



CITY OF RENO BENCHMARKING BASICS

Today you will learn about the City of Reno's commitment to energy and water conservation, the importance of buildings in that effort, and why building owners play such a vital role.





WELCOME

Key topics in this presentation include:

- Overview of the City of Reno Energy and Water Efficiency Program
- Introduction to ENERGY STAR Portfolio Manager
- Additional Resources



INTRODUCING: THE RENO ENERGY AND WATER EFFICIENCY PROGRAM

In 2015, the City of Reno committed to reducing greenhouse gas emissions 28 percent by 2025 and 40 percent by 2030. To help meet this goal, Reno authorized the Energy and Water Efficiency Program, joining a growing list of cities around the United States taking action to combat climate change and move to a low-emission, resilient society.

In 2019, the City Council authorized the Reno Energy and Water Efficiency Program. This ordinance:

- **Enables the city to track energy and water use.**
- **Requires covered properties to benchmark energy and water performance and make performance information publicly available.**



What Do You Already Know?

Benchmarking is an essential early step toward reducing emissions and conserving resources. Why?

Turn to your neighbor(s) and discuss:

1. Why is improved building performance necessary in order for Reno to meet its efficiency goals?
2. What is *benchmarking* and why is it important in this process?

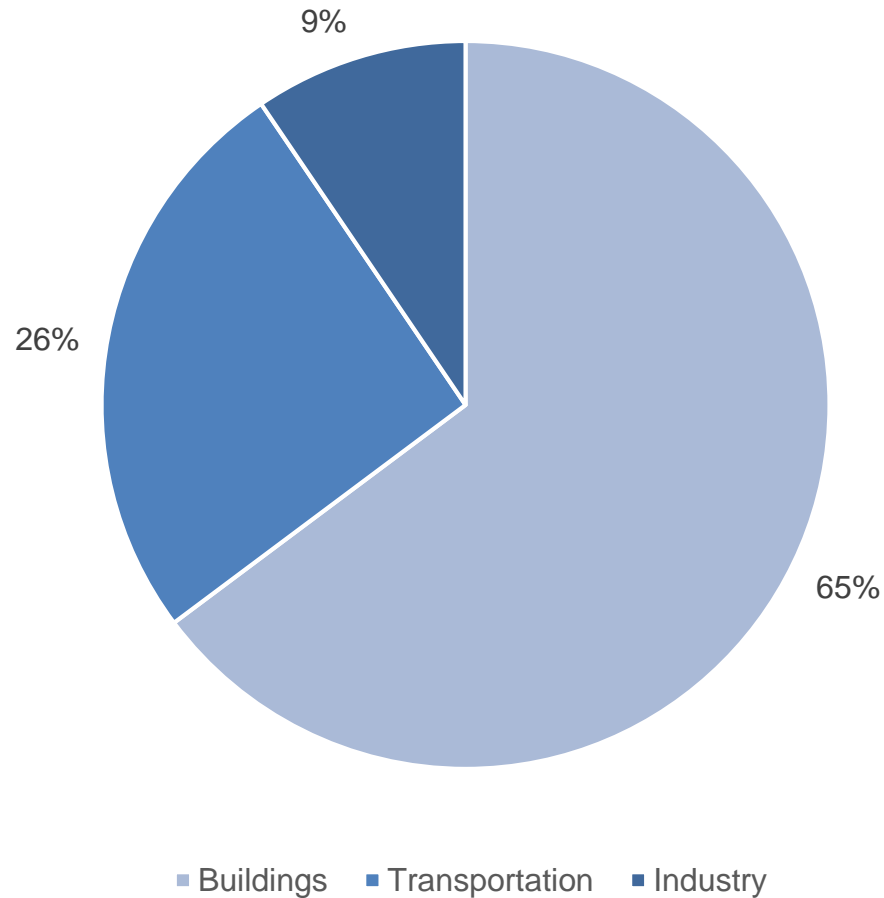
Take a few minutes...



WHY CARE ABOUT BUILDING PERFORMANCE?

Improved building performance makes sense!

- Commercial buildings account for 19% of the primary energy use in the U.S.
- Nearly a third of all energy used by the typical commercial building in a year is essentially wasted. An *average* building can save over \$9K per year on energy and water waste alone!



Energy Consumption in Reno

Credit: City of Reno



ADDITIONAL PROGRAM BENEFITS

Better Buildings = Healthier People

On average, Americans spend about 90 percent of their lives indoors. Improved building performance generally leads to:

- Better indoor air quality (IAQ) and reduced exposure to dust, toxins, and fumes
- Increased comfort, so occupants reach for the thermostat less
- More natural daylighting

These and other factors improve productivity and overall wellbeing for those who live, work, and play in Reno's built environment!



ADDITIONAL PROGRAM BENEFITS



Water is precious.

Every Nevadan knows that. But did you know?

- Water is used and consumed (and/or polluted) during the electrical generation process
- It takes a lot of power to run the pumps and filtration systems that deliver water to Reno's homes and businesses.

BENCHMARKING DEFINED

What? To *benchmark* something is “to evaluate or compare it against a known standard.” In the context of building efficiency, this means *tracking utility consumption and comparing a building’s performance against buildings of similar size, type, and use.*

Why? Data is collected and used to establish a baseline, which enables evaluation of the building’s energy usage, comparisons between buildings, and identification of potential savings. Benchmarking helps us understand how well (or poorly) our buildings are actually performing. Likewise, benchmarking enables us to measure progress toward goals.

How? Here’s a hint:



INTRODUCING ENERGY STAR PORTFOLIO MANAGER

Where have you seen this label?

Have you ever noticed it on a building?

To become ENERGY STAR Certified, a building must earn a score of at least 75, meaning it is more efficient than 75 percent of buildings of its type. This label lets the public know that the building's owner is committed to efficiency and a healthier indoor environment.



ENERGY STAR Portfolio Manager (ESPM) is a free, online tool used by building owners/operators to calculate a building's ENERGY STAR score. Before we delve into ESPM, we'll take a closer look at the particulars of the Reno Energy and Water Efficiency Program.



The most-used energy measurement and tracking tool for commercial buildings.



WHICH BUILDINGS MUST COMPLY?

The ordinance covers commercial and certain types of residential buildings.



BIG PICTURE

Reno's benchmarking and transparency requirements will be phased in between now and April 2022. These requirements apply to buildings that are:

- Owned by the city
- Owned by state agencies
- Privately owned non-residential
- Multifamily residential

Building Size

- City-owned buildings over 10,000 sq. ft.
- State and privately owned buildings over 30,000 sq. ft.

TIMELINE

Buildings must complete initial benchmarking requirements according to the following schedule.

Covered Property (gross floor area)	First Reporting Date	First Calendar Year Data Reported	Subsequent Annual Reporting Date
Mandatory city properties \geq 10k sq. ft.	April 1, 2019	2018	April 1
Agency and private sector properties \geq 100k sq. ft.	April 1, 2020	2019	April 1
Agency and private sector properties \geq 50k sq. ft.	April 1, 2021	2020	April 1
Agency and private sector properties \geq 30k sq. ft.	April 1, 2022	2021	April 1



On the first reporting date, buildings are required to include data for one year prior. This establishes a solid baseline against which to measure future progress.



BUILDING TYPES NOT REQUIRED TO BENCHMARK

The ordinance does not apply to the following property types:

- a. **Single family, duplex, triplex, and fourplex residential homes and related accessory structures (e.g., tool sheds);**



- a. Properties owned or operated by a local agency of the state and subject to NRS 701.218;
- b. Buildings ... classified as industrial per SIC codes 20-39 (**i.e., food processing/manufacturing**);
- c. Buildings ... classified as agricultural, per SIC codes 01-09 (**i.e., agricultural production**);
- d. Other building types not meeting the purpose of this chapter, as determined by the city manager.

ADDITIONAL EXEMPTIONS

There are many additional exemptions to the benchmarking ordinance. Details can be found [here \(Section 14.30.005\)](#). Following are some highlights.

Buildings are exempt if any of the following apply:

- Certified under an approved “green building” program, such as [LEED](#).
- Buildings in compliance with the 2018 International Energy Conservation Code (IECC), which is Nevada’s adopted energy code as of today.
- Buildings that meet criteria for being unoccupied or which had an average physical occupancy < 60 percent throughout the calendar year for which benchmarking is required.
- Buildings under qualifying financial distress.
- More than 50 percent of GFA is residential and the building owner is unable to obtain aggregated data.
- A change of ownership of the covered property during the calendar year in which benchmarking is required.



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HOW DO I COMPLY?

The owner of each covered property shall collect and input all data needed to benchmark the entire property into the benchmarking tool.



MEETING THE REQUIREMENTS

Before you begin using ESPM, you need to gather whole-building (aggregated) data for the property's energy and water use. There are different ways to do this:

1. Obtain aggregated whole-building data from a utility company (i.e., NV Energy). [There is a form for this](#) on the City of Reno website.
2. Collect data from all tenants.
3. Read a master meter.

Once you have whole-building data in hand, you are ready to start using ESPM!



ESPM BASICS

The first step is to open an account and set up a property; however, you will not get very far in the process if you do not know your building's

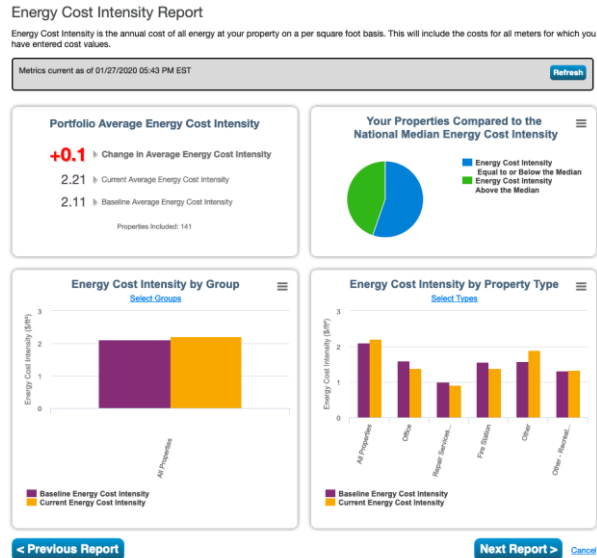
- **Gross floor area**
- **Year built**
- **Occupancy rate** (percent)
- **Operating hours** (if applicable)
- **Irrigation area** (if applicable)

The screenshot shows the ENERGY STAR Portfolio Manager dashboard. At the top, it says "Welcome ATLANTA_BBC1: [Account Settings](#) | [Contacts](#) | [Help](#) | [Sign Out](#)". The main navigation bar includes "MyPortfolio", "Sharing", "Planning", "Reporting", and "Recognition".

Key sections include:

- Properties (75)**: A button labeled "Add a Property".
- Notifications (0)**: A message stating "You have no new notifications."
- Source EUI Trend (kBtu/ft²)**: A line graph showing energy usage trends over time. The y-axis ranges from 200 to 300. The data points fluctuate around a 200-250 range.
- My Properties (75)**: A section with a search bar, a filter dropdown set to "View All Properties (75)", and a "Search" button. It also includes links for "Create Group" and "Manage Groups". Below this is a table header with columns for "Name" and "Action".

SELF-REPORTING



All covered buildings are required to submit an annual an energy and water benchmarking report, including an assessment of the whole-building energy and water consumption for the entire year. Required information includes:

- ENERGY STAR Score
- Indoor and outdoor water use
- Total GHG emissions

Additional reporting requirements are listed [here](#) ([Section 14.30.008](#)).

TRANSPARENCY & REPORTING

The City of Reno will make consumption data publicly available on its website. Results will be reported portfolio-wide with all participants' results in aggregate, which anonymizes the data collected.

In addition, the city will publish:

- **Annual Report:** The city will produce an annual report of compliant, high-performing buildings.
- **Comprehensive Report:** Once the ordinance reporting cycles are fully phased-in, the City of Reno will provide a public report of compliant high and low performing buildings.

Additional information on data [can be found here \(Section 14.30.009\)](#).



NONCOMPLIANCE

All citizens of Reno should recognize the environmental, financial, and public health benefits of the Energy and Water Efficiency Program, but there are penalties for noncompliance with the benchmarking requirements.

1. After a reporting period, the City Manager will issue notices to properties that have not reported. Penalties associated with noncompliance may be issued.
2. The Manager may disclose all non-compliant properties and property owners as part of the transparency requirements of this ordinance.



PERFORMANCE TARGETS & PATHWAYS

Beginning in 2026, buildings will be required to submit performance goal verification every seven years.



PERFORMANCE VERIFICATION SCHEDULE

Covered buildings are required to meet performance goals based on the following performance verification schedule.

Covered Property	First Reporting Date
Mandatory city properties \geq 10k sq. ft.	2026 and every 7 years thereafter
Agency and private sector properties \geq 100k sq. ft.	2028 and every 7 years thereafter
Agency and private sector properties \geq 50k sq. ft.	2029 and every 7 years thereafter
Agency and private sector properties \geq 30k sq. ft.	2032 and every 7 years thereafter

The reporting date may seem to be in the distant future, but it may be a challenge for many buildings. Improving building performance involves a process that requires planning and investment.



PERFORMANCE TARGETS

What targets are you trying to meet? Again, the targets may seem modest at first glance, but some buildings will need to start planning and making improvements well ahead of time in order to comply.

Let's take a few minutes now to read through the targets for energy and water conservation as they are listed in the code [here \(Section 14.30.011\)](#).



PERFORMANCE PATHWAYS

Buildings that fail to meet performance targets in water and/or energy use are required to complete one of the measures listed in Section 14.30.012, summarized as follows:

- Complete an energy and/or water audit by a qualified auditor. (Application of [ASHRAE Standards 180 and 211](#) are highly recommended.)
- Receive certification under LEED for Existing Buildings (2009 version or later).
- Participate in a utility-sponsored retuning incentive program.
- Provide appropriate documentation proving that a building was retuned and its performance optimized.



BENEFITS OF AN AUDIT **NOW**

Why wait? Benchmarking is a first step toward improved building performance. It also provides the initial information a qualified energy auditor will need.

An energy audit will reveal a variety of energy efficiency measures (EEMs), including:

- No-cost EEMs that can be implemented immediately, such as adjustments to controls.
- Low-cost EEMs to implement in the short- and medium-term, such as better air-sealing and improved mechanical maintenance routines.
- Longer term EEMs requiring capital investment and additional planning, such as an HVAC overhaul.
- For commercial properties, [ASHRAE Standard 211](#) is the recommended resource for energy audit procedures. A commercial audit requires assistance of a qualified professional.



RENO COMPLIANCE GUIDE

For a step-by-step guide on how to benchmark your property and comply with Reno's existing codes, please refer to the Reno Compliance Guide. This resource has been prepared with the building owner and manager in mind to make this a straightforward process.



ADDITIONAL RESOURCES

Reno Energy and Water Efficiency Program site:

<https://www.reno.gov/community/sustainability/energy-and-water-efficiency>

Reno Municipal Code, Chapter 14.30:

https://library.municode.com/nv/reno/codes/administrative_code?nodeId=PT2READCO_TIT14BUCO_CH14.30ENWAEFPR

Exemption and extension form:

<https://www.reno.gov/home/showdocument?id=82422>

Aggregated data request form (NV Energy):

<https://www.reno.gov/home/showdocument?id=82989>

ESPM training resources (videos, webinars, help documents, etc.):

<https://www.energystar.gov/buildings/training/training>

