

Energize Denver & Building Performance Colorado

Much has been said about Energize Denver and Building Performance Colorado (BPC HB 21-1286), but not much direction has been given on how to attack these energy and emission reduction targets. HVAC and lighting typically consume up to 80% of a building's total energy expenditure. Common ways to reduce this energy usage are:

Standard Energy Conservation Measures + Associated Savings

HVAC Controls Upgrade / RCx

This is often the largest opportunity for energy savings in a building. Customer can expect a **15-30%** EUI reduction with the installation of new controls + proper commissioning.

LED Fixture Retrofit

Most buildings have converted their fluorescent/incandescent lighting to LED. For those who haven't, an EUI reduction of about **5%** is possible with efficient lighting design. Solar tubes are also a great technology to evaluate in buildings that could benefit from more natural lighting (office work spaces, schools, warehouses) and further EUI reduction. Exterior lighting should be evaluated as well.

Lighting Controls Upgrade

Lighting controls are an important aspect to consider and can often bring about more energy savings than a retrofit. Another **5-10%** EUI reduction can be achieved with a tightly controlled lighting system.

Equipment Replacement

Equipment replacement rarely improves EUI much in most cases. It is important to look at comprehensive HVAC design for buildings that need to greatly reduce their EUIs.

Solar Installation

There are target adjustments available for buildings that install renewable energy. Solar installations put facilities in a position to have greater flexibility with their energy compliance and help reduce EUI. Solar PV is a great option to consider when a building owner is also in need of a roof replacement. These projects can be tied together to maximize rebates.

Building Envelope Improvement

For older buildings, improving building tightness may help significantly impact EUI. Trane can help evaluate and replace weather stripping, insulation, windows, and doors. As a rule

of thumb, buildings that are more than 20 years old can likely benefit from building envelope improvement, which can improve EUI by **5-10%**.

Energize Ordinance Overview/Reminders:

- Buildings 25,000 sq ft or larger must achieve EUI targets based on energy consumption in 2025, 2027, and 2030.
- EUI targets are related to building type. Some buildings have a blended target for mixed use, and some must only achieve a 30% EUI reduction by 2030.
- Buildings that are 5,000-24,999 sq ft must meet lighting and renewable energy targets.
 - o includes ensuring that 90% of the building area is lit with LEDs
 - o on or off-site renewable energy power generation covers at least 20% of the building's annual energy usage.
- Manufacturing, agricultural, and industrial (MAI) properties have more compliance options than commercial or multifamily properties.

Calculating Fines:

- Total Fines = (Current Site EUI – Final Target EUI) * \$0.23/sq ft * Total Building Area [sq ft]
- To calculate fines for 2028, or 2030, use the associated target for that compliance period instead of the final target.
- Fines are assessed in June following each compliance period. I.e., fines for Jan 2027 – Dec 2027 will be rolled out in June of 2028.

Compliance Flexibility:

Building owners can apply for many different adjustments if their benchmarking was done inaccurately, or if they feel their property is a special case and cannot achieve the standard EUI reductions:

- Timeline adjustments
- Target adjustments
- Square footage adjustments
- Exemption due to 80%+ building electrification

- Renewable Energy Credits (REC)

Energy audits (Level I or II) are often required for the city to approve adjustments or alternative compliance pathways.

Building Performance Colorado Overview:

- BPC requires sector-wide emissions reductions of 7% by 2026 and 20% by 2030
- If a building owner fails to demonstrate compliance with the target of their chosen performance standards pathway, they will be considered non-compliant and subject to civil penalties of up to \$2,000 for the first violation and up to \$5,000 for each subsequent violation.
- Penalties are accrued monthly and until 2050.
- Exclusions apply primarily for buildings where the majority of area is used for manufacturing, agricultural, or industrial purposes.
 - Federal Buildings are subject to federal standards.

Trane Commercial HVAC & Lighting: Energy Services

- Utility Bill Analysis
- Energy Savings Calculations
- Energy Modeling
- Project + Action Plan Development
- Liaison between customer + state/city – assistance with pathway selection + adjustments
- Energy auditing can be included in Project Development Agreement phase
- Comprehensive Project Management
- Certified ESKO

If there are any questions, comments or concerns, please contact me:

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