivate action.

CHICAGO ENERGY PROFILES SHOWCASE

Development and Distribution

In 2013, the City of Chicago passed the "Chicago Energy Use Benchmarking Ordinance" which requires commercial buildings 50,000 square feet and larger to report their benchmarking data annually. In 2016, Chicago Energy Performance Profiles were created to drive energy efficiency improvements in buildings that reported under the benchmarking law. The profile design was influenced by previous interviews with owners and property managers and by 2015 tests that measured email open rates and hyperlink click-through rates for two different versions of the profile. Early results for email open rates indicated that building contacts preferred a subject line with a more direct description of the email's content. An email with the title "Chicago Energy Performance Profile for [Building Name]" was opened by 44.2 percent of recipients while the less direct subject line, ("Learn more about [Building Name]'s energy usage"), was opened by 31.9 percent of its recipients after 14 days.

The City partnered with Monday Loves You (formerly SocialRaise), a Chicago-based digital agency, to develop an energy profile template in 2015. The template was used again in 2016 to distribute to all non-municipal properties that reported data for 2015. Monday Loves You developed an email template using the HTML language. The HTML template was loaded into Salesforce, along with an Excel file of the benchmarking data for each property, to allow a mail merge so that customized scorecards could be sent to all non-municipal properties by email. Chicago's help center operator, Elevate Energy, distributed the profiles in early 2017. Elevate managed the distribution process using their Salesforce customer relationship management (CRM) platform where they also track benchmarking, help center metrics and interactions with each covered building.

The Energy Performance Profile contains one graphic that compares the building's ENERGY STAR score to the median ENERGY STAR score of similar buildings with the same use-type as determined by Portfolio Manager. If an ENERGY STAR score is not available for a particular property, then the building is compared to similar buildings through its site EUI.

Chicago estimated energy and cost savings for the profiles by calculating the energy and dollars that would be saved if the building's energy use per square foot were raised to the 75th percentile for similar buildings. The City defined similar buildings as those with the same use-type as determined by

Portfolio Manager. For use-types with larger amounts of buildings such as office or multifamily housing, buildings were compared to buildings of a similar size, (i.e., greater than or equal to 50,000 square feet and less than 100,000 square feet). For each building use-type, the City determined performance quartiles based on Energy Use Intensity (EUI). For buildings already performing at or above the 75th percentile for their use-type, the City estimated potential energy and cost savings based on a two percent energy reduction. To calculate potential energy cost savings, they assigned representative costs for electricity and natural gas using the regional averages published by the U.S. Energy Information Administration and listed those values on the last page of the profile.

In the Energy Actions section, properties with an ENERGY STAR score of 75 or greater that had not been ENERGY STAR certified were encouraged to pursue certification. Buildings with ENERGY STAR scores below 75 received a link to the ComEd Business Energy Analyzer tool. A small number of properties received a link to a Google Form where they could request additional assistance with analyzing and reducing energy use.

Chicago: Sample 2016 Energy Profile—ENERGY STAR Score (3 pages)

Chicago Energy Benchmarking

Example 2016 Chicago Energy Profile – ENERGY STAR Score

(Based on Information Reported in 2016 Reflecting Energy Use From January 1 – December 31, 2015)

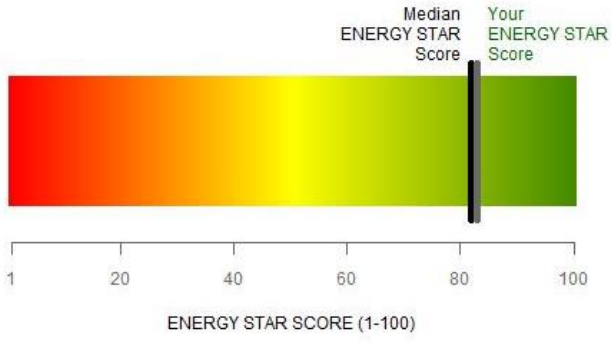
Thank you for submitting your 2016 energy benchmarking report for **[BUILDING ADDRESS]** to the City of Chicago. This Energy Performance Profile is based on your reported energy use information from January-December 2015, and shows how your building **compares to similar buildings** in Chicago. Our goal is to help you **identify opportunities** to reduce operating costs and improve your building's energy performance.

YOUR 2016 CHICAGO ENERGY PERFORMANCE PROFILE FOR:
[Building Name]

[Building Address]
Chicago, IL ZIP

Primary Property Type: Financial Office

Your ENERGY STAR score compared to similar buildings your size:



1

Chicago Energy Benchmarking

22%
Potential Energy Savings for
[Building Name]*

Your Building Can Save Approximately
$172,928 Per Year*

Congratulations! Your building's ENERGY STAR score is 83 and is above the median for similar buildings your size

Even high-performing buildings may find significant energy savings

""Similar Buildings" are: Bank branches and financial offices in Chicago larger than 50,000 ft2

ACT NOW TO IMPROVE YOUR BUILDING'S ENERGY PERFORMANCE

1. **Uncover Savings Opportunities:** Schedule a free energy assessment

Call ComEd at (855)433-2700 or click here to learn more. If your property uses natural gas, call Peoples Gas at (855)849-8928 or click here to learn more

2. **Train Your Team:** Learn how to capture savings through energy efficient operations.

Learn more at: bit.ly/TrainYourTeam

3. **Take the Challenge:** Develop a longer-term commitment to energy improvements

Join the Retrofit Chicago Energy Challenge, a free, voluntary program available to any building team Chicago. Learn more at:www.RetrofitChicago.net

2

4. **Get Recognized:** Your property may be eligible for the national ENERGY STAR certification

Learn more about the ENERGY STAR award at: this link.

For information on energy benchmarking, upgrade opportunities, and more, please visit the City's website on Taking Action to Improve Energy Efficiency. For questions about the information in this Energy Profile, please email: ChicagoEnergyBenchmarking@CityofChicago.org

*The information in this Profile is based on self-reported data from your building's energy benchmarking report. Estimated energy and cost savings are based on lowering your energy use per square foot to 69 kBTU/ft2, which is the 75th percentile for similar buildings your size in Chicago. Estimated cost savings assume average values of $0.076/kWh for electricity and $7.501/ft3 of natural gas.

What is an ENERGY STAR score? A 1-100 ENERGY STAR score rates energy performance, while taking into account operating hours, occupancy, climate, and other factors. A score of 100 represents a top performer, while a score of 1 indicates low performance. What is energy use per square foot? This is a building's reported site energy use divided by its gross floor area. The site energy use is the annual amount of all the energy consumed by the building on-site, as reported on utility bills. The ENERGY STAR score and the energy per square foot in this Profile reflect your building's information reported for calendar year 2015.

Chicago: Sample 2016 Energy Profile—EUI (3 pages)

Chicago Energy Benchmarking

Example 2016 Chicago Energy Profile – EUI

(Based on Information Reported in 2016 Reflecting Energy Use From January 1 – December 31, 2015)

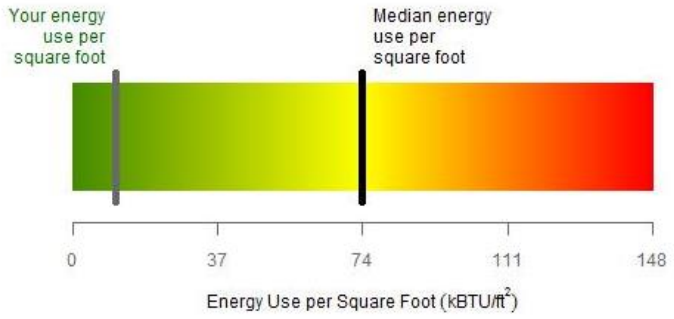
Thank you for submitting your 2016 energy benchmarking report for **[BUILDING ADDRESS]** to the City of Chicago. This Energy Performance Profile is based on your reported energy use information from January-December 2015, and shows how your building **compares to similar buildings** in Chicago. Our goal is to help you **identify opportunities** to reduce operating costs and improve your building's energy performance.

YOUR 2016 CHICAGO ENERGY PERFORMANCE PROFILE FOR:
[Building Name]

[Building Address]
Chicago, IL ZIP

Primary Property Type: Other - Education

Your Energy use per square foot compared to similar buildings your size:



1

Chicago Energy Benchmarking

2%
Potential Energy Savings for
[Building Name]*

Your Building Can Save Approximately
$1,000 Per Year*

Congratulations! Your building's energy use per square foot is 11 kBTU/ft2 and is below the median for similar buildings your size

Even high-performing buildings may find significant energy savings

""Similar Buildings" are: Adult education, preschool/daycare, and other education facilities in Chicago larger than 50,000 ft2

ACT NOW TO IMPROVE YOUR BUILDING'S ENERGY PERFORMANCE

1. **Uncover Savings Opportunities:** Schedule a free energy assessment

Call ComEd at (855)433-2700 or click here to learn more. If your property uses natural gas, call Peoples Gas at (855)849-8928 or click here to learn more

2. **Train Your Team:** Learn how to capture savings through energy efficient operations.

Learn more at: bit.ly/TrainYourTeam

3. **Take the Challenge:** Develop a longer-term commitment to energy improvements

Join the Retrofit Chicago Energy Challenge, a free, voluntary program available to any building team Chicago. Learn more at:www.RetrofitChicago.net

2

Chicago Energy Benchmarking

4. **Get Additional Help:** Sign up for FREE assistance to start making your building more efficient

Your property qualifies for a new assistance program. Sign up by clicking here.

For information on energy benchmarking, upgrade opportunities, and more, please visit the City's website on Taking Action to Improve Energy Efficiency. For questions about the information in this Energy Profile, please email: ChicagoEnergyBenchmarking@CityofChicago.org

*The information in this Profile is based on self-reported data from your building's energy benchmarking report. Estimated energy and cost savings are based on lowering your energy use per square foot by 2%. Estimated cost savings assume average values of $0.076/kWh for electricity and $7.501/ft3 of natural gas.

What is energy use per square foot? This is a building's reported site energy use divided by its gross floor area. The site energy use is the annual amount of all the energy consumed by the property on-site, as reported on utility bills. The energy per square foot shown on this Profile reflects your building's information reported for calendar year 2015.

3

DENVER ENERGY PERFORMANCE PROFILES SHOWCASE

Development and Distribution

In 2016, Denver hired local energy management firm, Overlay Consulting to help them build a program management software solution to track benchmarking information and communicate with building owners. This platform was developed in 2017 using Salesforce and Overlay's own "Bridge" system. The City used this platform after their first benchmarking reporting period to issue their Energy Performance Profiles to buildings who complied with the law. There are two templates for the Denver scorecards: one for buildings that are eligible for ENERGY STAR scores and one that uses site EUI values if a building is not eligible for an ENERGY STAR score.

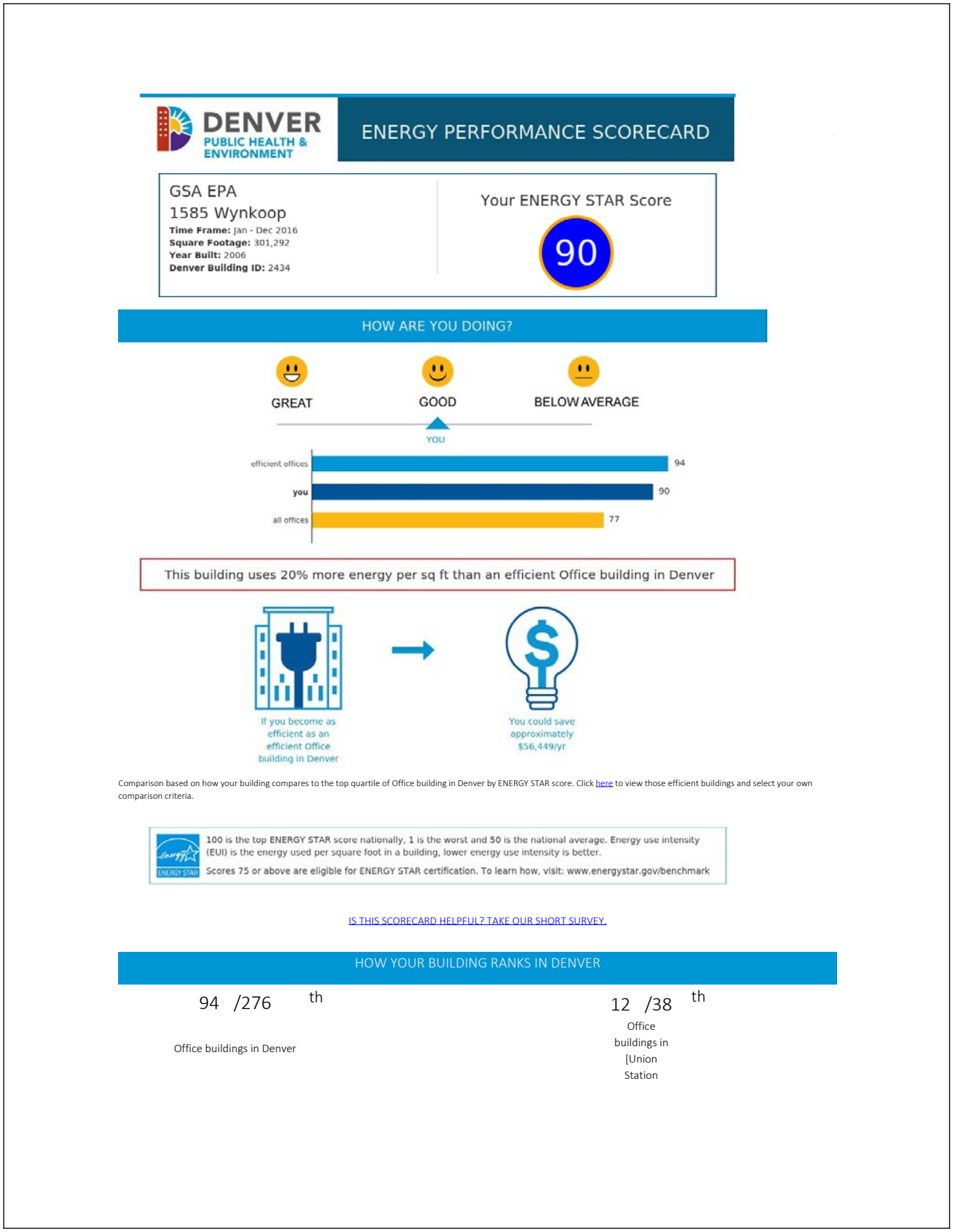
The scorecard includes two graphics that show the building's performance relative to other buildings of the same type in the city. Below the two graphics, the scorecard reports how much more energy the building uses than efficient buildings of the same type in Denver. "Efficient" buildings are determined as the top quartile of buildings of the same use type. In a separate section, the scorecard also reports how the building ranks relative to other buildings of the same use type city-wide and relative to similar buildings in the same neighborhood. City officials built their benchmarking compliance dataset in part using information from their GIS department, so the buildings are already geo-located and have a "neighborhood" designation.

The scorecard includes a graphic that shows how a certain percentage reduction in energy use for the building would translate into annual dollar savings. Dollar savings are calculated based on the average 2016 historical pricing data from EIA for electricity and natural gas. For district steam and chilled water pricing information is not publicly available, so Denver used prices from one of Overlay's clients. Below this graphic is a hyperlink that allows building owners to explore the characteristics of efficient buildings in their area on a map(www.energizedenver.org). When an owner clicks on "see who these efficient buildings are" they are taken to the map with the filters pre-set to show other buildings of their same type with an ENERGY STAR score over 75.

City officials created a survey through SurveyMonkey to capture feedback from building owners on the usefulness and clarity of the scorecard. The survey can be accessed at https://www.surveymonkey.com/r/2F25K6N. Although very few recipients have taken the survey, most of those who responded indicated the scorecard was useful, with their favorite part being the Energy Efficiency Checklist. The scorecard also provides contextual information about Denver's goal to reduce local greenhouse gas emissions 80 percent by 2050, including climate information from a study released by the City in 2016.

Denver's Performance Profiles are developed and distributed through its Help Center software platform. The Profiles are sent to the email address of the building contact who submitted the benchmarking report with a subject line of "Energy Performance Scorecard." Of the more than 1,300 scorecards sent as of February 2018, 436 distinct building contacts clicked the link to see similar buildings on the online benchmarking map.

Denver: Energy Performance Scorecard (3 pages)



DENVER
PUBLIC HEALTH & ENVIRONMENT

ENERGY PERFORMANCE SCORECARD

GSA EPA
1585 Wynkoop
Time Frame: Jan - Dec 2016
Square Footage: 301,292
Year Built: 2006
Denver Building ID: 2434

Your ENERGY STAR Score

90

HOW ARE YOU DOING?

GREAT | GOOD | BELOW AVERAGE

YOU

This building uses 20% more energy per sq ft than an efficient Office building in Denver

If you become as efficient as an efficient Office building in Denver

You could save approximately $56,449/yr

Comparison based on how your building compares to the top quartile of Office building in Denver by ENERGY STAR score. Click here to view those efficient buildings and select your own comparison criteria.

100 is the top ENERGY STAR score nationally, 1 is the worst and 50 is the national average. Energy use intensity (EUI) is the energy used per square foot in a building, lower energy use intensity is better.

Scores 75 or above are eligible for ENERGY STAR certification. To learn how, visit: www.energystar.gov/benchmark

IS THIS SCORECARD HELPFUL? TAKE OUR SHORT SURVEY.

HOW YOUR BUILDING RANKS IN DENVER

94 /276 th

Office buildings in Denver

12 /38 th

Office buildings in [Union Station

SOLVING CLIMATE CHANGE

Denver has committed to reduce greenhouse gas emissions by 80 percent by 2050.

- 57% of Denver's greenhouse gass emissions come from energy used in large commercial and multifamily buildings.
- Improving building energy efficiency will help Denver do our part to maintain the habitability of our only home - Earth
- Energy efficiency can also cut energy costs and strengthen our economy.
- If worldwide emissions continue to rise at the historical rate then by the end of the century Denver could see 72 days of temperatures above 100°F in an extreme year.

ENERGY EFFICIENCY CHECKLIST

6 steps to save energy

1 Benchmark your building.

Complete! Only 5 steps to go.

2 Get an energy audit.

An energy audit will give you a detailed report with energy conservation opportunities, the associated cost, savings, payback and available Xcel Energy rebates.

- Xcel's Multifamily Building Efficiency program includes an energy assessment of the building and free direct installation of energy-saving products. To get started, download the Participation Form or call 855.451.4467.
- ASHRAE Level 1 Audit – Good if you want to understand obvious first steps to improve your building's energy efficiency. Less precise than a level 2 audit.
    - Cost: Xcel Energy offers onsite energy audits. Participants are responsible for paying a small fee per audit based on building size. To get started, call the Xcel Energy Business Solutions Center at 855-839-8862. Click here for a sample report.
- ASHRAE Level 2 Audit – detailed, precise analysis of your building, good if you plan to make significant upgrades.
    - Cost: ~$0.20 per square foot, less for larger buildings. Choose your own provider.

3 Consider financing options.

You could save approximately $1,128,980.00 over 20 years by investing in more energy efficient building systems. But where do you get the capital? With C-PACE financing (www.copace.com) building owners save money on utility bills and improve property values through energy efficiency. C-PACE qualified retrofit projects are eligible for 100% financing, with long-term (15-20 year), fixed, non-recourse capital. Qualified improvements include HVAC, lighting, electric, gas, water, windows, insulation, elevators, and solar panel installations. For more information go to www.copace.com.

4 Tune-up your building (recommissioning).

Improve the efficiency of existing building operations by tuning up existing systems to run as efficiently as possible through identification and implementation of low- or no-cost improvements. 16% energy savings realized on average.

- Return: Payback ranges from 0.2-2.2 years, with an average of 1.3 years. Typical recommended measures include Equipment Scheduling, Optimizing Airside Economizer, Demand Control Ventilation, Temperature Reset Strategies, and more.
- Cost: Xcel Energy will pay up to 75% of the cost of a Recommissioning study, not to exceed $25,000. Rebates could then cover up to 60 percent of the implementation cost. To get started, visit the Recommissioning webpage.

5 Upgrade lighting.

If every lightbulb in your building isn't already a LED fixture with occupancy and daylight sensors then you're missing out on big energy savings.

- Return: 1-3 year payback, usually on the shorter side of that range.
- Cost: Xcel Energy rebates are available for a wide range of lighting projects and applications. For limited-time offers and to get started, visit the Lighting Efficiency webpage.

6 Upgrade other systems.

Your energy audit will tell you what other steps you should consider. Here is a list of the kinds of items the audit might tell you about an estimated payback ranges for each:

- 3-15 year payback
    - Controls upgrades
        - Variable Frequency Drives on motors
        - Upgrade Pneumatic to Electronic (DDC) controls
    - Heating, Ventilation, Cooling (HVAC) System Upgrades
        - High Efficiency Boiler, Chiller/AC, Air Handling Unit replacement
        - High-Efficiency Motors and drives
        - Optimized Motor Sizing
        - Heat Pumps
- 15+ year payback

- Windows
  - Replacement
  - Glazing
  - Daylighting
- Insulation
- Ground Source Heat Pumps (Geothermal)
- Cool Roofs
- Vegetated Roofs

FREQUENTLY ASKED QUESTIONS

Does ENERGY STAR score take into account more variables than just my energy consumption per square foot?

Yes, ENERGY STAR score assesses how your building is performing as a whole: its assets, its operations, and how the people inside use it. Are you open 24 hours? Do you have a high density of workers? How many bedrooms and laundry hook-up's are there in an apartment? The ENERGY STAR score is tailored to account for how your building works in the real world. 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. Learn more.

How is the comparison to efficient similar buildings in Denver calculated?

We compare your building to other buildings of the same type in Denver. When we compare you to efficient buildings of that same type we are comparing your buildings EUI to the average EUI of the to the top quartile of buildings of that type in Denver as determined by the ENERGY STAR score. We determine the top quartile using ENERGY STAR scores because those scores normalize for significant factors like density of occupants.

How have you calculated potential savings?

Estimated energy savings are based on you lowering your energy use per square foot to the EUI of the average building in the top quartile of buildings of the same type in Denver. For those buildings above the average of the top quartile 5% of potential savings has been assumed. For those buildings that need to reduce energy consumption by more than 25% we gave an estimate of what would be saved by saving 25% so as to give you a reasonable starting estimate for energy savings. We estimate your cost savings assuming average values of $0.0966/kWh for a blended rate for electricity, $.70175 / Therm for natural gas, $16.900/Mlbs for steam district and $0.230/Ton-hr for district chilled water.

I think my energy use is not accurate. Where did you get this information?

The information in this score card is based on self-reported data from your building's energy benchmarking report. Please call our help center if you think it is inaccurate and they can help you figure out how to ensure your report is accurate next year.

How Denver will benefit from this ordinance?

Improving building energy efficiency will help protect Denver's quality of life and strengthen the economy. Investing an estimated $340 million in improving building energy efficiency could result in 4,000 local jobs and $1.3 billion in energy savings over 10 years. The energy used in large commercial and multifamily buildings results in 57 percent of Denver's harmful greenhouse gas emissions. Building energy efficiency is a key component of the City's efforts to achieve Denver's 2020 Sustainability and Climate Action Plan goals of reducing greenhouse gas emissions below 1990 levels by 2020 and by 80 percent by 2050.

Have similar ordinances been successful?

Yes, other cities with benchmarking and transparency requirements have seen 2-3% energy savings each year by covered buildings. Learn more.

MINNEAPOLIS BENCHMARKING SCORECARDS SHOWCASE

Development and Distribution

The City of Minneapolis passed its "Commercial Building Rating and Disclosure Ordinance" in 2013 which requires non-residential commercial buildings 50,000 square feet and larger to annually report building performance information to the City. The Minneapolis Scorecard was first distributed in early 2017 and is sent annually in early February to present building owners with useful metrics from the benchmarking information they submitted in the previous year. It also serves as a reminder of the upcoming reporting deadline in June. Minneapolis develops its benchmarking scorecards in an in-house CRM system which can pull benchmarking information from their internal Microsoft Access database so building metrics can be populated into the scorecard template within Outlook. Once the scorecard template is created, it is sent as an email through Microsoft Outlook.

The largest graphic on the scorecard is a chart that compares the building's ENERGY STAR score to other buildings that reported for the same use-type. If four or fewer buildings reported benchmarking data for that year in the same use-type then the building is compared to Minneapolis buildings overall. If the building is not eligible for an ENERGY STAR score then the graph compares site EUI within that building's use-type. The scorecard features two small graphics that report the building's site EUI value and annual water consumption for the current reporting year and the previous two reporting years. If the building did not report in the previous years, the chart shows an "N/A."

Beyond providing useful metrics to help building owners understand their benchmarking information from the previous year, the scorecard also serves as a compliance reminder for the next benchmarking reporting cycle. The scorecard contains the new reporting link, a reminder of the compliance deadline and penalties if the report is not submitted, and contact information for local benchmarking assistance. The last section of the scorecard is a table containing the data fields that must be included within the benchmarking submission and be within acceptable bounds in order for the building to be in compliance. The City of Minneapolis decided to emphasize data quality on their scorecard because they feel that strong data quality is essential to collecting useful benchmarking data.

Compliance Report

Once a building reports their benchmarking information to the City in early summer, the City responds within a month with a Compliance Report notice containing several metrics similar to the scorecard. The first page includes a section of high level building information, a table of the building's performance information in the past three years along with three charts of the same data points, and city contact information for benchmarking questions. The second page includes three sections for fuel use intensity, electricity use intensity, and water use intensity, each with a chart showing where the building falls on a distribution of buildings with the same use type and a short paragraph of ideas on how to reduce consumption. Estimated cost savings in each category are also included.

Minneapolis: rBA Compliant Report (2 pages)

City of Minneapolis
Health Department
Environmental Health Division
50 South Fourth Street Room 400
Minneapolis, Minnesota 55415
www.minneapolismn.gov

April 13, 2017

To: **Nick Jette, SOL VISTA**

Subject: **2016 EPA ENERGY STAR Benchmarking Report**

2016 Report Compliance
Hotel Minneapolis

Reference Property (City Records):

Building Count	Building Area, ft^2
1	201,719

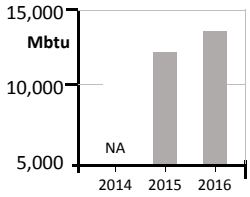
Owner: CHSP Minneapolis LLC
Property Address: 401 2nd Ave S, Minneapolis, MN 55401
Minneapolis Building ID(s): 104799
Minneapolis Property ID(s): 2302924330775

Thank you for submitting the ENERGY STAR Benchmarking Report for the above property. The report is compliant with City requirements and is accepted. Following is summary of building performance.

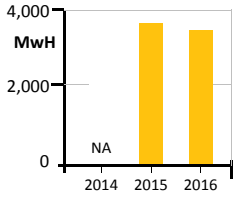
Year	ENERGY STAR Score*	Energy Use Intensity EUI Kbtu/sq ft	CO2 Emissions Metric Tons
2016	16	147	3,166
2015	16	143	3,381
2014	NA	NA	NA

* An ENERGY STAR Score of 50 corresponds to the national median, 75 is a Star Performer.

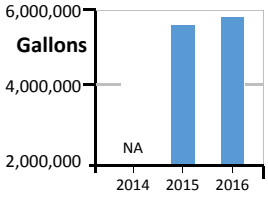
Fuel Use



Electricity Use



Water Use



See Page 2 for comparison of your building performance to Minneapolis peers.

Report data will be posted on the City website and be available to the public.

If you have any questions , please contact us at mplsenergystar@minneapolis.gov or 612 673-3091.
Thank you,

Energy Benchmarking Team
City of Minneapolis

If you need this material translated or in an alternative format, please call 311 or 612-673-3000. TTY users may call 612-673-2157. Spanish: Atención. Si desea recibir asistencia gratuita para traducir esta información, llame al 612-673-2700. Somali: Ogow. Haddii aad dooneyso in lagaa kaalmeeyo tarjamadda macluumaadkani oo lacag la' aan wac 612-673-3500. Hmong: Ceeb toom. Yog koj xav tau kev pab dawb txhais cov xov no, hu 612-673-2800.

Page 1 of 2

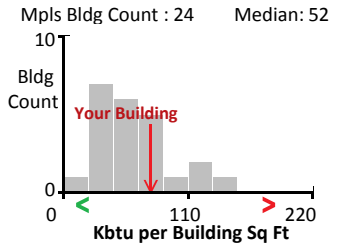
Hotel Minneapolis

Peer Comparison: Fuel, Electricity and Water Use Intensity

Minneapolis Hotel Buildings

Fuel Use Intensity

(Natural gas, steam use)

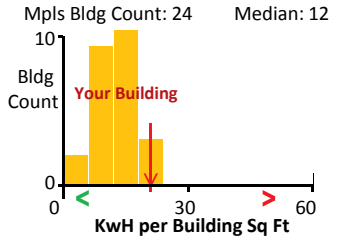


Your building Fuel Use Intensity of 78 Kbtu/sq ft exceeds the Minneapolis Hotel Buildings median.

Fuel use can be reduced by: 1.) tightening your building (doors, windows, wall and ceiling insulation), 2.) improving HVAC efficiency (tune-up, upgrades, recommissioning, managing ventilation, 3.) reducing indoor temperatures (Operating hours temperature reductions, unoccupied space setbacks). For example, a one degree reduction in average winter indoor temperature could save $7,080 annually.

A 5% reduction in your total fuel use could save *$19,200 annually.

Electricity Use Intensity

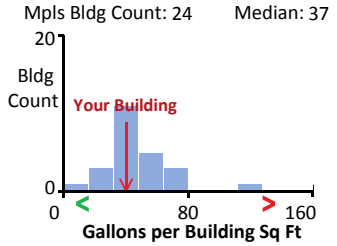


Your building Electricity Use Intensity of 20 KwH/sq ft exceeds the Minneapolis Hotel Buildings median.

Electricity use can be reduced by managing air conditioning, ventilation, refrigeration, computer systems and lighting power use. For example, each 1,000 watts of lighting on during 60 weekly operating hours but now turned off manually or via motion detectors or timers, would save *$300 annually. Each 1,000 watts of T-8 fluorescent lighting converted to LED's could save *$150 annually. Controlling Power Factor can also save costs.

A 5% reduction in your total electricity use could save *$17,000 annually.

Water Use Intensity



Your building Water Use Intensity of 33 gallons/sq ft is below the Minneapolis Hotel Buildings median.

Water use can be further reduced. Minneapolis water costs .92 cents/gallon including sewer charges, plus fees in 2016. Heating water for lav use can costs more than .5 cents/gallon. And Minneapolis water rates are increasing over 3% per year. Increasing efficiency of fixtures, dish washers, shower heads, and irrigation can save. And storm water charges can be significantly reduced via landscaping changes. See the City Water Department website.

Your 2016 water use was 5,830,000 gallons. Each 10,000 gallon reduction in domestic water use saves $92.

*** Savings are order of magnitude estimates.**

Pathways for Improvement

1.Building Energy Challenge

Join buildings across the city to reduce greenhouse gas emissions 15% by 2020.

www.minneapolisenergybenchmarking.org/challenge/

2. City Funding for Energy Efficiency

Apply for a Green Business Cost Share for your next energy efficiency project

www.ci.minneapolis.mn.us/environment/green/index.htm

3.ENERGY STAR Certification Grants

Certify your high-performing building with a City grant covering 60% of review costs!

www.minneapolisenergybenchmarking.org/funding/grants/

Minneapolis: rEJ Client Scorecard (2 pages)

Minneapolis City of Lakes | energy benchmarking

Wednesday, February 01, 2017

2015 Benchmarking Results

801 Nicollet Mall

Thank you for providing 2015 building energy and water use data to the City of Minneapolis. Your building's performance for calender year 2015, based on the data submitted in 2016 is provided:

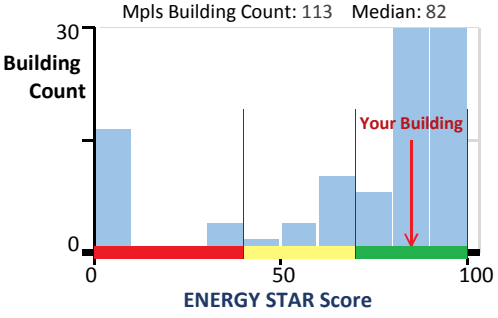
Score* 84 | **77 Kbtu/sq ft** | **6,552,000 Gallons**

* With an ENERGY STAR Score greater than 75, your building is eligible for ENERGY STAR Certification.

Peer Comparison: ENERGY STAR Score

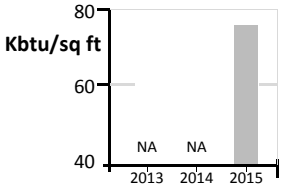
Office Buildings

Mpls Building Count: 113 Median: 82

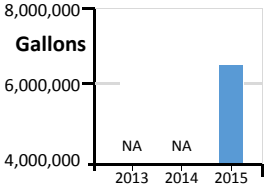


Your Building Trends

Energy Use Intensity EUI



Water Use



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Certify your high-performing building with a City grant covering 60% of review costs!

Sign up by April 1!

www.minneapolisenergybenchmarking.org/funding/grants/

Page 1 of 2

Next compliance date: June 1, 2017

Submit Your 2016 Energy and Water Data.

Calender year 2016 building energy and water use data is due to the City by June 1, 2017.

2016 data will be made public in the fall of 2017.

Failure to submit 2016 energy and water data within compliance standards below will result in an administrative fine. Unpaid fines will be added to building property tax.

If you need any assistance for benchmarking your building, free help is available.

Contact us!

Visit: www.minneapolisenergybenchmarking.org
Email: mplsenergystar@minneapolismn.gov
Call: (612) 673-3091

Compliance Standards

To comply with the benchmarking ordinance, building owners must submit data to the city via EnergyStar Portfolio Manager. **Incomplete data submission may result in enforcement actions.**

Data Field	Compliance Threshold
Minneapolis Building ID**	Include correct ID
Minneapolis Property ID**	Include correct ID
Property Type	Include correct building type
Property Floor area**	Within 25% of Tax Assessor data or provide explanation
Site Energy Use Intensity (EUI)*	EUI's between 25-400 Kbtu/sq ft
ENERGY STAR Score***	Scores 5-95
Full calendar year (Jan. 1- Dec. 31) meter data	For electricity, heating fuel and water use
Electricity data	Must be greater than zero
Heating fuel data*	Must be greater than zero
Water data*	Must be greater than zero

*Parking Structures are exempt from EUI thresholds, heating, and water data standards

**City provides this data, but must be entered into Portfolio Manager by the building manager

***Extreme scores will be reviewed for validity

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PHILADELPHIA PERFORMANCE PROFILES SHOWCASE

Development and Distribution

The City of Philadelphia passed its benchmarking ordinance in 2012, and since then has shared annual benchmarking information in a number of ways, including benchmarking reports, an online data visualization tool,[10] and individual building performance profiles. City staff used Adobe InDesign to develop their performance profiles in-house, which took several weeks of staff time to develop and review in the first iteration. They used the Data Merge function of InDesign to plug unique building values into each template from a spreadsheet of the benchmarking data collected in Portfolio Manager, including historic performance metrics from previous years.

Philadelphia developed two performance profile templates, one for buildings receiving ENERGY STAR scores and another for Energy Use Intensity for buildings ineligible to receive an ENERGY STAR score. The City distributed profiles through unique web links created for each building based on its Portfolio Manager ID. For owners with several benchmarked properties, the City created a separate webpage with links to each of their properties. The unique web links were merged into the building owners' profiles within Salesforce, which was used to email the link to building owners. The City sent test emails to confirm the web link worked properly before sending out the final profiles.

The comparison chart is the first and largest graphic to appear on each profile. The EUI scorecard also includes a column representing low, medium, and high energy use intensities to give further context for the building's EUI, which was calculated as an even distribution within that building's use-type. The profile also identifies the building's largest energy source for the year. The largest energy source for their building could allow the building owner to select the utility program listed on the profile that is most applicable to their building. Because many of the profile recipients were new to energy tracking and management, the City provided this basic piece of information to help steer building owners toward the utility programs that would have the highest impact on their performance. The profile includes an estimate of the money a building could save if it were to reduce its energy consumption by five percent. City staff used the U.S. Energy Information Administration's regional cost estimate for electricity, natural gas, and fuel oil #2 for the year benchmarked as the cost factor.

Philadelphia: Sample 2016 Energy Profile—ENERGY STAR Score (2 pages)

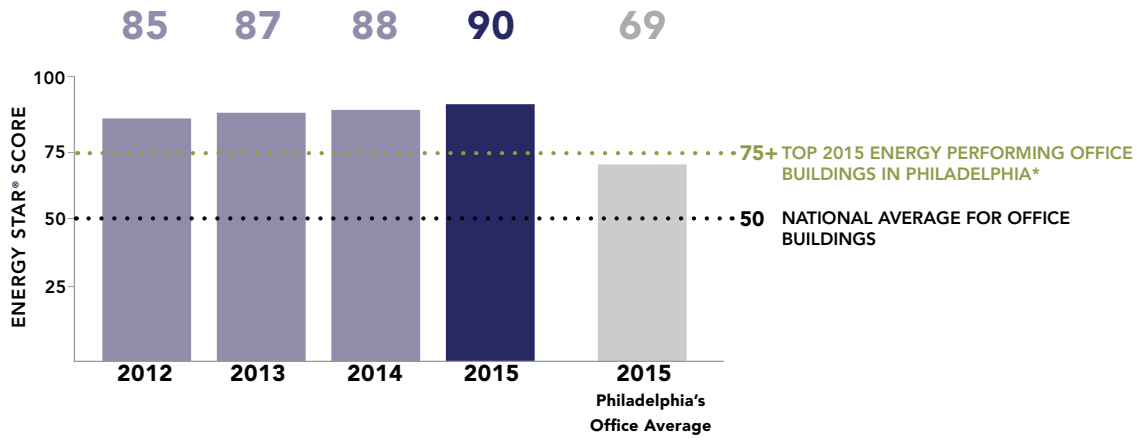
Building Energy Performance Profile

Reporting Year 2015

ADDRESS: XXX MAIN STREET **OPA ID#:** 70000000

YOUR BUILDING'S ENERGY STAR® SCORE 2012 TO 2015

(1-100 Score, 100 is most efficient building)



*Buildings 75 or above are eligible to become ENERGY STAR® certified. See next page for more information.

YOUR 2015 RANKING FOR SIMILAR BUILDINGS IN PHILADELPHIA

Ranking is based on self-reported data provided by building owners and operators.

Your Building Ranks # **18** out of **133** similar **Office** buildings

YOUR BUILDING'S TOP ENERGY SOURCE(S) IN 2015

Electricity

YOUR BUILDING COULD SAVE

$96,445*

BY REDUCING ITS 2015 ANNUAL ENERGY USAGE BY **5%**

**Utility cost data is based on EIA's estimated regional cost of energy for electricity, natural gas and fuel oil #2 in 2015.*

See next page to find more about how you can save money & energy.

WWW.PHILA.GOV/BENCHMARKING • ONE PARKWAY BUILDING • 1515 ARCH ST, 13TH FLOOR • PHILADELPHIA • PA • 19102

DECREASE YOUR ENERGY USAGE & SAVE MONEY

There are cost effective opportunities in Philadelphia to reduce your building's energy usage, increase your ENERGY STAR® score and to save money. These opportunities include low-interest loans, grants, rebates and technical assistance programs.

smart ideas℠ PECO An Exelon Company

www.peco.com/smartideas

PECO Smart Ideas for commercial and industrial customers offers various energy efficiency incentives for qualifying:

- Equipment including lighting, HVAC and motors and drives
- Custom incentives projects

1-844-4BIZ-SAVE (1-844-424-9728) or *pecosmartideas@dnvgl.com*

PGW | energysense

www.pgwenergysense.com

PGW EnergySense offers various energy efficiency solutions including:

- Equipment rebates
- Construction and building grants
- Conversion from fuel oil to natural gas

Priya Sathaye at 215-684-6610 or *energysense@pgworks.com*

EnergyWorks ENERGY EFFICIENCY IMPROVEMENTS

www.energyworksnow.com

The EnergyWorks commercial program helps businesses and nonprofits in Philadelphia economize their energy use through access to low-interest loans for energy efficient building renovations, systems and equipment.

215-496-8157 or *chollinger@pidc-pa.org*

ENERGY STAR

LOOKING FOR LOW- TO NO-COST ENERGY EFFICIENCY MEASURES TO IMPLEMENT IN YOUR BUILDING OR HOW TO BECOME ENERGY STAR® CERTIFIED?

Visit *www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings* for more information.

GREENWORKS
A VISION FOR A SUSTAINABLE PHILADELPHIA

GREENWORKS IS THE CITY'S SUSTAINABILITY PLAN TO IMPROVE QUALITY OF LIFE FOR ALL PHILADELPHIANS

Visit *http://tiny.cc/GreenworksontheGround* for concrete steps on how you can help make Philadelphia more sustainable.

THE CITY OF PHILADELPHIA
OFFICE OF
SUSTAINABILITY

THIS PROFILE WAS PREPARED BY THE OFFICE OF SUSTAINABILITY.

IF YOU HAVE ANY QUESTIONS ABOUT THE INFORMATION PROVIDED, PLEASE EMAIL BENCHMARKINGHELP@PHILA.GOV OR CALL (215) 683-3527

WWW.PHILA.GOV/BENCHMARKING • ONE PARKWAY BUILDING • 1515 ARCH ST, 13TH FLOOR • PHILADELPHIA • PA • 19102

Philadelphia: Sample 2016 Energy Profile—EUI (2 pages)

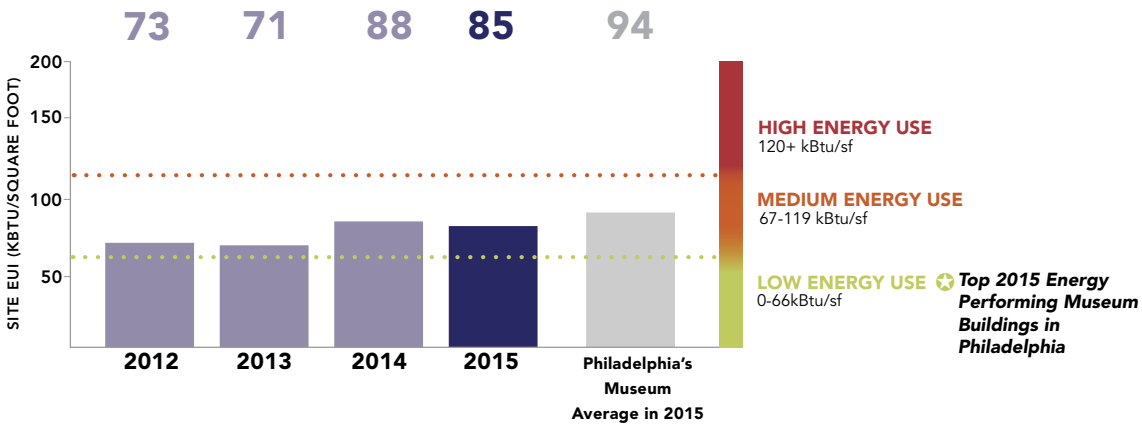
Building Energy Performance Profile

Reporting Year 2015

ADDRESS: xxxx Main Street **OPA ID#:** 70000000

YOUR BUILDING'S ENERGY USE FROM 2012 TO 2015

Larger number indicates higher energy usage



Energy use is Site Energy Use Intensity (EUI), a measure of the site's total annual energy use (kBtu) by building's total square footage (sf).
Low to high energy usage ranges below are based on medians of similar 2015 Philadelphia's buildings.

YOUR 2015 RANKING FOR SIMILAR BUILDINGS IN PHILADELPHIA

Ranking is based on self-reported data provided by building owners and operators.

Your Building Ranks # **4** out of **8** similar **Museum** buildings

YOUR BUILDING'S TOP ENERGY SOURCE(S) IN 2015

Electricity

YOUR BUILDING COULD SAVE

$4,362*

See next page to find more about how you can save money & energy.

BY REDUCING ITS 2015 ANNUAL ENERGY USAGE BY **5%**

**Utility cost data is based on EIA's estimated regional cost of energy for electricity, natural gas and fuel oil #2 in 2015.*

WWW.PHILA.GOV/BENCHMARKING • ONE PARKWAY BUILDING • 1515 ARCH ST, 13TH FLOOR • PHILADELPHIA • PA • 19102

DECREASE YOUR ENERGY USAGE & SAVE MONEY

There are cost effective opportunities in Philadelphia to reduce your building's energy usage, increase your ENERGY STAR® score and to save money. These opportunities include low-interest loans, grants, rebates and technical assistance programs.

smart ideas℠ PECO An Exelon Company

www.peco.com/smartideas

PECO Smart Ideas for commercial and industrial customers offers various energy efficiency incentives for qualifying:

- Equipment including lighting, HVAC and motors and drives
- Custom incentives projects

1-844-4BIZ-SAVE (1-844-424-9728) or *pecosmartideas@dnvgl.com*

PGW | energysense

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SEATTLE ENERGY PERFORMANCE PROFILES SHOWCASE

Development and Distribution

Seattle's benchmarking policy for commercial buildings 20,000 square feet and greater was first passed in 2010 and was amended in 2016 to make benchmarking reports publicly available. Seattle hired Milepost Consulting in 2015 to create energy performance profiles to encourage building owners to make improvements to their buildings. After researching what messages would resonate with building owners, Milepost used Adobe InDesign to create about 20 templates to represent different building use-types and building performance levels. The City used Adobe's "Data Merge" capabilities to populate the scorecards with personalized building performance data from the benchmarking information.

The Office of Sustainability and Environment used AutoSplit Pro, a plug-in for Adobe Acrobat Pro, which saved individual PDF files for each scorecard. These PDF files were uploaded to document folders on the City's seattle.gov domain, which the owner could access through a unique link that was emailed to them. Paper copies were also mailed with a cover letter to each building owner. The City developed email messages in Constant Contact, an email marketing software platform, and sent them to property managers containing the seattle.gov profile link. Performance profile links were manually combined into one Constant Contact email for property managers who managed multiple buildings. Constant Contact has the ability to track email open rates, while Seattle's IT department was able to provide a log of the number of file downloads. In 2015, download/open rates of the PDF files were about 53 percent for office and 25 percent for multifamily buildings.

Although multifamily open rates were 25 percent, Seattle's municipal utility, Seattle City Light (SCL), reported that leads for multifamily programs tripled after the scorecards were sent in mid-November 2015 (from an average of about 12/month to 36/month). Additionally, SCL noted that six direct referrals were received (those citing they were contacting SCL in response to receiving the scorecard).

The Office of Sustainability and Environment was able to track email open rates and PDF download rates, but it is more difficult to track energy efficiency improvements that result from the profiles. SCL is able to track referrals to its Energy Advisor Hotline from the profiles, and the leads that result in projects from these referrals.

TYPES OF TEMPLATES:

Use-types: Large office, Mid-size office, Low-rise multifamily, Mid-rise multifamily, and High-rise multifamily, Retail, Hotel

Performance: High performer vs standard performer

Messaging: Reduce the building's EUI to the median, or become one of the City's best performers

Seattle: Large Office Report (2 pages)

000

74.2
2015 EUI

Energy Use Intensity (EUI) is your building's annual energy use (all fuel types) per square foot (sf) in kBtu/sf.

SEATTLE LARGE OFFICE
2015 ENERGY PERFORMANCE PROFILE

100 MAIN ST, SEATTLE, WA 98103 | Square Feet: **139,000** | Type: **Large Office Building** (100K+ SF)
Benchmarking ID: **99999** | EPA Building ID: **0000000**

Thank you for benchmarking your building's energy use with the City of Seattle! This energy performance profile shows how your building is doing **year to year**, and how it compares to **similar large office buildings** in Seattle. See the backside for no- and low-cost resources and tips to help improve your building's energy performance.

YOU CURRENTLY SPEND

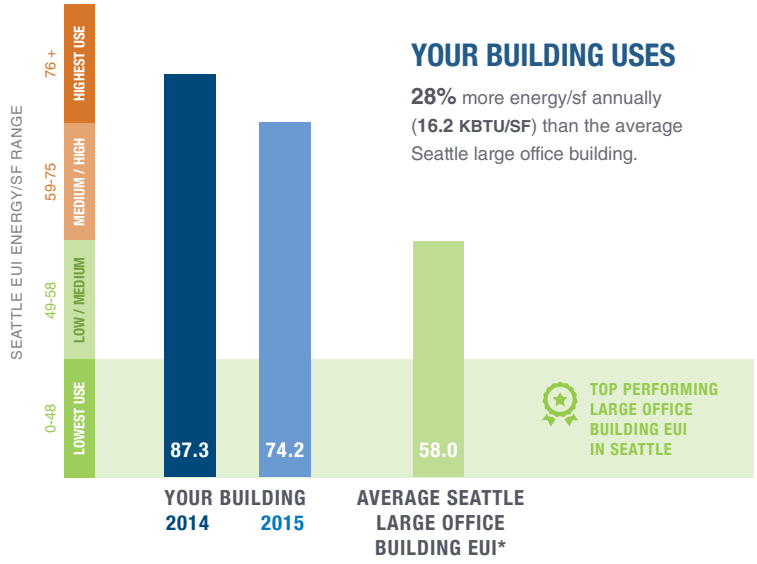
$1.37 / SF

ANNUALLY ON ENERGY*

or **$189,000** per year.

Your building's EUI decreased (**13 KBTU/SF**) from 2014 to 2015.*

* The information in this report is self-reported and subject to verification. Costs and potential savings are estimated at $0.0183 per kBtu using the average mix of fuel sources (electric, gas, steam) for a large office building. Average EUI is based on Seattle median EUI, not normalized for weather.



YOUR BUILDING USES

28% more energy/sf annually (**16.2 KBTU/SF**) than the average Seattle large office building.

SAVE UP TO $41,500

EACH YEAR BY REDUCING YOUR EUI TO MEET SEATTLE'S AVERAGE BUILDINGS

That's real money to put back into your building to improve your property, attract new tenants and continue reducing energy bills.

GET STARTED

10% IMPROVEMENT
CAN YIELD UP TO
$18,900
in annual energy savings
(EUI of 66.9)

20% IMPROVEMENT
CAN YIELD UP TO
$37,800
in annual energy savings
(EUI of 59.4)

LEARN HOW

SEATTLE ENERGY BENCHMARKING & REPORTING

www.seattle.gov/energybenchmarking

Questions?
energybenchmarking@seattle.gov
206.727.8484

Report prepared: 09/12/16

SAMPLE

YOUR BUILDING'S PATH TO IMPROVEMENT

Take advantage of low and no-cost options to optimize your building's assets, increase its marketability and reduce annual energy costs.

1. GET A FREE ENERGY SAVINGS ASSESSMENT

from an energy expert to identify energy saving opportunities and qualify your building for rebates on controls, HVAC and more. Rebates can cover up to 70% of the cost of upgrades.

Seattle City Light
www.seattle.gov/light/assessment

2. UPGRADE TO ENERGY EFFICIENT LIGHTING

and controls in common areas, parking garages and tenant spaces for significant cost savings. Qualifying businesses can save up to 70% on project costs through rebates.

Seattle City Light
www.seattle.gov/saveenergy

3. ACCESS THE TOOL LENDING LIBRARY

and borrow data loggers, power meters, infrared cameras & more! Tools from SBC's free lending library can help you troubleshoot problems and provide info to help fine tune your building's performance.

Smart Buildings Center
www.smartbuildingscenter.org

IT ALL STARTS WITH A CALL!

Our Energy Advisors are ready to help you find the best ways to get started reducing your building's energy costs.

206.684.3800

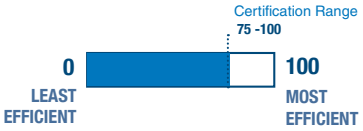
ENERGY STAR®

Your building's ENERGY STAR score shows you how your building is performing as a whole: its assets, its operations and the people who use it. Scores of 75 or higher may be eligible to apply for certification.

Learn more at www.energystar.gov/buildingcertification

YOUR SCORE 75

Congratulations! Get certified to promote your success with customers and tenants!



ON THE HORIZON: BUILDING TUNE-UPS

Beginning in 2018, the Building Tune-Ups ordinance will phase in by building size a periodic (every 5 years) tune-up requirement for commercial buildings 50,000 SF and larger. Tune-ups are intended to identify and correct no- and low-cost adjustments to building operations, measures that often offer a 2 to 3-year payback. Learn more about the requirement and exemptions for high performing buildings: www.seattle.gov/buildingtuneups.

WE WANT YOUR FEEDBACK

Did you find the information in this Performance Profile useful? Please let us know. Take a short survey at:

www.surveymonkey.com/r/2016benchmark

Seattle: Midsize Office Report

000

32.4
2015 EUI

Energy Use Intensity (EUI) is your building's annual energy use (all fuel types) per square foot (sf) in kBtu/sf.

SEATTLE GREEN MIDSIZE OFFICE
2015 ENERGY PERFORMANCE PROFILE

100 MAIN ST, SEATTLE, WA 98100 | Square Feet: **20,400** | Type: **Mid-size Office Building** (20-100K SF) Benchmarking ID: **99999** | EPA Building ID: **0000000**

Thank you for benchmarking your building's energy use with the City of Seattle! This energy performance profile shows how your building is doing **year to year**, and how it compares to **similar mid-size office buildings** in Seattle. We appreciate your continued leadership in helping the City meet its energy reduction targets.

YOU CURRENTLY SPEND

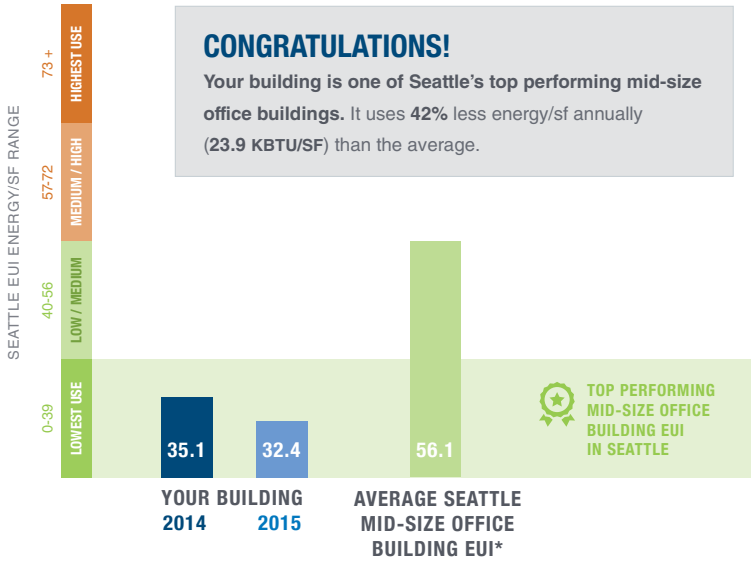
$0.57 / SF

ANNUALLY ON ENERGY*

or $11,500 per year.

Your building's EUI decreased (**2.7 KBTU/SF**) from 2014 to 2015.*

* The information in this report is self-reported and subject to verification. Costs and potential savings are estimated at $0.0175 per kBtu using the average mix of fuel sources (electric, gas, steam) for a mid-size office building. Average EUI is based on Seattle median EUI, not normalized for weather.



CONGRATULATIONS!

Your building is one of Seattle's top performing mid-size office buildings. It uses **42%** less energy/sf annually (**23.9 KBTU/SF**) than the average.

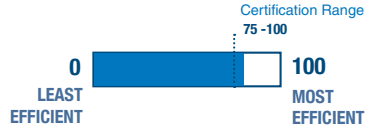
GET RECOGNITION THROUGH ENERGY STAR®

The ENERGY STAR score shows your building's energy performance as a whole: its assets, its business operations, and the people who use it. More than 85% of Americans recognize the ENERGY STAR label, and certified buildings generate more income and have higher occupancy rates when compared to similar buildings. Scores of 75 or higher may be eligible to apply for ENERGY STAR certification.

Learn more at www.energystar.gov/buildingcertification

YOUR SCORE 81

Congratulations! Get certified to promote your success with customers and tenants!



SEATTLE ENERGY BENCHMARKING & REPORTING

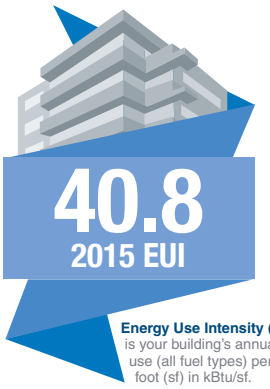
www.seattle.gov/energybenchmarking

Questions?
energybenchmarking@seattle.gov
206.727.8484

Report prepared: 09/12/16

SAMPLE

Seattle: Multifamily Report (2 pages)



Energy Use Intensity (EUI) is your building's annual energy use (all fuel types) per square foot (sf) in kBtu/sf.

SEATTLE ESPRESSO APARTMENTS
2015 ENERGY PERFORMANCE PROFILE

1970 VIEW DR., SEATTLE, WA 98100 | Square Feet: **157,000** | Type: **Mid-rise Multifamily Building** (5-9 Floors)
Units: **250** | Benchmarking ID: **99999** | EPA Building ID: **0000000**

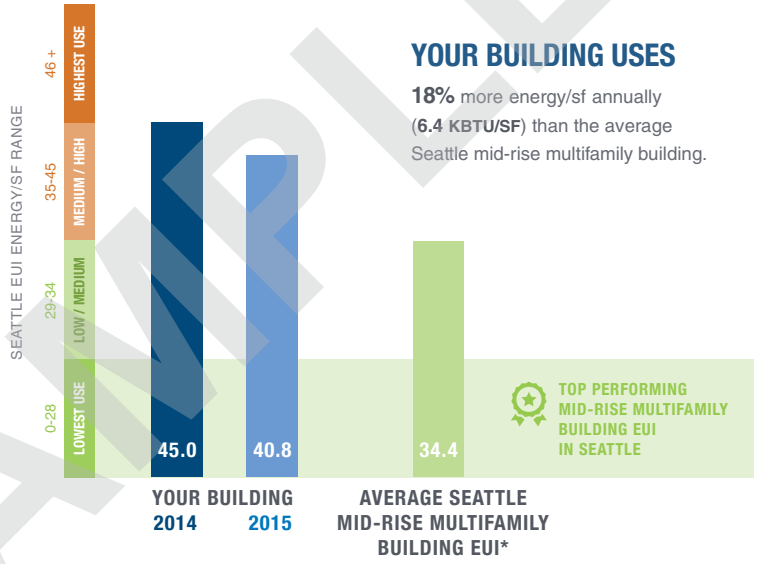
Thank you for benchmarking your building's energy use with the City of Seattle! This energy performance profile shows how your building is doing **year to year**, and how it compares to **similar mid-rise multifamily buildings** in Seattle. See the backside for no- and low-cost resources and tips to help improve your building's energy performance.

YOU CURRENTLY SPEND

$0.66 / SF
ANNUALLY ON ENERGY*
or **$100,900** per year.

Your building's EUI decreased (**4.2 KBTU/SF**) from 2014 to 2015.*

* The information in this report is self-reported and subject to verification. Costs and potential savings are estimated at $0.0156 per kBtu using the average mix of fuel sources (electric, gas, steam) for a mid-rise multifamily building. Average EUI is based on Seattle median EUI, not normalized for weather.



YOUR BUILDING USES

18% more energy/sf annually (**6.4 KBTU/SF**) than the average Seattle mid-rise multifamily building.

SAVE UP TO $16,100
EACH YEAR BY REDUCING YOUR EUI TO MEET SEATTLE'S AVERAGE BUILDINGS

That's real money to put back into your building to improve your property, attract new tenants and continue reducing energy bills.

GET STARTED

10% IMPROVEMENT
CAN YIELD UP TO
$10,100
in annual energy savings
(EUI of 36.9)

20% IMPROVEMENT
CAN YIELD UP TO
$20,200
in annual energy savings
(EUI of 32.8)

LEARN HOW

SEATTLE ENERGY BENCHMARKING & REPORTING

www.seattle.gov/energybenchmarking

Questions?
energybenchmarking@seattle.gov
206.727.8484

Report prepared: 09/19/16

SAMPLE

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Take advantage of low and no-cost options to optimize your building's assets, increase its marketability and reduce annual energy costs.

1. GET FREE LIGHT BULBS

and installation of energy-efficient LED bulbs for tenant units. Energy saving advanced power strips, shower heads and faucet aerators are also available.

Seattle City Light
www.seattle.gov/light/benchmarkMF

2. UPGRADE TO ENERGY EFFICIENT LIGHTING

and controls in common areas, parking garages and tenant spaces for significant cost savings. Qualifying businesses can save up to 70% on project costs through rebates.

Seattle City Light
www.seattle.gov/light/benchmarkMF

3. GET ENERGY EFFICIENT WINDOWS & INSULATION

to improve tenant comfort, reduce noise and increase the value of your building. If electric heat, contact Seattle City Light. If gas heat, contact Puget Sound Energy.

Seattle City Light
www.seattle.gov/light/benchmarkMF

Puget Sound Energy
www.pse.com/multifamilyretrofit

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206.684.3800

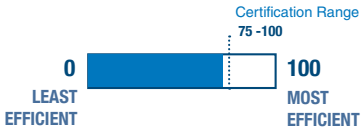
ENERGY STAR® FOR MULTIFAMILY PROPERTIES

The ENERGY STAR score (for multifamily with 20+ units) shows your building's energy performance as a whole by taking the number of floors, bedrooms and units per SF into account. Scores of 75 or higher may be eligible to apply for certification.

Learn more at www.energystar.gov/multifamily

YOUR SCORE 70

Improve your score to 75 to become eligible for ENERGY STAR certification.



MULTIFAMILY TENANTS LOOKING FOR GREEN!

A recent survey by the National Multifamily Housing Council found that 75% of tenants are interested in the green certifications of the building they live in and are even willing to pay more rent for it. Check out these Seattle case studies for inspiration to learn how a market rate apartment, affordable housing, senior living residence and a luxury condo all made green improvements: www.bit.ly/seattlebenchmark

WE WANT YOUR FEEDBACK

Did you find the information in this Performance Profile useful? Please let us know. Take a short survey at:

www.surveymonkey.com/r/2016benchmark

SAMPLE

NOTES

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8. Ballinger and Cochrane. "Speaking Their Language"
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10. Philadelphia's Data Visualization Tool

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- Katrina Managan, City of Denver
- Lisa Timmerman, City of Portland

ABOUT IMT

The Institute for Market Transformation (IMT) is a national nonprofit organization focused on increasing energy efficiency in buildings to save money, drive economic growth and job creation, reduce harmful pollution, and tackle climate change. IMT ignites greater investment in energy-efficient buildings through hands-on expert guidance, technical and market research, policy and program development and deployment, and promotion of best practices and knowledge exchange. IMT's efforts lead to important new policy outcomes, widespread changes in practice, and ultimately, lasting market shifts toward greater energy efficiency, with substantial benefits for the economy and the environment. For more information, visit imt.org and follow us on Twitter at @IMT_speaks.

ABOUT USDN

The Urban Sustainability Directors Network (USDN), a project of Global Philanthropy Partnership, is a peer-to-peer network of local government professionals from cities and counties across the United States and Canada dedicated to creating a healthier environment, economic prosperity, and increased social equity. USDN's dynamic network enables sustainability directors and staff to share best practices and accelerate the application of good ideas both between North American cities, and between North America and the rest of the world. www.usdn.org.