

A G R E E M E N T

THIS AGREEMENT is made between the **CITY AND COUNTY OF DENVER**, a municipal corporation of the State of Colorado, (the “City”) and **MCKINSTRY ESSENTION, LLC.**, a Washington limited liability company, registered to conduct business in the State of Colorado, whose address is 5005 3rd Avenue South, Seattle, Washington 98134 (the “Consultant”), jointly (“the Parties”).

R E C I T A L S

1. The City, through its Office of Climate Action Sustainability Resiliency (“CASR”), wishes to secure Investment Grade Audits (“IGA”) for identified municipal buildings in the City; and
2. In the City’s sole discretion and subject to appropriation, the City anticipates awarding selected Energy Performance Contracts to contractors stemming from this audit contract for selected recommended work. To the extent the City determines that any recommended work from the audit consists of reconstruction, change of design, structural changes, or is otherwise determined by the City to require compliance with City codes and policies regarding construction and its procurement, the City will solicit a separate procurement for any such selected construction.
3. The Consultant represents that it has the present capacity, experience and qualifications to perform professional services for the City in connection with the planning, management, support, and communication services, as applicable, of various City projects, as specified in this Agreement; and
4. In response to the City’s Request for Qualifications, the Consultant submitted a Proposal for IGAs. The Consultant and the City have negotiated a basic scope of categories and services.

The Parties agree as follows:

1. **COORDINATION AND LIAISON:** The Consultant shall fully coordinate all services under the Agreement with the Executive Director of Climate Action, Sustainability and Resiliency (“Executive Director”) or, the Executive Director’s Designee.
2. **SERVICES TO BE PERFORMED:**
 - a. As the Executive Director directs, the Consultant shall diligently undertake, perform, and complete all of the services and produce all the deliverables set forth on **Exhibit A, Scope of Work**, to the City’s satisfaction. Consultant shall perform all work under this Agreement

in accordance with the **Energize Denver Benchmarking and Energy Performance Requirements, Technical Guidance**, set forth in **Exhibit D**. Exhibit A and Exhibit D are attached and incorporated to this Agreement.

b. The Consultant is ready, willing, and able to provide the services required by this Agreement.

c. The Consultant shall faithfully perform the services in accordance with the standards of care, skill, training, diligence, and judgment provided by highly competent individuals performing services of a similar nature to those described in the Agreement and in accordance with the terms of the Agreement.

3. **TERM:** The Agreement will commence on **January 17, 2024** and will expire on **December 31, 2024** (the “Term”). The term of this Agreement may be extended by the City under the same terms and conditions by a written amendment to this Agreement. Subject to the Executive Director’s prior written authorization, the Consultant shall complete any work in progress as of the expiration date and the Term of the Agreement will extend until the work is completed or earlier terminated by the Executive Director.

4. **COMPENSATION AND PAYMENT:**

a. **Budget/Pricing.** The City shall pay and the Consultant shall accept as the sole compensation for services rendered and costs incurred under the Agreement the line item amounts set forth in **Exhibit B**. Amounts billed may not exceed the amounts set forth in **Exhibit B**.

b. **Reimbursable Expenses:** There are no reimbursable expenses allowed under the Agreement. All of the Consultant’s expenses are contained in **Exhibit B**.

c. **Invoicing:** Consultant shall provide the City with a monthly invoice in a format and with a level of detail acceptable to the City including all supporting documentation required by the City. The City’s Prompt Payment Ordinance, §§ 20-107 to 20-118, D.R.M.C., applies to invoicing and payment under this Agreement.

d. **Maximum Contract Amount:**

(1) Notwithstanding any other provision of the Agreement, the City’s maximum payment obligation will not exceed **SEVEN HUNDRED TEN THOUSAND FOUR HUNDRED NINETY-NINE DOLLARS AND FORTY-NINE CENTS (\$710,499.49)** (the “Maximum Contract Amount”). The City is not obligated to execute an Agreement or any

amendments for any further services, including any services performed by Consultant beyond that specifically described in **Exhibit A**. Any services performed beyond those in **Exhibit A** are performed at Consultant's risk and without authorization under the Agreement.

(2) The City's payment obligation, whether direct or contingent, extends only to funds appropriated annually by the Denver City Council, paid into the Treasury of the City, and encumbered for the purpose of the Agreement. The City does not by this Agreement irrevocably pledge present cash reserves for payment or performance in future fiscal years. The Agreement does not and is not intended to create a multiple-fiscal year direct or indirect debt or financial obligation of the City.

5. **STATUS OF CONSULTANT:** The Consultant is an independent contractor retained to perform professional or technical services for limited periods of time. Neither the Consultant nor any of its employees are employees or Directors of the City under Chapter 18 of the Denver Revised Municipal Code, or for any purpose whatsoever.

6. **TERMINATION:**

a. The City has the right to terminate the Agreement with cause upon written notice effective immediately, and without cause upon thirty (30) days prior written notice to the Consultant. However, nothing gives the Consultant the right to perform services under the Agreement beyond the time when its services become unsatisfactory to the Executive Director.

b. Notwithstanding the preceding paragraph, the City may terminate the Agreement if the Consultant or any of its officers or employees are convicted, plead *nolo contendere*, enter into a formal agreement in which they admit guilt, enter a plea of guilty or otherwise admit culpability to criminal offenses of bribery, kickbacks, collusive bidding, bid-rigging, antitrust, fraud, undue influence, theft, racketeering, extortion or any offense of a similar nature in connection with Consultant's business. Termination for the reasons stated in this paragraph is effective upon receipt of notice.

c. Upon termination of the Agreement, with or without cause, the Consultant shall have no claim against the City by reason of, or arising out of, incidental or relating to termination, except for compensation for work duly requested and satisfactorily performed as described in the Agreement.

d. If the Agreement is terminated, the City is entitled to and will take possession of all materials, equipment, tools and facilities it owns that are in the Consultant's

possession, custody, or control by whatever method the City deems expedient. The Consultant shall deliver all documents in any form that were prepared under the Agreement and all other items, materials and documents that have been paid for by the City to the City. These documents and materials are the property of the City. The Consultant shall mark all copies of work product that are incomplete at the time of termination “DRAFT-INCOMPLETE”.

7. **EXAMINATION OF RECORDS AND AUDITS:** Any authorized agent of the City, including the City Auditor or his or her representative, has the right to access, and the right to examine, copy and retain copies, at City’s election in paper or electronic form, any pertinent books, documents, papers and records related to Consultant’s performance pursuant to this Agreement, provision of any goods or services to the City, and any other transactions related to this Agreement. Consultant shall cooperate with City representatives and City representatives shall be granted access to the foregoing documents and information during reasonable business hours and until the latter of three (3) years after the final payment under the Agreement or expiration of the applicable statute of limitations. When conducting an audit of this Agreement, the City Auditor shall be subject to government auditing standards issued by the United States Government Accountability Office by the Comptroller General of the United States, including with respect to disclosure of information acquired during the course of an audit. No examination of records and audits pursuant to this paragraph shall require Consultant to make disclosures in violation of state or federal privacy laws. Consultant shall at all times comply with D.R.M.C. 20-276.

8. **WHEN RIGHTS AND REMEDIES NOT WAIVED:** In no event will any payment or other action by the City constitute or be construed to be a waiver by the City of any breach of covenant or default that may then exist on the part of the Consultant. No payment, other action, or inaction by the City when any breach or default exists will impair or prejudice any right or remedy available to it with respect to any breach or default. No assent, expressed or implied, to any breach of any term of the Agreement constitutes a waiver of any other breach.

9. **INSURANCE:**

a. **General Conditions:** Consultant agrees to secure, at or before the time of execution of this Agreement, the following insurance covering all operations, goods or services provided pursuant to this Agreement. Consultant shall keep the required insurance coverage in force at all times during the term of the Agreement, including any extension thereof, and during

any warranty period. The required insurance shall be underwritten by an insurer licensed or authorized to do business in Colorado and rated by A.M. Best Company as “A-VIII” or better. Each policy shall require notification to the City in the event any of the required policies be canceled or non-renewed before the expiration date thereof. Such written notice shall be sent to the parties identified in the Notices section of this Agreement. Such notice shall reference the City contract number listed on the signature page of this Agreement. Said notice shall be sent thirty (30) days prior to such cancellation or non-renewal unless due to non-payment of premiums for which notice shall be sent ten (10) days prior. If such written notice is unavailable from the insurer, Consultant shall provide written notice of cancellation, non-renewal and any reduction in coverage to the parties identified in the Notices section by certified mail, return receipt requested within three (3) business days of such notice by its insurer(s) and referencing the City’s contract number. Consultant shall be responsible for the payment of any deductible or self-insured retention. The insurance coverages specified in this Agreement are the minimum requirements, and these requirements do not lessen or limit the liability of the Consultant. The Consultant shall maintain, at its own expense, any additional kinds or amounts of insurance that it may deem necessary to cover its obligations and liabilities under this Agreement.

b. Proof of Insurance: Consultant may not commence services or work relating to this Agreement prior to placement of coverages required under this Agreement. Consultant certifies that the certificate of insurance attached as **Exhibit C**, preferably an ACORD form, complies with all insurance requirements of this Agreement. The City requests that the City’s contract number be referenced on the certificate of insurance. The City’s acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Agreement shall not act as a waiver of Consultant’s breach of this Agreement or of any of the City’s rights or remedies under this Agreement. The City’s Risk Management Office may require additional proof of insurance, including but not limited to policies and endorsements.

c. Additional Insureds: For Commercial General Liability, Business Auto Liability, Professional Liability, and Excess Liability/Umbrella (if required). Consultant and subcontractor’s insurer(s) shall include the City and County of Denver, its elected and appointed officials, employees and volunteers as additional insured.

d. Waiver of Subrogation: For all coverages required under this

Agreement, with the exception of Professional Liability, Consultant's insurer shall waive subrogation rights against the City.

e. **Subcontractors and Subconsultants:** Consultant shall confirm and document that all subcontractors and subconsultants (including independent contractors, suppliers or other entities providing goods or services required by this Agreement) procure and maintain coverage as approved by the Consultant and appropriate to their respective primary business risks considering the nature and scope of services provided.

f. **Workers' Compensation and Employer's Liability Insurance:** Consultant shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits of \$100,000 per occurrence for each bodily injury claim, \$100,000 per occurrence for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims.

g. **Commercial General Liability:** Consultant shall maintain a Commercial General Liability insurance policy with minimum limits of \$1,000,000 for each bodily injury and property damage occurrence, \$2,000,000 products and completed operations aggregate (if applicable), and \$2,000,000 policy aggregate.

h. **Business Automobile Liability:** Consultant shall maintain Automobile Liability with minimum limits of \$1,000,000 combined single limit applicable to all owned, hired and non-owned vehicles used in performing services under this Agreement.

i. **Professional Liability (Errors & Omissions):** Consultant shall maintain minimum limits of \$1,000,000 per claim and \$1,000,000 policy aggregate limit. The policy shall be kept in force, or a Tail policy placed, for three (3) years for all contracts except construction contracts for which the policy or Tail shall be kept in place for eight (8) years.

10. DEFENSE AND INDEMNIFICATION:

a. Consultant hereby agrees to defend, indemnify, reimburse and hold harmless City, its appointed and elected officials, agents and employees for, from and against all liabilities, claims, judgments, suits or demands for damages to persons or property arising out of, resulting from, or relating to the work performed under this Agreement ("Claims"), unless such Claims have been specifically determined by the trier of fact to be the sole negligence or willful misconduct of the City. This indemnity shall be interpreted in the broadest possible manner to indemnify City for any acts or omissions of Consultant or its subcontractors either passive or

active, irrespective of fault, including City's concurrent negligence whether active or passive, except for the sole negligence or willful misconduct of City.

b. Consultant's duty to defend and indemnify City shall arise at the time written notice of the Claim is first provided to City regardless of whether Claimant has filed suit on the Claim. Consultant's duty to defend and indemnify City shall arise even if City is the only party sued by claimant and/or claimant alleges that City's negligence or willful misconduct was the sole cause of claimant's damages.

c. Consultant will defend any and all Claims which may be brought or threatened against City and will pay on behalf of City any expenses incurred by reason of such Claims including, but not limited to, court costs and attorney fees incurred in defending and investigating such Claims or seeking to enforce this indemnity obligation. Such payments on behalf of City shall be in addition to any other legal remedies available to City and shall not be considered City's exclusive remedy.

d. Insurance coverage requirements specified in this Agreement shall in no way lessen or limit the liability of the Consultant under the terms of this indemnification obligation. The Consultant shall obtain, at its own expense, any additional insurance that it deems necessary for the City's protection.

e. This defense and indemnification obligation shall survive the expiration or termination of this Agreement.

11. TAXES, CHARGES AND PENALTIES: The City is not liable for the payment of taxes, late charges or penalties of any nature, except for any additional amounts that the City may be required to pay under the City's prompt payment ordinance D.R.M.C. § 20-107, *et seq.* The Consultant shall promptly pay when due, all taxes, bills, debts and obligations it incurs performing the services under the Agreement and shall not allow any lien, mortgage, judgment or execution to be filed against City property.

12. ASSIGNMENT; SUBCONTRACTING: The Consultant shall not voluntarily or involuntarily assign any of its rights or obligations, or subcontract performance obligations, under this Agreement without obtaining the Executive Director's prior written consent. Any assignment or subcontracting without such consent will be ineffective and void, and will be cause for termination of this Agreement by the City. The Executive Director has sole and absolute discretion whether to consent to any assignment or subcontracting, or to terminate the Agreement because of

unauthorized assignment or subcontracting. In the event of any subcontracting or unauthorized assignment: (i) the Consultant shall remain responsible to the City; and (ii) no contractual relationship shall be created between the City and any subconsultant, subcontractor or assign.

13. INUREMENT: The rights and obligations of the Parties to the Agreement inure to the benefit of and shall be binding upon the Parties and their respective successors and assigns, provided assignments are consented to in accordance with the terms of the Agreement.

14. NO THIRD PARTY BENEFICIARY: Enforcement of the terms of the Agreement and all rights of action relating to enforcement are strictly reserved to the Parties. Nothing contained in the Agreement gives or allows any claim or right of action to any third person or entity. Any person or entity other than the City or the Consultant receiving services or benefits pursuant to the Agreement is an incidental beneficiary only.

15. NO AUTHORITY TO BIND CITY TO CONTRACTS: The Consultant lacks any authority to bind the City on any contractual matters. Final approval of all contractual matters that purport to obligate the City must be executed by the City in accordance with the City's Charter and the Denver Revised Municipal Code.

16. SEVERABILITY: Except for the provisions of the Agreement requiring appropriation of funds and limiting the total amount payable by the City, if a court of competent jurisdiction finds any provision of the Agreement or any portion of it to be invalid, illegal, or unenforceable, the validity of the remaining portions or provisions will not be affected, if the intent of the Parties can be fulfilled.

17. CONFLICT OF INTEREST:

a. No employee of the City shall have any personal or beneficial interest in the services or property described in the Agreement. The Consultant shall not hire, or contract for services with, any employee or officer of the City that would be in violation of the City's Code of Ethics, D.R.M.C. §2-51, et seq. or the Charter §§ 1.2.8, 1.2.9, and 1.2.12.

b. The Consultant shall not engage in any transaction, activity or conduct that would result in a conflict of interest under the Agreement. The Consultant represents that it has disclosed any and all current or potential conflicts of interest. A conflict of interest shall include transactions, activities or conduct that would affect the judgment, actions or work of the Consultant by placing the Consultant's own interests, or the interests of any party with whom the Consultant has a contractual arrangement, in conflict with those of the City. The City, in its sole discretion,

will determine the existence of a conflict of interest and may terminate the Agreement if it determines a conflict exists, after it has given the Consultant written notice describing the conflict.

18. NOTICES: All notices required by the terms of the Agreement must be hand delivered, sent by overnight courier service, mailed by certified mail, return receipt requested, or mailed via United States mail, postage prepaid, if to Consultant at:

McKinstry Essention, LLC
5005 3rd Avenue South
Seattle, Washington 98134

With a copy of any such notice to:

McKinstry Essention, LLC
16025 Table Mountain Parkway, Suite 100
Golden, Colorado 80403

and if to the City at:

Executive Director of Climate Action, Sustainability and Resiliency or Designee
201 W. Colfax Avenue, Suite 704
Denver, Colorado 80202

With a copy of any such notice to:

Denver City Attorney's Office
1437 Bannock St., Room 353
Denver, Colorado 80202

Notices hand delivered or sent by overnight courier are effective upon delivery. Notices sent by certified mail are effective upon receipt. Notices sent by mail are effective upon deposit with the U.S. Postal Service. The Parties may designate substitute addresses where or persons to whom notices are to be mailed or delivered. However, these substitutions will not become effective until actual receipt of written notification.

19. DISPUTES: All disputes between the City and Consultant arising out of or regarding the Agreement will be resolved by administrative hearing pursuant to the procedure established by D.R.M.C. § 56-106(b)-(f). For the purposes of that administrative procedure, the City official rendering a final determination shall be the Executive Director as defined in this Agreement.

20. GOVERNING LAW; VENUE: The Agreement will be construed and enforced in accordance with applicable federal law, the laws of the State of Colorado, and the Charter, Revised Municipal Code, ordinances, regulations and Executive Orders of the City and County of Denver, which are expressly incorporated into the Agreement. Unless otherwise specified, any reference to statutes, laws, regulations, charter or code provisions, ordinances, executive orders, or related memoranda, includes amendments or supplements to same. Venue for any legal action relating to the Agreement will be in the District Court of the State of Colorado, Second Judicial District (Denver District Court).

21. NO DISCRIMINATION IN EMPLOYMENT: In connection with the performance of work under the Agreement, the Consultant may not refuse to hire, discharge, promote, demote, or discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, ethnicity, citizenship, immigration status, gender, age, sexual orientation, gender identity, gender expression, marital status, source of income, military status, protective hairstyle, or disability. The Consultant shall insert the foregoing provision in all subcontracts.

22. COMPLIANCE WITH ALL LAWS: Consultant shall perform or cause to be performed all services in full compliance with all applicable laws, rules, regulations and codes of the United States, the State of Colorado; and with the Charter, ordinances, rules, regulations and Executive Orders of the City and County of Denver.

23. LEGAL AUTHORITY: Consultant represents and warrants that it possesses the legal authority, pursuant to any proper, appropriate and official motion, resolution or action passed or taken, to enter into the Agreement. Each person signing and executing the Agreement on behalf of Consultant represents and warrants that he has been fully authorized by Consultant to execute the Agreement on behalf of Consultant and to validly and legally bind Consultant to all the terms, performances and provisions of the Agreement. The City shall have the right, in its sole discretion, to either temporarily suspend or permanently terminate the Agreement if there is a dispute as to the legal authority of either Consultant or the person signing the Agreement to enter into the Agreement.

24. NO CONSTRUCTION AGAINST DRAFTING PARTY: The Parties and their respective counsel have had the opportunity to review the Agreement, and the Agreement will not

be construed against any party merely because any provisions of the Agreement were prepared by a particular party.

25. ORDER OF PRECEDENCE: In the event of any conflicts between the language of the Agreement and the exhibits, the language of the Agreement controls.

26. INTELLECTUAL PROPERTY RIGHTS: The City and Consultant intend that all property rights to any and all materials, text, logos, documents, booklets, manuals, references, guides, brochures, advertisements, URLs, domain names, music, sketches, web pages, plans, drawings, prints, photographs, specifications, software, data, products, ideas, inventions, and any other work or recorded information created by the Consultant and paid for by the City pursuant to this Agreement, in preliminary or final form and on any media whatsoever (collectively, “Materials”), shall belong to the City. The Consultant shall disclose all such items to the City and shall assign such rights over to the City upon completion of the Project. To the extent permitted by the U.S. Copyright Act, 17 USC § 101, *et seq.*, the Materials are a “work made for hire” and all ownership of copyright in the Materials shall vest in the City at the time the Materials are created. To the extent that the Materials are not a “work made for hire,” the Consultant (by this Agreement) sells, assigns and transfers all right, title and interest in and to the Materials to the City, including the right to secure copyright, patent, trademark, and other intellectual property rights throughout the world and to have and to hold such rights in perpetuity.

27. SURVIVAL OF CERTAIN PROVISIONS: The terms of the Agreement and any exhibits and attachments that by reasonable implication contemplate continued performance, rights, or compliance beyond expiration or termination of the Agreement survive the Agreement and will continue to be enforceable. Without limiting the generality of this provision, the Consultant’s obligations to provide insurance and to indemnify the City will survive for a period equal to any and all relevant statutes of limitation, plus the time necessary to fully resolve any claims, matters, or actions begun within that period.

28. ADVERTISING AND PUBLIC DISCLOSURE: The Consultant shall not include any reference to the Agreement or to services performed pursuant to the Agreement in any of the Consultant’s advertising or public relations materials without first obtaining the written approval of the Executive Director. Any oral presentation or written materials related to services performed under the Agreement will be limited to services that have been accepted by the City. The Consultant shall notify the Executive Director in advance of the date and time of any

presentation. Nothing in this provision precludes the transmittal of any information to City officials.

29. CONFIDENTIAL INFORMATION:

a. City Information: Consultant acknowledges and accepts that, in performance of all work under the terms of this Agreement, Consultant may have access to Proprietary Data or confidential information that may be owned or controlled by the City, and that the disclosure of such Proprietary Data or information may be damaging to the City or third parties. Consultant agrees that all Proprietary Data, confidential information or any other data or information provided or otherwise disclosed by the City to Consultant shall be held in confidence and used only in the performance of its obligations under this Agreement. Consultant shall exercise the same standard of care to protect such Proprietary Data and information as a reasonably prudent consultant would to protect its own proprietary or confidential data. "Proprietary Data" shall mean any materials or information which may be designated or marked "Proprietary" or "Confidential", or which would not be documents subject to disclosure pursuant to the Colorado Open Records Act or City ordinance, and provided or made available to Consultant by the City. Such Proprietary Data may be in hardcopy, printed, digital or electronic format.

30. CITY EXECUTION OF AGREEMENT: The Agreement will not be effective or binding on the City until it has been fully executed by all required signatories of the City and County of Denver, and if required by Charter, approved by the City Council.

31. AGREEMENT AS COMPLETE INTEGRATION-AMENDMENTS: The Agreement is the complete integration of all understandings between the Parties as to the subject matter of the Agreement. No prior, contemporaneous or subsequent addition, deletion, or other modification has any force or effect, unless embodied in the Agreement in writing. No oral representation by any officer or employee of the City at variance with the terms of the Agreement or any written amendment to the Agreement will have any force or effect or bind the City.

32. USE, POSSESSION OR SALE OF ALCOHOL OR DRUGS: Consultant shall cooperate and comply with the provisions of Executive Order 94 and its Attachment A concerning the use, possession or sale of alcohol or drugs. Violation of these provisions or refusal to cooperate with implementation of the policy can result in contract personnel being barred from City facilities and from participating in City operations.

33. ELECTRONIC SIGNATURES AND ELECTRONIC RECORDS: Consultant consents to the use of electronic signatures by the City. The Agreement, and any other documents requiring a signature under the Agreement, may be signed electronically by the City in the manner specified by the City. The Parties agree not to deny the legal effect or enforceability of the Agreement solely because it is in electronic form or because an electronic record was used in its formation. The Parties agree not to object to the admissibility of the Agreement in the form of an electronic record, or a paper copy of an electronic document, or a paper copy of a document bearing an electronic signature, on the ground that it is an electronic record or electronic signature or that it is not in its original form or is not an original.

34. COMPLIANCE WITH DENVER WAGE LAWS: To the extent applicable to the Consultant's provision of Services hereunder, the Consultant shall comply with, and agrees to be bound by, all rules, regulations, requirements, conditions, and City determinations regarding the City's Minimum Wage and Civil Wage Theft Ordinances, Sections 58-1 through 58-26 D.R.M.C., including, but not limited to, the requirement that every covered worker shall be paid all earned wages under applicable state, federal, and city law in accordance with the foregoing D.R.M.C. Sections. By executing this Agreement, the Consultant expressly acknowledges that the Consultant is aware of the requirements of the City's Minimum Wage and Civil Wage Theft Ordinances and that any failure by the Consultant, or any other individual or entity acting subject to this Agreement, to strictly comply with the foregoing D.R.M.C. Sections shall result in the penalties and other remedies authorized therein.

35. PAYMENT OF CITY MINIMUM WAGE: Consultant shall comply with, and agrees to be bound by, all requirements, conditions, and City determinations regarding the City's Minimum Wage Ordinance, Sections 20-82 through 20-84 D.R.M.C., including, but not limited to, the requirement that every covered worker shall be paid no less than the City Minimum Wage in accordance with the foregoing D.R.M.C. Sections. By executing this Contract, Consultant expressly acknowledges that Consultant is aware of the requirements of the City's Minimum Wage Ordinance and that any failure by Consultant, or any other individual or entity acting subject to this Contract, to strictly comply with the foregoing D.R.M.C. Sections shall result in the penalties and other remedies authorized therein.

Exhibit List

Exhibit A – Scope of Work.

Exhibit B – Budget/Pricing.

Exhibit C – Certificate of Insurance.

Exhibit D – Technical Guidance.

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Contract Control Number: CASR-202371992-00
Contractor Name: MCKINSTRY ESSENTION, LLC

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at Denver, Colorado as of:

SEAL

CITY AND COUNTY OF DENVER:

ATTEST:

By:

APPROVED AS TO FORM:

REGISTERED AND COUNTERSIGNED:

Attorney for the City and County of Denver

By:

By:

By:

Contract Control Number:
Contractor Name:

CASR-202371992-00
MCKINSTRY ESSENTION, LLC

By: DocuSigned by:
Leslie Laroque
E41AF7BDBA7E403... _____

Name: Leslie Laroque
(please print)

Title: Sr. vice President, Energy & Technical Services
(please print)

ATTEST: [if required]

By: _____

Name: _____
(please print)

Title: _____
(please print)

Exhibit A: STATEMENT OF WORK

1. DEFINITIONS

Campus: a collection of two or more buildings, of any building type or size, that act as a single cohesive property with a single shared primary function and are owned and operated by the same party, such as higher education or hospital campuses.

Energy Audit: an evaluation of a building that identifies potential energy efficiency measures for building system and operations in accordance with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (“ASHRAE”) Standard 211-2018 Level 2.

Energy Conservation Measure: items designed to improve the energy utilization efficiency of a building.

Investment Grade Audit: A detailed analysis that includes the information from the ASHRAE Level 2 Energy Audit, estimated implementation costs and energy cost savings, indicating a bundle of measures that can pay for themselves with the achieved energy cost savings, utility rebates, grants, avoided capital costs, tax credits stemming from the Inflation Reduction Act and avoided maintenance costs over a set period. All the information requested in Section 4 below are collectively known as the Investment Grade Audit.

Gross Floor Area (“GFA”): the total building square footage, measured between the outside surface of the principal exterior fixed walls of a building. GFA should include lobbies, tenant areas, common areas, meeting rooms, break rooms, atriums (base level only), restrooms, elevator shafts, stairwells, mechanical equipment areas, basements, storage rooms. GFA should not include exterior spaces, balconies, patios, exterior loading docks, driveways, covered walkways, outdoor play courts, parking, or crawl spaces. **Lighting Load:** the energy used to power electric lights in a building’s interior, exterior, and parking areas as measured in kilowatt hours. The calculation of lighting load shall include all lighting that is connected to the building’s electrical meter(s).

Lighting Power Density or LPD: the lighting power in watts per square foot.

Operations and maintenance (O&M): the functions, duties and labor associated with the daily operations and normal repairs, replacement of parts and structural components, and other activities needed to preserve an asset so that it continues to provide acceptable services and achieves its expected life.

Renewables: installations, whether on-site or off-, that generate usable energy in the form of electricity or heat without the burning of fossil fuels or other non-renewable resources.

Site Energy Use Intensity: a building’s weather normalized energy use expressed as energy per square foot per year as a function of its size, normalized for weather and other characteristics that are significant drivers of energy performance as feasible with the reporting platform used. A building’s EUI is calculated by dividing the total energy consumed by the building in one year (measured in kBtu) by the total Gross Floor Area of the building.

Electrification Feasibility Report: A tool designed by the City of Denver to assess the practicality and cost impacts of switching from gas to electric equipment. The report will determine if switching to electric equipment is cost-effective for your building by covering estimated energy consumption of the gas and electric replacement systems, estimated energy and carbon savings, estimated energy bills with gas and electric replacement systems and estimated costs for installing a replacement gas

and electric system.

Large Building: A building whose square footage is 25,000 or larger

Small Building: A building whose square footage is less than 25,000.

2. BACKGROUND:

The City is required to meet or exceed the requirements of the Energize Denver Ordinance.

- a. Buildings with GFA 25,000 sq ft¹ and larger: the Energize Denver ordinance establishes building-type specific Site Energy Use Intensity (EUI) targets to be met by reporting years 2024², 2027, and 2030. The EUI calculations are completed through an on-line submission of the Department of Energy's Portfolio Manager Database. The City and County of Denver maintains databases inside Portfolio Manager and utilizes other software for utility tracking. These databases will be available to awarded Vendors, in cooperation with the General Services Administration Energy Office staff, to effectively and accurately submit information required for the Ordinance.
- b. Buildings with GFA between 5,000 sq ft and 25,000 sq ft: the Energize Denver Ordinance establishes two compliance options: install or procure at least 20% of their total energy usage from on-site or off-site renewables³ OR achieve 90% of the building's total lighting load with LEDs.⁴
- c. For all buildings, the Energize Denver Ordinance establishes new minimum electrification requirements at the time of space and water heating equipment replacement.
- d. The City is investigating the feasibility of an ambient loop service to several City buildings. The Contractor shall include the prospect of an ambient loop service in their analysis of energy savings solutions.

3. GOALS:

To audit and create the implementation plans necessary for all municipal buildings listed in Section 5 to meet the Energize Denver Ordinance requirements for electrification and energy use intensity performance by 2030.

¹ For purposes of Energize Denver compliance and completing the investment grade audit, multiple buildings that share a utility meter and at least one of those buildings is 25,000 sq ft or larger, the performance requirements for buildings 25,000 sq ft and larger apply to that set of buildings. In this instance, all buildings that share that meter are considered a single entity from an energy use perspective.

² Reporting year 2024 targets have been pushed back to calendar year 2025, as of November 2022.

³ Examples include behind-the-meter solar, off-site virtual net-metered, community solar garden subscription, or on-bill subscription programs (such as Xcel Energy's Renewable*Connect subscriptions)

⁴ 90% figure to be calculated as the share of the lighting load provided by LEDs in watts divided by the total lighting load.

4. SCOPE OF WORK AND MINIMUM REQUIREMENTS:

A summary of tasks is listed in Table 1: Elements of The Scope of Work. Minimum requirements for each tasks follow.

Elements of the Scope of Work				
Required Task	<= 4,999 sqft	5,000 - 24,999 sqft	>=25,000 sqft	Resource
Perform Investment Grade Energy Audits	x	x	x	Audit Template Tool ¹
Create Electrification Feasibility Report (EFR)		x	x	EFR Information ² , Training Required for EFR Submission ³
Create LED Lighting Plan		x		Compliance through Lighting ⁴ (Section 5 of web page) Existing LED Load Verification ⁵ (Section 7 of web page) Lighting Audit Template ⁶ (Section 7 of web page)
Identify Renewable Energy Options		x	x	Compliance through Renewable Energy ⁷ (Section 5 of web page) Renewable Energy for 25K+ SF ⁸
Ad Hoc Reporting for Buildings already in compliance	x	x	x	

¹ <https://www.denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Hub/Buildings-25000-sq-ft-or-Larger/Performance-Requirements-NEW/Flexibility-in-Compliance/Energy-Audits-for-Performance-Requirements>

² <https://www.denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Electrification-Program/Electrification-Feasibility-Reports>

³ <https://www.denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Electrification-Program/Contractors-Portal/Virtual-Electrification-Feasibility-Report-Training>

⁴ <https://denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Hub/Buildings-5000-24999-sq-ft/Compliance-Guide>

⁵ <https://denvergov.org/files/assets/public/v/1/climate-action/documents/energize-denver-hub/annex-b-led-lighting-verification-template.xlsx>

⁶ <https://denvergov.org/files/assets/public/v/1/climate-action/documents/energize-denver-hub/annex-a-lighting-audit-template-v.3.xlsx>

⁷ <https://denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Hub/Buildings-5000-24999-sq-ft/Compliance-Guide>

⁸ <https://denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Hub/Buildings-25000-sq-ft-or-Larger/Performance-Requirements-NEW/Flexibility-in-Compliance#section-3>

Create Retrofit Plans for each site	x	x	x	Technical Guidance for 5000-24999 SF⁹ Technical Guidance for 25K+ SF¹⁰
Create Alternate Compliance Option Applications as needed		As needed	x	Technical Guidance for 5000-24999 SF¹¹ Technical Guidance for 25K+ SF¹² Flexibility in Compliance¹³
Create (or update) Operations and Maintenance Guidance	x	x	x	ANSI/ASHRAE/IES Standard 100-2018 (ASHRAE 100), Chapter 6
Coordination of Meetings and Building Access	x	x	x	

TABLE 1: ELEMENTS OF THE SCOPE OF WORK

- a. Minimum Energy Audit Requirements - Energy audits for individual buildings must follow ANSI/ASHRAE/ACCA Standard 211-2018 and have the following minimum requirements:
- i. Meet the minimum requirements of an ASHRAE Level 2 Audit.
 - ii. Be submitted through the online Denver Audit Template tool.
 - iii. Confirmation of building information included in the existing benchmarking database.
 - iv. Identify any buildings that qualify for any target adjustments per Section 3.4.6 of the Energize Denver Technical Guidance documentation, attached as Exhibit D, and qualifying information for the time adjustments.
 - v. Investment Analysis for Energy Efficiency Measures and Compliance Solution Identifications
 - Individual measure implementation cost and timeframe
 - Projected EUI and utility usage reductions.
 - Individual measure savings to investment ratio (SIR) and return on investment (ROI) calculations
 - Building-wide measure implementation cost and projected EUI savings
 - Building-wide savings to investment ratio (SIR) and return on investment (ROI) calculations.
 - Total project cost and site EUI savings, including total SIR and ROI.
 - vi. The energy auditor must have one of the following credentials/licenses or work on a team under a licensed/credentialed individual:

⁹ <https://denvergov.org/files/assets/public/v/1/climate-action/documents/energize-denver-hub/ed-technical-guidance-buildings-5000-24999-sq-ft-06.30.2023.pdf>

¹⁰ https://denvergov.org/files/assets/public/v/1/climate-action/documents/energize-denver-hub/ed-technical-guidance-buildings-25000-sq-ft-and-larger-v2_june-2023_clean.pdf

¹¹ <https://denvergov.org/files/assets/public/v/1/climate-action/documents/energize-denver-hub/ed-technical-guidance-buildings-5000-24999-sq-ft-06.30.2023.pdf>

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¹³ <https://denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Hub/Buildings-25000-sq-ft-or-Larger/Performance-Requirements-NEW/Flexibility-in-Compliance>

Professional Engineer (licensed in the United States)

Certified Energy Auditor (Association of Energy Engineers)

Certified Energy Manager (Association of Energy Engineers)

Building Energy Assessment Professional (ASHRAE)

High-Performance Building Design Professional (ASHRAE)

Multifamily Building Analyst (Building Performance Institute)

- b. Electrification Feasibility Report (EFR) - The Electrification Feasibility Report will determine if switching to electric equipment is cost-effective for a given building. Specifically, the EFR considers the comparative costs and benefits for a “like-for- like” replacement natural gas (or other existing fuel) system with an all-electric, not resistance heat only retrofit system and will include, at minimum, for each system:
 - i. Estimated annual energy consumption
 - ii. Estimated energy cost
 - iii. Estimated installation cost
 - iv. Estimated energy and carbon savings for switching to the electric system
- c. LED Lighting Audit - The selected Contractor shall provide a complete lighting audit of the facility, including all interior and exterior fixtures, including area and parking lot lights that are paid for by the City. This audit should include, at minimum, the following information for each lamp (bulb or fixture, as appropriate):
 - i. Type: incandescent, fluorescent, halogen, CFL, sodium, LED, etc.
 - ii. Wattage: what is the published power consumption in Watts of the bulb or fixture
 - iii. Burn hours: estimated annual usage, in hours
 - iv. Base: what is the bulb base’s shape and size. For wired fixtures, indicate N/A.
 - v. Shape: tube, arbitrary, bulged reflector, sealed beam, etc.
 - vi. Size: diameter for all round shapes, diameter and length for all tubes, trade sizes acceptable
 - vii. Color Temperature in Kelvin
 - viii. Location: this can be a specific room or general area, such as a wing of a building, as needed to accurately describe the lamps in the facility
 - ix. Environment: indoor or outdoor
 - x. Total count of the bulbs or fixtures sharing the above characteristics
 - xi. Identification of suitable replacement LED lamps for each of the identified lamps to achieve 90% compliance threshold
 - xii. Clearly list those lamps without a suitable LED replacement such as some process lighting or stage lighting
 - xiii. Estimated unit cost of LED replacements
 - xiv. Estimated energy and energy cost savings from completing all replacements
 - xv. Calculation of the percent of the lighting load, in kWh, that is supplied by LEDs before and after any proposed retrofits
- d. Identification of on-site renewable opportunities - The City would like to expand on-site renewable energy applications. Renewable energy applications include solar photovoltaic, wind, geothermal, and others. It is not the City’s intention implement new energy installations. Rather, it is the intent to identify locations where energy installations make logistic and financial sense for future implementation. Renewable

opportunity identification reporting shall include:

- i. Identifying the estimated nameplate capacity
 - ii. Location
 - iii. Installation method
 - iv. Anticipated interconnection location and method
 - v. Any site constraints for each identified opportunity.
- e. Ad hoc reporting to CASR Portal- There are several facilities that are already in compliance with the Energize Denver Ordinance and are broken out separately in the building lists in this contract. For these facilities, ad hoc building information reporting submission will need to be provided. In this process the contractor shall confirm building information is correct and complete the reporting required by the Ordinance.
- f. Retrofit Plan - This retrofit plan is intended to give CASR a summary look into what it going to be retrofitted and the implementation timeline. The plan should be a maximum of 5 pages per building. The Retrofit Plan (Word or PDF document for submission) must cover four things:
- i. What improvements and upgrades are recommended?
 - Operation and Maintenance Recommendations
 - a. Explanation of what operations and maintenance items are needed to maximize building performance
 - b. Explain prior work/monitoring and recommend how to adjust O&M in the future once upgrades are performed
 - c. Examples: retro-commissioning, addressing reactive/proactive/predictive maintenance, continuous improvement models, staff training, green leasing practices, improving building automation systems
 - Short Term Payback Measures
 - Long term Payback Measures
 - Energy Efficiency Measures listed in Energy Audit but not included in upgrade list
 - a. Include an explanation of why these items are not being included in the proposed upgrades
 - ii. When are the improvements or upgrades going to be performed?
 - Create a timeline and list each item and its proposed time
 - Explanation of why items cannot be upgraded prior to target periods
 - a. If long-term payback upgrades are deferred due to end of system life, what other O&M and short-term payback actions should be taken now? A proposal with no O&M and short-term actions will be sent back to the owner for adjustment.
 - iii. How do those actions enable the building to meet the 2030 target?
 - List each action and estimated Site EUI reduction
 - iv. Proposed Milestone Reporting Plan
 - Based on the proposed timeline, provide interim target points for evaluation and updates on progress with supporting documentation requirements. These progress reports are an opportunity for a building owner to communicate challenges and work with CASR to adjust the plan accordingly to achieve the savings target.
- g. Alternative Compliance Applications – An alternative compliance pathway will be required to extend the time for interim compliance targets. The office of Climate Action, Sustainability and Resiliency (CASR) has a range of resources explaining the Energize

Denver Ordinance, interim targets, and alternative compliance options [here¹⁴](#), click on "alternate compliance options", "timeline adjustment".

- h. Operations and Maintenance Program - The O&M program for each building should at a minimum include the following information:
- i. O&M Documentation for:
 - Objectives as described in ANSI/ASHRAE/IES Standard 100-2018, Chapter 6.2
 - Implementation in accordance with ANSI/ASHRAE/IES Standard 100-2018, Chapter 6.4 and Addendum A, Annex L
 - Tasks as described in ANSI/ASHRAE IES Standard 1002018, Chapter 6.4 and Annex D
 - ii. Identification of Energy Conservation Measures during the process of creating and compiling the O&M Program documentation
 - iii. Training for the implementation portion of the O&M program documentation
- i. The Contractor shall coordinate the following at a minimum:
- i. Kickoff meeting with each Agency's staff
 - Make introductions
 - Gather Points of Contacts
 - Get building access instructions /keys
 - Answer Agency questions
 - ii. Site walks with and without CASR and Agency staff.
 - iii. Weekly Progress Updates
 - iv. Multiple ECM and Plan reviews

5. BUDGET AND LISTS OF APPLICABLE BUILDING

Buildings highlighted in blue shall be prioritized for the first milestone per Section 7.

General Services Buildings			
Building Name	Address	Floor Area (Sq Ft)	Audit cost
Buildings >25,000 sqft (8 cents per sqft)			
405 S. Platte River Drive	405 S Platte River Drive	26,511	\$2,120.88
4650 Steele St	4650 Steele Street	108,928	\$8,714.24
Arie P. Taylor Municipal Center	4685 Peoria Street	48,614	\$3,889.12
City and County Building	1460 Cherokee Street	419,387	\$33,550.96
Communications Center (911)	12025 E 45th Avenue	71,232	\$5,698.56
Crossroads Men's Shelter	1901 29th Street	41,539	\$3,323.12
Denver Municipal Animal Shelter	1241 W Bayaud Avenue	36,476	\$2,918.08
Denver Police Crime Lab	1371 Cherokee Street	73,249	\$5,859.92
Eastside Human Services	3815 Steele Street	53,510	\$4,280.80
Elections/DEH	200 W 14th Avenue	79,208	\$6,336.64
Family Crisis Center	2929 W 10th Avenue	43,085	\$3,446.80
Fire Headquarters	745 W Colfax Avenue	33,442	\$2,675.36
Lindsey-Flanigan Courthouse	520 W Colfax Avenue	318,000	\$25,440.00
Men's Shelter	4330 E 48th Avenue	43,824	\$3,505.92
Minoru Yasui Building	303 W Colfax Avenue	153,948	\$12,315.84
Police Academy	2155 N Akron Way	31,234	\$2,498.72

¹⁴ <https://denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Hub/Buildings-25000-sq-ft-or-Larger/Performance-Requirements-NEW/Flexibility-in-Compliance>

Police Administration Building	1331 Cherokee Street	197,588	\$15,807.04
Police District 1 Station	1311 W 46th Avenue	40,131	\$3,210.48
Police District 2 Station	3921 N Holly Street	50,028	\$4,002.24
Police District 3 Station	1625 S University Blvd	41,765	\$3,341.20
Police Transmitter / Fleet Service Center	2100 31st Street	49,860	\$3,988.80
Real Estate Warehouse	2601 W 7th Avenue	28,672	\$2,293.76
Rose Andom	1330 Fox Street	46,037	\$3,682.96
Roslyn Campus1	5440 Roslyn Street	314,307	\$25,144.56
Shelter (Mens)	4600 E 48th Avenue	82,122	\$6,569.76
Traffic Operations/Traffic Investigations	3381 Park Avenue W	64,041	\$5,123.28
Westwood Community Center*LEASED	1000 S Lowell Street	37,768	\$3,021.44
Wellington E. Webb Municipal Office Bldg	201 W Colfax Avenue	677,832	\$54,226.56
Total for GS Large Buildings		3,212,338	\$256,987.04
Buildings <25,000 sqft (22.5 cents per sqft)			
Anna Jo Garcia Haynes Early Learning Center	2851 Tremont Place	6,077	\$1,367.33
Cableland (Mayor's Residence)	4150 Shangri La Drive	14,437	\$3,248.33
Cherokee Boiler Plant	1348 Cherokee Street	9,984	\$2,246.40
Combined Communications Center/Gang Unit	950 Josephine Street	21,518	\$4,841.55
Fire Academy	5440 Roslyn Street	20,530	\$4,619.25
Fire Line Shop	4640 Lipan Street	12,000	\$2,700.00
Fire Station No. 10	3200 Steele Street	10,900	\$2,452.50
Fire Station No. 11	40 W 2nd Avenue	8,919	\$2,006.78
Fire Station No. 12	2575 Federal Blvd	9,592	\$2,158.20
Fire Station No. 13	3683 S Yosemite	5,791	\$1,302.98
Fire Station No. 14	1426 Oneida Street	5,604	\$1,260.90
Fire Station No. 15	1375 Harrison Street	13,336	\$3,000.60
Fire Station No. 16	1601 S Ogden Street	10,060	\$2,263.50
Fire Station No. 17	4500 Tennyson Street	7,650	\$1,721.25
Fire Station No. 19	300 S Ivy Street	9,680	\$2,178.00
Fire Station No. 20	501 Knox Court	6,076	\$1,367.10
Fire Station No. 23	850 S Federal Blvd	9,048	\$2,035.80
Fire Station No. 25	2504 S Raleigh Street	7,200	\$1,620.00
Fire Station No. 27	12927 E Albrook Drive	12,042	\$2,709.45
Fire Station No. 28	4306 S Wolff Street	9,532	\$2,144.70
Fire Station No. 29	4800 Himalaya Road	8,498	\$1,912.05
Fire Station No. 30	4898 S Dudley Street	7,923	\$1,782.68
Fire Station No. 39	9150 E 50th Ave	12,942	\$2,911.95
Fire Station No. 4	1890 Lawrence Street	7,921	\$1,782.23
Fire Station No. 6	1300 Blake Street	10,949	\$2,463.53
Fire Station No. 7	2195 W 38th Avenue	5,791	\$1,302.98
Fire Station No. 8	1616 Park Avenue	11,112	\$2,500.20
Fire Station No. 9	4400 Brighton Blvd	12,491	\$2,810.48
Fire Station No. 18	8710 E Alameda Avenue	11,619	\$2,614.28
Garage - Homeless Storage	1449 Galapago Street	5,000	\$1,125.00
Lowry Child Development Center	957 Ulster Way	13,984	\$3,146.40
Motorcycle Garage located at Police Dist. 6	1565 Clarkson Street	15,758	\$3,545.55
PAL Building	1240 W Bayaud Avenue	9,610	\$2,162.25
Police District 4 Station	2100 S Clay Street	19,479	\$4,382.78
Police District 6 Station	1566 Washington Street	16,684	\$3,753.90
Police Firing Range	3421 Park Avenue W	13,495	\$3,036.38
Roslyn-Bldg. (D)	5440 Roslyn Street	16,388	\$3,687.30
Technology Services	10 Galapago Street	21,772	\$4,898.70
Tooley Hall - Project Elevate	4280 Kearney Street	11,352	\$2,554.20
Vacant Building	700 W Colfax Avenue	12,728	\$2,863.80
Vacant Building - Public Defender	710 W Colfax Avenue	11,250	\$2,531.25

Total for GS Small Buildings		466,722	\$105,012.45
Ad Hoc Compliance Reporting (\$1,000 per site)	Address	Sqft	
S. Osage Fleet Maintenance - Garage	2013 S. Osage St.	17,050	\$1,000.00
Fire Station #2	5300 Memphis Street	24,372	\$1,000.00
Fire Station #21	1580 Virginia Avenue	5,791	\$1,000.00
Fire Station #24	2695 S. Colorado Blvd.	7,183	\$1,000.00
Fire Station #26	7934 Martin Luther King Blvd.	15,758	\$1,000.00
First Station #22	3530 S. Monaco Pkwy	10,719	\$1,000.00
Total for Ad Hoc Compliance			\$6,000.00
EFRs for small buildings (\$5,000 per site)	price per building	41 buildings	\$205,000.00
Renewable Opportunity ID (\$2,500 per site)	price per building	55 buildings	\$137,500.00
Total Contract Amount for General Service Buildings			\$710,499.49

6. DEADLINES, FEE SCHEDULE, AND DELIVERABLES

Milestone	Deliverables at Milestone	Target Date	Fee Portion Due
At least 32% Completed Audits by square footage	Audits, LED Plans, Renewable Identification, and draft ECM list with preliminary pricing completed for 32% of the project square footage. At least two ECM reviews with Agency and CASR staff completed.	4/30/24	22%
Remainder of Audits Completed	Audits, LED Plans, Renewable Identification, and draft ECM list with preliminary pricing completed for the remaining project square footage. At least two additional ECM reviews with Agency and CASR staff completed.	8 months from contract execution	45%
100% Finalized	Finalized Retrofit Plans, EFRs, and O&M Plans, Ad Hoc Reporting and Alternative Compliance Applications Completed	12/31/24	33%

7. VENDOR PERFORMANCE MANAGEMENT:

The City may administer a performance management program as part this proposal and resulting contract. The purpose of this program is to create a method for documenting and advising the City of exceptional performance or any problems related to the purchased services.

a. FOR SERVICES

- i. Total dollar value of purchases per City Agency
- ii. Total number of transactions per City Agency
- iii. Average response time after receipt of call from the City
- iv. Average time for job completion
- v. Contractor may also be required to provide additional specific reporting/data as required.

EXHIBIT B – BUDGET

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First Station #22	3530 S. Monaco Pkwy	10,719	\$1,000.00
Total for Ad Hoc Compliance			\$6,000.00
EFRs for small buildings (\$5,000 per site)	price per building	41 buildings	\$205,000.00
Renewable Opportunity ID (\$2,500 per site)	price per building	55 buildings	\$137,500.00
Total Contract Amount for General Service Buildings			\$710,499.49



Exhibit C

MCKICO.-01

TTHARP

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

12/20/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Hub International Northwest LLC PO Box 3018 Bothell, WA 98041	CONTACT NAME:	
	PHONE (A/C, No, Ext): (425) 489-4500	FAX (A/C, No): (425) 485-8489
	E-MAIL ADDRESS: now.info@hubinternational.com	
	INSURER(S) AFFORDING COVERAGE	
	INSURER A : The Travelers Indemnity Company	NAIC # 25658
	INSURER B : Travelers Property Casualty Company of America	25674
INSURED McKinstry Essention, LLC PO Box 24567 Seattle, WA 98124-0567	INSURER C : The Travelers Indemnity Company of Connecticut	25682
	INSURER D : Zurich American Insurance Company	16535
	INSURER E : Steadfast Insurance Company	26387
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**


THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> WA Stop Gap GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:	X	X	VTC2K-CO-5643B901-IND-23	1/31/2023	1/31/2024	EACH OCCURRENCE	\$ 2,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 300,000
							MED EXP (Any one person)	\$ 10,000
							PERSONAL & ADV INJURY	\$ 2,000,000
							GENERAL AGGREGATE	\$ 4,000,000
							PRODUCTS - COMP/OP AGG	\$ 4,000,000
								\$
B	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY			VTC2J-CAP-5643B913-TIL-23	1/31/2023	1/31/2024	COMBINED SINGLE LIMIT (Ea accident)	\$ 2,000,000
							BODILY INJURY (Per person)	\$
							BODILY INJURY (Per accident)	\$
							PROPERTY DAMAGE (Per accident)	\$
							\$	
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$						EACH OCCURRENCE	\$
							AGGREGATE	\$
							\$	\$
C	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y <input checked="" type="checkbox"/> N If yes, describe under DESCRIPTION OF OPERATIONS below			X UB-9K158609-23-25-G	10/1/2023	10/1/2024	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER	\$
							E.L. EACH ACCIDENT	\$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	\$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	\$ 1,000,000
D	BUILDER'S RISK			MBR4892831-13	1/31/2023	1/31/2024	LIMIT:	\$ 1,000,000
E	Professional Liab			EOC6738794-10	1/31/2023	1/31/2024	PER CLAIM/AGG:	\$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 RE: MCK Job #206455 Denver City And County EPC Phase 2 Sales
 City and County of Denver, its elected and appointed officials, employees and volunteers are included as Additional Insured, coverage is primary and non-contributory and waiver of subrogation applies per the attached forms/endorsements.

CERTIFICATE HOLDER

CANCELLATION

City and County of Denver Climate Action, Sustainability and Resiliency Dept #704 Denver, CO 80202	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE 

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**TOTAL AGGREGATE LIMIT OTHER THAN PROJECTS
AND DESIGNATED PROJECT AND LOCATION
AGGREGATE LIMITS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE – LIMITS OF INSURANCE AND DESIGNATED PROJECTS AND LOCATIONS

LIMITS OF INSURANCE

Total Aggregate Limit (Other Than Projects and Products-Completed Operations)	\$ 25,000,000
Designated Location Aggregate Limit (Other Than Products-Completed Operations)	\$ 4,000,000
Designated Project Aggregate Limit (Other Than Products-Completed Operations)	\$ 4,000,000
General Aggregate Limit (Other Than Products-Completed Operations)	\$ 4,000,000

Designated Projects:

Each "project" away from premises owned by or rented to you
Designated Locations: Each premises owned by or rented to you

Designated Locations:

Each premises owned by or rented to you

PROVISIONS

- | | |
|--|---|
| <ol style="list-style-type: none"> The General Aggregate Limit (Other Than Products-Completed Operations) shown in the Declarations is replaced by the Limits of Insurance shown in the Schedule – Limits Of Insurance And Designated Projects And Locations. The following replaces Paragraph 1. of SECTION III – LIMITS OF INSURANCE: | <ol style="list-style-type: none"> The Limits of Insurance shown in the Declarations or the Schedule – Limits Of Insurance And Designated Projects And Locations, whichever apply, and the rules below fix the most we will pay regardless of the number of: <ol style="list-style-type: none"> Insureds; Claims made or "suits" brought; |
|--|---|



Exhibit D

City and County of Denver

Energize Denver Benchmarking and Energy Performance Requirements

Buildings 5,000 – 24,999 Square Feet

Technical Guidance

Version 1.0
June 30, 2023

Nothing in this Guidance shall supersede any City and County of Denver ordinance or regulation.

[Denver Revised Municipal Code, Chapter 10, Article XIV.](#)



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Acronyms

- ACO – alternate compliance option
- ANSI – American National Standards institute
- ASHRAE – American Society of Heating, Refrigerating, and Air-Conditioning Engineers
- ACCA – Air-Conditioning Contractors of America
- CASR – Office of Climate Action, Sustainability, and Resiliency
- CCD – City and County of Denver
- CPD – Community Planning and Development
- DOE – United States Department of Energy
- EEM – energy efficiency measure
- EPA – United States Environmental Protection Agency
- ESCO – energy services company
- ESPM – ENERGY STAR Portfolio Manager
- EUI – energy use intensity
- GFA – gross floor area
- HOA – homeowner association
- kBtu – thousand British thermal units
- kWh – kilowatt hours
- LED – lighting emitting diode
- LPD – lighting power density
- NAILD – National Association of Innovative Lighting Distributors
- LSII – Lighting Specialist II
- REC – Renewable Energy Credit



Definitions

Annual Site Energy Use: the total energy consumed by the building in one year measured in kBtu, including all equipment and fixtures attached to the building energy meters.

Benchmarking: measuring a Covered Building's energy performance using the ENERGY STAR Portfolio Manager tool or other similar platforms as CASR may designate.

Benchmarking Submission: the data submitted each year via the ENERGY STAR Portfolio Manager tool, or other similar platforms as CASR may designate, using a template and submission link to be distributed and publicized by CASR. All information expressly denoted as mandatory by either ENERGY STAR Portfolio Manager or CASR shall be included in the submission.

Common Space: the entire common interest development except the separate interests therein. Common space includes any part of a building or complex that is not owned by one specific resident. Common space includes (but are not limited to): entrances, exits, doorways, stairwells, common terraces, basements, rooftops, parking areas, elevators and elevator lobbies, gardens, common storage spaces, waste disposal areas, central service installations, and any other portions of land or property with purpose for common use.

Covered Building: any commercial or multifamily individual building in the City and County of Denver except a building for which a demolition permit for the entire building has been issued and for which demolition work has commenced on or before the building's prescribed compliance deadline, or a building that had received their Certificate of Occupancy or Temporary Certificate of Occupancy on or before November 22, 2021.

ENERGY STAR Portfolio Manager: the online tool created by the US Environmental Protection Agency used to measure and track a building's energy use, water consumption, and greenhouse gas emissions. For purposes of this rule "ENERGY STAR Portfolio Manager" may also mean another platform as CASR may designate.

Existing Building Performance: the energy efficiency and renewable energy of a Covered Building measured by site Energy Use Intensity (EUI), or EUI adjusted for renewable energy using data reported via the ENERGY STAR Portfolio Manager tool or other platforms as CASR may designate.

Gross Floor Area (GFA): the total building square footage, measured between the outside surface of the principal exterior fixed walls of a building. GFA should include lobbies, tenant areas, common areas, meeting rooms, break rooms, atriums (base level only), restrooms, elevator shafts, stairwells, mechanical equipment areas, basements, storage rooms. GFA should not include exterior spaces, balconies, patios, exterior loading docks, driveways, covered walkways, outdoor play courts, parking, or crawl spaces.

High Performance Existing Buildings Program: the administrative program implemented by CASR requiring the Benchmarking, reporting, and Existing Building Performance in commercial and multifamily buildings that are located within the City and County of Denver.

Lighting Load: the energy used to power electric lights in a building's interior, exterior, and parking areas as measured in kilowatt hours. The calculation of lighting load shall include all lighting that is connected to the building's electrical meter(s).

Lighting Power Density (LPD): the lighting power in watts per square foot.

Owner: the person or entity having a legal or equitable interest in real property and its fixtures and appurtenances, which shall explicitly include but not be limited to a homeowner's association.



Tenant: a person or entity entitled to the possession, occupancy, or the benefits of any rental unit owned by another person or entity.



1 Introduction

The Office of Climate Action, Sustainability and Resiliency (CASR) and the Energize Denver Task Force was tasked with helping the City design a building performance policy for existing buildings that improves health and equity, creates jobs, and drives climate solutions in existing buildings to achieve net zero energy by 2040. Translating this goal into cumulative greenhouse gas emission reductions results in 13.7 million metric tons of CO2 saved between now and 2040. Denver’s definition of a net zero energy building is highly energy efficient, all electric, provider of demand flexibility to the grid, and powered by renewable electricity. Existing buildings include all commercial and multifamily buildings, including all commercial uses such as manufacturing, agricultural, and industrial uses.

DENVER HAS COMMITTED TO ELIMINATING GREENHOUSE GAS EMISSIONS BY 2040. FOR BUILDINGS AND HOMES, THIS MEANS THE GOALS ARE:

- ALL NEW BUILDINGS AND HOMES “NET ZERO ENERGY” BY 2030
- ALL EXISTING BUILDINGS AND HOMES “NET ZERO ENERGY” BY 2040

The Task Force was a diverse group representing multiple sectors and stakeholders in Denver. Membership included building owners and managers, our local utility, energy providers, resident/tenant/non-profit representatives, labor and workforce representatives, environment and clean energy representatives, and a member of Denver City Council.

The recommendations from the Energize Denver Task Force were codified into law through the creation of the High-Performance Existing Building Program, which requires building owners of covered buildings to address existing building performance through energy efficiency and renewables. This policy expects to remove 11.8 million tons of cumulative emission reductions from the built environment to help the City and County of Denver (CCD) achieve its climate action goal of zero greenhouse gas emissions in existing buildings by 2040. Figure 1 outlines the three sections of the Energize Denver Ordinance, implemented by both CASR and Community Planning and Development (CPD).

Benchmarking	Performance	Electrification
<ul style="list-style-type: none"> • IMPLEMENTED BY CASR • BUILDINGS 25K SQ.FT. OR LARGER MUST SUBMIT ENERGY BENCHMARKING DATA THROUGH ENERGY STAR PORTFOLIO MANAGER ON AN ANNUAL BASIS 	<ul style="list-style-type: none"> • IMPLEMENTED BY CASR • 2030 SITE EUI ENERGY REQUIREMENTS FOR BUILDINGS 25K SQ.FT. OR LARGER • PRESCRIPTIVE LIGHTING OR SOLAR REQUIREMENTS FOR BUILDINGS 5,000-24,999 SQ.FT. • FOCUSED ON IMPROVING ENERGY EFFICIENCY FOR EXISTING BUILDINGS 	<ul style="list-style-type: none"> • EDUCATION AND INCENTIVES FROM CASR • BUILDING CODE UPDATES AND PERMITTING IMPLEMENTED BY CPD • ALL COMMERCIAL AND MULTIFAMILY BUILDINGS MUST PARTIALLY ELECTRIFY SPACE AND WATER HEAT EQUIPMENT UPON SYSTEM REPLACEMENT, WHEN COST EFFECTIVE

This guidance manual covers policies and procedures for the performance requirements for buildings 5,000 – 24,999 square feet in gross floor area.

2 Performance Requirements – Buildings 5,000–24,999 SQ. FT.

2.1 General

Owners of Covered buildings with a gross floor area between 5,000 and 24,999 square feet must meet energy performance requirements by their respective deadline (see section 2.4 for compliance deadlines based upon gross floor area). Covered building owners must complete one of the following prescriptive requirements:

- (1) certify that a minimum of 90% of the building's total lighting load is provided by light emitting diode (LED) lights, or that all lighting meets 2019 Denver Building and Fire Code for lighting power density, OR
- (2) utilize on- or off-site renewable power generation to meet a minimum of 20% of the building's annual site energy use.

2.2 Applicability

For purposes of performance requirements, this means any Covered Building in the City and County of Denver with a gross floor area between 5,000 and 24,999 square feet. The performance requirements are applicable to all existing buildings that had received their Certificate of Occupancy or Temporary Certificate of Occupancy on or before November 22, 2021.

CCD does not have jurisdiction over state-owned, federal-owned, or foreign consulate buildings. Applicability is based on the building ownership, not the tenants, so if a state or federal entity is a tenant in a privately-owned building, the performance requirements would apply to the entire building. In ground lease situations, the entity that builds the structure is the owner of the building, so performance requirements would also apply.

In the case of residential and commercial condominium buildings with shared ownership, the performance requirements apply to the entire building. While individual owners in these buildings may own units less than the 5,000 square feet threshold, the performance requirements apply to the building as a whole, including both individual and common spaces.

2.3 Compliance Schedule

Owners of Covered Buildings will be required to comply by the following schedule:

- December 31, 2025: buildings with gross floor area of 15,001-24,999 square feet
- December 31, 2026: buildings with gross floor area of 10,001-15,000 square feet
- December 31, 2027: buildings with gross floor area of 5,000-10,000 square feet

2.4 Demolition

For the performance requirements, the building owner may request an exemption due to demolition of a building (not an interior space). An exemption should be requested if the demolition will be commenced on or before the building's compliance deadline.

Scenarios in which a demolition exemption would be approved are:

- A building for which a demolition permit for the entire building has been issued and for which demolition work has commenced on or before the deadline to implement the performance requirements.
- A building for which a demolition permit for a portion of the building has been issued in which the remaining building will be less than 5,000 sq. ft., which would remove the building from the performance requirements.



Application for a demolition exemption includes the submission of an online form (example in Appendix A) with attachments that prove the pending or completed demolition, with a submission deadline of June 1 of the year of the building's compliance deadline. Supporting documentation shall include:

- Valid, unexpired approved or submitted Total Demolition Application
- Stamped drawings that clearly show extent of demolition that will render building incapable of supporting any occupancy or use

2.5 Data Use/Confidentiality

The Energize Denver program information is publicly available on the Benchmarking Map and Open data catalog. No personally identifiable information is included in these data sets. CASR publishes basic building information and compliance status annually for all buildings reporting that year, including but not limited to the following fields:

- Building ID
- Property name
- Building Address
- Property type
- Gross Floor Area
- Building Neighborhood
- Compliance Status

3 Compliance Pathways

Covered building owners must complete one of the pathways, either upgrading lighting or using renewable power generation, to be compliant with the Energize Denver requirements. The lighting pathway is discussed in Section 3.1 and the renewable power generation pathway is discussed in Section 3.2. CASR also offers several alternate compliance options (ACO) covered in Section 4 for specific buildings or situations.

3.1 Lighting

The lighting pathway requires that the building owner certify that a minimum of 90% of the building's total lighting load is provided by LED lights, or that all lighting meets 2019 Denver Building and Fire Code for lighting power density.

For buildings which were constructed or completely remodeled on or after August 1, 2020 (the date the 2019 Denver Building and Fire Code became active), the building owner can submit the final construction permit approved and recorded by CCD's Office of Community Planning and Development (CPD).

For all other buildings, there are two pathways available to demonstrate compliance with the LED lighting requirements:

- For building owners who require upgrades to their current lighting to comply with the LED lighting requirements, please refer to Section 3.1.1. This section provides an overview of how your lighting contractor can provide accompanying documentation to demonstrate compliance.
- For building owners who are already compliant with the LED lighting requirements and only require certification to confirm this, please refer to Section 3.1.2. This section provides an overview of the documentation required to certify your current LED lighting.



3.1.1 Buildings that Require Upgrades to Lighting

Building owners must provide documentation from a third-party Lighting Professional verifying that a minimum of 90% of the building's total lighting load has been upgraded and is now provided by LED lights. To complete this paperwork, lighting professionals must meet a minimum of one (1) of the following requirements:

- Certified Lighting Consultant through the American Lighting Association
- Lighting Certification from the National Council on Qualifications for the Lighting Professions
- National Association of Innovative Lighting Distributors (NAILD) Lighting Specialist II (LSII) designation
- Licensed Electrical Contractor registered with the State of Colorado

Submission of compliance documentation includes filling out an online form and uploading attachments that prove the status of the building's lighting. Documentation includes:

1. A complete signed lighting audit, using the Lighting Audit Template (Appendix B), completed by a lighting professional (or the licensed electrical contractor performing the installation, if they performed the work) verifying a minimum of 90% of the lighting load is provided by LED lights.
2. A complete signed Letter of Attestation for LED Lighting Compliance from a Lighting Professional service provider (as shown in Appendix C), verifying that the building is in compliance

Building owners are required to retain the invoice(s) for any lighting upgrades for a period of two (2) years after the submission of compliance documentation. CASR reserves the right to request submission of invoices for additional verification of compliance.

3.1.1.1 Lighting Audit Requirements

The Lighting Audit Template (Appendix B) must include information on all lighting fixtures present in the interior, exterior, and parking areas of the building. Kilowatt-hour savings for each fixture are automatically calculated within the spreadsheet, as is the percentage of the total lighting load provided by LED lights. The Lighting Audit Template may be submitted by the building owner, building manager, or the lighting professional who performs the work.

The audit template is divided into two sections:

- Table 1 is an audit of all existing fixtures connected to the building's electrical meter(s). This demonstrates the percentage of the building's total lighting load that is currently provided by LED lights.
- Table 2 lists the recommended lighting retrofits to the building and demonstrates the percentage of the building's total lighting load that would be provided by LED lights with these recommended retrofits in place. This will demonstrate the retrofits necessary to bring the building into compliance with the LED lighting requirements.

The audit must include a description of all interior, exterior, and parking-area lighting fixtures that are connected to the building's electrical meter. The following information is required for each fixture:

- Fixture type (e.g. LED wall pack, high-pressure sodium lamp, metal halide lamp, etc.)
- Total watts of each fixture
- Quantity of each fixture type
- Hours of operation of each fixture (annually)



- Presence of occupancy sensor (turns off or dims lights when no motion)
- Presence of photosensor (turns off or dims light fixture during daylight)
- Presence of automatic time switch (lights turn on/off or dim according to a preset schedule or timer)

Based upon these inputs, the lighting audit template automatically calculates the following outputs:

- Estimated annual energy consumption of each fixture (kilowatt-hours)
- Estimated annual energy costs for each fixture (dollars)
- Total kilowatt hours consumed by lighting in the building
- Total kilowatt hours provided by LED lighting in the building

Multifamily buildings (residential apartments and condominiums) with more than five residential units require the lighting audit to physically assess a minimum of one unit for each type of floor plan that is present within the building, in addition to all common spaces. If units are being renovated or remodeled upon vacancy, the lighting auditor shall physically assess a minimum of one unit for each type of floor plan and one of each renovation type, in addition to all common spaces. Auditors then extrapolate the results to the remainder of the residential units. Lighting audits of residential units in multifamily buildings shall include all attached lighting fixtures, but may exclude any unattached, freestanding lamps (plug-in style).

3.1.2 Buildings Already in Compliance with LED Lighting Requirements

Buildings which are already in compliance with the lighting requirement (i.e., do not require additional upgrades and only require proof of compliance) may provide documentation from a lighting professional verifying that a minimum of 90% of the lighting load is provided by LED lights. The Lighting Verification Template in Appendix D may *not* be completed by a licensed electrician – it may only be completed by one of the following lighting professionals:

- Certified Lighting Consultant through the American Lighting Association
- Lighting Certification from the National Council on Qualifications for the Lighting Professions
- National Association of Innovative Lighting Distributors (NAILD) Lighting Specialist II (LSII) designation

Submission of compliance documentation includes completion of an online form and uploading attachments that document the status of the building's lighting. Documentation includes:

- A complete signed lighting audit, using the Lighting Verification Template (Appendix D), completed by a Lighting Professional verifying a minimum of 90% of the lighting load is provided by LED lights.
- A signed Letter of Attestation of Lighting Compliance (Appendix C) from the lighting professional that completed the Lighting Verification Template verifying that the building is in compliance.

3.1.2.1 Lighting Verification Requirements

The Lighting Verification Template (Appendix D) must include a description of all interior, exterior, and parking-area lighting fixtures that are connected to the building's electrical meter. This audit does not require a description of the lamp's wattage, nor annual running hours, but instead only requires a walk-through of the entire building to determine if lighting fixtures are LED or non-LED. The following information is required for each fixture:



- Location type – this is a short description of the building location containing the fixtures. No standardized terminology is required here, but the description should be brief and clear (e.g., entryway, hallway, office, parking garage, exterior patio space, etc.)
- Fixture type – select the appropriate fixture type from the drop-down menu. This should be done for each type of fixture per location/space
- Quantity of each fixture type

Based upon these inputs, the lighting audit template automatically calculates the proportion of fixtures that are non-LED. The template automatically calculates the compliance status as ‘Yes’ or ‘No.’ If the proportion of LED light fixtures is greater than or equal to 97% (equivalent to 90% of the lighting load), then the building is in compliance with the requirements. If the proportion of LED light fixtures is less than 97%, the building is not in compliance with the requirements and is responsible for converting a sufficient proportion of non-LED lighting to LED lighting in order to meet the requirements.

Multifamily buildings (residential apartments and condominiums) with more than five residential units require the lighting audit to physically assess a minimum of one unit for each type of floor plan that is present within the building, in addition to all common spaces. If units are being renovated or remodeled upon vacancy, the lighting auditor shall physically assess a minimum of one unit for each type of floor plan and one of each renovation type, in addition to all common spaces. Auditors then extrapolate the results to the remainder of the residential units. Lighting audits of residential units in multifamily buildings shall include all attached lighting fixtures, but may exclude any unattached, freestanding lamps (plug-in style).

3.1.3 Disposal of Used Lighting Fixtures and Bulbs

Many commonly used lamps, such as fluorescent, high-pressure sodium, mercury vapor, and metal halide, contain small amounts of mercury and other hazardous metals. Mercury has a devastating effect on humans and wildlife, especially fish and fish-eating animals. The Environmental Protection Agency has classified mercury-containing lights as a “Universal Waste” that are considered a type of hazardous waste. According to federal law, businesses must dispose of Universal Wastes properly. Proper disposal of mercury-containing lamps involves recycling them at a permitted facility.

The easiest way to recycle your fluorescent lamps is discussing the disposal of the old lighting with your vendor before you purchase new lamps so they are reclaimed when they switch out your lights. Another option is to store your old lamps and have them collected by a certified recycler. You can also purchase a postage-paid shipping box from a vendor who will properly recycle your used lamps; you simply seal the box when it is filled with expired lamps and ship it back to the vendor. Please consult CASR’s Energize Denver Hub web site for a list of service providers in the Denver metro area.

3.2 Renewable Power Generation

The renewable power generation pathway requires that the building owner certify that their building uses on- or off-site renewable power generation to meet a minimum of 20% of the building’s annual site energy use. CASR encourages the use of renewable energy where capacity is being added to the grid and contributing to Denver’s climate goals. At this time, the renewable credit applies only to solar and wind generation but could be expanded to other renewables in the future.

Compliance with the renewable power generation requirement can be demonstrated through any of these three ownership options:



- On-site renewable energy generation where the renewable system is tied directly to the building
- Off-site renewables installed on off-site property owned by the Covered Building Owner
- Off-site renewables owned by a third party where the renewable power generation is a subscription, lease, or purchase of a share in either a voluntary renewable energy program offered by Xcel Energy or a community solar project for which a dedicated renewable energy resource located in Public Service Company of Colorado territory is built for that customer program, and which has dedicated customer capacity or energy to fulfill that customer's subscription. The term of purchase must be at least five (5) years. Month-to-month subscriptions (i.e., Xcel Energy Windsource) do not meet the criteria for compliance. Existing subscriptions can be retroactively credited from November 22, 2021.

3.2.1 Demonstration of Compliance

Submission of compliance documentation includes completion of an online form and attachments proving the portion of building energy use the renewables cover and evidence of ownership or subscriptions. Documentation includes:

1. Annual site energy use
2. Ownership documentation to verify of ownership of, or subscription to, renewable energy
3. Power generation documentation to verify the total kWh of renewable energy generated

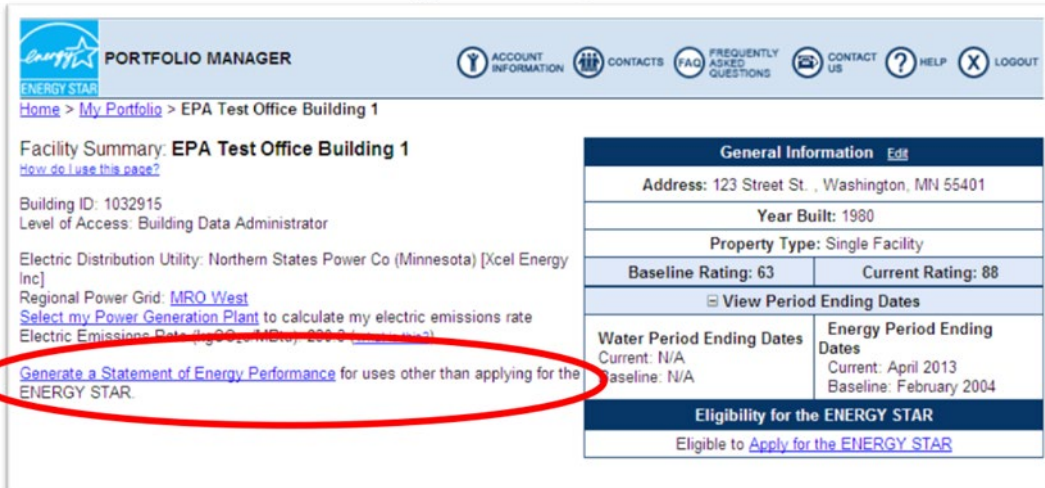
Table 1 combines all of the detail from Sections 3.2.1.1, 3.2.1.2, and 3.2.1.3 and gives examples of Denver-specific renewable energy options and their possible documentation for submission. CASR may conduct on-site audits of buildings or request copies of contracts or generation reports to verify compliance.

3.2.1.1 Annual Site Energy Use Documentation

To demonstrate that at least 20% of the building's annual site energy use is covered by renewable power generation, one of the submissions must demonstrate the total energy the building uses over a 12-month period. Annual site energy use is defined as the total energy consumed by the building in one year measured in kBtu, including all equipment and fixtures attached to the building's energy meters. This includes both electricity and gas use. The Covered Building Owner may choose any 12-month calendar year from 2022 onwards to serve as the baseline year.

Annual site energy use is proven by entering basic building information and 12 months of utility bills into Energy Star Portfolio Manager (ESPM) and generating a report called the Statement of Energy Performance. An example of this document is provided in Appendix E. This Statement is required of all buildings in this compliance pathway no matter what type of renewables they have. To generate a Statement of Energy Performance for uses other than applying for the ENERGY STAR, follow the steps below:

1. Login to your account at www.energystar.gov/istar/pmpam
2. In the My Portfolio view, click the name of the building for which you would like to create a Statement of Energy Performance (SEP). This action will take you to the Facility Summary view.
3. In the Facility Summary view, click "Generate a Statement of Energy Performance for uses other than applying for the ENERGY STAR" link towards the upper left corner of your screen.



ENERGY STAR **PORTFOLIO MANAGER**

ACCOUNT INFORMATION CONTACTS FREQUENTLY ASKED QUESTIONS CONTACT US HELP LOGOUT

Home > My Portfolio > EPA Test Office Building 1

Facility Summary: **EPA Test Office Building 1**
[How do I use this page?](#)

Building ID: 1032915
 Level of Access: Building Data Administrator

Electric Distribution Utility: Northern States Power Co (Minnesota) [Xcel Energy Inc]
 Regional Power Grid: [MRO West](#)
[Select my Power Generation Plant](#) to calculate my electric emissions rate
 Electric Emissions Rate: [0.0024 MWh/100 sq ft \(2013\)](#)

Generate a Statement of Energy Performance for uses other than applying for the ENERGY STAR.

General Information Edit	
Address: 123 Street St. , Washington, MN 55401	
Year Built: 1980	
Property Type: Single Facility	
Baseline Rating: 63	Current Rating: 88
View Period Ending Dates	
Water Period Ending Dates	Energy Period Ending Dates
Current: N/A	Current: April 2013
Baseline: N/A	Baseline: February 2004
Eligibility for the ENERGY STAR	
Eligible to Apply for the ENERGY STAR	

4. Follow the instructions to:
 - a. Select a period ending date (to specify the 12 month period for the SEP),
 - b. Select contacts for the statement (optional), and
 - c. Select “Statement of Energy Performance” under Reporting Options.
5. Save the generated PDF Statement of Energy Performance for your records

Please note that the Statement of Energy Performance does **not** require a signature and stamp of a verifying professional (as is stated on the generated document) – this document may be completed and submitted by the building owner, and this signature part may be left blank.

For additional support on benchmarking energy usage with Energy Star Portfolio Manager, please visit CASR’s *Benchmarking Help* web site: <https://www.denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Hub/Buildings-25000-sq-ft-or-Larger/Benchmarking-Requirements#section-2>.

3.2.1.2 Ownership Documentation

To demonstrate what type of installation and ownership the building owner is using for the renewable power generation requirement, the following list outlines the type of documentation required for submission:

- On-site installation: owner must provide proof that the renewable energy system is installed, most likely in the form of an invoice, installation contract from the developer, or other means of documentation
- Off-site installation: owner must provide proof of interconnection, usually the interconnection agreement and permission to operate notification
- Off-site owned by third party: owners must provide evidence of a subscription, lease, or purchase of a share in either a voluntary renewable energy program offered by Xcel Energy or a community project for which a dedicated renewable energy resource located in Public Service Company of Colorado territory is built for that customer program, and which has dedicated customer capacity or energy to fulfill that customer's subscription. The term of purchase must be at least five (5) years.

3.2.1.3 Power Generation Documentation

To demonstrate the annual kWh of renewable energy utilized by the covered building, documentation must demonstrate either the quantity of kWh generated or purchased on an annual basis, or if a new



installation, the total kW capacity of the panels and an estimate of annual kWh production from the installer. The types of documentation include:

- On-site and off-site installations: installer invoice or installation contract detailing estimated kWh generated annually or verification of the total kW capacity of the system with a signed Statement of On-Site Renewable Energy Performance (Appendix F), *OR* 12 months of self-generated reports from the system's monitoring software that shows the actual kWh generated by the system in that 12 month period
- Off-site owned by third party: evidence of a subscription, lease, or purchase of a share in either a voluntary renewable energy program offered by Xcel Energy or a community solar project, explicitly stating the kWh of renewable energy purchased annually, *OR* 12 months of Xcel Energy bills or reports that explicitly state the kWh of renewable energy credited to the building owner's energy bill.

TABLE 1 – EXAMPLES OF OWNERSHIP AND POWER GENERATION DOCUMENTATION FOR RENEWABLE ENERGY

Scenario	Possible Program	Ownership Documentation	Power Generation Documentation
Solar/Wind power generated capacity on-site	Net Metering, Solar*Rewards	Interconnection agreement, Permission to Operate notification	Installer invoice or installation contract detailing estimated kWh generated annually, signed Statement of On-Site Renewable Energy Performance (Appendix F), <i>OR</i> self-generated report detailing kWh generated over 12 months
Solar/Wind power generated capacity off-site	Off-site solar or wind	Interconnection agreement, Permission to Operate notification, or proof of ownership of panels	Installer invoice or installation contract detailing estimated kWh generated annually, signed Statement of On-Site Renewable Energy Performance (Appendix F), off-site renewable capacity contract, or self-generated report detailing kWh generated over 12 months
Multifamily building where tenants purchased solar through Community Solar Garden subscription	Community Solar Gardens, Solar*Rewards Community	Building owner would have to collect and submit occupants' contracts listing kWhs individually subscribed	Building owner would have to collect monthly invoices from occupants to prove total kWhs of energy generated
Renewable*Connect long-term contract (5 year minimum)	Renewable*Connect	Subscription contract	Subscription contract explicitly stating annual kWh of renewable energy purchased, <i>OR</i> 12 months of Xcel Energy bills or reports that explicitly state the kWh of renewable energy purchased

3.2.2 Renewable Contract Confidentiality

If an Owner can demonstrate that the building's renewable energy sources are a confidential business practice that includes trade secrets, privileged, or confidential commercial information, the Owner can submit a request for the renewable generation submission to be kept confidential and not



subject to Colorado Open Records Act requests or included in open data disclosures. The owner can do that by using the Energize Denver Confidentiality Request on the Energize Denver Hub.

4 Alternate Compliance Options

The owner of a covered building may apply for an alternate compliance option (ACO) either to extend the deadline for the building, or to ask to complete a different project in place of the lighting or renewable energy requirements. CASR will review the application, and subject to CASR's discretion, approve the alternate compliance option. The section outlines the minimum requirements and process for requesting the following alternate compliance options:

- Timeline Adjustment ACO (Section 4.3)
- Residential Condominium Building ACO (Section 4.4)
- 15% Energy Use Reduction ACO (Section 4.5)

4.1 Deadline for Application Submission

Deadlines for submitting an application for an ACO are dependent on the original compliance deadline for the building, as outlined in Table 2. ACO reviews may take some time and multiple conversations between CASR and the building owner to come to an agreement, so CASR encourages building owners to not wait until the deadline to submit their application.

TABLE 2 – ALTERNATE COMPLIANCE APPLICATION DEADLINES

If the Building's Compliance Deadline is...	The ACO Application Deadline is....
December 31, 2025	December 31, 2024
December 31, 2026	December 31, 2025
December 31, 2027	December 31, 2026

4.2 Energy Audit Minimum Requirements

CASR is using the Audit Template Tool provided by the Department of Energy (DOE) as a standardized method to collect energy audit information from building owners. If the ACO requires an energy audit, the audit report must be generated through the Audit Template Tool.

Energy audits must follow ANSI/ASHRAE/ACCA Standard 211-2018 and have the following minimum requirements:

- Energy auditor must have one of the following:
 - Professional Engineer (licensed in the United States)
 - Certified Energy Auditor (Association of Energy Engineers)
 - Certified Energy Manager (Association of Energy Engineers)
 - Building Energy Assessment Professional (ASHRAE)
 - High-Performance Building Design Professional (ASHRAE)
 - Multifamily Building Analyst (Building Performance Institute)
- Energy Auditor must be a third-party individual or company and not be employed by the organization that owns or operates the building.
- Energy audit must be a minimum of an ASHRAE Level 1.
- Energy audit must be submitted through the online Denver Audit Template tool.
 - Existing Equipment - Audit template tool will require inventory of all equipment
 - Solutions – list all energy efficiency measures needed to reach a minimum of a 15% estimated reduction in annual energy use



- Baseline identification: Total annual site energy use of the building for one previous calendar year, using ESPM's Statement of Energy Performance or another mechanism allowed by CASR. Any calendar year from 2022 onwards may be used as the baseline.
- Timeframe of Audit
 - Audits completed since November 22, 2021 will be accepted.
 - If the building owner wishes to use an audit completed between January 1, 2018 and November 21, 2021, the building energy use information and associated savings calculations must be updated to accurately reflect a more recent calendar year's baseline at the time the plan is submitted to CASR.
- Investment analysis minimum requirements:
 - Individual measure cost and site kWh savings, including savings to investment ratio (SIR) and return on investment (ROI) calculations
 - Total project cost and site kWh savings, including total SIR and ROI

4.3 Timeline Adjustment ACO

The building owner may apply to adjust the compliance timeline for a variety of reasons that could make achieving the specified deadline difficult. Possible reasons for submitting a timeline adjustment request include, but are not limited to:

- Planning for major renovation
- Landmark Preservation Commission review process means the work won't be done in time for a compliance deadline
- Financial distress - A building that is presently experiencing qualifying financial distress, as defined by any of the following: (1) the building is the subject of a qualified tax lien sale or public auction due to property tax arrearages; (2) the building is controlled by a court appointed receiver; or (3) the building has been acquired by a deed in lieu of foreclosure.
- Change of building ownership where the new building owner will have difficulty in complying on time (for example, new owner purchases the building in 2025 and previous building owner did not make progress towards a 2025 compliance deadline).
- Restrictions based on lease agreement(s) with current building tenant(s)
- Buildings with manufacturing, agricultural or other activities that would require interruption to production to implement compliance measures
- Delays in obtaining an interconnection agreement from Xcel Energy for on-site renewable energy systems that have been installed
- Multiple buildings with different compliance deadlines are part of a single Energy Performance Contract through an Energy Services Company (ESCO)
- Equity Priority Buildings may qualify for additional reasons not listed, such as financing cycles for qualified affordable housing buildings, limited access to capital due to restrictions on the financing of the building, etc. that would be considered on a case-by-case basis.
- Other reasons that will be considered by CASR on a case-by-case basis

Natural or man-made disasters that affect the building's ability to meet its specified compliance deadline (such as fire, tornado, flood, etc.) could qualify for a timeline adjustment, but could have a simpler application process than outlined below. If a building has experienced a situation that may qualify, the building owner should schedule a discussion with a CASR representative before starting the application process.

4.3.1 Application Details

An online application form is available for the Time Adjustment ACO. The form will ask questions about the reason(s) a timeline extension is required, details on justification for the delay, and any relevant supporting documentation. The building owner must present a plan and timeline for



attaining compliance through the Retrofit Plan (Appendix G). The retrofit plan will result in a timeline adjustment agreement that outlines exactly what will be done in the building and when it will be done, which becomes the legally binding compliance plan. For each reason listed, supporting documentation should be attached to the application (suggestions listed in Table 3).

The application for a timeline adjustment includes:

- Online application form (sample shown in Appendix H)
- Retrofit Plan (Word or PDF) document (template provided in Appendix G)
- Other documentation that would support the timeline change request as suggested in Table 3

Table 3 -

Circumstance	Documentation
Planning for major renovation	Details from architect/engineer on how the major renovation will meet the LED lighting or renewable energy requirement. Energy audit, energy modeling, construction or design documents, scopes of work could also be submitted.
Change of building ownership	Proof of sale of building and narrative explaining the new building owner's inability to comply on time.
Restrictions based on lease agreement(s) with current building tenant	Copy of lease agreement that details restrictions to implementing compliance measures by the current compliance deadline.
Landmark Preservation Commission review process means the work won't be done in time for deadline	A detailed description of the unique limitations placed on the building and a letter from the Landmark Preservation Commission endorsing the delay and restrictions placed on the building.
Financial distress	Paperwork that proves the status of any of the 3 reasons stated.
Financing timelines for affordable housing	Proof of affordable housing status: copy of covenant or other formal restriction, financial ledger or rent roll with unit-by unit summary table, cooperative agreement or other documentation demonstrating membership sale prices are limited to low/moderate income residents. Description of the funding strategy that will be pursued to implement interim and final energy efficiency measures (EEMs) and/or retrofits to meet the savings target. Description should provide an estimate of the projected funding sources (property operating income, reserves, private financing, public financing, etc.) needed and the estimated costs to be incurred to meet the requirements.
Buildings with industrial, agricultural or other activities that would require an interruption in production	Proof of activities carried out at building and reasons that compliance measures cannot be carried out by the current compliance deadline.
Multiple buildings with different compliance deadlines are part of a single Energy Performance Contract through an ESCO	Copy of Energy Performance Contract and reasons that the contract does not allow all buildings to meet their respective compliance deadlines.
Delays in obtaining an interconnection agreement from Xcel Energy for on-site renewable	Proof of installation of on-site renewable energy generations systems and a copy of application for Xcel Energy interconnection agreement.



energy systems that have been installed	
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4.3.2 Timeline Adjustment Agreement

After CASR has completed its review of the submission, it will use the agreed-upon retrofit plan to create a Timeline Adjustment Agreement that is binding as the new performance requirements for the building. The Agreement will include:

- details of the retrofit plan
- agreed-upon timeline
- reporting requirements
- penalties that would be assessed if the plan is not completed as agreed (usually a higher level than regular compliance because extra time has been approved – see Penalties Section 6)

4.4 Residential Condominium Building ACO

Residential condominium homeowner associations (HOAs), boards, or a group of condominium owners may apply to perform specific energy efficiency measures in all common spaces in the building. This includes all common/shared interior and exterior spaces, including but not limited to parking areas, exterior lighting, common/shared spaces inside the building, emergency lighting, exit signs, mechanical rooms, shared outdoor/patio spaces, etc. In this ACO, no actions would be required for individual condominium units.

The required energy efficiency measures in common spaces are:

1. 100% of the lighting load of common spaces provided by LED lights
2. Occupancy sensors (with or without step-dimming) installed on all lighting in common spaces as allowed by the CCD's Building and Fire Code
3. 100% of annual electricity usage for common spaces provided by on- or off-site renewables, determined either by 100% coverage of a utility meter if common spaces are on a separate meter, or square footage of that common space compared to the whole building square footage (example: if common space is 10% of the building square footage, renewable power generation must cover 10% of the aggregated whole building annual electricity usage. Use of on- or off-site renewables shall follow the requirements as outlined in Section 3.2, energy use.

4.4.1 Application Details

The submission for the Residential Condominium Building ACO includes:

- Online application form (sample shown in Appendix I)
- A completed lighting audit as per the requirements describe in Section 3.1. The audit must detail estimated annual energy savings from the installation of LED lighting and occupancy sensors.
- A copy of the relevant certification of the energy auditor that completed the audit
- A retrofit plan that articulates the common spaces covered under this option, what energy efficiency measures will be installed, when the improvements will be made, an estimate of what percent of the building square footage is common space, and what form of renewable power generation will be installed/purchased to cover the renewable requirement.
- Total annual electricity usage for the baseline year, reported using ESPM's Statement of Energy Performance, an example of which is provided in Appendix E.
- Other supporting documentation that would help CASR make a determination

4.4.2 Residential Condominium Building ACO Agreement

After CASR has completed its review of the submission, it will use the agreed-upon retrofit plan to create a Residential Condominium Option Agreement that is binding as the new performance requirement(s) for the building. The Agreement will include:

- Compliance deadline
- Details of the retrofit plan
- Details of the required compliance documentation to be submitted via online form

4.4.3 Demonstration of Compliance

Demonstration of compliance for this ACO includes documentation from a certified, third party lighting professional (following the lighting audit template provided in Appendix B) verifying that:

- a minimum of 100% of the lighting load of the building's common spaces, as measured in kilowatt-hours, is provided by LED lights, and
- occupancy sensors (with or without step-dimming) have been installed on all lighting in common spaces as allowed by the CCD's Building & Fire Code.

Renewable Power Generation documentation submitted should follow the instructions in Section 3.2, *with the exception that the ESPM Statement of Energy Performance only requires electricity usage and not gas usage.*

CASR may conduct on-site audits of buildings or request copies of contracts or generation reports to verify compliance.

4.5 15% Energy Use Reduction ACO

This alternate compliance option is for building owners that would like to implement another energy efficiency upgrade to their building (other than LED lighting or renewable energy options) that would result in a minimum of a 15% reduction in annual site energy use for a continuous 12-month period after the energy efficiency measure is completed. This can include any capital improvement that results in an estimated minimum of a 15% reduction in annual energy use (annual energy use is the total energy use of all fuel types) but cannot be an operational improvement which would require ongoing energy benchmarking to confirm, nor can it be an improvement which involves the installation of fossil fuel-powered space and water heating equipment. This ACO requires an energy audit (as per Section 4.2) to identify potential energy efficiency upgrades and estimated energy use reductions. These requests will be considered on a case-by-case basis.

4.5.1 Application Details

The application for the 15% Energy Use Reduction Adjustment includes:

1. Online application (sample shown in Appendix J)
2. An energy audit that meets minimum requirements in Section 4.2 specifically highlighting the estimated energy savings from potential energy efficiency upgrades. Estimated energy savings may use the total annual site energy use for any calendar year from 2022 onwards as a baseline for calculations.
3. Total annual site energy use for the baseline year, reported using ESPM's Statement of Energy Performance, an example of which is provided in Appendix E.
4. A retrofit plan (Appendix G) articulating which improvements will be made in the building, when such improvements will be made, and how those improvements will result in the building reaching a minimum 15% reduction in annual energy use.
5. A copy of the relevant certification of the energy auditor that completed the audit



6. Other supporting documentation that would help CASR make a determination

CASR will review the application to make a decision on allowing an alternate energy efficiency measure. CASR may schedule a meeting with the building owner to discuss opportunities presented on the ASHRAE Level 1 spreadsheet in reference to the 15% reduction goal to make a final determination.

4.5.2 15% Energy Use Reduction Agreement

After CASR has completed its review of the submission, it will use the agreed-upon retrofit plan to create a 15% Energy Use Reduction Option Agreement that is binding as the new performance requirement(s) for the building. The Agreement will include:

- Compliance deadline
- Details of the retrofit plan
- Details of the required compliance documentation to be submitted via online form

4.5.3 Demonstration of Compliance

Demonstration of compliance for this ACO will included at a minimum:

- Copy of original invoice which confirms purchase and installation of all improvements articulated in the retrofit plan
- Copy of any relevant building permits required for installation of approved energy efficiency upgrades from the CPD

Benchmarking information for 12 continuous months after installation of approved energy efficiency measures to verify a minimum of 15% energy use reduction. Total annual site energy use for this year shall be reported using ESPM's Statement of Energy Performance, an example of which is provided in Appendix E. For an example of how to produce a Statement of Energy Performance, please refer to Section 3.2.1. Additional support on benchmarking energy usage with Energy Star Portfolio Manager, please visit CASR's *Benchmarking Help* web site:

<https://www.denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Hub/Buildings-25000-sq-ft-or-Larger/Benchmarking-Requirements#section-2>. *Benchmarking Help* web site: <https://www.denvergov.org/Government/Agencies-Departments-Offices/Agencies-Departments-Offices-Directory/Climate-Action-Sustainability-Resiliency/High-Performance-Buildings-and-Homes/Energize-Denver-Hub/Buildings-25000-sq-ft-or-Larger/Benchmarking-Requirements#section-2>. *Benchmarking Help* web site.

5 Disclosure Upon Sale

When the building is listed for sale, including any listings, notices, advertisements of sale, term sheets, and contracts of sale, the current owner is required to disclose the building's compliance status with the performance requirements to a prospective buyer prior to the sale of the Covered Building.

When a building changes ownership, the previous Owner must transfer any information pertaining to the building's progress made towards satisfying its performance requirements. Information to transfer to the new building owner should include (if applicable):

- any energy use data or energy audits completed on the building
- any information, plans, or reports submitted to CASR for compliance



- compliance status of the building
- any approved alternate compliance pathways
- any penalties assessed

6 Penalties and Enforcement

6.1 Penalties

CASR prefers that building owners invest in their buildings to reach compliance requirements instead of paying penalties to the city and is committed to supporting building owners with their efforts and exploring the flexibility that alternate compliance options can afford. As recommended by the Task Force, CASR will “focus its efforts on doing everything it can to support those out of compliance in quickly putting a plan in place and implementing upgrades as soon as possible, rather than simply fining those who missed their compliance target.” CASR is structuring the penalties to be slightly higher than the average cost of compliance to assist project and facility managers with getting approvals on projects with good returns from energy savings.

For the performance requirements, a penalty shall be assessed if the building does not comply with the Building Performance Requirements as outlined in Section 3 based on full non-compliance, or partial compliance with either the lighting or renewable requirements.

There are other reasons why a penalty may be assessed:

- Errors or inaccuracies in data the Owner has submitted to CASR to demonstrate compliance, e.g. energy use data, solar generation data, building information, calculations, or missing documentation to prove compliance. The Owner shall correct such errors, submit the updated compliance submission to CASR, and notify CASR of the updated submission. Failure to correct the errors would be considered a failure to submit a complete and proof of compliance.
- Knowingly withholding information or submitting inaccurate information that affects verification of compliance status
- Building owner does not satisfy the requirements of an Alternate Compliance agreement

6.1.1 Penalty Assessment

For buildings that do not submit any compliance documentation, the gross floor area (GFA) of the covered building, as recorded by CCD’s Office of the Assessor, will be multiplied by the penalty level in Table 4 to calculate the penalty amount:

$$(\text{GFA}) * (\text{Penalty Level}) = \$ \text{penalty amount}$$

For buildings in partial compliance with the LED lighting requirements, the percent of LED lighting not in compliance will be converted to a corresponding square footage equivalent to multiply by the penalty level in Table 4 to calculate the penalty amount:

$$(\text{GFA not in compliance}) * (\text{penalty level}) = \$ \text{penalty amount}$$

For buildings in partial compliance with the renewable energy requirements, the kBtu of the annual site energy use not covered by renewable power generation will be multiplied by the penalty level in Table 4 to calculate the penalty amount:

$$(\text{kBtu not covered by renewables}) * (\text{penalty level}) = \$ \text{penalty amount}$$



For buildings that have an approved alternate compliance option, penalties would be assessed according to the ACO agreement.

6.1.2 Penalty Schedule

Energize Denver’s Task Force recommended that “fines should be somewhat more than the cost of compliance and should be heftier for buildings with an alternate compliance timeline. The compliance obligation and status of the building must be tied to the building with disclosure requirements, an attachment to the deed or a development agreement that attaches to the parcel.” The Energize Denver Ordinance enables CASR to assess a civil penalty of “up to \$0.70 for each required kBtu reduction per year that the owner’s covered building fails to achieve in that year.” Based on an analysis of cost of compliance for the prescriptive requirements for buildings 5,000 – 24,999 square feet, CASR will assess a penalty of \$0.33/kBtu not achieved, or an equivalent \$1.60 per square foot of the building.

Table 4 -

Type	Penalty Level	Assessment Period
Failure to correct errors, knowingly withholding or inaccurate information	\$2,000	At time of failure
Penalty for no action taken	\$1.60/square foot of the covered building	One time, levied in the calendar year following the compliance deadline
Penalty for partial LED lighting compliance	\$1.60/square foot not in compliance	One time, levied in the calendar year following the compliance deadline
Penalty for partial renewable energy compliance	\$0.33/kBtu not achieved	One time, levied in the calendar year following the compliance deadline
Failure to complete requirements as agreed in Alternate Compliance Agreement	As outlined in agreement	As outlined in agreement

6.1.3 Enforcement

Building owners will be subject to a civil penalty, in accordance with Table 4, if the requirements have not been achieved or compliance has not been verified. The following is an outline of the steps for penalty assessments:

1. Notice of Violation: Once the compliance evaluation has been completed for a covered building (after the compliance deadline), CASR will issue a notice of violation. The building owner will have thirty (30) days to file an appeal of the notice of violation. Please see Section 5.2.3 of the *Energize Denver Benchmarking and Energy Performance Requirements for Buildings 25,000 Square Feet and Larger Technical Guidance* for information on the appeals process.
2. Civil Penalty – Administrative Citation: If the building owner has not filed an appeal, an administrative citation is issued. The building owner has one hundred eighty (180) days to pay the penalty with the manager of finance.
3. Property Lien: If a building owner fails to pay the required amount within one hundred eighty (180) days, the civil penalty will be considered a debt to the city until paid in full. The debt is a perpetual lien on the property, and is superior and prior to all other liens, regardless of their dates of recordation, except for liens for general taxes and prior special assessments, until the civil penalty owed, delinquent interest, and recording fees have been paid in full.





Appendix A – Sample Exemption Application for Demolition of Building

The information below is a sample of the questions asked for the application for an exemption due to demolition. Please see the Energize Denver Hub website for the actual submission form.

Section 1 – Personal Information

- First Name:
- Last Name:
- Phone Number:
- Email Address:
- Relationship to Building:
 - Owner
 - HOA
 - Property/Facility Manager
 - Building Engineer
 - Energy Manager
 - Third-Party Contractor
 - Other
- Company Name:

Section 2 – Building Information

- Denver Building ID:
- Building Address:
- Building Address 2:
- Building City:
- Building Zip Code:
- Building State:

Section 3 – Supporting documentation

- Supporting documentation [file upload option] for documents such as total demolition application or stamped drawings

Section 4 – Signatures and Contact Information

I, the undersigned authorized representative of the building owner, affirm and attest to the accuracy, truthfulness, and completeness of the statements of material fact provided in this form.



Appendix B – Lighting Audit Template

The image below is a snapshot of the Lighting Audit Template spreadsheet for buildings that need to complete lighting upgrades to be compliant. Please see the Energize Denver Hub website for the downloadable template file.

Building Performance Ordinance Lighting Compliance Template												
Building ID:												
Building Address:												
Street												
City												
Zip Code												
Name of Person Completing Template:												
Email of Person Completing Template:												
Instructions:		1. List all locations in the building (interior, exterior & parking spaces attached to building's electrical meter(s)) 2. List all existing lighting fixtures, including lamp type, quantity, and wattage. For watts per fixture enter the luminaire wattage for installed lamp and ballast using manufacturer's data. 3. Input operational hours of lighting fixtures based upon average usage over a 1-year period 4. Choose Automatic Time Switch from the drop down menu 5. Choose Occupancy Sensor for the drop down menu 6. Choose Daylight Controls from the drop down menu 7. Input energy costs based upon applicable Xcel Energy electricity rates as per date of the audit 8. If building is multi-family and only a percentage of units are visited, multiple units can be combined on a single line if fixtures, quantity, watts and hours of operation are equal 9. If the Percentage of Lighting Load Provided by LEDs (cell K24) is greater than or equal to 90%, the building is in compliance and the Table 2 may be left blank.										
Table 1: Lighting Audit for Existing Lighting Fixtures												
Location Identifier	Location Type	Existing Fixture	Is Fixture LED? (Yes/No)	Occupancy Sensor	Photosensor	Automatic Time Switch	Quantity	Watts	Annual Hours of Operation (per fixture)	Annual Consumption (kWh)	cost/kWh	Annual Energy Cost
1	Interior	150 Watt HID	No				15	175	4368	11,466	\$0.12	\$1,375.92
Total Existing kWh Consumption:										11,466	\$0.12	\$1,375.92
Total Existing kWh provided by LEDs:										0		
Percentage of Lighting Load Provided by LEDs:										0%		
Table 2: Proposed Replacement Fixtures to Meet Compliance Requirements												
Location Identifier	Location Type	Replacement Fixture	Is Fixture LED? (Yes/No)	Occupancy Sensor	Photosensor	Automatic Time Switch	Quantity	Watts	Annual Hours of Operation (per fixture)	Annual Consumption (kWh)	cost/kWh	Annual Energy Cost
1	Interior	40 Watt LED High Bay	Yes				15	40	4368	2,621	\$0.12	\$314.50
Total Existing kWh Consumption:										2,621	\$0.12	\$314.50
Total Existing kWh provided by LEDs:										2,621		
Percentage of Lighting Load Provided by LEDs:										100%		
Total Estimated kWh saved from LEDs		8,845 kWh										





Appendix C – Signed Attestation from Lighting Specialist

The information below is a snapshot of the template for the signed attestation document for the lighting requirements. Please see the Energize Denver Hub website for the downloadable template file.

Letter of Attestation for LED Lighting Compliance

Date:

This note is to confirm that [*insert name of service provider completing lighting audit/verification template*] completed the lighting audit on [*insert date of audit*] for the following building:

- Building ID: [*insert Building ID*]
- Building Address: [*insert complete building address*]

I confirm that the above-referenced building (*please select the appropriate option*):

- Utilizes LED lighting for greater than or equal to 90% of the total lighting load
- Utilizes LED lighting for less than 90% of the total lighting load

The lighting specialist completing this letter:

- Completed the lighting audit and completed lighting upgrades to the building
- Completed the lighting audit only (i.e. lighting work was completed by another service provider)

I declare that the above statements are true and accurate to the best of my knowledge, information and belief.

Sincerely,

Insert signature

[*Insert name of Service Provider or Project Lead*]

Certification held by Lighting Specialist completing this letter*:

- Certified Lighting Consultant through the American Lighting Association
- Lighting Certification from the National Council on Qualifications for the Lighting Professions
- National Association of Innovative Lighting Distributors (NAILD) Lighting Specialist II (LSII) designation
- Electrical contractor licensed in the State of Colorado (only permissible if electrical contractor completed lighting upgrades to the building)

**Please upload a copy of your relevant lighting certification alongside this document.*



Appendix D – Lighting Verification Template

The image below is a snapshot of the Lighting Verification Template spreadsheet for buildings that already meet the lighting requirements and only need to verify compliance. Please see the Energize Denver Hub website for the downloadable template file.

Building Performance Ordinance LED Lighting Verification Template						
Building ID:						
Street						
City						
Zip Code						
Name of Person Completing Template:						
Email of Person Completing Template:						
<p>Instructions:</p> <ol style="list-style-type: none"> List all locations in the building (interior, exterior & parking spaces attached to building's electrical meter(s)) In the column titled Location Type, please provide a short description of the space type (e.g. hallway, open plan office space, entryway, etc.). No standardized terminology is required. List all existing lighting fixtures, including lamp type and quantity. If building is multi-family and only a percentage of units are visited, multiple units can be combined on a single line if fixtures, quantity, watts and hours of operation are equal. See Technical Guidance document for more details. If the lighting professional completing this form determines that a minimum of 90% of the building's lighting load is provided by LED lighting, they must complete the Lighting Attestation Form (Annex C) to accompany this spreadsheet. 						
Location Identifier	Location Type	Location Description	Existing Fixture Type	Is Fixture LED? (Yes/No)	Quantity	
1	Exterior	parking area	LED	Yes	15	
2	Interior	hallway	Fluorescent	No	10	
Total number of fixtures in the building:					25	
Total LED lighting fixtures in the building:					15	
Percentage of fixtures that are LED					60%	
Is a minimum of 90% of the building's lighting load provided by LEDs?					No	



Appendix E – Sample ESPM Statement of Energy Performance

ENERGY STAR® Statement of Energy Performance

LEARN MORE AT energystar.gov

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**ENERGY STAR®
Score¹**

Denver Office Building

Primary Property Type: Office
Gross Floor Area (ft²): 50,000
Built: 1900

For Year Ending: July 31, 2022
Date Generated: February 09, 2023

1. The ENERGY STAR score is a 1-100 assessment of a building's energy efficiency as compared with similar buildings nationwide, adjusting for climate and business activity.

Property & Contact Information		
Property Address	Property Owner	Primary Contact
Denver Office Building 201 W. Colfax Ave., 7th fl Denver, Colorado 80111	_____ () - _____	_____ () - _____
Property ID: 20652480		

Energy Consumption and Energy Use Intensity (EUI)				
Site EUI 26.2 kBtu/ft²	Annual Energy by Fuel		National Median Comparison	
	Electric - Grid (kBtu)	921,240 (70%)		National Median Site EUI (kBtu/ft²)
	Natural Gas (kBtu)	390,000 (30%)	National Median Source EUI (kBtu/ft²)	167.3
			% Diff from National Median Source EUI	-64%
Source EUI 59.8 kBtu/ft²	Annual Emissions			
	Greenhouse Gas Emissions (Metric Tons CO2e/year)			162

Signature & Stamp of Verifying Professional

I _____ (Name) verify that the above information is true and correct to the best of my knowledge.

LP Signature: _____ Date: _____

Licensed Professional

() - _____



Professional Engineer or Registered Architect Stamp (if applicable)



Appendix F – Statement of On-Site Renewable Energy Performance

The information below is a snapshot of the template for the renewable energy performance submission. Please see the Energize Denver Hub website for the downloadable template file.

Statement of On-Site Renewable Energy Performance

Date:

This note is to confirm that [*insert name of service provider completing review of renewable energy performance*] completed the review of on-site renewable energy performance [*insert date of review*] for the following building:

- Building ID: [*insert Building ID*]
- Building Address: [*insert complete building address*]
- 12-month period of renewable energy production: [*insert date range*]
- Total kBtu of renewable energy produced during 12-month period: [*insert total kilowatt-hours*]

I confirm that the above-referenced building (*please select the appropriate option*):

- Produces on-site renewable energy greater than or equal to 20% of this building's annual site energy use
- Produces on-site renewable energy less than 20% of this building's annual site energy use

The service provider completing this letter:

- Performed the review of on-site renewable energy performance and installed the on-site renewable energy facilities for the building
- Completed the review of on-site renewable energy performance only (i.e. installation of system was completed by another service provider)

I declare that the above statements are true and accurate to the best of my knowledge, information and belief.

Sincerely,

Insert signature

[*Insert name of Service Provider or Project Lead*]

[*Insert name of company*]



Appendix G – Retrofit Plan Template

The information below is a snapshot of the retrofit plan template for building owners who wish to pursue the 15% Energy Use Reduction or Timeline Adjustment ACO. It is intended to give CASR a summary look into what it going to be retrofitted and the implementation timeline. The plan should be a maximum of 5 pages. Please see the Energize Denver Hub website for the downloadable template file.

The Retrofit Plan (Word or PDF document for submission) must cover four things:

- A detailed description of the improvements and upgrades to be performed to achieve the savings required for the selected alternate compliance option
 - 15% Energy Use Reduction ACO: An energy audit (as per Section 4.2) that details the at least 15% in estimated energy savings to be gained from the improvements
 - Timeline Adjustment ACO: vendor proposals or plans to upgrade lighting or install renewable power generation.
- A timeline for the improvements and upgrades
 - Create a timeline and list each item and its proposed start/completion dates
 - If the completion date for any activity is beyond the compliance deadline for the building, provide an explanation of why improvements cannot be completed prior to deadline
- A proposal for documentation to be submitted to CASR to demonstrate that the improvements and upgrades were completed as agreed. Describe all documentation that will be supplied to verify that the retrofit plan was completed according to the energy audit recommendations and the improvements listed in point (I) above – examples include invoices, purchase orders, receipts, etc.



Appendix H – Sample Application for Timeline Adjustment ACO

The information below is a sample of the questions asked in the application for the Timeline Adjustment alternate compliance option. Please see the Energize Denver Hub website for the actual submission form.

Section 1 – Personal Information

- First Name:
- Last Name:
- Phone Number:
- Email Address:
- Relationship to Building:
- Owner
- HOA
- Property/Facility Manager
- Building Engineer
- Energy Manager
- Third Party Contractor
- Other

Section 2 – Building Information

- Denver Building ID
- Building Address
- Building Address 2
- Building City
- Building Zip Code
- Building State:

Section 3 – Timeline Adjustment Application

Reason(s) for Timeline Adjustment request (check all that apply)

- Planning for Major Renovation
- Landmark Preservation Commission review process means the work won't be done in time for a compliance deadline
- Financial distress (as described in the 5,000 – 24,999 sq ft building performance requirements Technical Guidance Manual)
- Change of building ownership
- Restrictions based on lease agreement(s) with current building tenant(s)
- Buildings with manufacturing, agricultural or other activities that would require interruption to production to implement compliance measures
- Delays in obtaining an interconnection agreement from Xcel Energy for on-site renewable energy systems that have been installed
- Multiple buildings with different compliance deadlines are part of a single Energy Performance Contract through an Energy Services Company (ESCO)
- Other reasons that will be considered by CASR on a case-by-case basis

For each reason checked, provide additional context on why the adjustment is needed: [text box]

File Upload Section:

- Retrofit Plan [*upload file(s)*]
- Documentation that supports the timeline extension request [*upload file(s)*]



Appendix I – Sample Application for Residential Condominium Building ACO

The information below is a sample of the questions asked in the application for the Residential Condominium Building alternate compliance option. Please see the Energize Denver Hub website for the actual submission form.

Section 1 – Personal Information

- First Name:
- Last Name:
- Phone Number:
- Email Address:
- Relationship to Building:
 - Owner
 - HOA
 - Property/Facility Manager
 - Building Engineer
 - Energy Manager
 - Third Party Contractor
 - Other

Section 2 – Building Information

- Denver Building ID
- Building Address
- Building Address 2
- Building City
- Building Zip Code
- Building State:

Section 3 – Alternate Compliance Application

File Upload Section:

- ASHRAE Level 1 audit report [*upload file(s)*]
- Copy of relevant certification of the energy auditor (if not included in the audit report) [*upload file(s)*]
- Retrofit Plan [*upload file(s)*]
- Total annual site energy use report [*upload file(s)*]
- Additional documentation that supports this alternate compliance request [*upload file(s)*]



Appendix J – Sample Application for 15% Energy Use Reduction ACO

The information below is a sample of the questions asked in the application for the 15% Energy Use Reduction alternate compliance option. Please see the Energize Denver Hub website for the actual submission form.

Section 1 – Personal Information

- First Name:
- Last Name:
- Phone Number:
- Email Address:
- Relationship to Building:
- Owner
- HOA
- Property/Facility Manager
- Building Engineer
- Energy Manager
- Third Party Contractor
- Other

Section 2 – Building Information

- Denver Building ID
- Building Address
- Building Address 2
- Building City
- Building Zip Code
- Building State:

Section 3 – Alternate Compliance Application

File Upload Section:

- ASHRAE Level 1 audit report [*upload file(s)*]
- Copy of relevant certification of the energy auditor (if not included in the audit report) [*upload file(s)*]
- Retrofit Plan [*upload file(s)*]
- Total annual site energy use report [*upload file(s)*]
- Additional documentation that supports this alternate compliance request [*upload file(s)*]



City and County of Denver

Energize Denver Benchmarking and Energy Performance Requirements

Buildings 25,000 Square Feet and Larger

Technical Guidance

Version 2.0
June 30, 2023

Nothing in this Guidance shall supersede any Denver ordinance or regulation.

[Denver Revised Municipal Code, Chapter 10, Article XIV.](#)



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ACRONYMS

ACCA – Air Conditioning Contractors of America
ACO – alternate compliance option
AEE – Association of Energy Engineers
AIA – American Institute of Architects
ANSI – American National Standards Institute
ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers
CASR - Office of Climate Action, Sustainability, and Resiliency
CB ECS – Commercial Buildings Energy Consumption Survey
CCD – City and County of Denver
CPD – Community Planning and Development
DLC – Design Lights Consortium
DOE – United States Department of Energy
EPA – United States Environmental Protection Agency
EPI – Plant Energy Performance Indicator
ESPM – ENERGY STAR Portfolio Manager
EUI – weather-normalized site energy use intensity
FF – fossil fuel
GWP - global warming potential
IES - Illuminating Engineering Society
kBtu - kilo British thermal unit
kWh – kilowatt hour
LBNL – Lawrence Berkeley National Laboratory
LED – light emitting diode
MAI – Manufacturing/Agricultural/Industrial
NREL – National Renewable Energy Laboratory
O&M – operations and maintenance
PE – Professional Engineer
PPE – Photosynthetic photon efficacy
PUE – power use effectiveness
RA – Registered Architect
RMI – Rocky Mountain Institute
REC - Renewable Energy Credit
WBDG – Whole Building Design Guide
 $\mu\text{Mol/J}$ – micromoles per joule



1. INTRODUCTION

The Office of Climate Action, Sustainability and Resiliency (CASR) and the Energize Denver Task Force was tasked with helping the City design a building performance policy for existing buildings that improves health and equity, creates jobs, and drives climate solutions in existing buildings to achieve net zero energy by 2040. Translating this goal into cumulative greenhouse gas emission reductions results in 13.7 million metric tons of CO2 saved between now and 2040. Denver’s definition of a net zero energy building is highly energy efficient, all electric, provider of demand flexibility to the grid, and powered by renewable electricity. Existing buildings include all commercial and multifamily buildings, including all commercial uses such as manufacturing, agricultural, and industrial uses.

DENVER HAS COMMITTED TO ELIMINATING GREENHOUSE GAS EMISSIONS BY 2040. FOR BUILDINGS AND HOMES, THIS MEANS THE GOALS ARE:

- ALL NEW BUILDINGS AND HOMES “NET ZERO ENERGY” BY 2030
- ALL EXISTING BUILDINGS AND HOMES “NET ZERO ENERGY” BY 2040

The Task Force was a diverse group representing multiple sectors and stakeholders in Denver. Membership included building owners and managers, our local utility, energy providers, resident/tenant/non-profit representatives, labor and workforce representatives, environment and clean energy representatives, and a member of Denver City Council.

The recommendations from the Energize Denver Task Force were codified into law through the creation of the High-Performance Existing Building Program, which requires building owners of covered buildings to address existing building performance through energy efficiency and renewables. This policy expects to remove 11.8 million tons of cumulative emission reductions from the built environment to help the City and County of Denver achieve its climate action goal of zero greenhouse gas emissions in existing buildings by 2040. Figure 1 outlines the three sections of the Energize Denver Ordinance, implemented by both CASR and Community Planning and Development (CPD). This guidance manual covers policies and procedures for the benchmarking and performance requirements.

Benchmarking	Performance	Electrification
<ul style="list-style-type: none"> ● IMPELEMNTED BY CASR ● BUILDINGS 25K SQ.FT. OR LARGER MUST SUBMIT ENERGY BENCHMARKING DATA THROUGH ENERGY STAR PORTFOLIO MANAGER ON AN ANNUAL BASIS 	<ul style="list-style-type: none"> ● IMPLEMENTED BY CASR ● 2030 SITE EUI ENERGY REQUIREMENTS FOR BUILDINGS 25K SQ.FT. OR LARGER ● PRESCRIPTIVE LIGHTING OR SOLAR REQUIREMENTS FOR BUILDINGS 5K TO UNDER 25K SQ.FT. ● FOCUSED ON IMPROVING ENERGY EFFICIENCY FOR EXISTING BUILDINGS 	<ul style="list-style-type: none"> ● EDUCATION AND INCENTIVES FROM CASR ● BUILDING CODE UPDATES AND PERMITTING IMPLEMENTED BY CPD ● ALL COMMERCIAL AND MULTIFAMILY BUILDINGS MUST PARTIALLY ELECTRIFY SPACE AND WATER HEAT EQUIPMENT UPON SYSTEM REPLACEMENT, WHEN COST EFFECTIVE

FIGURE 1 – ENERGIZE DENVER ORDINANCE SECTIONS



1.1 Equity: Under-Resourced Buildings

CASR is committed to centering equity in all its work. For the high performance existing buildings program, this means providing technical assistance to building owners of under-resourced buildings to assist them in reaching the goals of the program while realizing climate mitigation benefits, such as lowering the cost of utilities, enhancing safety, and improving indoor/outdoor air quality. Under-resourced buildings may also have additional reasons available to justify a timeline adjustment, such as limited access to capital due to restrictions on the financing of the building, or other similar reasons.

The determination of a building's status as "under-resourced" will be at CASR's discretion and is outlined on the [website](#). CASR's evaluation of a building's status as under-resourced includes, but is not limited to, consideration of the following: presence of affordable housing; presence of non-profits and human service providers; buildings of significance to frontline community members; and buildings in areas with high energy burden, asthma rates, low-income residents, and other social equity indicators.

1.2 Electrification

CASR is aligning the performance requirements with the goals of electrifying buildings in Denver. If the whole building is at least 80% electrified, as measured by "percent electricity" (including regulated and unregulated loads-ASHRAE 90.1), CASR is providing a 10% increase in the Site EUI as an incentive to electrify. There are multiple ways this can be applied (see each section referenced for more details):

- Adjusting targets:
 - For buildings that are already 80% or more electrified based on the 2019 baseline data, a 10% increase to the 2030 target will be applied and new target notifications sent to building owners (Section 3.4.7).
 - "Percent electricity" will be assessed during each building's performance evaluation of the 2024, 2027, 2030 targets. During the evaluation, if it is found that a building reached 80% whole building electrification, the 10% increase in the 2030 EUI target will be applied before applying renewable credits and evaluating Site EUI performance (Section 3.7.1).
 - Note: Covered MAI Buildings are not eligible for this Electrification Credit, as they are eligible for the Fossil Fuel Reduction Credit instead.
- Alternate Compliance Options (ACO):
 - For buildings that plan to reach 80% electrification by 2030, there is an alternate compliance option that will adjust the interim and final targets with the 10% increase at the time of ACO approval with the agreement that 80% electrification will be complete by 2030 (Section 3.6.3).
 - For buildings that need to request a timeline adjustment to the interim or final targets, electrification has been added as a valid reason for requesting that alternate compliance option (Section 3.6.2).

1.3 Timeline Adjustment for All 2021 Benchmarked Buildings for 2024 Target

CASR has approved a one-year timeline adjustment to the 2024 target for all buildings that have a complete 2021 calendar year Benchmarking Report (2022 Reporting Year) on file with CASR. For those buildings, the first interim target will be due in 2025. For buildings that do not have an approved Benchmarking Report for the 2021 calendar year, the interim target will remain due in 2024. A building owner can check its benchmarking compliance by looking up the 2022 Reporting Year status at www.energizedenver.org.



2. BENCHMARKING AND REPORTING REQUIREMENTS

2.1 Applicability

For purposes of benchmarking, a covered building means any commercial, multifamily, institutional, or municipal building 25,000 square feet or larger in the City and County of Denver (CCD).

2.1.1 Exemptions

A building owner may request an exemption from benchmarking provided they meet one of the following criteria:

- a building that was not occupied and did not have a certificate of occupancy or temporary certificate of occupancy for all twelve (12) months of the calendar year for which Benchmarking is required;
- a building that was not occupied, due to renovation, for all twelve (12) months of the calendar year for which Benchmarking is required;
- a building for which a demolition permit for the entire building has been issued and for which demolition work has commenced on or before the date the Benchmarking report is due; or
- a building that is presently experiencing qualifying financial distress, as defined by any of the following: (1) the building is the subject of a qualified tax lien sale or public auction due to property tax arrearages; (2) the building is controlled by a court appointed receiver; or (3) the building has been acquired by a deed in lieu of foreclosure; or
- a stand-alone parking garage.

To request an exemption, the owner should fill out the [exemption request form](#) and provide documentation requested to substantiate the request. Any exemption approved by CASR will be limited to the Benchmarking report for which the request was made and will not extend to past or future submissions.

If the exemption is being requested for building demolition, the owner should fill out the [Demolition Exemption for Benchmarking and Performance Requirements form](#). Once approved, the building will be removed from both the benchmarking and performance requirement programs.

2.2 Data Use/Confidentiality

The Energize Denver program information is publicly available on the Benchmarking Map and Open data catalog. No personally identifiable information is included in these data sets. CASR publishes basic building information and energy performance metrics annually for all buildings reporting that year, including but not limited to the following fields:

- Property name
- Address
- Property type
- Gross Floor Area
- Year Built
- ENERGY STAR Portfolio Manager score
- Weather normalized site EUI
- Total greenhouse gas emissions
- ENERGY STAR Portfolio Manager certification years
- Any notes the Owner or property manager has submitted explaining building energy performance information



Other fields may be included that are relevant for a specific building type. A full list of the fields that will be published can be found [here](#). Past scores are shown to illustrate energy performance improvements.

As of November 21, 2021, the previous benchmarking exemption for energy management practices being a confidential business practice that included trade secrets, privileged, or confidential commercial information is no longer a reason for exemption. If the building owner believes its property information should not be published and made publicly accessible because its energy performance is a confidential business practice that includes trade secrets, privileged, or confidential commercial information, the owner can submit a [Confidential Data Request](#) form.

CASR will review and determine whether the confidential request can be satisfied. If the confidentiality request is approved, all information collected, including compliance submissions, target adjustments, and alternate compliance documentation, will be utilized and maintained by the CASR, and not publicly accessible through the benchmarking map or open data catalog. Inefficient energy usage alone will not be considered confidential commercial information. CASR's [Data Use/Confidentiality Statement](#) is available online.

2.3 Compliance Dates

Building owners must benchmark the building's energy usage annually using the U.S. Environmental Protection Agency's (EPA) ENERGY STAR Portfolio Manager (ESPM) tool, and by June 1 each year, must accurately report energy performance information to CASR for the previous calendar year.¹

2.4 Compliance Process

Owners must report each covered building's energy use annually for the previous calendar year, following the [instructions](#) in ESPM, no later than June 1 of each year. Owners must report all information expressly denoted as mandatory by either ESPM or CASR, which includes:

- basic descriptive information, including the building address, Gross Floor Area, all use types, and the name of the individual or entity making the submission;
- annual and monthly energy usage information, including, but not limited to, energy usage by individual fuel source, ENERGY STAR score (when available), site EUI, source EUI, normalized site EUI, normalized source EUI, and total annual greenhouse gas emissions; and
- the fields needed for each building type to verify the accuracy of an ENERGY STAR score.

Step-by-step instructions on how to submit the annual benchmarking report are available [online](#). Resources include a checklist for "previously benchmarked buildings" and "first time benchmarking." The website also presents instructional videos and the link to the current year's data request link.

2.4.1 Benchmarking for Normalized Performance Targets

This section outlines several areas where CASR may differ from typical ESPM guidance or is emphasizing a particular item so that building owners can normalize their 2030 target to their building characteristics. This includes accounting for high-intensity property types, swimming pools, data centers, parking, electric vehicle charging stations, and third-party loads.

2.4.1.1 Accounting for High-intensity Building Types

ENERGY STAR Portfolio Manager (ESPM) is designed to benchmark similar property types against each other on a national level. This is not always appropriate for buildings that mix high-intensity property types with lower-intensity types an individual building (like strip malls or hotels). When you

¹ D.R.M.C. § 10-403



complete your benchmarking report, you should break out the square footage of each sub-type. This will allow us to apply a more appropriate mixed-use target. Campuses, particularly colleges and universities, should *always* break out their sub-types. Table 1 lists examples of building types that may have high-intensity sub-types that you should break out in ESPM.

TABLE 1 – POSSIBLE HIGH-INTENSITY SUBTYPES

Building Type	Possible High-Intensity Subtypes
College/University	Laboratories, Restaurant, Food Services, Fast Food, etc.
Enclosed Mall, Strip Mall, Other - Mall	Retail Store, Restaurant, Fast Food, Food Services
Hotel	Restaurant, Fast Food, Swimming Pool
Office	Restaurant, Fast Food, Retail Store
Residence Hall/Dormitory	Food Service, Fitness Center
Stadiums (open or closed)	Restaurant, Fast Food, Food Service

2.4.1.2 Swimming Pools

Swimming pools should be listed as a property use type with detailed information on the approximate pool size, location of the pool, and months in use. If you can sub-meter the energy use for the pool, that energy use could be excluded from the benchmarking data. For swimming pool energy use that cannot be excluded, target adjustments are available for indoor and outdoor swimming pools. The intensity of the adjustment is based on the building type (Section 3.4.6). See EPA's Technical Reference on [Swimming Pools and the ENERGY STAR Score in the United States and Canada](#) for more information on how to benchmark swimming pools.

2.4.1.3 Data Centers

The Benchmarking Report should reflect the accurate square footage of the data center. Building types for large data center square footage and target adjustments for smaller data centers will be based on what is entered into ESPM. This is the definition to determine data center square footage:

“A room or series of rooms that share data center systems, whose primary function is to house equipment for the processing and storage of electronic data and that has a design total Information Technology Equipment (ITE) power density exceeding 20 watts per square foot (20 watts per 0.092 m²) of conditioned area and a total design ITE load greater than 10 kW.”

2.4.1.4 Parking

Parking should be entered with its square footage and configuration: open, partially enclosed, and completely enclosed and whether or not there is supplemental heating. If parking is a part of the building and the energy use is not able to be excluded from the Benchmarking Report following ESPM guidance, there is a target adjustment available (Section 3.4.6). If the parking structure is a stand-alone building and considered to be 100% of the building's property type, the building will receive a 2030 target as an individual building (See Appendix A). See EPA's Technical Reference on [Parking and the ENERGY STAR Score in the United States and Canada](#) for more information.

2.4.1.5 Electric Vehicle Charging Stations

Electric vehicle charging stations or other transportation-related charging devices or power uses should be excluded to the extent possible based on how it is metered:

- If the energy use is on the main meter, but you submeter it, then you will exclude it from your building by entering an additional meter with negative entries. ([More information here](#))
- If the energy use is on its own meter (not sub-metered), then just leave out the charging station altogether and exclude the meter from your benchmarking.



- If the charging stations are provided under a third-party vendor, you could use the total kWh charged that are listed in the monthly reports from the vendor.
- If your EV energy is on the main meter and not sub-metered, then you currently have to include this energy when benchmarking. In 2023, ESPM will be adding an adjustment to estimate your EV energy and subtract it from your building, similar to how parking and swimming pools are handled.

2.4.1.6 Third-party Loads

If the building is a host for third-party items like antennas or cell towers, the energy use must be sub-metered and excluded from the benchmarking report if the owner does not want it included in the energy use intensity score of the building.

2.4.1.7 Renewables

Renewable generation entry into ESPM for the Benchmarking Report is important when it comes to percent electricity calculations. Because percent electricity combines grid-purchased electricity with renewable electricity used at the building and divides it by the total energy used, it is important to include renewable generation in the Portfolio Manager account. The ESPM entry of renewable generation will not be used to calculate the Renewable Credit for performance evaluation as outlined in Section 3.5. That is done through a separate online application with additional questions not able to be collected through ESPM.

2.4.2 Benchmarking for Manufacturing, Agricultural, and Industrial Buildings

ENERGY STAR Portfolio Manager building types Drinking Water Treatment & Distribution, Energy/Power Station, Other – Utility, and Wastewater Treatment Plant are defined as Covered MAI buildings and must continue to benchmark as such. All other Covered MAI buildings, including cannabis growers and manufacturing plants, must benchmark as the ENERGY STAR Portfolio Manager building type Manufacturing/Industrial Plant.

In addition to the requirements outlined in this section, buildings pursuing the MAI Alternate Compliance Option that are considering pursuing the production efficiency metric must also benchmark a custom metric(s) relevant to the building's operations. To learn how to enter your custom metric data into ESPM, [review this guide](#). Buildings pursuing the MAI Alternate Compliance Option that are considering pursuing the Plant Energy Performance Indicator (EPI) Score metric must submit a completed EPI Score spreadsheet with their benchmarking submission.

For example, for a cannabis grow facility, this custom metric could be pounds of flower produced per year; therefore, the growing efficiency would be calculated as the annual site energy usage divided by the pounds of flower produced. This would allow for growers to fill the canopy area with more plants and/or expand their production, so long as the production on a per-unit basis becomes more efficient. For a manufacturing facility, the custom metric could be the number of widgets produced per year for the manufacturer of a specific product, pounds of a particular food product produced per year for a food manufacturing, pounds of metal processed each year for a metal fabricator, number of glass bottles produced per year for a glass manufacturer, number of vehicles serviced per year at a vehicle repair facility, etc. In this way, the facility would be evaluated on its annual site energy usage divided by the chosen custom metric. This would allow the facility to expand its production, so long as the production on a per-unit basis becomes more efficient. The possibilities for the custom metric are theoretically unlimited, so long as the metric is emblematic of the main production process in the facility.



2.4.3 Data Verification

Benchmarking is the foundation for building performance standards. In order to measure performance with an energy efficiency policy, CASR must receive complete and accurate benchmarking reports that include correct square footage, breakdown of space use types, and energy use data. For the benchmarking reports in the calendar years 2024, 2027, and 2030, third party data verification will be required to be submitted within the benchmarking report submission.

The data verifier must be a third party with one of the following licenses, credentials, or certifications, and are in good standing with the authorizing organization:

- Professional Engineer (PE) issued within the United States
- Registered Architect (RA) issued within the United States
- Certified Energy Manager (CEM from AEE)
- Building Energy Assessment Professional (BEAP from ASHRAE)
- Energy Management Professional (EMP from EMA)
- Any other additional data verifier license or training program credentials recognized by CASR and posted to its website

A data verifier can NOT be:

- The building owner or an employee of the building owner; or
- The building owner's designee, or an employee of that designee, who prepares or submits benchmarking information in Portfolio Manager (For example, if a company is hired by the building owner to complete the benchmarking submission, an employee of that company cannot be the third-party data verifier. But that company could subcontract another company to serve as the verifier to make it easier for the building owner to contract this service.)

Data verification will be completed by generating a Data Verification Checklist within ENERGY STAR Portfolio Manager, following the ESPM directions, and having a third party data verifier confirm the information. Data verification does not require an on-site visit, but it is up to the verifier if they feel confident enough to sign the document without an on-site visit. A sample Data Verification Checklist is available [here](#), and can be generated on the Reports tab within Portfolio Manager. For the Indoor Environmental Quality section, verifiers can write in "N/A" if they feel those questions do not apply to the target adjustments requested. If the building is already ENERGY STAR Certified for the calendar year requiring data verification, as long as the time frame overlaps by six months or more, then the submission could be the verified application.

Once the data verification is complete, the building owner should keep the signed checklist on file and enter the information into their Portfolio Manager account by going to the Details tab and clicking on "add verification information." The form will ask for the year (ex. 2024) for which the data was verified, the date of verification, the name of the verifier, and their professional designation. Once the form is saved in the account, the information will be submitted to CASR with the benchmarking submission. This form will need to be updated for 2027 and 2030.

3. PERFORMANCE REQUIREMENTS – Buildings \geq 25,000 SQ. FT.

3.1 General

Covered buildings with a gross floor area equal to or greater than 25,000 square feet must meet energy performance targets in calendar years 2024, 2027 and 2030. Final 2030 targets are provided for every building type in Denver such that 30% total normalized site energy savings across



all covered buildings is achieved. Buildings will be assigned a building type and final and interim targets.

3.2 Applicability

For purposes of performance requirements, means any commercial, multifamily, institutional, municipal, manufacturing, agricultural, or industrial building in the City and County of Denver except a building for which a demolition permit for the entire building has been issued and for which demolition work has commenced on or before the particular compliance date.

The City and County of Denver does not have jurisdiction over state-owned, federal-owned, or foreign consulate buildings. Applicability is based on the building ownership, not the tenants, so if a state or federal entity is a tenant in a privately-owned building, the performance requirements would apply to the entire building. In ground lease situations, the entity that builds the structure is the owner of the building, so performance requirements would also apply.

3.2.1 Demolition

For the performance requirements, the building owner has two options when it comes to the demolition of a building (not an interior space). An exemption should be requested if the demolition will be completed *before* the next performance period evaluation. If a building owner is planning to demolish a building within 1-2 years *after* performance requirements are due, then the owner can apply for a timeline adjustment alternate compliance option. See that section for more details on the submission process.

Scenarios in which a demolition exemption would be approved are:

- A building for which a demolition permit for the entire building has been issued and for which demolition work has commenced on or before the Benchmarking report for the performance period is due.
- A building for which a demolition permit for a portion of the building has been issued in which the remaining building will be less than 25,000 sq. ft., which would shift the building to the small building performance requirements (5,000-24,999 sq. ft.).

Application for a demolition exemption includes the submission of an online form with attachments that prove the pending or completed demolition, with a submission deadline of June 1 in the following year for which performance will be evaluation. Supporting documentation could include:

- Valid, unexpired approved or submitted Total Demolition Application
- Stamped drawings that clearly show extent of demolition that will render building incapable of supporting any occupancy or use

3.3 Building Types

Building types are defined by ENERGY STAR Portfolio Manager definitions of [property types](#). CASR identified buildings that may have been incorrectly designated a building type or used the type “other” through methodologies that may include, but are not limited to, a reviewing a web-based street view platform or reviewing the distribution of energy consumption within a building type to find buildings whose energy performance is significantly different relative to other buildings within the building type. If CASR believes a building type is incorrect, CASR will reassign a building type that CASR determines to be more accurate based on available data. The Owner will have the opportunity to dispute the building type before CASR’s final decision on building type.

Data Centers have been split into two categories based on the square footage it occupies in the building:



- Class A: 15% or more of the square footage of the building – Buildings with Class A data centers are part of the Manufacturing, Agricultural, or Industrial buildings category (Section 3.3.1).
- Class B: Less than 15% of the square footage of the building - Buildings with Class B data centers are eligible for a target adjustment based on the square footage the data center occupies. More details about this target adjustment are in Section 3.4.6.

When determining the square footage of the data center, building owners should use this definition:

“A room or series of rooms that share data center systems, whose primary function is to house equipment for the processing and storage of electronic data and that has a design total Information Technology Equipment (ITE) power density exceeding 20 watts per square foot (20 watts per 0.092 m²) of conditioned area and a total design ITE load greater than 10 kW.”

Parking that is a stand-alone structure has been split into three building types based on the configuration of the building: open, partially enclosed, and completely enclosed. If parking is a part of building and the energy use is included in the building’s benchmarking, there is a target adjustment available (Section 3.4.6).

3.3.1 Manufacturing, Agricultural, or Industrial Buildings

Manufacturing, Agricultural, or Industrial (MAI) buildings are on a different timeline for developing performance requirements, with rules for benchmarking and performance targets finalized by December 2023. The definition of an MAI building is a facility where a portion of energy is consumed in process loads for manufacturing, agricultural, or industrial purposes. Process loads are energy consumed for bona fide purposes other than comfort heating and cooling, ventilation, domestic hot water, cooking, lighting, appliances, office equipment, small, or other plug loads. This classification also includes buildings with Class A data centers, food manufacturing, and ENERGY STAR Portfolio Manager building types Drinking Water Treatment & Distribution, Energy/Power Station, Other – Utility, and Wastewater Treatment Plant.

3.3.2 Campuses

While 2030 targets are assigned per building type, for multiple-building campus configurations, several program considerations have been made specifically for campuses. For the purposes of this program, a “campus” is a collection of two or more buildings, any building type or size, that act as a single cohesive property with a single shared primary function and are owned and operated by the same party, such as higher education or hospital campuses.

3.4 Performance Targets

3.4.1 Metrics

Denver is using weather-normalized site energy use intensity (EUI) as the main metric for performance targets and evaluation. Site energy use intensity is the amount of heat and electricity consumed by a building as reflected in utility bills, divided by the gross square footage of the building (Figure 2) . Site energy may be delivered to a facility in one of two forms: as primary energy, that is the raw fuel burned to create heat and electricity, such as natural gas or fuel oil; or secondary energy, that is the energy product created from a raw fuel, such as electricity purchased from the grid or heat received from a district steam system. A Site EUI metric combines units of primary energy and units of secondary energy consumed at the site and therefore does not account for losses in generation and transmission/distribution of the secondary energy.

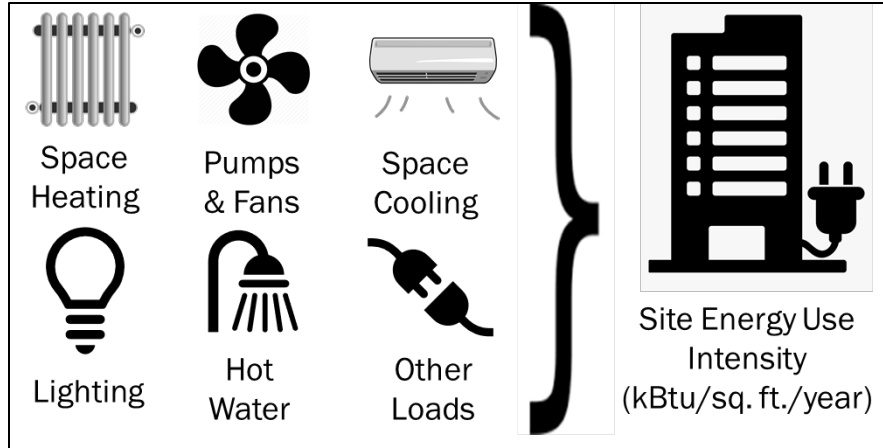


FIGURE 2 – SITE ENERGY USE INTENSITY

3.4.2 2030 Targets

2030 EUI targets were established for every building type such that 30% total normalized site energy savings across all covered buildings is achieved. 2030 Targets by building type are listed in Appendix A. These were developed using 2019 Benchmarking and national CBECS data. Building types with insufficient local benchmarking or CBECS data have a 2030 target that is 30% below their baseline EUI. If additional building types are found, or new buildings of types without specific EUI targets in Appendix A are built, then CASR will set targets for such buildings based on best available local and national data.

Mixed-use buildings have a blended target based on the percentage of Gross Floor Area assigned to the largest three (3) building types in the 2019 benchmarking data.

3.4.3 Interim Targets

CASR established each building's required interim targets for 2024 and 2027 by establishing a baseline, typically 2019, for each building and drawing a straight line from the baseline EUI to the final 2030 EUI target. Baselines were established as follows:

- For existing buildings that reported benchmarking data in 2019, the baseline is the EUI that was reported for that year.
- For existing buildings where no baseline data was received for 2019 (either by not submitting a report or the building was exempt), CASR used the 2019 local median EUI for that building type for its baseline.
- For new buildings that did not exist in 2019, CASR will establish a reasonable baseline based on the building type. It could be set as the predicted EUI (as part of the 2022 Denver Building and Fire Code, Appendix PT path) for that building if one was submitted as part of energy code compliance and the building owner provides that information to CASR.

If a building has never benchmarked and needs to submit historical energy benchmarking data for a year earlier than the current submission year (submitting 2019 when 2021 is the current year being collected), the owner can submit the data by using the Historical Benchmarking Submission Form.

3.4.4 Maintenance Targets

A building must maintain the interim targets each subsequent year and must maintain the final energy performance target indefinitely. If the baseline for a new covered building is already below the target EUI for that building type, then the building must perform at or below the target EUI each year and must maintain the final energy performance target indefinitely.



Figure 2 shows an example graph to illustrate interim and 2030 targets. The targets represent the minimum levels and deadlines that CASR is regulating. Building owners can choose to move faster if they choose.

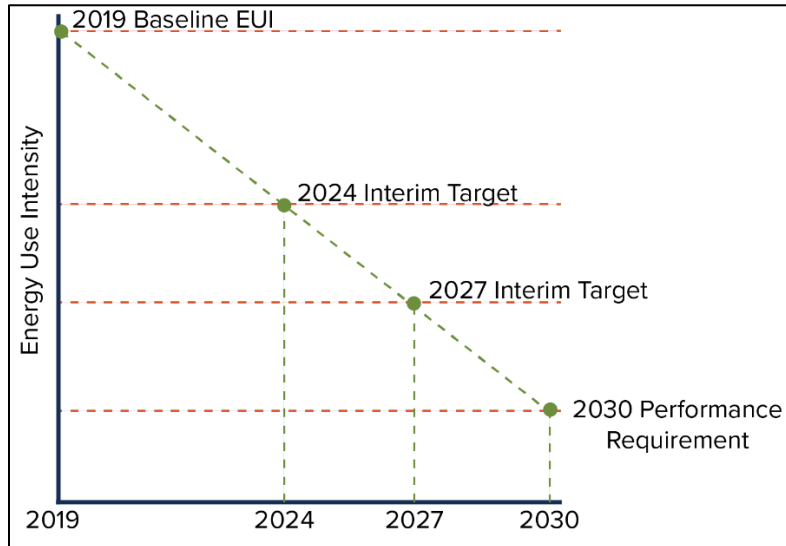


FIGURE 3 – EXAMPLE OF BASELINE AND INTERIM, MAINTENANCE, AND 2030 TARGETS

3.4.5 New Construction

All new buildings will enter into the High Performance Existing Buildings Program after they have received their “certificate of occupancy” and are in operation and consuming energy for 12 full calendar months. At that time, they are required to start report annual energy benchmarking data to CASR. CASR will set the 2030 target and interim targets within 6 months of receiving the first benchmarking report for that building. For new construction that falls under the general “30% reduction” property types (Aquariums, Convention Centers, Ice/Curling Rinks, Museums, Zoos, etc.), targets could be set based on the energy modeling used at the time of building permit issuance in accordance with Denver Building Code.

If CASR does not receive a timely benchmarking report in reference to when the building was added to CCD’s Assessor’s Office database, targets will be established for the building based on information provided by the Assessor’s Office and median energy data for Denver building types.

3.4.5.1 New Construction for MAI Buildings

For new construction that meet the definition of a Covered MAI building (see Section 3.3.1), the owner must choose one performance pathway and one metric to pursue upon becoming an existing building. New MAI buildings must apply for MAI designation and must choose a performance pathway and metric; if the owner of a new MAI building does not choose a performance pathway and metric, then the 30% EUI reduction performance metric will be assigned to the building for compliance purposes. For example, if a new MAI building receives its certificate of occupancy in November 2024, the first benchmarking report will be due on June 1, 2026 for calendar year 2025 data, and the building owner must apply for MAI designation and choose one performance pathway and metric to pursue by June 1, 2027 (i.e., at the time that the second calendar year of benchmarking data is due).



The owner may choose any of the performance pathway and metric options presented in Section 3.6.5, or one of the following two additional options for new MAI buildings:

1. Performance Pathway, Renewable Energy Metric: Source at least 30% of overall energy demand for the building from renewables. This is a requirement that will be evaluated on an annual basis, beginning in the second full calendar year of benchmarking. For example, if a new MAI building receives its certificate of occupancy in November 2024, the first benchmarking report will be due on June 1, 2026 for calendar year 2025 data, and the second benchmarking report will be due on June 1, 2027 for calendar year 2026 data; the June 1, 2027 benchmarking report would have to demonstrate that at least 30% of overall energy demand for the building is sourced from renewables. See “Renewable Credit” in Section 3.5 of this document for further guidance on permissible renewable energy types and how to report renewable energy generation.
2. Performance Pathway, Efficiency Maintenance: The Owner of a New Covered MAI Building must choose one of the following metrics by the end of the second calendar year of benchmarking to maintain through 2030 and annually thereafter:
 - a. EUI
 - b. Production Efficiency
 - c. ENERGY STAR Energy Performance Indicator Score of 75

For example, if a new MAI building receives its certificate of occupancy in November 2024, the first benchmarking report will be due on June 1, 2026 for calendar year 2025 data, and the second benchmarking report will be due on June 1, 2027 for calendar year 2026 data; calendar year 2025 or 2026 data, or an average of the two years, for the chosen metric (whichever is more indicative of normal, efficient operations) must then be maintained indefinitely. The building owner or manager should have a conversation with CASR’s Industrial Administrator to discuss their options and to determine if this is an appropriate compliance option for the building.

An existing commercial (i.e., non-MAI) building that undergoes significant redevelopment and/or renovation that triggers new building code requirements (e.g., due to a change in occupancy) and which is subsequently reclassified as an MAI building, may petition CASR to be considered a New Construction MAI building for compliance purposes. Similarly, a non-MAI commercial building that has achieved its 2030 EUI target and subsequently is reclassified as an MAI building may petition CASR to be considered a New Construction MAI building for compliance purposes.

3.4.6 Target Adjustments

The building owner may apply to adjust the building’s 2030 energy performance target for a variety of reasons:

- Significant variations in operations or inherent characteristics of the building itself
 - Operating hours
 - Parking energy use that is not able to be excluded from benchmarking
 - Swimming pools
 - Data centers as defined in Section 3.3
- Previous benchmarking submission were incorrect
 - Building type classification
 - Square footage corrections
 - Inaccurate energy data that affects the baseline
 - A high-intensity space (such as a restaurant) was not accounted for in the largest three building types.



- Building alterations
 - Building type has changed due to a renovation or new tenants
 - Building has added or demolished square footage with a different or high-intensity property type

Target adjustments are based on benchmarking and normalization methods from EPA's ENERGY STAR Score. The adjustments consider variations of operations or characteristics that the site EUI value does not register, such as 24-hour call operations or indoor swimming pools. At the time of publication, there is no industry-wide standardized approach for normalizing site energy for business characteristics. EPA relies on source energy to enable apples-to-apples comparisons of the efficiency of buildings that use different fuel mixes and has not explored this type of normalization for site energy. The EPA plans on releasing additional technical guidance on normalization methods by early 2023 for jurisdictions implementing building performance standards, which would increase the number of target adjustments CASR may allow in the future.

3.4.6.1 Available Adjustments

The currently available target adjustments for operations/characteristics and their eligible building types are listed in Table 2. Targets will be adjusted using the values listed in Appendix B. As the building industry establishes additional approaches for normalization for business or buildings characteristics, procedures and target adjustment values may be updated over time.

TABLE 2 – AVAILABLE TARGET ADJUSTMENTS

Adjustment Type	Eligible Building Types	Appendix
Operating Hours	Office, Retail Store, Worship Facility, Non-refrigerated Warehouse, Refrigerated Warehouse, Supermarket/Grocery Store	B.1
Indoor Swimming Pool	All building types	B.2
Outdoor Swimming Pool	All building types	B.2
Parking – open	All building types	B.3
Parking – partially enclosed	All building types	B.3
Parking – completely enclosed	All building types	B.3
Data Centers	All building types with Class B data centers and as defined in Section 3.3	B.4
More than 3 property types	All building types	B.5

Operating hour adjustments are currently available for only the building types listed in Table 1 because as Denver benchmarking data was examined using EPA methodology, the building types listed were the only ones where operating hours showed a statistically significant effect on site energy use intensity.

Building owners can apply for more than one of the available adjustments if the situations exist in their buildings, including adjustments for incorrect benchmarking submissions. For example, let's say an office building realized they didn't benchmark their restaurant properly, is open 90 hours a week, has a fitness center on the lower floor with an indoor swimming pool, and has several basement floors of completely enclosed parking. The building owner could submit one application and request multiple adjustments. The incorrect benchmarking data would be corrected first, then adjusted for operating hours, and then kBtu adjustments for pools and parking.

3.4.6.2 Application Details

Because the target adjustment is dependent on accurate and complete benchmarking data, the building's 2019 benchmarking data must be third-party verified. If a building has a pre-approval to



use 2018 or 2020 as their baseline, that year is the data that should be third-party verified. Third-party data verification will be completed by generating a Data Verification Checklist within ENERGY STAR Portfolio Manager and having a third party data verifier confirm the information. The verifier will then sign the checklist and return it to the owner to be submitted with the application form. A sample Data Verification Checklist is available online and can be generated on the Reports tab within Portfolio Manager.

For all adjustments requests, the owner will submit the following:

- Online application
- 2019 benchmarking report (or other approved year) re-submitted
- Data Verification Checklist signed by the third-party data verifier
- Other supporting documentation as needed

Deadline for submission:

Target adjustment applications can be made at any time, but the building owner needs to be aware of the impact the adjustment could make, not only on the 2030 targets, but also the interim targets. The earlier the application is submitted, the better for the building owner when it comes to performance evaluation.

- If the building owner would like the target adjustments completed before the beginning of the first performance period in the calendar year of 2024, the deadline for submission is October 1, 2023.
- To have the 2024 Interim target adjusted before performance evaluation in 2025, the deadline for submission is December 31, 2024.

3.4.7 Electrification Credit

For buildings that are 80% or more electrified at the time the updated rules are adopted (Winter 2022), a 10% EUI credit to the 2030 target will be applied and new target notifications sent to building owners in early 2023. Electrification percentage of the whole building is measured by percent electricity, which is the percent of total site energy use that is electricity. Calculated in kBtu, it combines grid-purchased electricity with renewable electricity used at the building and divides it by the total energy used.

Percent electricity will be evaluated during each building's performance evaluation of the 2024, 2027, 2030 targets. During the evaluation, if it is found that a building reached 80% whole building electrification as measured by percent electricity, the 10% electrification credit will be applied to the EUI before assessing renewable credits and then evaluating Site EUI performance (Section 3.7). See Section 1.2 for more information on other electrification options.

Covered MAI Buildings are not eligible for this Electrification Credit. See Section 3.6.5.6 for the Fossil-Fuel Reduction Credit for MAI Buildings.

3.5 Renewable Credit

CASR encourages the building of renewables where capacity is being added to the electrical grid and contributing to Denver's climate goals. At this time, the renewable credit applies only to solar and wind generation but could be expanded to other renewables in the future. In Denver, a large percentage of renewables are built through Xcel Energy programs where Xcel retains the Renewable Energy Credits (REC) in exchange for incentives. CASR recognizes the significant impact that this locally built solar has on surrounding neighborhoods and the considerable effort that building owners make to install these projects. In Denver, renewable generation will be credited towards the 2030 target whether or not the RECs were retained. At the time of publication, Colorado's Building Performance Standards Task Force is recommending to the Air Quality Control Commission that



renewable generation is only credited if the building owner retains the RECs but would allow legacy systems built without RECs before the standards take effect. Denver could choose to align with the state policy in the future but would have a similar legacy clause.

Solar or wind power generation, on-site or off-site, will be credited to the building's total energy use before performance targets are evaluated, regardless of Renewable Energy Credit (REC) retainage.

The Renewable Credit is not an alternative compliance option because it is available to all buildings and does not need pre-approval by CASR before submission. The credit will be calculated on an annual basis based on generation that occurred in the 12-month performance period being evaluated. For campuses that have renewable installations that are not physically connected to a particular building, CASR will work with the building owner to credit the kWh generated amongst the buildings within that campus portfolio.

CASR has designed an online tool for owners to estimate how much credit would be applied per kWh generated. Additional information on submission documentation is included in the Demonstration of Compliance Section 3.7.

3.5.1 Long-term Installations or Contracts

- On-site installation: owner must provide proof that the solar or wind installation is installed, most likely in the form of a bill from the developer or other means of proof
- Off-site installation: owner must provide proof of interconnection (interconnection agreement and permission to operate notification)
- Off-site owned by third party: owners must provide evidence of a subscription, lease, or purchase of a share in either a voluntary renewable energy program offered by Xcel Energy or a community project for which a dedicated renewable energy resource located in Public Service Company of Colorado territory is built for that customer program, and which has dedicated customer capacity or energy to fulfill that customer's subscription. The term of purchase must be at least five (5) years and must be renewed a minimum of every five (5) years for the life of the building for purposes of compliance with this rule.

3.5.2 Short-term Contracts or Subscriptions

Short-term contracts will be allowed on a declining scale to assist building owners with interim targets. Owners must provide evidence of a subscription, lease, or purchase of a share in either a voluntary renewable energy program offered by Xcel Energy or a community project for which a dedicated renewable energy resource located in Public Service Company of Colorado territory and has dedicated customer capacity or energy to fulfill that customer's subscription.

The term of purchase must be at least 12 months to equal the performance period of the interim target and continue to be purchased annually for maintenance of the target through the next interim target date. If the building owner wishes to use renewable credits for the 2030 target, the short-term contracts should be replaced with long-term contracts over time.

Short-term contracts renewable generation is allowed on the following scale:

- 2024, 2025, 2026: up to 20% of the building's electricity usage
- 2027, 2028, 2029: up to 10% of the building's electricity usage
- 2030 and beyond: short-term contracts not allowed

3.5.3 Renewable Contract Confidentiality

If an Owner can demonstrate that the building's renewable energy sources are a confidential business practice that includes trade secrets, privileged, or confidential commercial information, the Owner can submit a request for the renewable generation submission to be kept confidential and not



subject to Colorado Open Records Act requests or included in open data disclosures. The owner can do that by using the [Energize Denver Confidentiality Request](#) on the Energize Denver Hub.

3.5.4 Reporting Renewable Generation

The Renewable Credit requires one submission that provides two types of information, the kWhs generated for the performance period and proof of ownership. The proof of ownership, outlined in the Renewable Credit Section 3.5, only needs to be submitted once for the lifetime of the installation or contract. If the building received renewable generation from more than one category (example: solar installed on building *and* purchased month-to-month subscription to fill a gap), the owner must fill out a renewable credit submission for each type.

In the submission form, the owner would:

- Enter total kWhs generated or purchased during the 12-month performance period
- Enter which type of installation or contract it is and whether or not the RECs were retained
- Enter in the maximum renewable capacity of the solar panels if an on-site installation
- Upload proof of ownership paperwork or contract
- Upload one month's example of a bill or report that shows the kWhs generated

The building owner should keep copies of the monthly kWh generation reports on file. CASR reserves the right to request that the owner submit the invoices/reports that back-up the kWh entries or re-submit proof of ownership. Table 3 gives examples of Denver-specific renewable installations and programs and their possible documentation for submission.

TABLE 3 – DENVER RENEWABLE SCENARIOS AND DOCUMENTATION

Scenario	Contract	Possible Program	Documentation
Solar/Wind power generated capacity on-site	Long-term	Net Metering, Solar*Rewards	kWh generation entry, Interconnection agreement, Permission to Operate notification or letter
Solar/Wind power generated capacity off-site	Long-term	Off-site solar or wind	kWh generation entry, off-site renewable capacity contract, Interconnection agreement, Permission to Operate notification or letter
Multifamily building where tenants purchased solar through Community Solar Garden subscription	Long-term	Solar*Rewards Community	Building owner would have to collect tenants' contracts listing kWhs individually subscribed to provide as proof of ownership, collect monthly invoices to create kWh generation energy
Community Solar Garden Host (credit available if a portion of kWhs generated are distributed to building directly)	Long-term	Solar*Rewards Community	kWh generation entry, community solar garden host contract
Subscription for solar and/or wind power generation (5 years minimum contract)	Long-term	Renewable*Connect	kWh generation entry, subscription contract



Subscription for solar and/or wind generation (month-to-month or less than 5 years)	Short-term	Windsources	kWh generation entry (see limitations in Section 3.5.2), subscription contract
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3.6 Alternate Compliance Options

A building owner may apply for one of the following alternate compliance options (ACO). CASR will review the application, and subject to CASR's discretion, approve the alternate compliance option(s). This section outlines the minimum requirements and process for requesting each type of alternate compliance option:

- Timeline Adjustment
- Electrification Option
- 30% EUI Reduction Property Type Adjustment
- Manufacturing/Agricultural/Industrial Designation and ACO

3.6.1 Minimum Requirements for Documentation

Required documentation varies for each type of alternate compliance option. This section details the minimum requirements for creating energy audit, electrification feasibility report, and operations and maintenance program submissions. For information on which documents are required for each type of alternate compliance option, see the submission lists within each alternate compliance option's description.

3.6.1.1 Energy Audit

CASR is using the Audit Template Tool provided by the Department of Energy (DOE) as a standardized method to collect the audit information from building owners. The minimum requirements to generate the audit report is to follow Denver's [Audit Template directions](#) to collect building data, enter the data into the online tool, and generate the PDF report.

3.6.1.1.1 Individual Buildings

Energy audits for individual buildings must follow ANSI/ASHRAE/ACCA Standard 211-2018 and have the following minimum requirements:

- Energy auditor must have one of the following:
 - Professional Engineer (licensed in the United States)
 - Certified Energy Auditor (Association of Energy Engineers)
 - Certified Energy Manager (Association of Energy Engineers)
 - Building Energy Assessment Professional (ASHRAE)
 - High-Performance Building Design Professional (ASHRAE)
 - Multifamily Building Analyst (Building Performance Institute)
- Energy Auditor must be a third-party individual or company and not be employed by the organization that owns or operates the building.
- Energy audit must be a minimum of an ASHRAE Level 2.
- Energy audit must be submitted through the online Denver Audit Template tool.
 - Existing Equipment - Audit template tool will require inventory of all equipment
 - Solutions – list all energy efficiency measures needed to reach 2030 target
- Baseline identification:
 - Baseline should be calendar year 2019
 - Baseline EUI should be in Weather-normalized Site EUI (or Site EUI if the building cannot receive a weather-normalized version)
- Timeframe of Audit



- Audits completed since January 1, 2020 will be accepted.
- If the building owner wishes to use an audit completed 2017-2019, the building energy use information and associated savings calculations must be updated to accurately reflect a 2019 baseline and the building energy use at the time the plan is submitted to CASR.
- If the building owner wishes to use an audit completed before 2017, CASR will consider the request on a case-by-case basis.
- Investment analysis minimum requirements:
 - Individual measure cost and site EUI savings, including savings to investment ratio (SIR) and return on investment (ROI) calculations
 - Total project cost and site EUI savings, including total SIR and ROI

3.6.1.1.2 Campuses

An Energy audit for a campus must follow ANSI/ASHRAE/ACCA Standard 211-2018 and have the following minimum requirements:

- Energy auditor must have one of the following:
 - Professional Engineer (licensed in the United States)
 - Certified Energy Auditor (Association of Energy Engineers)
 - Certified Energy Manager (Association of Energy Engineers)
 - Building Energy Assessment Professional (ASHRAE)
 - High-Performance Building Design Professional (ASHRAE)
 - Multifamily Building Analyst (Building Performance Institute)
- Energy Auditor must be a third-party individual or company and not be employed by the organization that owns or operates the building.
- Energy audit must be a minimum of an ASHRAE Level 2.
- Building Coverage: the energy audit does not have to contain detailed information on each individual building over 25,000 square feet, but compliance with EUI targets will be evaluated on an individual building basis.
- Baseline identification:
 - Baseline should be calendar year 2019
 - Baseline EUI should be in Weather-normalized Site EUI (or Site EUI if the building cannot receive a weather-normalized version)
- Timeframe of Audit
 - Audits completed since January 1, 2020 will be accepted.
 - If the building owner wishes to use an audit completed 2017-2019, the building energy use information and associated savings calculations must be updated to accurately reflect a 2019 baseline and the building energy use at the time the plan is submitted to CASR.
 - If the building owner wishes to use an audit completed before 2017, CASR will consider the request on a case-by-case basis.
- Investment analysis minimum requirements:
 - Individual measure cost and site EUI savings, including savings to investment ratio (SIR) and return on investment (ROI) calculations
 - Total project cost and site EUI savings, including total SIR and ROI

3.6.1.1.3 MAI Buildings Pursuing the Prescriptive Pathway

MAI Buildings completing an energy audit for a Timeline Adjustment Application *only* may follow the instructions in Section 3.6.1.1.1. For an energy audit that satisfies the requirements of both the Timeline Adjustment and the MAI Prescriptive Pathway, follow the instructions in this section.

For the Prescriptive Pathway in the MAI Alternate Compliance Option: Energy audits for individual MAI



buildings must follow ANSI/ASHRAE/ACCA Standard 211-2018 and have the following minimum requirements:

- Energy auditor must have passed CASR’s MAI Energy Auditor Training. If you prefer to use a specific energy auditor, please encourage the individual to receive the training to be included in the list prior to the audit being conducted. You can view a list of auditors who have passed the MAI Energy Auditor Training by [viewing the “Directory of Benchmarking and Energize Denver Service Providers”](#) on the Energize Denver Hub.
- Energy auditor must have one of the following:
 - Professional Engineer (licensed in the United States)
 - Certified Energy Auditor (Association of Energy Engineers)
 - Certified Energy Manager (Association of Energy Engineers)
 - Building Energy Assessment Professional (ASHRAE)
 - High-Performance Building Design Professional (ASHRAE)
- Energy Auditor must be a third-party individual or company and not be employed by the organization that owns or operates the building.
- Energy audit must be a minimum of an ASHRAE Level 2.
- MAI Buildings are *not* required to submit their energy audit through the online Denver Audit Template tool.
- Baseline identification:
 - Baseline should be calendar year 2022 by default, but a building owner may request a baseline year as early as calendar year 2018
 - Baseline EUI should be in Weather-normalized Site EUI (or Site EUI if the building cannot receive a weather-normalized version)
- Timeframe of Audit
 - Audits completed since July 1, 2023 will be accepted.
 - If the building owner wishes to use an audit completed between January 1, 2017 and July 1, 2023, CASR will accept the audit, so long as the audit is updated to include the minimum requirements needed for the Prescriptive Pathway.
- Investment analysis minimum requirements:
 - Individual measure cost and estimated site EUI savings and/or production efficiency improvement, including savings to investment ratio (SIR) and return on investment (ROI) calculations.
 - Total project cost and site EUI savings and/or production efficiency improvement, including total SIR and ROI.
 - The energy audit should evaluate both electric and fossil fuel systems in the building. If the chosen energy audit program does not include an evaluation of fossil fuel systems, the building owner is encouraged to pay for an additional evaluation of said equipment.

3.6.1.2 *Electrification Feasibility Report*

If the application for an alternate compliance option involves the upgrade or replacement of natural gas or fossil-fuel powered space or water heating equipment, or a unitary air conditioner or heat distribution equipment that distributes heat from a boiler, that is near the end of its useful life (10 years or less) according to the service life chart in Appendix C , an Electrification Feasibility Report will be required as a submission document to analyze how that system might be replaced partially or fully with a heat pump. The building owner will generate this report following the online instructions available on the [Energize Denver Hub](#).

3.6.1.3 *Operations and Maintenance Program*

Operations and Maintenance (O&M) Program documentation must follow ANSI/ASHRAE/IES Standard 100-2018 (ASHRAE 100), Chapter 6. Standard operating procedures should meet the



specifications in Section 6, which addresses every applicable building system and element as outlined in Annex D and follows the implementation requirements laid out in Annex L. *Addendum a* to ASHRAE 100 updated Annex L, so building owners should refer to and follow this addendum when developing and implementing an O&M program.

The O&M program document submitted should at a minimum include the following information:

- O&M Objectives as described in ASHRAE 100, 6.2
- O&M Implementation in accordance with ASHRAE 100, 6.4 and *Addendum a*, Annex L
- O&M Tasks as described in ASHRAE 100, 6.4 and Annex D

3.6.2 Timeline Adjustment ACO

The building owner may apply to adjust the compliance timeline for a variety of reasons that could make achieving the interim or 2030 targets difficult. Owners can apply for a timeline adjustment that addresses just one target (such as 2024 only) or multiple target deadlines within one application. If 80% or more electrification of the whole building is a goal, the building will receive the 10% electrification credit as part of this process.

Possible reasons for submitting a timeline adjustment request include, but are not limited to:

- Planning for end of equipment system life (according to service life chart in Appendix C)
- Planning for major renovation
- Landmark Preservation Commission review process means the work won't be done in time for a target deadline
- Financial distress - A building that is presently experiencing qualifying financial distress, as defined by any of the following: (1) the building is the subject of a qualified tax lien sale or public auction due to property tax arrearages; (2) the building is controlled by a court appointed receiver; or (3) the building has been acquired by a deed in lieu of foreclosure.
- Electrification of space and water heating equipment or the entire building
- Benchmarking exemption (1-year) for the performance period of an interim or final target
- Steam loop district system limitations
- Innovative approach to energy efficiency to buildings pursuing innovative energy efficiency measures or strategies that have not been widely implemented by the local building industry, which result in implementation delays inherent to novel design (such as a longer design development process, extended product lead times, prolonged installation, or troubleshooting and commissioning)
- Change of building ownership or tenant where the new building owner or tenant will have difficulty in complying on time (for example, new owner purchases or new tenant leases the building in 2024 and previous building/tenant owner did not make progress towards 2024 target).
- Under-resourced buildings may qualify for additional reasons not listed, such as financing cycles for qualified affordable housing buildings, that would be considered on a case-by-case basis
- Other reasons that will be considered by CASR on a case-by-case basis

Natural or man-made disasters that affect the building's ability to meet a target deadline (such as fire, tornado, flood, etc.) could qualify for a timeline adjustment, but could have a simpler application process than outlined below. If a building has experienced a situation that may qualify, the building owner should schedule a discussion with a CASR representative before starting the application process.

For buildings that wish to use equipment service life as a reason for a timeline adjustment, the



owner should use the Service Life Chart in Appendix C. This chart presents the maximum service life that CASR would consider for a particular piece of equipment to extend a building's compliance timeline. Building owners may experience longer or shorter service life depending on their maintenance practices, so this should be taken into account when deciding whether to apply for a timeline adjustment or fill in a gap with the Renewable Credit. If the owner chooses to go the timeline adjustment route, the information on the equipment's service life should be detailed in the energy audit and an explanation of the proposed timeline for upgrade outlined in the retrofit plan. To have the timeline adjustment approved, the retrofit plan should outline what else in the building will be improved while waiting for the service life to expire (short- and long-term energy efficiency measures and operations and maintenance measures) and the expected EUI reductions. The retrofit plan will result in a timeline adjustment agreement that outlines exactly what will be done in the building and when it will be done, which becomes the legally binding compliance plan.

3.6.2.1 Application Details

To ensure the building owner has a comprehensive plan for reaching the 2030 target, the timeline adjustment application has multiple submissions within the application form. The form itself will ask questions about what reasons are present, more details on justification for the delay, and details on renewable plans. Attachments to the application include the energy audit, a retrofit plan, the O&M program document, and an Electrification Feasibility report (if needed). For each reason requested, supporting documentation should be attached to the application (suggestions listed in Table 4). Details and minimum requirements for each attachment are listed below.

The application for a timeline adjustment for a single building includes:

- Online application form (example shown in Appendix D)
- Energy Audit that meets the minimum requirements (Section 3.6.1.1.1)
- Retrofit Plan Word or PDF document (template provided in Appendix E)
- Electrification Feasibility Report, if required (Section 3.6.1.2)
- O&M Program document (Section 3.6.1.3)
- Other documentation that would support the target request as suggested in Table 4

TABLE 4 – SUPPORTING DOCUMENTATION SUGGESTIONS

Circumstance	Documentation
Planning for end of system life	If end of system life is used as the reasoning for the delay, Energy Audit must detail the equipment and age of the systems, using information from the service life chart in Appendix C
Planning for major renovation	Details from architect/engineer on how the major renovation will improve energy efficiency and reach the EUI target. Energy audit, energy modeling, construction or design documents, scopes of work could also be submitted.
Change of building ownership or tenant	Proof of sale of building or new tenant lease and narrative explaining the new building owner's/tenant's inability to comply on time.



Landmark Preservation Commission review process means the work won't be done in time for deadline	A detailed description of the unique limitations placed on the building and a letter from the Landmark Preservation Commission endorsing the delay and restrictions placed on the building.
Financial distress	Paperwork that proves the status of any of the 3 reasons stated.
Financing timelines for affordable housing	Proof of affordable housing status: copy of covenant or other formal restriction, financial ledger or rent roll with unit-by unit summary table, cooperative agreement or other documentation demonstrating membership sale prices are limited to low/moderate income residents. Description of the funding strategy that will be pursued to implement interim and final EEMs and/or retrofits to meet the savings target. Description should provide an estimate of the projected funding sources (property operating income, reserves, private financing, public financing, etc.) needed and the estimated costs to be incurred to meet the requirements.
Electrification	Electrification Feasibility Report.
Benchmarking exemption	Approved benchmarking exemption.
Innovative approach to energy efficiency	Narrative from architect/engineer detailing the benefits of the innovation, the novelty of the project, demonstrated that the EEM has not been widely implemented by the local building industry, and why delays are anticipated and/or cannot be avoided.

For buildings that are part of a “campus” (see definition in Appendix H), the process is similar but the energy audit, retrofit plan, electrification feasibility, and O&M documents can be created at a campus level. The campus application for a timeline adjustment includes:

- Online application form (Appendix D)
- Campus Energy Audit that meets the minimum requirements (Section 3.6.1.1.2)
- Strategic Energy Management Plan that addresses the questions asked in the retrofit plan template and includes electrification feasibility information (template provided in Appendix E)
- Campus O&M Program document (Section 3.6.1.3)
- Other documentation that would support the request, suggested in Table 4

3.6.2.2 *Deadline for Submission*

Deadlines for submitting an application are dependent on the target date that needs adjustment and early action by the building owner, as outlined in Tables 5A, 5B, and 5C. If your building’s first interim target date was shifted back to 2025, use Table 5B. The earlier the application is submitted and



approved; the lower possible penalty amount the building could be assessed in the future (see Penalties Section 5.1.3). Timeline adjustment reviews may take some time and multiple conversations to come to an agreement, so CASR encourages building owners to not wait until the deadline to submit their application. Target adjustments for 2027 and 2030 will be considered on a case-by-case basis after the deadlines listed in Table 5B.

TABLE 5A – 2024 TARGET TIMELINE ADJUSTMENT APPLICATION DEADLINES

Target	Application Deadline	Alternate Compliance Penalty
2024	June 30, 2023	\$0.30/kBtu not achieved
2024	December 31, 2023	\$0.35/kBtu not achieved
2024	December 31, 2024	\$0.40/kBtu not achieved
2024	Received After December 31, 2024	\$0.50/kBtu not achieved

TABLE 5B – 2025 TARGET TIMELINE ADJUSTMENT APPLICATION DEADLINES

Target	Application Deadline	Alternate Compliance Penalty
2025	June 30, 2024	\$0.30/kBtu not achieved
2025	December 31, 2024	\$0.35/kBtu not achieved
2025	December 31, 2025	\$0.40/kBtu not achieved
2025	Received After December 31, 2025	\$0.50/kBtu not achieved

TABLE 5C – MAI BUILDINGS: 2026 TIMELINE ADJUSTMENT APPLICATION DEADLINES

Target	Application Deadline	Alternate Compliance Penalty
2026	December 31, 2024	\$0.42/kBtu not achieved or equivalent metric
2026	December 31, 2026	\$0.52/kBtu not achieved or equivalent metric
2026	Received After December 31, 2026	\$0.62/kBtu not achieved or equivalent metric

3.6.2.3 Timeline Adjustment Agreement

After CASR has completed its review of the submission, it will use the agreed-upon retrofit plan to create a Timeline Adjustment Agreement that is binding as the new performance requirements for the building. The Agreement will include:

- details of the retrofit plan
- agreed-upon timeline
- reporting requirements
- penalties that would be assessed if the plan is not completed as agreed (usually a higher level than regular compliance because extra time has been approved – see Penalties Section 5.1.3)

3.6.2.4 Pending Demolition

If a building owner is planning to demolish a building within 2 years from the performance requirements are due, then the owner can submit an application for a timeline adjustment with a simpler process than outlined above. The demolition timeline adjustment application includes:

- Online application
- Any documentation that shows the plans for demolition (future plans for the site could suffice)
- Demolition permits as listed in the Demolition Section 3.2.1

If the timeline adjustment is approved for the pending demolition, a timeline adjustment agreement will be created for signature. The building owner should be aware that if the demolition is canceled



and the building does not meet its performance requirements as originally assigned, or the owner does not apply to update the timeline adjustment, that retroactive penalties at a higher level could be assessed.

3.6.2.5 *Timeline Adjustment for All 2021 Benchmarked Buildings for 2024 Target*

CASR has approved a one-year timeline adjustment to the 2024 target for all buildings that have a complete 2021 calendar year Benchmarking Report (2022 Reporting Year) on file with CASR. For those buildings, the first interim target will be due in [2025](#). For buildings that do not have an approved Benchmarking Report for the 2021 calendar year, the interim target will remain due in 2024. A building owner can check its benchmarking compliance by looking up the 2022 Reporting Year status at www.energizeddenver.org.

3.6.3 *Electrification ACO*

Previous discussion in this guidance for the electrification credit has been in the form of a retroactive credit, i.e., the building receives the credit either because they have already reached whole building percent electricity of 80% at the beginning of the program, or the target is adjusted at the time of performance evaluation. This alternate compliance option is for building owners that would like more certainty in applying the electrification credit at the time of ACO approval and working towards established interim and final targets. Working through this ACO means that 80% minimum electrification of the building becomes a requirement of the compliance plan. If the building owner needs timeline adjustments as part of the electrification process, they should use the process outlined in Section 3.6.2. MAI Buildings are not eligible for this Electrification ACO.

3.6.3.1 *Application Details*

The application for the Electrification Option includes:

- Online application
- An electrification feasibility report that meets CASR-defined minimum requirements
- A retrofit plan (Appendix E) articulating which improvements will be made in the building, when such improvements will be made, and how those improvements will result in the building reaching the goal of 80% whole building electrification and the adjusted 2030 EUI target. The plan should also include how the installation of renewables, on- or off-site could help the building achieve its EUI target.

Deadlines for submission are the same as the timeline adjustment ACO listed in Section 3.6.2.2 and Table 5.

3.6.3.2 *Electrification Option Agreement*

After CASR has completed its review of the submission, it will use the agreed-upon retrofit plan to create an Electrification Option Agreement that is binding as the new performance requirements for the building. The Agreement will include:

- status of the proposal: agreed, agreed to with modifications, or not agreed
- adjusted interim and final targets
- details of the retrofit plan

3.6.4 *30% EUI Reduction Property Type Adjustment ACO*

Due to their unique building types and lack of national/local datasets to be able to set site EUI targets, certain building types received a 30% energy use reduction goal. This ACO outlines a process for CASR to work with the building to determine the appropriate energy reduction goal. CASR recognizes that the building may have already made significant advancements in energy efficiency and may not be able to meet the 30% reduction goal. CASR will also use this process to adjust



targets for historical buildings that are limited by the Landmark Preservation Board in what energy efficiency measures they can perform. Requests to adjust the target for these building types will be considered on a case-by-case basis.

Eligible building types:

- Aquarium
- Convention Center
- Ice/Curling Rink
- Indoor Arena
- Museum
- Other – Entertainment/Public Assembly
- Other – Technology/Science
- Transportation Terminal/Station
- Zoo
- Historical buildings where the Landmark Preservation Board has limited the energy efficiency measures the building could implement

3.6.4.1 *Application Details*

The submission for the 30% EUI Reduction Property Type Adjustment includes:

- Online application form
- A completed Form D in Normative Annex C of ASHRAE 100 (or equiv. ASHRAE Level 1 audit)
- Other supporting documentation that would help CASR make a determination

CASR will review the application and the supporting documentation and compare the building's benchmarking information on national medians and local site EUI data on buildings of the same property type. CASR will schedule a meeting with the building owner to discuss opportunities presented on the ASHRAE Level 1 spreadsheet in reference to the 30% reduction goal and a possible target adjustment. If the building owner disagrees with the first target adjustment presented, CASR will need additional informational to make a more thorough assessment, so the building owner will need to follow the procedures for a timeline adjustment and turn in additional information.

3.6.5 Manufacturing/Agricultural/Industrial Designation and Alternate Compliance Option (MAI ACO)

3.6.5.1 *Eligibility for the MAI ACO*

To be eligible for this ACO, the building must meet the definition of a Covered Manufacturing/Agricultural/Industrial (MAI) Building: a facility where energy is consumed in process loads for manufacturing, agricultural, or industrial purposes. Process loads are energy consumed for bona fide purposes other than comfort heating and cooling, ventilation, domestic hot water, cooking, lighting, appliances, office equipment, small, or other plug loads. This classification includes buildings with Class A data centers, food manufacturing, and the ENERGY STAR Portfolio Manager building types Drinking Water Treatment & Distribution, Energy/Power Station, Other – Utility, and Wastewater Treatment Plant. Multi-use buildings with at least one tenant that meets this definition may be classified as a Covered MAI Building.

Buildings where a portion of the building meets the MAI definition, and multi-tenant buildings which contain MAI and non-MAI tenants, may pursue this MAI ACO, but must choose one of the following for the non-MAI tenants:

1. Sub-meter the energy usage of the MAI and non-MAI tenants and treat them as separate



buildings for compliance purposes; the MAI building would pursue the MAI ACO, and the non-MAI building would be assigned EUI targets based on the property type(s).

2. Consider the entire building an MAI building and pursue the MAI ACO for the whole building. This option might be applicable to a building where sub-metering the energy usage of the MAI and non-MAI tenants is not possible. If the building owner in this instance chooses to pursue the Prescriptive Pathway (described below), then separate energy audits and Action Plans for the MAI and non-MAI portions of the building may be required.

3.6.5.2 Applying for MAI Designation

If you believe your building satisfies the above eligibility criteria for MAI buildings, then the first step in applying for the MAI ACO is to apply for an MAI designation. Distribution centers and warehouses do not qualify as MAI buildings unless a portion of the energy used in the building is consumed for MAI process loads. To apply for this designation, the owner or representative must fill out a [MAI intake form](#) on the Energize Denver website. Only buildings with an approved MAI designation via the intake form are eligible for this Alternate Compliance Option.

3.6.5.3 Applying for the MAI ACO

The deadline to apply for this MAI ACO with your chosen pathway and metric (described below) to CASR is December 1, 2024. For any building that is designated as a covered MAI building but does not apply for the MAI ACO, the 2030 target for the covered building will be a 30% reduction in Site EUI. For a covered building that benchmarks as a “Manufacturing/Industrial Plant” building type but does not apply for MAI building designation or the MAI ACO, the building will be reclassified as the “Other” building type.

3.6.5.4 MAI ACO Pathways and Metrics

Covered Buildings with an MAI designation must choose one pathway and a corresponding metric option for compliance purposes, with optional supplemental credits, as demonstrated in Figure 4.

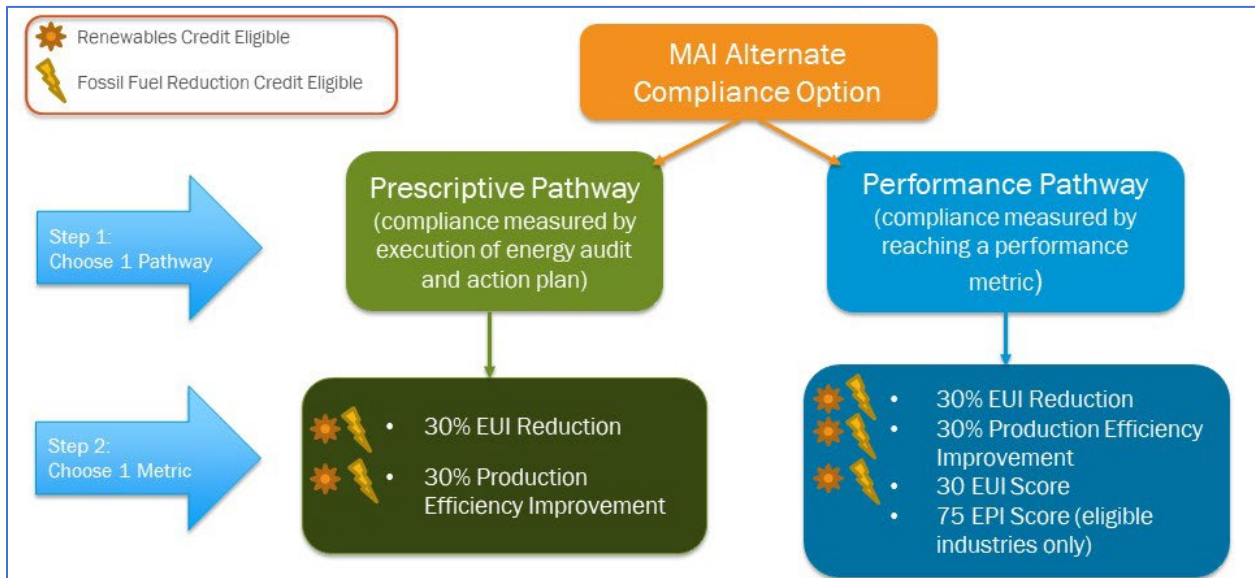


FIGURE 4 – VISUAL REPRESENTATION OF MAI ACO PATHWAYS AND METRICS

In the Prescriptive Pathway, there are two metric options: a 30% EUI reduction or a 30% production



efficiency improvement. In the Performance Pathway, there are four metric options: a 30% EUI reduction, a 30% production efficiency improvement, achieving a 30 Site EUI, or achieving a 75 EPI Score.

A 30% EUI Reduction is for the building to achieve a 30% reduction in their Site EUI metric in 2030 relative to the building's baseline year.

A 30% Production Efficiency Improvement is similar to a 30% EUI Reduction, but instead of the annual site energy usage being normalized to the square footage of the building, it is normalized to a custom metric that the building owner proposes to CASR. The intent of the production efficiency metric is to normalize an energy use metric specifically to the operations conducted in the building, which will allow for changes in production volume over time. Examples of a production efficiency metric could be:

- annual site energy usage per weight of flower produced (cannabis)
- annual site energy usage divided by PUE (data centers)
- annual site energy usage divided by pounds of a particular food product produced (food manufacturing)
- annual site energy usage divided by pounds of metal processed (metal fabricator)
- annual site energy usage divided by number of glass bottles produced (glass manufacturer)
- annual site energy usage divided by number of vehicles serviced per year (vehicle repair facility)
- annual site energy usage per widgets produced (manufacturing)
- or annual site energy usage divided by any other metric(s) proposed by the building owner.

The proposed production efficiency metric will be reviewed and approved by CASR on a case-by-case basis. When proposing a production efficiency metric, the building owner must provide proof, such as annual sales or production reports, that the chosen metric is the right metric for your operations. This option may not be viable for manufacturers that produce non-standard custom products, but all building owners wishing to pursue this metric are encouraged to work with CASR to find an agreeable production metric, if possible.

The 30 EUI Score is similar to the 2030 EUI Target for each building type listed in the table in Appendix A in that the final target is set regardless of the baseline EUI. This metric was established to account for certain MAI buildings that are already highly efficient and currently have low EUI scores.

The EPI Score is an EPA ENERGY STAR score designed for certain manufacturing industries. Similar to commercial ENERGY STAR scores, the higher the score, the more efficient the building, and the scores have been normalized across similar plants in the United States. These EPI Scores are currently the only federal standards for analyzing and comparing the energy efficiency of certain manufacturing plant types. Eligible industries are encouraged to fill out their relevant EPI spreadsheet to determine their baseline EPI Score and the 2030 goal would be to achieve a 75 for the EPI Score.

3.6.5.5 Performance Pathway

A building owner choosing the performance pathway must choose one of the following four metric options and follow the instructions for demonstration within the section:

1. 30% EUI Reduction
 - a. Eligibility: Available to all MAI buildings; if a building owner does not choose a performance pathway and metric, then this pathway and metric will be assigned to the building by default for compliance purposes.



- b. Baseline Year: 2022, but the building owner may request a baseline year as early as 2018. An earlier baseline year is especially pertinent if the building owner has already made investments into energy efficiency in their building (e.g., high-efficiency HVAC equipment, LED lighting, compressed air leak detection programs, etc.). The building owner must ensure that benchmarking data for the building is available prior to when the energy efficiency investments were made in the building. For example, if the building installed a new high-efficiency boiler in 2021, then the building owner should ensure that benchmarking data is on-file with the City every year beginning in at least 2020. To use an earlier baseline year, benchmarking data for that year and all subsequent years must either be on-file with the City already, or back-reported through CASR's [Historical Benchmarking Submission form](#).
 - c. Additional Benchmarking Submission Requirements: None
 - d. Target: Reduce the building's EUI by 30% by the end of the final performance year, as compared to the baseline year. The building must realize a 15% EUI reduction by the interim performance year and a 30% EUI reduction by the final performance year, as verified through annual benchmarking data.
 - e. Credits Available: Renewables Credit, Fossil Fuel Reduction Credit
 2. 30% Production Efficiency Improvement
 - a. Eligibility: Available to all MAI buildings which produce a standard product.
 - b. Baseline Year: 2022, but the building owner may request a baseline year as early as 2018. See 3.6.5.5.1.b above for further detail.
 - c. Additional Benchmarking Submission Requirements: Annual submission of chosen custom metric(s) with benchmarking submission.
 - d. Target: Improve the building's production efficiency (see definition in Appendix H) by 30% by 2030, as compared to the baseline year. The building must realize a 15% efficiency improvement by the interim performance year and a 30% efficiency improvement by the final performance year, as verified through annual benchmarking data.
 - e. Credits Available: Renewables Credit, Fossil Fuel Reduction Credit
 3. 30 EUI Target
 - a. Eligibility: Available to all MAI buildings; a good option for buildings with a baseline EUI below a 43
 - b. Baseline Year: 2022, but the building owner may request a baseline year as early as 2018.
 - c. Additional Benchmarking Submission Requirements: None
 - d. Target: Reduce the building's EUI to a 30 by 2030, with the interim target established for 2026 as the halfway point between the baseline EUI and the final 2030 EUI target. If the EUI for the building is maintained at 30 or below, the building is automatically in compliance once the building owner chooses this pathway.
 - e. Credits Available: Renewables Credit, Fossil Fuel Reduction Credit
 4. 75 EPI Score Target
 - a. Eligibility: Available to MAI buildings that qualify as an eligible plant type. Building owners are encouraged to visit the [EPA Plant EPI Score website](#) to determine whether the building is an eligible plant type. Eligible plant types include (plant type, corresponding North American Industry Classification System [NAICS] code):
 - i. aluminum casting, 331521, 331524
 - ii. automobile assembly, automobile engine plant, and automobile transmission, 336111, 336112, 336310, 336350
 - iii. cement manufacturing, 327310
 - iv. commercial bread & roll bakery, 311812
 - v. container glass manufacturing, 327213
 - vi. cookie and cracker bakery, 311821



- vii. flat glass manufacturing, 327211
- viii. fluid milk and yogurt processing, 311511
- ix. frozen fried potato processing, 311411
- x. integrated paper and paperboard manufacturing, 322121, 322130
- xi. integrated steel plant, 331111
- xii. iron casting plant, 331511
- xiii. juice processing, 311421, 312111
- xiv. nitrogenous fertilizer plant, 325311, 325312
- xv. pharmaceutical manufacturing, 325400
- xvi. pulp mill, 332110
- xvii. wet corn milling, 311221
- b. Baseline Year: 2022, but the building owner may request a baseline year as early as 2018.
- c. Additional Benchmarking Submission Requirements: Annual submission of completed EPI Score spreadsheet, due to CASR at the time of the annual benchmarking submission.
- d. Target: Achieve an EPI score of 75 (out of 100) by 2030, with the interim target established for 2026 as the halfway point between the baseline EUI and the final 2030 target.
- e. Credits Available: None

Buildings pursuing the MAI ACO Performance Pathway must follow the following timeline in Table 6A for compliance, unless said timeline is adjusted through a timeline adjustment alternate compliance option (see Section 3.6.2).

TABLE 6A – MAI ACO PERFORMANCE PATHWAY TIMELINE

Deadline	Performance Pathway Requirements	Benchmarking & Renewable Credit Submission Deadline
December 1, 2023		December 1, 2023
December 1, 2024	Submit chosen pathway and metric	June 1, 2024
		June 1, 2025
2026	Interim year – make at least 50% progress to 2030 goal (reported June 1, 2027)	June 1, 2026
		June 1, 2027
		June 1, 2028
		June 1, 2029
2030	Final target year – achieve final performance target (reported June 1, 2031)	June 1, 2030
June 1, 2031	City communicates compliance status, issues penalties (as necessary), and informs the building on next steps	June 1, 2031

3.6.5.6 Prescriptive Pathway

A building owner choosing the prescriptive pathway must choose one of the following two metric options:

1. Estimated 30% EUI Reduction



- a. Eligibility: Available to all MAI buildings.
 - b. Baseline Year: 2022, but the building owner may request a baseline year as early as 2018. See 3.6.5.5.1.b above for further detail.
 - c. Additional Benchmarking Submission Requirements: None
 - d. Target: Reduce the building's EUI by an estimated 15% by the interim performance year and by an estimated 30% by the end of the final performance year, as compared to the baseline year.
 - e. Credits Available: Renewables Credit, Fossil Fuel Reduction Credit
2. Estimated 30% Production Efficiency Improvement
- a. Eligibility: Available to all MAI buildings which produce a standard product.
 - b. Baseline Year: 2022, but the building owner may request a baseline year as early as 2018. See 3.6.5.5.1.b above for further detail.
 - c. Additional Benchmarking Submission Requirements: Annual submission of chosen custom metric(s) with benchmarking submission.
 - d. Target: Improve the building's production efficiency (see definition in Appendix H) by an estimated 15% by the interim performance year and by an estimated 30% by the end of the final performance year, as compared to the baseline year.
 - e. Credits Available: Renewables Credit, Fossil Fuel Reduction Credit

Demonstration of Compliance for the Prescriptive Pathway:

Step 1: MAI Buildings with an approved MAI Designation must apply to the MAI ACO by December 1, 2024. The application for the Prescriptive Pathway requires the following:

- Receive an energy audit from an auditor listed on the trained MAI vendor list, available on CASR's website. To be listed, energy auditors must have attended an MAI vendor training and passed a quiz on the compliance structure for MAI buildings. The energy audit must satisfy the CASR-defined minimum requirements outlined in Section 3.6.1.1.3. Please refer to the MAI Energy Audit Educational Guide for further detail.
- The building owner must create an Action Plan upon completion of the energy assessment. The Action Plan will document what recommendations will be implemented by the interim year (2026; achieve 50% of the 2030 goal required by the chosen metric) and the final year (2030; 100% of the chosen metric goal). The Action Plan should be a maximum of 10 pages.
 - The Action Plan may reflect the investments already made in the building if said investments were made after the chosen baseline year. The associated savings and supporting documentation must be provided as an attachment to the Action Plan, proving that the investments were made and the savings were realized. These investments will count toward the interim performance target if the savings can be proven via benchmarking data.
 1. For example, if the building owner chooses a baseline year of 2018 and had made investments in the building in 2019 which resulted in an actual 10% EUI reduction (based on benchmarking data, the building's actual energy performance), and the building owner chose the 30% EUI reduction metric, then goal could be an estimated 20% EUI reduction. If a building has this situation, the building owner or manager should have a conversation with CASR's Industrial Administrator.
 - The Renewables Credit and the Fossil Fuel Reduction Credit may be, but are not required to be, included as part of the building's Action Plan. However, if, upon completion of the energy audit, the identified opportunities for a



building do not result in an estimated 30% savings in the chosen metric, the building must include one or both supplemental credits in the Action Plan to reach the target. See Section 3.6.5.7 for more information on supplemental credits.

- Agricultural Building Minimum Requirements: If, as part of the Action Plan, the owner of an agricultural building installs new grow lights, they must ensure that all grow lights are DLC-listed horticultural grow lights, to ensure a minimum PPE of 1.9 $\mu\text{Mol}/\text{J}$. PPE is an industry-accepted metric for horticultural lighting efficacy.
- The energy audit report and completed Action Plan are due to CASR by December 1, 2024.

Step 2: CASR will review and approve, amend, or reject the Action Plan. The review process is as follows:

- After all deliverables (i.e., energy audit report and completed Action Plan) have been submitted, CASR will review the complete package to ensure that it aligns with all requirements. CASR may request additional documentation or clarification on any of the submitted documents. After CASR has completed its review, it will use the proposed information to create and issue an Action Plan Approval Letter. After CASR has issued the Action Plan Approval Letter, the building owner will have thirty (30) days to appeal the approval by submitting a revised Action Plan. CASR will review the revised Action Plan and either issue a new Action Plan Approval Letter, ask for additional clarification or documentation, or reject the appeal. If the appeal is rejected, the building owner may proceed using the previously approved Action Plan or choose a Performance Pathway.
- All items included in the Action Plan Approval Letter become requirements of the Prescriptive Pathway for that building and a building owner must successfully complete all of the requirements to be in compliance. If a building cannot complete a given item in the signed Action Plan by the deadline, the building owner must contact CASR and indicate which measure(s) cannot be completed, a reason for the inability to complete the measure(s), and an explanation of why the building owner cannot apply for a timeline adjustment in order to complete the measure at a date beyond the performance period. CASR will work with the building owner to adjust the Action Plan accordingly, if applicable.

Step 3: The building must complete the first half of the Action Plan (i.e., 50% of the estimated savings goal) by the end of the interim performance year (2026). This will be confirmed in the Interim Implementation Report, due by March 1, 2027. The building owner must submit to CASR an interim implementation report confirming the successful implementation of the first half of the Action Plan.

- Note: During the year of the required submission of the Interim Implementation Report (i.e., March-December 2027), CASR will visit a minimum 10% of MAI buildings pursuing this Prescriptive Pathway to verify the successful implementation of the measures outlined in the first half of the Action Plan.

Step 4: The building must complete the Action Plan by the end of the final performance year (2029). This will be confirmed in the Final Implementation Report, due by March 1, 2030. The building owner must submit to CASR a final implementation report confirming the successful implementation of the entire Action Plan.

- Note: During the year of the required submission of the Final Implementation Report (i.e., March-December 2030), CASR will visit a minimum 10% of MAI buildings



pursuing this Prescriptive Pathway to verify the successful implementation of the measures outlined in the Action Plan.

Step 5: The building must complete and submit to CASR an Evaluation, Monitoring, and Verification Report by June 1, 2031, along with the annual benchmarking submission. This step allows CASR and the building owner to measure and verify the performance of the energy efficiency investments made in the building against the predicted savings, based on 2030 data.

- Based on the completed Action Plan, buildings are estimated to see a 30% savings. If the Evaluation, Monitoring, and Verification Report and the 2030 benchmarking data shows less than a 20% actual savings, after the evaluation of the fossil fuel reduction and renewables credits, the building owner must complete Step 6.

Step 6: If the Evaluation, Monitoring, and Verification Report and the 2030 benchmarking data shows less than a 20% actual savings, the building must take one additional step, and implement a Corrective Action Plan to ensure that the new equipment was commissioned correctly and is operating as intended. The completed Correction Action Plan would then be due on June 1, 2032, along with the annual benchmarking submission.

- If at least a 20% actual savings is realized, then Step 6 will not be required.

Buildings pursuing the MAI ACO Prescriptive Pathway must follow the following timeline in Table 6B for compliance, unless said timeline is adjusted through a timeline adjustment alternate compliance option (see Section 3.6.2).

TABLE 6B – MAI ACO PRESCRIPTIVE PATHWAY TIMELINE

Deadline	Prescriptive Pathway Requirements	Benchmarking & Renewable Credit Submission Deadline
		December 1, 2023
December 1, 2024	Submit chosen pathway and metric, energy audit, and Action Plan	June 1, 2024
		June 1, 2025
December 31, 2026	Interim year – Building completes half of Action Plan (i.e., 50% of the estimated savings goal)	June 1, 2026
March 1, 2027	Building submits interim Implementation Report	June 1, 2027
		June 1, 2028
December 31, 2029	Building completes Action Plan	June 1, 2029
March 1, 2030	Building submits final Implementation Report	June 1, 2030
June 1, 2031	Building submits Evaluation, Monitoring, and Verification Report; City communicates compliance status, issues penalties (if needed), and informs the building on next steps and whether a Corrective Action Plan is required	June 1, 2031
June 1, 2032	Building submits Corrective Action Plan (if required)	June 1, 2032

If a building pursuing the Prescriptive Pathway does not comply with the Action Plan or any other requirement of the Prescriptive Pathway, then the Performance Pathway, 30% EUI Reduction will be assigned for compliance and penalty evaluation purposes.



3.6.5.7 Supplemental Credits

A building owner may supplement any of the metrics listed above, except for the EPA Plant EPI Score metric, with one or both of the following supplemental credits:

1. Renewable Credit: See “Renewable Credit” in Section 3.5 of this document.
2. Fossil Fuel Reduction Credit: If, between the baseline year and the performance evaluation year, an MAI building reduces its direct FF consumption (e.g., through efficiency improvements, the electrification of fossil fuel equipment, the removal of extraneous fossil fuel equipment, etc.), then the percentage of fossil fuel reduction, relative to the baseline year, will be directly credited towards the chosen metric, using the following formula:

$$\text{Credit} = \frac{\text{Baseline FF Usage} - \text{Final FF Usage}}{\text{Baseline Total Energy Usage}} \times 100\%$$

Where “Baseline FF Usage” is the annual site energy usage from fossil fuels in the baseline year, “Final FF Usage” is the annual site energy usage from fossil fuels in the performance year, and “Baseline Total Energy Usage” is the annual site energy usage from all energy sources in the baseline year. The maximum possible credit is 10%.

For example, a building that is 90% electrified at the baseline year and 100% electrified at the performance year will receive a 10% credit. If the goal is a 30% savings and a building receives a 10% credit, then the building only must realize a 20% savings. If the goal is a 30 EUI and the building receives a 10% credit, the building only must realize a 33 EUI.

The Fossil Fuel Reduction Credit will be evaluated during each building’s performance evaluation of the 2026 and 2030 targets. During the evaluation, if it is found that a building has reduced its absolute fossil fuel consumption as compared to the baseline year, the credit will be applied to the chosen pathway and metric before assessing renewable credits and then evaluating the performance of the chosen pathway and metric.

3.6.5.8 MAI Pathway Agreement

After CASR has completed its review of the submission, it will create a Performance Pathway Agreement or Prescriptive Pathway Agreement that is binding as the new performance requirements for the building. The Agreement will include:

- details of the Action Plan (for the Prescriptive Pathway)
- agreed-upon timeline
- reporting requirements
- penalties that would be assessed if the plan is not completed as agreed
 - For the Performance Pathway – follow the agreed-upon schedule in the Performance Pathway Agreement
 - For the Prescriptive Pathway – If the owner chooses a prescriptive pathway but does not comply with the Prescriptive Pathway Agreement, then the Performance Pathway, 30% EUI Reduction will be assigned for compliance purposes.

3.6.5.9 Changing MAI ACO Pathways and Metrics

A building owner may apply to CASR to change their chosen performance pathway after the December 1, 2024 deadline, but the building must comply with the timeline of the new chosen pathway. The signed ACO agreement will be adjusted accordingly.



3.7 Demonstration of Compliance

Compliance with targets is demonstrated through the submission of the annual Benchmarking report and the additional submission of renewable credit information (if applicable). CASR will use the weather-normalized Site EUI and other information from the submissions to determine compliance. The schedule of performance targets and their submission deadlines is presented in Table 7.

TABLE 7 - TARGET AND PERFORMANCE PERIOD SCHEDULE

Target	Performance Period	Benchmarking & Renewable Credit Submission Deadline
2024 Interim	January 1, 2024 to December 31, 2024	June 1, 2025
2025 Maintenance	January 1, 2025 to December 31, 2025	June 1, 2026
2026 Maintenance	January 1, 2026 to December 31, 2026	June 1, 2027
2027 Interim	January 1, 2027 to December 31, 2027	June 1, 2028
2028 Maintenance	January 1, 2028 to December 31, 2028	June 1, 2029
2029 Maintenance	January 1, 2029 to December 31, 2029	June 1, 2030
2030 Target	January 1, 2030 to December 31, 2030	June 1, 2031
2031 Maintenance	January 1, 2031 to December 31, 2031	June 1, 2032
20XX Maintenance	January 1, 20xx to December 31, 20xx	June 1 following year

If a building is exempt from Benchmarking in a given compliance year, then the building must comply through an alternate compliance option.

3.7.1 Electrification Credit

Percent electricity will be evaluated during each building's performance evaluation of the 2024, 2027, 2030 targets. During the evaluation, if it is found that a building reached 80% whole building electrification as measured by percent electricity, the 10% electrification credit will be applied to the EUI before assessing renewable credits and then evaluating Site EUI performance.

3.7.2 Performance Evaluation

CASR will begin the performance evaluation process on June 1 each year. The process, shown in Figure 5, includes:

- Confirming the benchmarking submission is complete
- Checking if the owner has an approved alternative compliance option
- Assessing the building's percent electricity metric
- Checking if the owner submitted a renewable credit submission

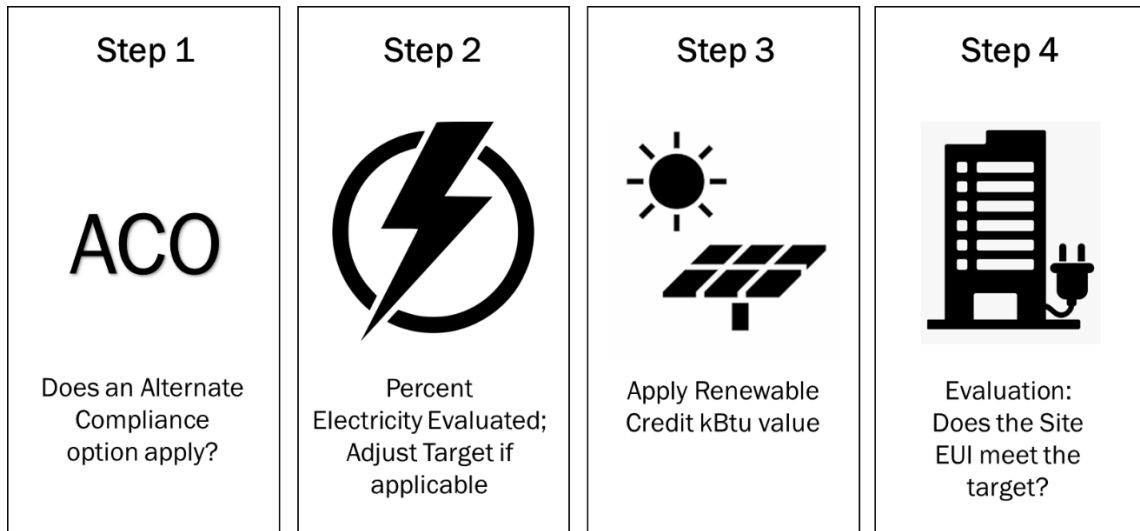


FIGURE 5 – PERFORMANCE EVALUATION PROCESS

When evaluating performance, CASR is examining the difference between the EUI achieved during the performance period (minus the renewable and electrification credits if applicable) with the EUI Target required. Performance Evaluation:

- If the kBtu difference is a positive number, the building used more kBtu than the target allowed, resulting in a “kBtu not achieved” value. This means the building did not meet their target EUI for the performance period.
- If the kBtu difference is a negative number, the building used less kBtu than the target allowed, meaning the building met their target EUI and is in compliance for the performance period.

Building owners will be notified of the building’s compliance status by an email to the contacts on file. If CASR does not have a building contact email, a letter will be mailed to the building’s main address.

4. DISCLOSURE BEFORE AND UPON SALE

When the building is listed for sale, including any listings, notices, advertisements of sale, term sheets, and contracts of sale, the current owner is required to disclose the building’s compliance status with the performance requirements, including all performance targets, any approved alternate compliance pathways, and any penalties assessed, to a prospective buyer prior to the sale of the building.

When a building changes ownership, it is required that the previous Owner transfer any information pertaining to the building’s energy benchmarking submissions or details on its performance requirements and progress made.

Information to transfer to the new building owner should include:

- Building 25,000 square feet and larger:
 - the most recent benchmarking submission
 - existing ENERGY STAR Portfolio Manager property profile
 - any energy and space use data that has been collected
 - any information, plans, or reports submitted to CASR for alternate compliance options



- information describing progress toward meeting the Energize Denver performance requirements (including technical assistance received as an under-resourced building)
- Buildings 5,000 – 24,999 square feet:
 - information describing progress toward meeting the Energize Denver performance requirements for smaller buildings (including technical assistance received as an under-resourced building)

5. PENALTIES AND ENFORCEMENT

5.1 Penalties

CASR prefers that building owners invest in their buildings to reach the 2030 targets instead of paying penalties to the city and is committed to supporting building owners with their efforts and exploring the flexibility that alternate compliance options can afford. As recommended by the Task Force, CASR will “focus its efforts on doing everything it can to support those out of compliance in quickly putting a plan in place and implementing upgrades as soon as possible, rather than simply fining those who missed their first compliance target.” CASR is structuring the penalties to be slightly higher than the average cost of compliance to assist project and facility managers with getting approvals on projects with good returns from energy savings. The team is also committed to assisting under-resourced buildings with designing and implementing compliance plans so that penalties are not imposed.

5.1.1 Types of Penalties

For the performance requirements, there are two main types of penalties: a *target penalty* and a *maintenance penalty*.

- Target Penalty – A *target penalty* is assessed if the building did not reach the 2024 Interim Target, 2027 Interim Target, or 2030 Target. If the building has not met the 2030 target, it will stay at the target penalty level annually assessed until the target is met.
- Maintenance Penalty - Once the building reaches its 2030 target, it would be switched over to a *maintenance penalty* on an annual basis for not maintaining the 2030 target indefinitely. If the building’s annual site EUI is 5% worse than the target it is supposed to be maintaining, the building would switch back to the target penalty level until the target has been achieved again.

There are other reasons why a penalty may be assessed:

- A complete and accurate Benchmarking report was not submitted by the annual deadline
- Errors in data the Owner has submitted to CASR, that could include energy use data, solar generation, and capacity, use attributes, building information, calculations, or results. The Owner must correct such errors, submit the updated benchmarking report to CASR, and notify CASR of the updated submission. Failure to correct the errors would be considered a failure to submit a complete and accurate report for that year.
- Knowingly withholding information or submitting inaccurate information that affects performance evaluation
- Building owner does not satisfy the requirements of an Alternate Compliance Timeline Adjustment agreement

5.1.2 Penalty Assessment

For the performance requirements, penalties are assessed by taking the “kBtu not achieved” as calculated in the Performance Evaluation Section 3.7.2, then multiplying it by the cost per kBtu to calculate the penalty amount.



“kBtu not achieved” * Cost/kBtu = \$ penalty amount

For buildings that have received an approved benchmarking exemption and alternate compliance option for the performance evaluation year, penalties would be assessed according to the ACO agreement. For buildings without a benchmarking report for an evaluation year, penalties are assessed using either the previous year’s benchmarking report or the local median EUI data by building type for 2019 if the building has never benchmarked. If a previous benchmarking report is used, the assumption will be that no improvements have been made and performance is at the same level. If CASR has never received a benchmarking report and uses 2019 local median EUI data, the assumption will also be that the building continues to perform at the median and penalties will be assessed accordingly.

5.1.3 Penalty Schedule

Energize Denver’s Task Force recommended that “fines should be somewhat more than the cost of compliance and should be heftier for buildings with an alternate compliance timeline. The compliance obligation and status of the building must be tied to the building with disclosure requirements, an attachment to the deed or a development agreement that attaches to the parcel.” The Energize Denver Ordinance enables CASR to assess a civil penalty of “up to \$0.70 for each required kBtu reduction per year that the owner’s covered building fails to achieve in that year.” [CASR reserves the right to enforce penalties at the maximum level but will assess penalties at the minimum level provided in Table 8](#), so building owners can focus on achieving the 2030 targets without maintenance penalties along the way. The full penalty schedule with minimum and maximum levels is in Appendix F.

The Target Penalties for commercial and multifamily buildings were calculated across three compliance periods (two interim targets and one final target). The Target Penalties for existing MAI buildings were calculated across two compliance periods (one interim target and one final target) and the Target Penalty for new MAI buildings was calculated for one compliance period (one final target), which accounts for the differences in penalty levels in Table 8.

TABLE 8 – MINIMUM PENALTY SCHEDULE

Type	Penalty Level	Assessment Period
Benchmarking, failure to correct errors, knowingly withholding or inaccurate information	\$2,000	annually
Target Penalty	\$0.30/kBtu	2024, 2027, 2030
Target Penalty – Alternate Compliance Option for Existing MAI Buildings	\$0.42/kBtu	2026, 2030
Target Penalty – Alternate Compliance Option for New MAI Buildings	\$0.63/kBtu	2030
Maintenance Penalty	\$0.05/kBtu	Starting 2031 then annually
Failure to reach target as agreed in Timeline Adjustment Agreement	According to date of submission in Tables 5A, 5B, or 5C	As outlined in agreement

A visual representation of the enforcement timeline is shown in Figure 6. As a reminder, timeline adjustments are available to owners who are making efforts at compliance and need assistance with the target timelines.

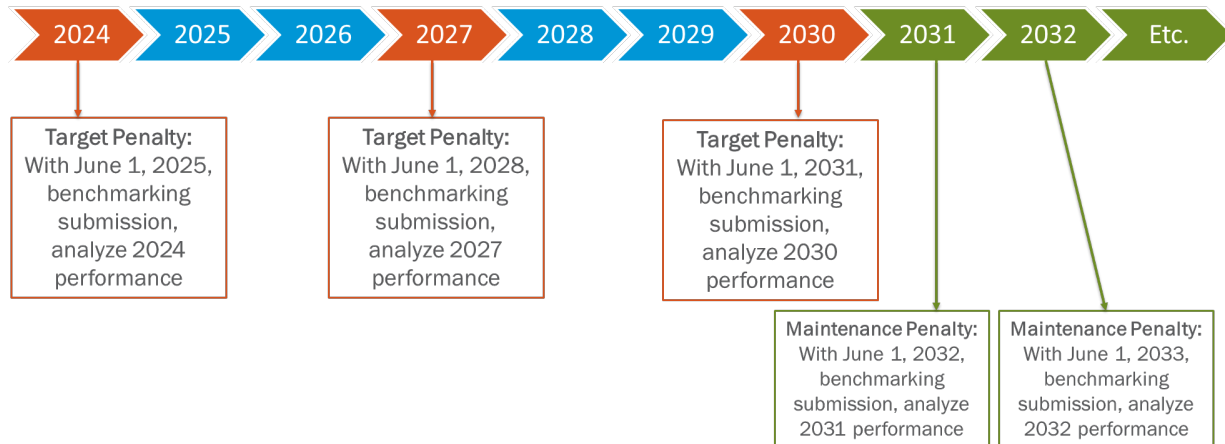


FIGURE 6 – VISUAL REPRESENTATION OF MINIMUM PENALTY SCHEDULE

5.1.4 Example Compliance Scenarios with Penalties for Commercial and Multifamily Buildings

This section contains several examples of combining different compliance strategies and resulting penalties assessed for commercial and multifamily buildings. Penalties are cumulative because the interim targets are designed to help the building be on track to meet the 2030 target, so early action is encouraged. In all of these examples, the minimum level for target penalties were assessed in an Office building that is 150,000 sq. ft.

5.1.4.1 Example # 1

This example shows a building that did nothing to improve their EUI (Table 9).

Scenario:

- Did not receive the electrification credit
- Did not purchase or install renewables
- Did not apply for a timeline adjustment ACO
- Building achieved *no reduction* from a 2019 baseline of 80 EUI

TABLE 9 – EXAMPLE 1: NO REDUCTIONS

Year	EUI Targets	EUI Actual	kBtu Performance	kBtu Target	kBtu not achieved	Penalty Level	Penalty	
2024	69	80	12,000,000	10,350,000	1,650,000	\$0.30/kBtu	\$495,000	
2027	59	80	12,000,000	8,850,000	3,150,000	\$0.30/kBtu	\$945,000	
2030	48.3	80	12,000,000	7,245,000	4,755,000	\$0.30/kBtu	\$1,426,500	
Cumulative Penalties								\$2,866,500

5.1.4.2 Example # 2

This example shows a building that did make some progress on their 2030 target but did not take advantage of the renewables credit to fill in the gap (Table 10).

Scenario:



- Did not receive the electrification credit
- Did not purchase or install renewables
- Did not apply for a timeline adjustment ACO
- Building achieved *some reduction in EUI*

TABLE 10 – EXAMPLE 2: SOME EUI REDUCTIONS

Year	EUI Targets	EUI Actual	kBtu Performance	kBtu Target	kBtu not achieved	Penalty Level	Penalty
2024	69	67	10,050,000	10,350,000	-	\$0.30/kBtu	\$0
2027	59	58	8,700,000	8,850,000	-	\$0.30/kBtu	\$0
2030	48.3	52	7,800,000	7,245,000	555,000	\$0.30/kBtu	\$166,500
Cumulative Penalties							\$166,500

5.1.4.3 Example # 3

This example shows a building that knew they were going to miss the 2024 target but purchased renewables instead of submitting a timeline adjustment application. It did make some progress on their 2030 target and used renewables again in 2030 to fill in the gap (Table 11).

Scenario:

- Did not receive the electrification credit
- Purchased long-term off-site renewables contract
- Did not apply for a timeline adjustment ACO
- Building achieved *their 2030 target with EUI reductions and Renewables Credit (RC)*

TABLE 11 – EXAMPLE 3: EUI REDUCTION AND RENEWABLE CREDIT

Year	EUI Targets	EUI Actual	kBtu Performance	kBtu Target	kBtu not achieved	Penalty Level	Penalty
2024	69	72+RC	10,300,000	10,350,000	-	\$0.30/kBtu	\$0
2027	59	62+RC	8,700,000	8,850,000	-	\$0.30/kBtu	\$0
2030	48.3	52+RC	7,100,000	7,245,000	-	\$0.30/kBtu	\$0
Cumulative Penalties							\$0

5.1.4.4 Example # 4

This example shows a building that was planning a renovation with energy efficiency measures for 2024 with some operational adjustments occurring in 2025 and a solar installation, so they submitted a timeline adjustment application (Table 12). Through the timeline agreement, the new target dates for the building were 2026 and 2030.

Scenario:

- Did not receive the electrification credit
- Installed renewables
- Timeline adjustment shifted the targets to 2026 and 2030
- Building achieved *their 2030 target with EUI reductions and Renewables Credit (RC)*

TABLE 12 – EXAMPLE 4: TIMELINE ADJUSTMENT AND RENEWABLE CREDIT

Year	EUI Targets	EUI Actual	kBtu Performance	kBtu Target	kBtu not achieved	Penalty Level	Penalty
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2026	60	42+RC	5,800,000	9,000,000	-	\$0.40/kBtu	\$0
2030	48.3	42+RC	5,800,000	7,245,000	-	\$0.40/kBtu	\$0
Cumulative Penalties							\$0

5.1.4.5 Example # 5

This example shows a building that reached their 2030 target and was shifted to maintenance penalty levels (Table 13). This example would also be applicable to MAI buildings in addition to commercial and multifamily buildings. For 2031, the building maintained their EUI target and even performed a little better in 2032. In 2033, the building's energy performance worsened, resulting in a small penalty at the \$0.05/kBtu level. In 2034, the building's performance continued to worsen, more than 5% away from their EUI target, so the penalty was switched back to the target penalty of \$0.30/kBtu. In 2035, the building corrected their energy performance within 5% of the EUI target, they would be switched back to the smaller maintenance penalty level, or even better, no penalties if performance is better than the target.

Scenario:

- Building met their 2030 target and switched to maintenance penalties
- Maintained target for two years but went above 5% threshold in 2034, so target penalty level assessed (5% threshold = 50.7 EUI or 7,605,000 kBtu)

TABLE 13 – EXAMPLE 5: MAINTENANCE PENALTIES

Year	kBtu Performance	kBtu Target	kBtu not achieved	Penalty Level	Penalty
2031	7,245,000	7,245,000	0	\$0.05/kBtu	\$0
2032	7,200,000	7,245,000	0	\$0.05/kBtu	\$0
2033	7,295,000	7,245,000	50,000	\$0.05/kBtu	\$2,500
2034	8,000,000	7,245,000	755,000	\$0.30/kBtu	\$226,500
2035	7,200,000	7,245,000	0	\$0.05/kBtu	\$0

5.1.5 Example Compliance Scenarios with Penalties for MAI Buildings

This section contains several examples of combining different compliance strategies and resulting penalties assessed for MAI buildings pursuing the MAI alternate compliance option. Penalties are cumulative because the interim target (if applicable) is designed to help the building be on track to meet the 2030 target, so early action is encouraged. In all of these examples, the minimum level for target penalties were assessed in an MAI building that is 150,000 sq. ft.

The chosen metric in these examples was assumed to be the 30% EUI Reduction metric, but the same concepts and calculations apply to other metric options. For example, EUI can be substituted for production efficiency in the below examples using the following formula:

$$\text{Production Efficiency} \left(\frac{\text{kBtu}}{\text{Widget}} \right) = \frac{\text{Total Building Energy} \left(\frac{\text{kBtu}}{\text{year}} \right)}{\text{Total Widgets Produced per Year}}$$

If an MAI building chooses a metric in the Performance Pathway and for some reason their penalties are higher than they would have been in the 30% EUI Reduction metric, the maximum penalty the building will be assessed will be the penalty for the 30% EUI Reduction metric.



For the interim calculation for the 75 EPI Score Target, the EPI tool “Reference Plant” will be adjusted by the CASR team to determine the level of site energy (kBtu/year) needed to achieve the required interim score with an equivalent level of production. The actual plant energy may increase or decrease by a different percentage if the level of production has changed.

5.1.5.1 Example # 1

This example shows an existing MAI building that did nothing to improve their EUI (Table 14).

Scenario:

- Did not receive the fossil fuel reduction credit
- Did not purchase or install renewables
- Did not apply for a timeline adjustment ACO
- Building achieved *no reduction* from a 2022 baseline of 80 EUI

TABLE 14 – EXAMPLE 1: NO REDUCTIONS

Year	EUI Targets	EUI Actual	kBtu Performance	kBtu Target	kBtu not achieved	Penalty Level	Penalty
2026	68	80	12,000,000	10,200,000	1,800,000	\$0.42/kBtu	\$756,000
2030	56	80	12,000,000	8,400,000	3,600,000	\$0.42/kBtu	\$1,512,500
Cumulative Penalties							\$2,268,000

5.1.5.2 Example # 2

This example shows an existing MAI building that did make some progress on their 2030 target but did not take advantage of the renewables or fossil fuel reduction credits to fill in the gap (Table 15).

Scenario:

- Did not receive the fossil fuel reduction credit
- Did not purchase or install renewables
- Did not apply for a timeline adjustment ACO
- Building achieved *some reduction in EUI* from a 2022 baseline of 80 EUI

TABLE 15 – EXAMPLE 2: SOME EUI REDUCTIONS

Year	EUI Targets	EUI Actual	kBtu Performance	kBtu Target	kBtu not achieved	Penalty Level	Penalty
2026	68	68	10,200,000	10,200,000	N/A	\$0.42/kBtu	\$0
2030	56	60	9,000,000	8,400,000	600,000	\$0.42/kBtu	\$252,000
Cumulative Penalties							\$252,000

5.1.5.3 Example # 3

This example shows an existing MAI building that knew they were going to miss the 2026 target but purchased renewables instead of submitting a timeline adjustment application. It did make some progress on its 2030 target and used renewables again as well as the fossil fuel reduction credit in 2030 to fill in the gap (Table 16).



Scenario:

- Received the fossil fuel reduction credit in the final performance year
- Purchased long-term off-site renewables contract
- Did not apply for a timeline adjustment ACO
- Building achieved *some reduction in EUI* from a 2022 baseline of 80 EUI

TABLE 16 – EXAMPLE 3: SOME EUI REDUCTIONS AND RECEIVED ADDITIONAL CREDITS

Year	EUI Targets	EUI Actual	kBtu Performance	kBtu Target	kBtu not achieved	Penalty Level	Penalty
2026	68	75+RC	10,200,000	10,200,000	N/A	\$0.42/kBtu	\$0
2030	56	70+RC+Fossil Fuel Reduction Credit	8,000,000	8,400,000	N/A	\$0.42/kBtu	\$0
Cumulative Penalties							\$0

5.1.5.4 Example # 4

This example shows a new MAI building that was pursuing the renewable power generation metric and made some progress on their 2030 target, but fell short of the goal (Table 17).

Scenario:

- Purchased long-term off-site renewables contract and/or installed on-site renewables
- Did not apply for a timeline adjustment ACO
- Building installed or purchased *some but not all* of the renewables necessary to hit the 30% goal, given a performance year EUI of 80

TABLE 17 – EXAMPLE 4: NEW MAI BUILDING WITH SOME RENEWABLES

Year	EUI in 2030	kBtu renewables required	kBtu renewables generated	kBtu not achieved	Penalty Level	Penalty
2030	80	3,600,000	3,000,000	600,000	\$0.63/kBtu	\$378,000
Cumulative Penalties						\$378,000

5.1.5.5 Example # 5

This example shows a new MAI building that was constructed in November 2024 and was pursuing the efficiency maintenance metric with a 2026 baseline year. The building's energy efficiency worsened in between the baseline year and when compliance was due in 2030 (Table 18).

Scenario:

- Did not purchase or install renewables
- Did not apply for a timeline adjustment ACO
- Building *increased its EUI* from a 2026 baseline of 80 EUI

TABLE 18 – EXAMPLE 5: NEW MAI BUILDING WITH AN INCREASE IN EUI



Year	EUI in 2030	EUI Target	kBtu Performance	kBtu Target	kBtu not achieved	Penalty Level	Penalty
2030	85	80	12,750,000	12,000,000	750,000	\$0.63/kBtu	\$472,500
Cumulative Penalties							\$472,500

5.2 Enforcement

5.2.1 Benchmarking

Owners of covered buildings will be subject to a civil penalty, according to Table 6, if the building’s benchmarking report is not submitted by the annual deadline. The following is an outline of the steps for benchmarking penalty assessments, shown as a timeline in Figure 7:

- 1. Warning Notice:** Once the deadline has passed, CASR will send a warning notice by email. The building owner will have a 30–60-day grace period from the benchmarking deadline to submit the benchmarking report or correct data issues in a “pending” submission. The length of the grace period will be determined by CASR on an annual basis.
- 2. Civil Penalty - Administrative Citation:** If the building owner is not in compliance by the end of the grace period, an administrative citation is issued. The building owner has 30 days to either submit the benchmarking report (which nullifies the citation) or file an appeal.
- 3. Payment:** If the building owner does not file an appeal or submit the benchmarking report, the owner has one hundred eighty (180) days from the date of the citation to pay the penalty amount with the manager of finance.
- 4. Property Lien:** If a building owner fails to pay the required amount within one hundred eighty (180) days, the civil penalty will be considered a debt to the city until paid in full. The debt is a perpetual lien on the property, and is superior and prior to all other liens, regardless of their dates of recordation, except for liens for general taxes and prior special assessments, until the civil penalty owed, delinquent interest, and recording fees have been paid in full.

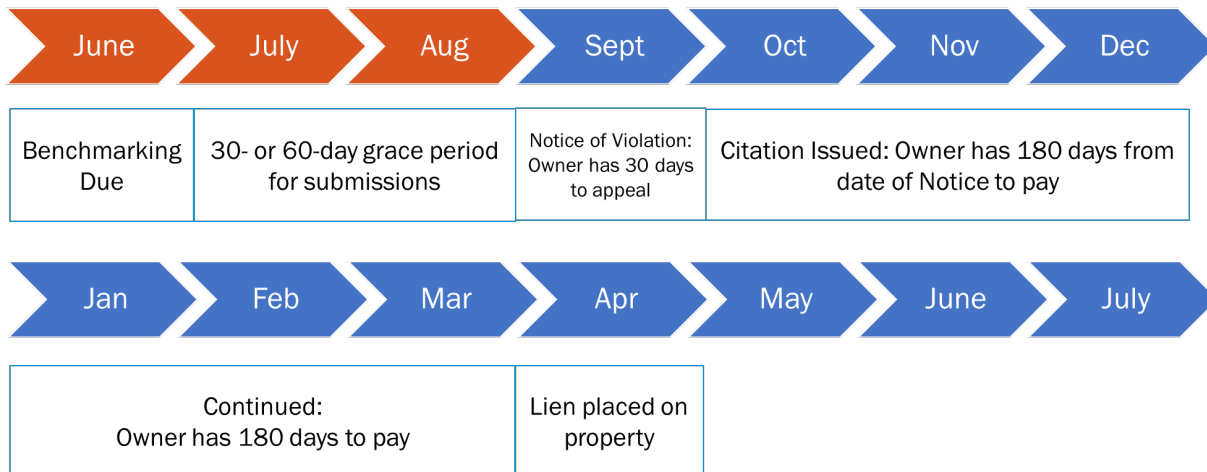


FIGURE 7: BENCHMARKING REQUIREMENTS ENFORCEMENT TIMELINE

5.2.2 Performance Requirements

Building owners will be subject to a civil penalty, in accordance with Table 6, if targets have not been achieved or maintained or another reason previously listed. The following is an outline of the steps for penalty assessments, shown as a timeline in Figure 8:

- 1. Warning Notice:** Once the performance evaluation has been completed for a covered building, CASR will send a warning notice. The building owner will have ninety (90) days from



- the date of the warning notice to submit an application for an alternate compliance option, if applicable.
2. Notice of Violation: If the building owner has not applied for an alternate compliance option by the end of the 90 days, CASR will issue a notice of violation. The building owner will have thirty (30) days to file an appeal of the notice of violation (see Section 5.2.3).
 3. Civil Penalty – Administrative Citation: If the building owner has not filed an appeal, an administrative citation is issued. The building owner has one hundred eighty (180) days to pay the penalty with the manager of finance.
 4. Property Lien: If a building owner fails to pay the required amount within one hundred eighty (180) days, the civil penalty will be considered a debt to the city until paid in full. The debt is a perpetual lien on the property, and is superior and prior to all other liens, regardless of their dates of recordation, except for liens for general taxes and prior special assessments, until the civil penalty owed, delinquent interest, and recording fees have been paid in full.

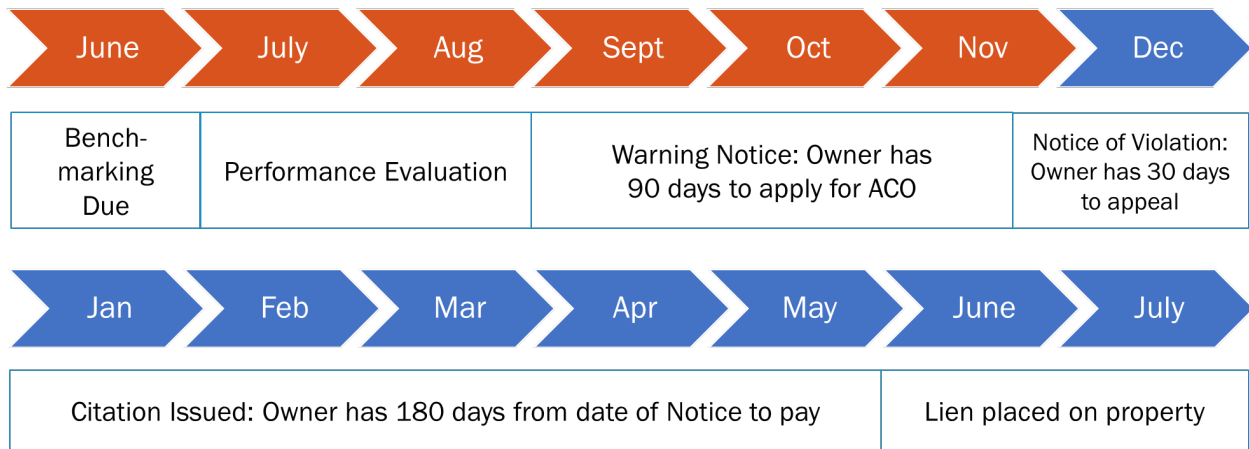


FIGURE 8: PERFORMANCE REQUIREMENTS ENFORCEMENT TIMELINE

5.2.3 Appeals

A building owner has the right to appeal the administrative citation by filing a “petition for appeal.” All documents to be filed with the Director must be submitted through the online form or delivered to CASR at 201 W. Colfax Avenue, 7th floor, Denver, CO 80201, or other address as directed on its website.

5.2.3.1 Initiating an Appeal

An appeal is initiated by filing a Petition for Review of a Notice of Violation. The Petition, together with a nonrefundable filing fee, must be filed within thirty (30) days from the date of service of the Notice or Order being appealed, or within a time period outlined in the Notice or Order. The filing fee for an appeal of a Notice of Violation is \$25.00. Payments by check must be payable to the Manager of Finance. Timely filing of the Petition and payment of the filing fee are jurisdictional prerequisites to an appeal.

5.2.3.1.1 Petition for Review

All petitions, briefs, and other papers must be written or typed, and if any of these papers are illegible, the Manager may refuse to accept the filing. No particular form of petition is required, provided the petition includes:

- Petitioner's name, mailing address, and telephone number.
- If Petitioner has legal representation, the name, mailing address, and telephone number of that representative.



- The Code provision(s) and, if any, the rule and regulation at issue; the dollar amount in controversy; and the time during which the matter at issue accrued or occurred.
- A copy of the Notice or Order under appeal.
- The reason(s) Petitioner believes the Notice or Order is factually or legally contrary to the ordinances of the city, or the policies and regulations of the department.
- A statement of the relief requested (i.e., outcome desired).
- If appropriate, any exhibits (including any drawings, floor plans, or pictures) supporting Petitioner's position.
- The signature of the Petitioner or Petitioner's legal representative.

If a legible petition is timely filed with the filing fee and substantially includes the information listed in this section, the hearing clerk must accept the petition. If the petition is illegible or does not substantially comply, the hearing clerk may refuse to accept the filing, but must provide written notice to the petitioner describing the deficiency.

5.2.3.2 *Representation*

A natural person may represent himself or herself or be represented by an attorney admitted to practice in any of the United States. If the Petitioner is not a natural person or sole proprietor, it must be represented by an attorney admitted to practice in any of the United States unless the Director allows a shareholder, member, partner, board member, or officer to represent the business entity. In this case, the representative of the business entity must submit a properly executed power of attorney at or before the hearing.

5.2.3.3 *Responsibilities of the Director and/or Hearing Officer*

- Determination of Each Appeal - The Director and/or Hearing Officer will conduct a hearing on each accepted Petition, including those submitted for determination based on written argument and written statement of facts.
- Assignment of Hearing Officer - the Director, at their sole discretion, may delegate the conduct of the hearing or the review of a matter submitted for determination based on written argument and written statement of facts to a Hearing Officer.
- Duties and functions - the Hearing Office and/or Manager will perform the duties and functions necessary and incidental to determining the matter, hearing all evidence, examining all documents, ruling on evidentiary questions, and generally conducting a quasi-judicial proceeding in conformance with the Code, these Rules, and other applicable rules and regulations.
- Subpoenas. Upon request by any party, the Director and/or Hearing Officer may issue a subpoena. The party requesting the subpoena must serve it upon the person whose attendance is required and provide notice to all other parties and interested persons in accordance with Rule 45 of the Colorado Rules of Civil Procedure. All costs related to the subpoena, including witness and mileage fees, must be paid by the requesting party in accordance with Rule 45.

5.2.3.4 *The Hearing*

5.2.3.4.1 *Scheduling the Hearing Date*

- Generally, hearings will be scheduled in the order petitions are filed but may be scheduled out of order as the hearing clerk finds appropriate. If requested, the hearing clerk may grant each party one rescheduling request. At the request of either party, the Director may grant continuances for good cause shown.
- No later than ten (10) days before the hearing, the hearing clerk must provide written notice of the date, time, and place of all hearings to the parties. Written notice must be sent to the



Petitioner via first class mail at the address specified in the Petition and to the Manager of the appropriate division.

5.2.3.4.2 Prehearing Activities

- Ex Parte Communications. All oral and written communications between any party with the Director or the Hearing Officer that are not on the record, concern the subject matter of the appeal, and are made without the other party present or copied on written correspondence are prohibited.
- CASR Response. CASR may file a response to the Petition and provide other information to the Hearing Officer that it believes will assist in deciding the matter. The response is due within 14 days of the Office's receipt of the Petition.
- Petitioner's Appearance/Failure to Appear. Any Petitioner who fails to appear at a scheduled hearing waives the right to a hearing and adjudication of issues related to the hearing, provided that notice of the hearing was mailed in the time and manner set forth in Rule 7.5(E)(v). Failure to appear at a hearing that is noticed in accordance with those requirements, may result in dismissal of the Petition and affirmation of the Notice or Order.
- Prehearing Statement. At the request of any member or upon a motion from a party, the Director may require the parties to file a prehearing statement. The purpose of a prehearing statement is to define the issues to be presented; identify the witnesses and exhibits to be presented, the time required for the hearing; and disclose generally the nature of the testimony to be presented to allow a fair hearing of the issues. The prehearing statement must be filed at least five (5) business days before the hearing date, or as otherwise ordered by the Hearing Officer. The prehearing statement must present the issues raised by the Petition, agreed and disputed facts, copies of exhibits not included with the Petition, names of witnesses with a brief statement summarizing their testimony, and if either party expects that more than 15 minutes will be needed to present their case, a request for a specific amount of time. Petitioner's exhibits must be numbered and the Office's exhibits must be lettered. If a prehearing statement is required and a party fails to list witnesses or to provide copies of exhibits to the prejudice of the other party or the Hearing Officer's consideration of the issues, the Hearing Officer may disallow testimony by unlisted witnesses and may refuse to admit unlisted exhibits into evidence, except for purposes of rebuttal.

5.2.3.4.3 Burden of Proof

- Notices of Violation by the Manager are presumed to be correct. The Notice serves as prima facie evidence of the existence of the violation.
- The Petitioner has the burden of persuasion and must prove by a preponderance of the evidence (presented at the hearing or submitted by written brief and supporting material) that the Notice or Order is legally contrary to the applicable ordinances, rules, and regulations or that the facts presented do not show a violation of the applicable ordinance or rules and regulations.
- For procedural efficiency, the order of proceedings may be altered to require the Office to present its case in support of the Notice or Order first. The burden of persuasion, however, remains with the Petitioner to show the correctness of its position by a preponderance of the evidence.
- Expert Witnesses. A witness intending to give opinion testimony must first be qualified as an expert.
- Recordings and Transcripts. All hearings must be recorded or transcribed. A copy of the recording or transcript of a recording will be provided at the expense of the party who requests it.

5.2.3.4.4 Hearing Order of Proceedings

- Docket call by the Hearing Officer.



- Administration of Oath: All oral testimony must be given under oath administered by the Hearing Officer in substantially the following form: "Do you solemnly swear or affirm that the testimony you are about to give is the truth, the whole truth, and nothing but the truth?" with a required affirmative response.
- Opening statement by a representative of the Office, unless waived or reserved until the opening of CASR's case
- Opening statement by Petitioner, unless waived
- Presentation of testimony and other evidence by Petitioner, allowing cross-examination by CASR (exhibits must be lettered for identification)
- Presentation of testimony and other evidence by CASR with cross-examination by Petitioner (exhibits must be numbered for identification)
- Rebuttal testimony and evidence, if any
- Sur-rebuttal testimony and evidence, if the Hearing Officer chooses
- Argument, if is desired by the Hearing Officer
- Closing argument by Petitioner summarizing the evidence, legal basis, and argument in support of its position. If the Petitioner chooses not to present a closing argument, none will be allowed by CASR.
- Closing argument by CASR summarizing the evidence, legal basis, and argument in support of its position.
- Instead of or in addition to argument, the Hearing Officer may request the submission of written briefs.

5.2.3.4.5 Presentation of Case at Hearing

- Time Allowed. The Petitioner and the Department will each have fifteen minutes to present their respective cases (opening statement, presentation of evidence, rebuttal evidence, and closing statement) to the Hearing Officer unless one of the parties has requested more time to present its case. Cross-examination time is not included in the fifteen-minute time limit. A request for additional time must be made in the prehearing statement if one is required. Otherwise, the request must be made in writing at least seven days before the hearing. In determining whether and how much additional time to allow, the Hearing Officer will consider the complexity of the case, the needs of due process, and fairness to the Parties. This Rule is intended to afford a full and fair hearing of each Petition in an orderly and expeditious manner that will allow for prompt hearing of Petitions.
- Copies. Copies made by printers and by duplicating and facsimile machines may be admitted into evidence or substituted in evidence in place of original documents.
- Electronic Documents. An electronic document, a paper copy of an electronic document, or a paper copy of a document bearing an electronic signature may be admitted into evidence or substituted in evidence in place of original documents.

5.2.3.4.6 Submission on Written Briefs

A petitioner may choose to submit the case on written briefs, supporting data, affidavits, or stipulated facts rather than through oral testimony at a hearing. If the Petitioner chooses to submit a case on written briefs:

- He or she must provide written notice of this election to the Manager at least seven (7) days before the hearing;
- CASR is limited to submitting its position in writing.
- The Hearing Officer will establish a briefing schedule and provide written notice of it to the parties.



5.2.3.5 *Recommended Decision*

The Hearing Officer will make a written Recommended Decision, which must be sent to Petitioner by first class mail, postage prepaid and provided to CASR within 30 days of the date of the hearing.

Possible outcomes:

- If Petitioner did not carry its burden of persuasion, the Hearing Officer may: uphold the Notice or Order; uphold, suspend, or reduce the civil penalty; and require payment of any outstanding assessed civil penalties and costs by a specified date.
- If Petitioner carried its burden of persuasion, the Hearing Officer may dismiss the Notice or Order and overturn the assessment of civil penalties.

Unless a party timely requests the Director to review a Hearing Officer's Recommended Decision, the Recommended Decision becomes the Decision of the Director on the date it is served upon Petitioner by personal service, or if served via U.S. Postal Service, ten days after it is sent first class mail, postage prepaid.

5.2.3.6 *Petition for Director Review of Recommended Decision*

Any party may file a Petition for Director Review of the Hearing Officer's Recommended Decision. The Petition must be filed with the Director within ten (10) days of mailing of the decision. For the purpose of this filing requirement, for a Petition sent via first class mail, postage prepaid, or via overnight delivery service, the date of filing will be the date postmarked or delivered to the City, respectively.

No particular form of Petition for Director Review of the Hearing Officer's Recommended Decision is required, provided that the following information is set forth in writing:

- The case number;
- A summary of the party's objections to the Hearing Officer's findings of fact, conclusions of law, and Recommended Decision;
- A statement of the relief requested;
- The name, address and telephone number of the party seeking Director review of the Recommended Decision, and the name, address, and telephone number of that party's legal representative, if any, authorized to present them in the matter; and,
- The signature of the party seeking Director review of the Recommended Decision or of that party's legal representative.

The Director is not bound by a Hearing Officer's Recommended Decision; the Director's review of Recommended Decisions, however, is limited to the administrative record established at the underlying hearing before the Hearing Officer.

The administrative record includes all filings and documents provided to the Hearing Officer before and during the hearing. If the matter was submitted for determination on written briefs, the administrative record includes the Recommended Decision, filings and documents submitted. An index of the administrative record will be provided to the parties at the time the record is provided to the Director. The administrative record should be provided to the Director at least seven days before the meeting at which it is scheduled for Director review.

5.2.3.7 *Final Decision; Compliance*

When the Director issues a decision either after hearing or determining an appeal in the first instance or after the Director reviews a Recommended Decision, its decision becomes the Final Decision that is subject to review under Rule 106(a)(4), C.R.C.P. If a Petition for Director review of a Recommended Decision is not filed within ten (10) days, the Recommended Decision becomes the Final Decision. All Final Decisions must be complied with. If a Final Decision includes a conditional



waiver of any civil penalty, in whole or in part, and Petitioner does not fully comply with the conditions, the civil penalty is automatically reinstated in its entirety without further Director action.



Appendix A – 2030 Targets

TABLE 20 – 2030 EUI TARGETS BY BUILDING TYPE

EPA Portfolio Manager Building Type	2030 Target site EUI (kBtu/sf/yr)
Adult Education	37.2
Ambulatory Surgical Center	60.7
Aquarium	30% EUI Reduction
Automobile Dealership	42.8
Bank Branch	63.6
Bar/Nightclub	86.6
Barracks	46.3
Bowling Alley	50.5
College/University	60.6
Convention Center	30% EUI Reduction
Courthouse	51.2
Distribution Center	25.4
Enclosed Mall	45.6
Fast Food Restaurant	311.3
Financial Office	48.3
Fire Station	45.6
Fitness Center/Health Club/Gym	50.5
Food Sales	144.3
Food Service	76.9
Hospital (General Medical & Surgical)	165.2
Hotel	61.1
Ice/Curling Rink	30% EUI Reduction
Indoor Arena	30% EUI Reduction
K-12 School	48.0
Laboratory	153.9
Library	52.9
Lifestyle Center	66.6
Mailing Center/Post Office	46.5
Medical Office	69.0
Movie Theater	53.2
Multifamily Housing	44.2
Museum	30% EUI Reduction
Non-Refrigerated Warehouse	27.2
Office	48.3
Other	49.2
Other - Education	37.2
Other - Entertainment/Public Assembly	30% EUI Reduction
Other - Lodging/Residential	51.3
Other - Mall	60.3
Other - Public Services	49.2
Other - Recreation	50.5
Other - Restaurant/Bar	194.1
Other - Services	34.6
Other - Specialty Hospital	165.2



Other - Technology/Science	30% EUI Reduction
Outpatient Rehabilitation/Physical Therapy	60.7
Performing Arts	53.2
Personal Services (Health/Beauty, Dry Cleaning, etc.)	34.6
Police Station	45.6
Pre-school/Daycare	38.9
Prison/Incarceration	83.0
Refrigerated Warehouse	63.9
Repair Services (Vehicle, Shoe, Locksmith, etc.)	32.3
Residence Hall/Dormitory	46.3
Residential Care Facility	63.3
Restaurant	194.1
Retail Store	43.5
Roller Rink	50.5
Self-Storage Facility	7.7
Senior Care Community	63.3
Senior Living Community	63.3
Social/Meeting Hall	33.0
Stadium (Closed)	75.3
Stadium (Open)	75.3
Strip Mall	66.6
Supermarket/Grocery Store	164.4
Transportation Terminal/Station	30% EUI Reduction
Urgent Care/Clinic/Other Outpatient	60.7
Veterinary Office	60.7
Vocational School	37.2
Wholesale Club/Supercenter	43.5
Worship Facility	42.1
Zoo	30% EUI Reduction



Appendix B – Target Adjustment Charts

Utilizing EPA’s Technical reference for swimming pools, parking, and guidance on operating hour binning, targets will be adjusted according to the charts below. The Electrification Adjustment does not follow EPA guidance, but instead is a credit to reward a building for electrifying their building.

If an operating hours adjustment is requested, the Site EUI listed in Tables 21-26 will become the 2030 target, and then adjusted for other adjustments as a second step.

B.1 OPERATING HOURS

TABLE 21: OFFICE

Operating Hours	2030 EUI Target
0-60	48.3 (normal target)
61-80	51.4
81-100	57.3
101+	60.4

TABLE 24: NON-REFRIGERATED WAREHOUSE

Operating Hours	2030 EUI Target
0-65	27.2 (normal target)
66-75	27.9
76-95	29.7
95+	30.9

TABLE 22: RETAIL STORE

Operating Hours	2030 EUI Target
0-80	43.5 (normal target)
81-95	48.0
96-105	55.9
105+	58.6

TABLE 25: REFRIGERATED WAREHOUSE

Operating Hours	2030 EUI Target
0-65	63.9 (normal target)
66-75	64.4
76-95	65.6
95+	66.4

TABLE 23: WORSHIP FACILITY

Operating Hours	2030 EUI Target
0-50	42.1 (normal target)
51-60	44.1
61-90	51.2
91+	56.7

TABLE 26: SUPERMARKET/GROCERY STORE

Operating Hours	2030 EUI Target
0-100	164.4 (normal target)
101-120	170.4
121-145	183.3
145+	190.2



B.2 SWIMMING POOLS

The adjustments in Tables 27-28 are taken from the ENERGY STAR Score technical reference for swimming pools and adjusted to Site EUI metrics. The School property type in this chart includes K-12 School, College/University, and Fitness Center/Health Club/Gym property types.

Calculation:

- Step 1: (2030 EUI Target x Gross Sq. Ft.) + (Pool kBtu) = Adjusted Target kBtu
- Step 2: Adjusted Target kBtu/Gross Sq. Ft. = Adjusted 2030 Target EUI

TABLE 27: INDOOR SWIMMING POOL ADJUSTMENTS

Property Type	Recreational (20 yds x 15 yds)	Short Course (25 yds x 20 yds)	Olympic (50 m x 25 m)
School	1,160,077 kBtu/yr	1,933,462 kBtu/yr	5,781,480 kBtu/yr
Hotel	925,231 kBtu/yr	1,542,051 kBtu/yr	4,611,075 kBtu/yr
Other	775,964 kBtu/yr	1,293,273 kBtu/yr	3,867,174 kBtu/yr

TABLE 28: OUTDOOR SWIMMING POOL ADJUSTMENTS

Property Type	Recreational (20 yds x 15 yds)	Short Course (25 yds x 20 yds)	Olympic (50 m x 25 m)
All	68,124 kBtu/yr	113,540 kBtu/yr	339,513 kBtu/yr

B.3 PARKING

Calculation:

- Step 1: Gross Sq. Ft. of Parking Area x Parking Area Site Energy = Parking kBtu Adjustment
- Step 2: (2030 EUI Target x Gross Sq. Ft.) + (Parking kBtu Adjustment) = Adjusted Target kBtu
- Step 3: Adjusted Target kBtu/Gross Sq. Ft. = Adjusted 2030 Target EUI

TABLE 29: PARKING ADJUSTMENTS

Parking Type	End Use	Parking Area Site Energy
Open Parking	Lighting	2.989 kBtu/ft ² /yr
Partially Enclosed (No Walls)	Lighting	8.967 kBtu/ft ² /yr
Completely Enclosed Parking (Walls)	Lighting	8.967 kBtu/ft ² /yr
	Ventilation	2.39 kBtu/ft ² /yr
	Heating (if present)	0.009354 kBtu/ft ² /yr

*[Technical Reference: Parking and the ENERGY STAR Score in the U.S. and Canada](#)

B.4 Class B Data Centers

Building with Class B data centers, meaning data center square footage is less than 15% of the gross floor area of the building, are eligible for a kBtu adjustment to their 2030 target based on the square footage of the data center. When determining the square footage of the data center, building owners should use the definition in the glossary. The value of the adjustment is 2,000 kBtu/ft²/yr.

B.5 Buildings with more than 3 Property Types

ESPM is designed so that only the largest three property type's square footage information is transmitted to the city in the Benchmarking Report. To calculate the appropriate mixed-use target for buildings with more than three property types, additional information must be submitted. The target adjustment does not have a specific value, but uses weighted calculations based on each building type square footage.



Appendix C – Service Life Chart for Timeline Adjustments

This chart presents the maximum service life that CASR would consider for a particular piece of equipment to extend a building’s compliance timeline. Building owners may experience longer or shorter service life depending on their maintenance practices.

TABLE 30 – SERVICE LIFE CHART FOR TIMELINE ADJUSTMENTS

Equipment Item	Years	Equipment Item	Years
Air Conditioners		Fans	
Window unit	9	Centrifugal	23
Residential single or Split package	14	Axial	18
Commercial through the wall	14	Propeller	14
Water-cooled package	16	Ventilating roof-mounted	18
Heat Pumps		Coils	
Residential or Commercial air-to-air	14	DX, water, or steam	20
Commercial water-to-air	14	Electric	15
Close-coupled, end-suction	17	Heat Exchangers	22
Frame-mounted, end-suction	21	Reciprocating Compressors	18
Split-case, multistage pump	21	Packaged Chillers	
Split-case, single stage	32	Reciprocating or centrifugal	18
Vertical in-line	21	Absorption	25
Rooftop Air Conditioners		Cooling Towers	
Single-zone	12	Galvanized metal	17
Multi-zone	14	Wood	20
Boilers, Hot Water		Ceramic	27
Gas fired	20	Air-cooled Condensers	15
Oil fired	18	Evaporative Condensers	18
Electric	25	Insulation	
Burners	18	Molded	20
Furnaces gas or oil fired	17	Blanket	24
Unit Heaters		Pumps	
Gas or electric	13	Base-mounted	20
Hot water or steam	20	Pipe-mounted	10
Radiant Heaters		Sump and well	10
Electric	20	Condensate	15
Hot water or steam	25	Reciprocating Engines	20
Air Terminals		Steam Turbines	30
Diffusers, Grilles, and Registers	25	Electric Motors	16
Induction and fan coil units	24	Motor Starters	15
VAV and double-duct boxes	18	Electric Transformers	28
Air Washers	15	Air Handling Units	
Ductwork	30	Constant volume	25
Dampers	18	Dual duct	32
Packaged DX		Multi-zone	22
Air-cooled	13	Single-zone	16
Rooftop	14	Variable air volume	18
Water-cooled	15	Variable volume, variable temp	19
Packaged Terminal			
Air conditioner or heat pump	24		



Appendix D – Sample Timeline Adjustment Application



This application is for buildings requesting a timeline adjustment.

Your application will be reviewed by city staff to determine if the building is eligible for additional assistance. You will be notified by email of your application status following its review. If you have questions regarding your application status reach out to the Energize Denver Resource Hub by phone (844)-536-4528 or by email energizedenver@denvergov.org.

To learn more about Energize Denver Performance Requirements visit: <https://www.denver.gov/energizedenver>

I. Personal Information

First Name *	Last Name *
<input type="text"/>	<input type="text"/>
Phone Number *	Email Address *
<input type="text"/>	<input type="text"/>
Relationship to Building *	
<input type="text" value=""/>	
Company Name *	
<input type="text"/>	

II. Building Information

Denver Building ID* [?]	Building Address *
<input type="text"/>	<input type="text"/>
Building Address 2	Building City *
<input type="text"/>	<input type="text" value="Denver"/>
Building Zip *	Building State *
<input type="text"/>	<input type="text" value="Colorado"/>

- The Denver Building ID is a unique 4-digit number assigned to each individual building required to comply with the Energize Denver Benchmarking requirements. All Denver Building IDs and their corresponding addresses can be found on the [Benchmarking Compliance Status Report](#).



III. Timeline Adjustment Application

Timeline adjustment requested *

Reason(s) for Alternative Timeline (check all that apply) *

- Planning for end of system life
- Planning for major renovation
- Landmark Preservation Commission delay
- Financial Distress (as described in Guidance Manual)
- Electrification of space and water heating equipment
- Benchmarking exemption for the performance period of a target
- Steam loop district system limitations
- Innovative approach to energy efficiency
- Change of building ownership
- Other reasons to be considered by CASR on a case-by-case basis

For each reason checked, please provide additional details on why the adjustment is needed: *

Justification for not installing solar/wind on-site or purchasing an off-site contract or subscription to fill the gap *

Data Verification Form *

Energy Audit *

Retrofit Plan *

Operations and Maintenance Program *

Electrification Feasibility Report

Other Supporting Documentation



Appendix E – Retrofit Plan Template

This retrofit plan is intended to give CASR a summary look into what it going to be retrofitted and the implementation timeline. The plan should be a maximum of 5 pages.

The Retrofit Plan (Word or PDF document for submission) must cover four things:

- What improvements and upgrades are you going to perform to achieve the 2030 target?
- When are you going to perform the improvements or upgrades?
- How do those actions enable the building to meet the 2030 target?
- A proposal for performance evaluation timeline targets and reporting progress

- I. What improvements and upgrades are you going to perform?
 - a. Operations and Maintenance
 - i. Explanation of what actions you will take in operations and maintenance to maximize building performance
 - ii. Explain prior work/monitoring and how you plan to adjust O&M in the future once upgrades are performed
 - iii. Examples: retro-commissioning, addressing reactive/proactive/predictive maintenance, continuous improvement models, staff training, green leasing practices, improving building automation systems
 - b. Short Term Payback Actions
 - c. Long term Payback Actions
 - d. Energy Efficiency Measures listed in Energy Audit but not included in upgrade list
 - i. Include an explanation of why these items are not being included in the proposed upgrades
- II. When are you going to perform the improvements or upgrades?
 - a. Create a timeline and list each item and its proposed time
 - b. Explanation of why items cannot be upgraded prior to target periods
 - i. If you're delaying long-term payback upgrades due to end of system life, what other O&M and short-term payback actions will you take now? A proposal with no O&M and short-term actions will be sent back to the owner for adjustment.
- III. How do those actions enable the building to meet the 2030 target?
 - a. List each action and estimated Site EUI reduction
- IV. Proposed Milestone Reporting Plan
 - a. Based on the proposed timeline, provide interim target points for evaluation and updates on progress with supporting documentation requirements. These progress reports are an opportunity for a building owner to communicate challenges and work with CASR to adjust the plan accordingly to achieve the savings target.



Appendix F – Penalty Schedule

The Energize Denver Ordinance enables CASR to assess a civil penalty of “up to \$0.70 for each required kBtu reduction per year that the owner’s covered building fails to achieve in that year.” CASR reserves the right to enforce penalties at the maximum level but intends to assess penalties at the minimum level provided in Table 6. Table 31 below states both the minimum and maximum levels allowed in the ordinance.

TABLE 31 – PENALTY SCHEDULE

Type	Minimum		Maximum	
	Penalty Level	Assessment Period	Penalty Level	Assessment Period
Benchmarking, Failure to correct errors, knowingly withholding or inaccurate information	\$2,000	annually	\$2,000 * number of years not benchmarked	annually
Target Penalty	\$0.30/kBtu	2024, 2027, 2030	\$0.70/kBtu	2024, 2027, 2030
Target Penalty – Alternate Compliance Option for Existing MAI Buildings	\$0.42/kBtu	2026, 2030	\$0.70/kBtu	2026, 2030
Target Penalty – Alternate Compliance Option for New MAI Buildings	\$0.63/kBtu	2030	\$0.70/kBtu	2030
Maintenance Penalty	\$0.05/kBtu	Starting 2031 then annually	\$0.10/kBtu	2025, 2026, 2028, 2029, 2031+
Failure to reach target as agreed in Alternate Compliance Agreement	According to date of submission in Table 5	As outlined in agreement	\$0.70/kBtu	As outlined in agreement

If CASR chooses to assess penalties at the maximum level, Table 32 shows an example of an Office building that is 150,000 square feet that did not make any attempts to reach the 2030 targets and maintained the same level of performance as 2019. In this scenario, the building would be assessed target penalties for the interim and final targets, and maintenance penalties in the between years for not maintaining the targets.

TABLE 32 – EXAMPLE 3: MAXIMUM LEVEL TARGET AND MAINTENANCE PENALTIES

EUI Target	Year	kBtu Performance	kBtu Target	kBtu not achieved	Penalty Level	Penalty
69	2024	12,000,000	10,350,000	1,650,000	\$0.70/kBtu	\$1,155,000
	2025	12,000,000	10,350,000	1,650,000	\$0.70/kBtu	\$1,155,000
	2026	12,000,000	10,350,000	1,650,000	\$0.70/kBtu	\$1,155,000
59	2027	12,000,000	8,850,000	3,150,000	\$0.70/kBtu	\$2,205,000
	2028	12,000,000	8,850,000	3,150,000	\$0.70/kBtu	\$2,205,000
	2029	12,000,000	8,850,000	3,150,000	\$0.70/kBtu	\$2,205,000
48.3	2030	12,000,000	7,245,000	4,755,000	\$0.70/kBtu	\$3,328,500
Cumulative Penalties						\$13,408,500





Appendix G – Useful Links

Best Practices

ASHRAE [Standard 100-2018](#) with [addendum a](#)

ASHRAE [Standard 211-2018](#)

EPA [ENERGY STAR® Portfolio Manager®](#)

Enterprise [Green Communities Program](#)

US DOE [Engaging Tenants in Energy Efficiency Resources](#)

California Commissioning Collaborative [Commissioning Guide: Existing Buildings](#)

US DOE [Federal Energy Management Program Tools](#)

IMT [Green Lease Leaders Library](#)

AIA [Guide to Building Lifecycle Assessment in Practice](#)

LBNL [Integrated System Packages and Energy Analytics](#)

New Buildings Institute [Zero Energy Performance Targets for New Construction](#)

NREL [Handbook for Planning and Conducting Charrettes for High-Performance Projects](#)

NREL [Strategies for 50% Energy Savings in Large Office Buildings](#)

RMI [Deep Energy Retrofits Using Energy Savings Performance Contracts: Success Stories](#)

RMI [The Retrofit Depot](#)

WBDG [Comprehensive Facility Operations & Maintenance Manual](#)

WBDG [Planning and Conducting Integrated Design Charettes](#)

WBDG [Project Delivery Teams](#)



Appendix H - Definitions

Administrative Citation: a citation for a violation of the Code, the rules and regulations adopted by the Director and promulgated by the Manager, or noncompliance with an Order issued by the Manager by which a civil penalty for the violation or noncompliance is assessed.

Annual Site Energy Usage: the total energy consumed by the building in one year measured in kBtu, including all equipment and fixtures attached to the building energy meters

Benchmarking: measuring a covered building's energy performance using the ENERGY STAR Portfolio Manager tool or other similar platforms as CASR may designate.

Benchmarking Submission: the data submitted each year via the ENERGY STAR Portfolio Manager tool, or other similar platforms as CASR may designate, using a template and submission link to be distributed and publicized by CASR. All information expressly denoted as mandatory by either ENERGY STAR Portfolio Manager or CASR shall be included in the submission.

Campus: a collection of two or more buildings, of any building type or size, that act as a single cohesive property with a single shared primary function and are owned and operated by the same party, such as higher education or hospital campuses.

Data Center: a room or series of rooms that share data center systems, whose primary function is to house equipment for the processing and storage of electronic data and that has a design total Information Technology Equipment (ITE) power density exceeding 20 watts per square foot (20 watts per 0.092 m²) of conditioned area and a total design ITE load greater than 10 kW. Class A is where 15% or more of the square footage of the building is a data center. Class B is where less than 15% of the square footage of the building is a data center.

Deep-energy retrofit: a deep energy retrofit is a building-specific, whole-building analysis designed to identify points in the building lifecycle where investments in energy efficiency can achieve the highest return. A deep energy retrofit may occur over a few years and will require a more significant financial commitment than conventional energy retrofits. The energy savings created with a deep energy retrofit are generally greater than 40%.

Energy audit: an evaluation of a building that identifies potential energy efficiency measures for building systems and operations in accordance with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 211-2018 Level 2

ENERGY STAR Portfolio Manager: the online tool created by the US Environmental Protection Agency used to measure and track a building's energy use, water consumption, and greenhouse gas emissions

Existing Building Performance: the energy efficiency and renewable energy of a covered building measured by site Energy Use Intensity (EUI), or EUI adjusted for renewable energy using data reported via the ENERGY STAR Portfolio Manager tool or other platforms as CASR may designate

Final Decision: for an appeal of a Notice or Order means the Director's decision arrived at after review of the Recommended Decision or its decision after hearing the matter or review of written briefs in the first instance or a Recommended Decision for which Director review is not timely filed.

Fossil Fuel: a hydrocarbon-containing form of energy consumed in a building, such as natural gas, fuel oil, propane, or coal/coke.



Frontline communities: those communities that experience “first and worst” the consequences of climate change and have been underrepresented and underserved throughout the years. These include low- to medium-income communities, communities of color and indigenous people, those who speak languages other than English, people with disabilities and chronic conditions, older adults, young children, people with criminal records, LGBTQ+, and refugees and immigrants.

Green Power: Green Power is a generic term for renewable energy sources and specific clean energy technologies that emit fewer GHG emissions compared to other energy sources that supply the electric grid. You may use green power directly from an on-site renewable system or purchase green power from your utility or independent green power supplier.

Gross Floor Area (GFA): the total building square footage, measured between the outside surface of the principal exterior fixed walls of a building. GFA should include lobbies, tenant areas, common areas, meeting rooms, break rooms, atriums (base level only), restrooms, elevator shafts, stairwells, mechanical equipment areas, basements, storage rooms. GFA should not include exterior spaces, balconies, patios, exterior loading docks, driveways, covered walkways, outdoor play courts, parking, or crawl spaces.

Hearing Officer: the person the Director delegates pursuant to the Code to conduct a hearing or review a case that has been submitted for determination based on written argument and written statement of facts.

High Performance Existing Buildings Program: the administrative program implemented by CASR requiring the Benchmarking, reporting, and Existing Building Performance in commercial and multifamily buildings that are located within the City and County of Denver.

Lighting Power Density: the lighting power load per unit area of a building or a space in a building as measured in watts per square foot.

Manufacturing/Agricultural/Industrial Building is a subset of the Covered Building definition, and means a facility where energy is consumed in process loads for manufacturing, agricultural, or industrial purposes, or for other process loads. Process loads are energy consumed for bona fide purposes other than heating, cooling, ventilation, domestic hot water, cooking, lighting, appliances, office equipment, small, or other plug loads. This classification includes buildings with Class A data centers, food manufacturing, and ENERGY STAR Portfolio Manager building types Drinking Water Treatment & Distribution, Energy/Power Station, Other – Utility, and Wastewater Treatment Plant. Multi-use buildings with at least one tenant that meets this definition may be classified as a Covered MAI Building.

Maintenance Penalty: a penalty assessed if the building met its interim or 2030 targets and switches to a lower level of cost per kBtu not achieved.

New Covered Building: a building that received its certificate of occupancy after November 22, 2021 and meets the definition of a covered building.

New Covered MAI Building: a building that received its certificate of occupancy after November 22, 2021 and meets the definition of a covered MAI building.

Notice or Order: any notice or order, civil penalty assessment, or administrative citation issued pursuant to the Director's authority under the Code.

Off-site green power or renewables: green power purchases from your utility or independent suppliers.



On-site green power or renewables: electric generation systems located at your property that produce Green Power.

Operations and maintenance (O&M): the functions, duties and labor associated with the daily operations and normal repairs, replacement of parts and structural components, and other activities needed to preserve an asset so that it continues to provide acceptable services and achieves its expected life

Operation and maintenance program: A plan meeting the specifications found in American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 100-2018, Section 6, that addresses every applicable building system and element as outlined in Annex D and follows the implementation requirements laid out in Annex L that address the functions, duties and labor associated with the daily operations and normal repairs, replacement of parts and structural components, and other activities needed to preserve an asset so that it continues to provide acceptable services and achieves its expected life

Owner: the person or entity having a legal or equitable interest in real property and its fixtures and appurtenances, which shall explicitly include but not be limited to a homeowner's association.

Percent Electricity: the percent of total site energy use that is electricity. Calculated in kBtu, it combines grid-purchased electricity with renewable electricity used at the building and divides it by the total energy used.

Performance period: the defined timeframe of benchmarking data that is used for evaluation of energy performance requirements for compliance

Process load: a process load is energy consumed for bona fide purposes other than heating, cooling, ventilation, domestic hot water, cooking, lighting, appliances, office equipment, or other plug loads.

Production Efficiency: the annual site energy usage in a Covered MAI building divided by a standard manufacturing or agricultural production unit(s), such as kBtu per widgets produced or kBtu per pounds of flower produced. Additional examples of production efficiency may include power use effectiveness (PUE; data centers), or some other metric for other industrial uses.

Production Efficiency Improvement: a reduction in energy use intensity from baseline where energy use intensity is calculated as the annual site energy usage divided by a standard manufacturing or agricultural production unit(s).

Power use effectiveness (PUE): a measure of Data Center infrastructure efficiency, representing the amount of energy that is needed per unit delivered to IT equipment. It is computed as the total annual source energy divided by the annual IT source energy.

Recommended Decision: a Hearing Officer's findings of fact, conclusions of law, and the decision he or she recommends to the Director following a hearing or review of written briefs.

Renewable Energy Certificate (REC): Renewable Energy Certificates (RECs) are the tradable, legal rights to the environmental benefits of green power. These rights can be sold separately from the actual electricity (kWh).

Retro-commissioning: a process to improve the efficiency of an existing building's equipment and systems. It can often resolve problems that occurred during design or construction, or address problems that have developed throughout the building's life as equipment has aged, or as building usage has changed.



Return on investment (ROI): the total annual cost savings of an EEM divided by the initial cost to implement the EEM

Savings to investment ratio (SIR): the total lifetime cost savings of an EEM divided by the initial cost to implement the EEM

Site Energy Use Intensity (EUI): a building's weather normalized energy use expressed as energy per square foot per year as a function of its size, normalized for weather and other characteristics that are significant drivers of energy performance as feasible with the reporting platform used. A building's EUI is calculated by dividing the total energy consumed by the building in one year (measured in kBtu) by the total Gross Floor Area of the building.

Target Penalty: a penalty level assessed if the building did not reach the 2024 Interim Target, 2027 Interim Target, or 2030 Target during the applicable performance period.

Tenant: a person or entity entitled to the possession, occupancy, or the benefits of any rental unit owned by another person or entity.

Under-resourced building: CASR's evaluation of a building's status as "under-resourced" includes, but is not limited to, consideration of the following: presence of affordable housing; presence of non-profits and human service providers; buildings of significance to frontline community members; and buildings in areas with high energy burden, asthma rates, low-income residents, and other social equity indicators.