The Department of Energy (DOE) is reviewing this document related to the implementation of provisions regarding Clean Energy for New Federal Buildings and Major Renovations of Federal Buildings (CER). DOE stayed the compliance date for the provisions in the Code of Federal Regulations (CFR) while it reviews the CER implementation guidance. 90 FR 18911 (May 5, 2025).

Visit the *Federal Register* to learn more: https://www.federalregister.gov/documents/2025/05/05/2025-07743/clean-energy-for-new-federal-buildings-and-major-renovations-of-federal-buildings-stay

U.S. DEPARTMENT of ENERGY | Federal Energy Management Program

Clean Energy Rule

Implementation Guidance

January 2025

Disclaimer

Preface

The U.S. Department of Energy (the “Department” or “DOE”) Federal Energy Management Program (FEMP) is publishing this implementation guidance related to the final rule for Clean Energy for New Federal Buildings and Major Renovations of Federal Buildings (the “Clean Energy Rule”) [Docket No. EERE-2010-BT-STD-0031] RIN 1904-AB96 as listed in the Code of Federal Regulation (10 C.F.R. parts 433 and 435) per 89 FR 35384 (May 1, 2024).

This guidance is designed to clarify and complement the regulatory text adopted by the Clean Energy Rule, incorporated in 10 C.F.R. parts 433 and 435. This document has been designed with input and feedback from policymakers as well as project developers to provide details and discussion on topics of interest within the rule as well as examples to demonstrate key points of compliance or non-compliance.

Contacts

U.S. Department of Energy FEMP Rulemaking Resources

For more information on Federal building energy efficiency standards or to contact FEMP about the Clean Energy Rule or other efficiency standards, please visit: https://www.energy.gov/femp/federal-building-energy-efficiency-rules-and-requirements.

In addition, for technical resources for Federal facilities and fleets or to contact FEMP staff through the FEMP Assistance Request Portal, please visit: https://www.energy.gov/femp/facility-and-fleet-optimization.

For further information or additional inquiries and requests for support, please contact: cer-information@hq.doe.gov.

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DOE FEMP Performance Contracting Team

GSA Office of Leasing

DOE Building Technologies Office, Building Codes and Appliance Standards Programs.

This report was prepared by the Pacific Northwest National Laboratory for the U.S. Department of Energy, Federal Energy Management Program.

List of Acronyms

AFVs	Alternatively Fueled Vehicles
AHJ	Authority Having Jurisdiction
ANSI	American National Standards Institute
ASHRAE	The American Society of Heating, Refrigerating and Air-Conditioning Engineers
Btu	British Thermal Unit
CBECS	Commercial Buildings Energy Consumption Survey
CEQ	Council on Environmental Quality
CER	Clean Energy Rule
C.F.R.	Code of Federal Regulations
CH_4	Methane
CHP	Combined Heat and Power
CO_2e	Carbon Dioxide Equivalent
CPI	Consumer Price Index
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DER	Distributed Energy Resource
ECPA	Energy Conservation and Production Act
ECM	Energy Conservation Measure
EIA	Energy Information Administration
EISA	Energy Independence and Security Act of 2007
EO	Executive Order
EPAct	Energy Policy Act of 2005
ESCO	Energy Services Contract

ESPC	Energy Savings Performance Contract
EUI	Energy Use Intensity
FEMP	Federal Energy Management Program
FR	Federal Register
FY	Fiscal Year
GHG	Greenhouse Gas
GSA	General Services Administration
HVAC	Heating, ventilation, and air conditioning
IGA	Investment Grade Audit
IECC	International Energy Conservation Code
kBtu	Thousand British Thermal Units
LCC	Life-Cycle Cost
NIST	National Institute of Standards and Technology
N_2O	Nitrous Oxide
NOO	Notice of Opportunity
OMB	Office of Management and Budget
PA	Preliminary Assessment
RECS	Residential Energy Consumption Survey
SNOPR	Supplemental Notice of Proposed Rulemaking
SP	Special Publication
sqft	Square Foot
UESC	Utility Energy Service Contract
U.S.C.	United States Code
WCM	Water Conservation Measure

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1 Introduction

The following section briefly discusses the statutory authority underlying the Clean Energy Rule, as well as some of its relevant historical procedural background.

1.1 Authority to issue the Clean Energy Rule

Section 305 of the Energy Conservation and Production Act (ECPA) established energy conservation requirements for Federal buildings. 42 U.S.C. § 6834. Section 433(a) of the Energy Independence and Security Act of 2007 (EISA) amended section 305 of ECPA and directed the U.S. Department of Energy (DOE) to establish regulations that require certain new Federal buildings and Federal buildings undergoing major renovations to reduce their fossil fuel-generated energy consumption. 42 U.S.C. § 6834(a)(3)(D)(i). The fossil fuel-generated energy consumption reductions only apply to Federal buildings that (1) are "public buildings" (as defined in 40 U.S.C. § 3301) with respect to which the Administrator of General Services is required to transmit a prospectus to Congress under 40 U.S.C. § 3307; or (2) those that cost at least $2,500,000 (in 2007 dollars) in costs adjusted annually for inflation. 42 U.S.C. § 6834(a)(3)(D)(i).

For these buildings, section 305 of ECPA, as amended by EISA, mandates that they be designed so that their fossil fuel-generated energy consumption is reduced as compared with such energy consumption by a similar building in fiscal year (FY) 2003 as measured by Commercial Buildings Energy Consumption Survey (CBECS) or Residential Energy Consumption Survey (RECS) data from the DOE's Energy Information Administration (EIA) by 55 percent beginning in FY 2010, 65 percent beginning in FY 2015, 80 percent beginning in FY 2020, 90 percent beginning in FY 2025, and 100 percent beginning in FY 2030, also shown in Table 1. 42 U.S.C. § 6834(a)(3)(D)(i)(I).

Table 1. Building On-site Fossil Fuel-Generated Energy Consumption Percentage Reduction Requirements by Fiscal Year

Fiscal Year	On-site Fossil Fuel-Generated Energy Consumption Percentage Reduction
2010	55
2015	65
2020	80
2025	90
2030	100

In addition, ECPA, as amended by EISA, permits DOE to adjust the applicable numeric reduction requirement downward with respect to a specific building, if the head of the Federal agency (or their designee *see* Section 4) requesting the downward adjustment

certifies in writing that meeting such a requirement would be technically impracticable in light of the agency's specified functional needs for that building and DOE concurs with the agency's conclusion. 42 U.S.C. § 6834(a)(3)(D)(i)(II). Such an adjustment does not apply to the General Services Administration (GSA). *Id.*

1.2 Background Information

In the Clean Energy Rule, DOE established regulations that require certain new Federal buildings and Federal buildings undergoing major renovations to be designed to reduce their on-site fossil fuel-generated energy consumption, and DOE provides a process for Federal agencies to petition for a downward adjustment from these requirements, if applicable. All relevant notices pertaining to this rulemaking, including the final rule, are available in the rulemaking docket.[1] The final rule amended the regulations governing energy efficiency in Federal buildings found in 10 C.F.R parts 433 and 435.

[1] https://www.regulations.gov/document/EERE-2010-BT-STD-0031-0130 Clean Energy for New Federal Buildings and Major Renovations of Federal Buildings, Final Rule, 89 Federal Register 35384 (May 1, 2024).

2 Clean Energy Rule: Scope, Date, and Targets

This section discusses the scope of the Clean Energy Rule, including when a Federal building new construction or major renovation are subject to the Clean Energy Rule.

2.1 Scope of the Rule

The two most important distinctions defining the scope of the Clean Energy Rule are that it is a **building-level rule** and that it applies **only to on-site combustion of fossil fuels**. For the purposes of applying the rule, the term "on-site" refers to the site of a specific building and not necessarily the adjacent (but still Federally controlled) installation or campus where the building may be located. Additionally, the scope of the rule only covers "Scope 1" fossil fuel-generated energy consumption from stationary combustion sources, meaning fossil fuels directly burned or consumed on-site from the use of stationary appliances within the building.

Additionally, DOE notes that the terms "Scope 1" and "Scope 2" are more commonly utilized when performing greenhouse gas (GHG) emissions calculations and reporting. Here, DOE uses these terms to help describe the scope of building energy use covered by the rule, but they do not align comprehensively with what "Scope 1" consumption may mean from a reporting standpoint. The statutory authority for the Clean Energy Rule is based upon the fossil fuel consumption of the energy source and systems that service an applicable building, and the building must be subject to the reduction targets, regardless of how subsequent emissions may be accounted.

2.1.1 Defining On-site Combustion of Fossil Fuels

Section 433 of EISA directs DOE to establish regulations that require certain new Federal buildings and Federal buildings undergoing major renovations be designed to reduce their on-site fossil fuel-generated energy consumption. 42 U.S.C. § 6834(a)(3)(D)(i). The scope of the building energy covered by the final rule is limited by the term "fossil fuel-generated energy consumption." In the final rule, DOE defines "**fossil fuel-generated energy consumption**" as follows:

> On-site stationary combustion of fossil fuels that contribute to Scope 1 emissions for generation of electricity, heat, cooling, or steam as defined by "Federal Greenhouse Gas Accounting and Reporting Guidance" (Council on Environmental Quality, January 17, 2016). This includes, but is not limited to, combustion of fuels in stationary sources (*e.g.,* boilers, furnaces, turbines, and emergency generators). This term does not include mobile sources, fugitive emissions, or process emissions as defined by "Federal Greenhouse Gas Accounting and Reporting Guidance" (Council on Environmental Quality, January 17, 2016).

89 FR 35384, 35416 and 35433.

Pursuant to this definition, the standard applies to energy consumption from fossil fuels directly used by equipment and systems designed to support building operations; that

is, fossil fuels consumed on-site. The definition would not apply to the consumption of fossil fuels used to produce electricity off-site that is eventually used by the EISA-subject building.

2.1.2 Distinguishing Fossil Fuel Use in Building Operational End-Uses

The Clean Energy Rule applies to on-site fossil fuel used for the generation of electricity, heat, cooling, or steam when they are owned or controlled by the reporting agency, and where fuels are combusted in stationary sources (*e.g.,* boilers, furnaces, turbines, and emergency generators).

The combustion of biomass is **not** subject to the rule, including biofuels that are certified to meet the fossil fuel reduction step-down targets for the appropriate FY. The operation of emergency backup generators that use fossil fuel to provide emergency electricity are **exempt** from the rule. Further discussion on this subject is presented in Section 3.3 Exemptions and Exclusions.

2.2 EISA-Subject Buildings and Renovations

The Clean Energy Rule applies to new Federal buildings and major renovations to Federal buildings, as specified in section 433 of EISA.

- The term "**Federal building**" means "any building to be constructed by, or for the use of, any Federal agency [including] buildings built for the purpose of being leased by a Federal agency, and privatized military housing." Whether the Clean Energy Rule applies to Federal buildings overseas is determined by each individual agency, in light of the statutory definition of covered "Federal buildings" and the agency's specific statutory authorities that may apply to the agency's overseas buildings.
- The rule does **not** apply in cases of Federal agencies leasing space in buildings where the Federal Government does not lease the entire building. Accordingly, if the building or space within the building at issue is not entirely leased to the Federal Government at the time of renovation, the Clean Energy Rule does not apply.

2.2.1 Cost Thresholds

The subset of Federal buildings to which the Clean Energy Rule applies fall under two categories and will be referred collectively to as "EISA-subject buildings."

- **Public Buildings:** The first qualifying category of EISA-subject buildings includes any new Federal buildings or major renovations to Federal buildings that are public buildings, as defined in 40 U.S.C. § 3301[2], for which transmittal of a

[2] Under 40 U.S.C. § 3301(a)(5), "public building" is a building, whether for single or multitenant occupancy, and its grounds, approaches, and appurtenances, which is generally suitable for use as office

prospectus to Congress is required under 40 U.S.C. § 3307. Under 40 U.S.C. § 3307(a)(1), a transmittal of a prospectus to Congress is required if a total expenditure in excess of $1,500,000 (in 2007 dollars) is required to construct, alter, or acquire the public building. Under 40 U.S.C. § 3307(h), the GSA administrator may adjust this value annually to account for construction cost increases. GSA's annual prospectus threshold for FY 2025 is **$3,926,000.** GSA also provides a separate dollar threshold for alterations in leased public buildings for which a prospectus is required; for FY 2025, this threshold is $1,963,000. A building in the first category may include a solely public building such as a post office or a public Federal office building for which design for construction began in FY 2024 and with construction or renovation costs that are more than $3,926,000.

- **Not Public Buildings -** The second qualifying category of EISA-subject buildings includes any new Federal buildings or major renovations to Federal buildings that are **not public buildings**[3] and for which the construction cost or major renovation cost is at least $2,500,000 (in 2007 dollars, adjusted for inflation). Federal buildings that are not public buildings are not required to submit a prospectus, and therefore a different cost threshold inflation adjustment needs to be set. **DOE will annually issue updates to agencies on inflation-adjusted cost threshold, and agencies should apply these updates during the entirety of the fiscal year.** As of the most recent update, October 2024, $2,500,000 in 2007 dollars, when adjusted for inflation, is $3,910,605.[4] The final rule clarifies how the cost thresholds for new public and non-public buildings

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or storage space or both by one or more Federal agencies or mixed-ownership Government corporations. "Public building" includes Federal office buildings, post offices, customhouses, courthouses, appraisers stores, border inspection facilities, warehouses, record centers, relocation facilities, telecommuting centers, similar Federal facilities, and any other buildings or construction projects the inclusion of which the President considers to be justified in the public interest.

[3] Examples of non-public buildings would be: a building or construction project that is on the public domain (including that reserved for national forests and other purposes); that is on property of the Government in foreign countries; that is on Native American and Native Alaskan property held in trust by the Government; that is on land used in connection with Federal programs for agricultural, recreational, and conservation purposes, including research in connection with the programs; that is on or used in connection with river, harbor, flood control, reclamation or power projects, for chemical manufacturing or development projects, or for nuclear production, research, or development projects; that is on or used in connection with housing and residential projects; that is on military installations (including any fort, camp, post, naval training station, airfield, proving ground, military supply depot, military school, or any similar facility of the Department of Defense); that is on installations of the Department of Veterans Affairs used for hospital or domiciliary purposes; or the exclusion of which the President considers to be justified in the public interest.

[4] For the purposes of calculating this threshold, agencies should use the inflation-adjusted value of the $2,500,000 in 2007 dollars as of October of the FY during which the design for construction of the project begins. By this methodology, an agency should set the Bureau of Labor and Statistics Consumer Price Index (CPI) inflation calculator to $2,500,000 in October 2006 (FY 2007) for the value of the original cost threshold.

should be adjusted for inflation. *See* 10 C.F.R. parts 433.200(a) and 435.200(a). An example building in this category would include a residential building (which is excluded from the definition of "public buildings" (as defined in 40 U.S.C. § 3301)) with construction or renovation costs of at least $3,901,605 in FY 2025 ($2,500,000 in 2007 dollars, adjusted for inflation).

- **Leased Buildings:** GSA provides a separate dollar threshold for alterations in public buildings leased by the Federal Government ($1,963,000 for FY 2025). DOE will use both thresholds (*i.e.*, the $2,500,000 in 2007 dollars threshold (adjusted for inflation) for Federal buildings that are not public buildings, and the $1,963,000 threshold for leased public buildings) for this second category of EISA-subject buildings (*i.e.*, buildings for which a prospectus is not required). Using the lower GSA prospectus threshold for leased public buildings is consistent with: (1) current agency practice for such buildings, and (2) the scheme Congress established in EISA section 433 where the prospectus dollar thresholds are also applied to buildings and renovations for which a prospectus is not required.

Table 2. Cost Thresholds for Which Compliance With the Clean Energy Rule is Mandatory for FY2025 (Million Dollars)

Text	Public Buildings (prospectus required)	Non-Public Buildings (prospectus not required)
Construction or Major Renovation to Federally Owned Buildings	**$3.926***	**$3.902****
Major Renovation of Federally Leased Buildings	$1.963†	$1.963†

* The cost threshold for buildings that are owned public buildings, as defined in 40 U.S.C. § 3301, is determined by the GSA annual prospectus thresholds published for each FY at www.gsa.gov/real-estate/design-and-construction/annual-prospectus-thresholds.
** The cost threshold for any new construction or major renovation that is in an owned, non-public building is determined by adjusting the $2,500,000 in 2007 dollars for inflation to the current FY. DOE sets the inflated value for the entire FY based on the value reported in October of that FY in the Bureau of Labor and Statistics CPI inflation calculator www.bls.gov/data/inflation_calculator.htm.
† The cost threshold for major renovations within leased buildings is determined by the GSA annual prospectus thresholds published for each FY at www.gsa.gov/real-estate/design-and-construction/annual-prospectus-thresholds.

Additional discussion on what qualifies within this cost threshold is discussed in Section 3.

2.2.2 Leasing Considerations

The Clean Energy Rule only applies to EISA-subject buildings in leased scenarios when the building is built specifically for the purpose of being entirely leased by the Federal

Government or those undergoing a qualifying major renovation that are entirely leased to the Federal Government (including when multiple separate agencies with leases in the same building). Mandatory compliance with the rule is based on building project capital costs and not related to the operational control or payment of utilities. Buildings and building projects with fully serviced leases are still subject to the design requirements of the rule when a project is considered EISA-subject. The cost threshold for leased buildings is defined by when a GSA prospectus threshold is required. For FY2025 these threshold levels are as follows:

- $3.926 Million for “Construction - Alteration and Lease Projects”
- $1.963 Million for “Alterations in Leased Buildings”

Note that in determining the costs for the “Alternations in Leased Buildings” the only costs to include are those that either directly or indirectly affect on-site fossil fuel-generated energy consumption per Section 2.1.1 and fit the definition of major renovation costs.

Note that “major renovation cost” means all costs associated with the repairing, remodeling, improving, extending, or other changes in a Federal building. It includes, but is not limited to, the cost of preliminary planning, engineering, architectural, permitting, fiscal and economic investigations and studies, surveys, designs, plans, working drawings, specifications, procedures, and other similar actions necessary for the alteration of a Federal building.

2.2.3 Applying Cost Thresholds at the Building (not Campus) Level

The statutory authority for the Clean Energy Rule dictates that the rule and its applicable project cost thresholds be applied at the individual building level. Agencies should be aware of this requirement and make sure to track project costs at the building level, even when they may be a part of larger projects such as installation-level EISA 432 compliance audits and multiple building performance contracts.

> **Example:** Multiple Buildings
> An agency is planning a performance contract project at a campus with multiple buildings. Does the Clean Energy Rule apply to the entire campus?
> **Response:** The final rule applies the cost thresholds individually to the buildings in the project. If a project includes multiple buildings, the agency should make a building-by-building cost determination for purposes of determining if a building reaches the Clean Energy Rule cost threshold, even in a campus situation.

2.2.4 New Construction

The Clean Energy Rule defines quantitative requirements (see Appendix B: Step-Down Target Tables) for building projects that are considered to be new construction, based

on the statutorily defined step-down targets presented in Table 1. These targets represent reductions from the statutorily defined CBECS 2003 baseline, which is 90 percent for projects entering design for construction in FY 2025–FY 2029 and 100 percent thereafter. The step-down targets are organized by building type and climate zone to provide projects with the most representative and achievable targets. This 90 percent reduction target is presented in terms of Scope 1 Fossil Fuel generated energy consumption per building square foot and in terms of GHG emissions per square foot. The two versions of the tables are equivalent for projects utilizing natural gas, but projects utilizing other fossil fuels should use the on-site energy (kBtu/sf) tables only.

New construction is defined as “New Federal buildings,” which means any new building (including a complete replacement of an existing building from the foundation up) to be constructed by, or for the use of, any Federal agency. Such term shall include buildings built for the purpose of being leased by a Federal agency, and privatized military housing. Practically, a new construction project applies for both new builds and comprehensive renovations that include intensive holistic design and when compliance with subpart A of 10 C.F.R part 433 or 10 C.F.R part 435 is required facilitating an energy model to being done for design compliance.

2.2.4.1 Mixed-Use Buildings that Combine Two or More Building Types

For EISA-subject buildings that combine two or more building types identified in Appendix B: Step-Down Target Tables, the maximum allowable fossil fuel-generated energy consumption of the proposed building is equal to the averaged applicable building type values in Appendix B: Step-Down Target Tables by floor area of the two or more building types. The equation which follows shall be used for mixed-use buildings.

Equation 1: Maximum allowable Scope 1 fossil fuel-generated energy consumption for a mixed-use building equals the sum across all building uses, n, of (the fraction of total building floor area for building use i times the allowable on-site fossil fuel-generated energy consumption for building use i)

Equation 1 may be rewritten as:

Maximum Allowable Scope 1 fossil fuel-generated Energy Consumption for a Mixed-Use Building =

$$\sum_{i=1}^{n} \frac{(Building\ Floor\ Area\ for\ Building\ Use\ i)\ \times\ (Allowable\ Scope\ 1\ Fossil\ Fuel\text{–}\ Generated\ Energy\ Consumption\ for\ Building\ Use\ i)}{Total\ Building\ Floor\ Area}$$

Example: A proposed building for which design for construction began in FY 2026 will be built in climate zone 4a and has a total of 200 square feet—100 square feet of which qualifies as college/university and 100 square feet of which qualifies as laboratory—the maximum allowable on-site fossil fuel-generated energy consumption is equal to:

$$\frac{\left[(100\ sqft.) * \left(3\frac{kBtu}{yr.-sqft.}\right)\right] + \left[(100\ sqft.) * \left(10\frac{kBtu}{yr.-sqft.}\right)\right]}{200\ sqft.} = 6.5\frac{kBtu}{yr.-sqft.}$$

2.2.4.2 Process Load Buildings

For building types that are subject to the rule but contain significant process loads that are not found in the step-down target tables, Federal agencies must select the applicable building type, climate zone, and fiscal year in which design for construction began from the tables that most closely correspond to the proposed building without the process load. Further discussion on exempted process loads can be found in Section 3.3. The estimated Scope 1 fossil fuel-generated energy consumption of the process load must be added to the maximum allowable Scope 1 fossil fuel-generated energy consumption of the applicable building type for the appropriate fiscal year and climate zone to calculate the maximum allowable Scope 1 fossil fuel-generated energy consumption for the building. The same estimated Scope 1 fossil fuel-generated energy consumption of the process load that is added to the maximum allowable Scope 1 fossil fuel-generated energy consumption of the applicable building must also be used in determining the Scope 1 fossil fuel-generated energy consumption of the proposed building. This in effect regulates the base building functions while excluding the process load; practically this can be done by setting the process loads on a sub-meter to be excluded from building consumption calculations.

Example: Process Load Building

An agency is planning to upgrade a manufacturing facility. The building utilizes fossil fuels for production in a blast furnace as well as in a boiler plant for heating and domestic hot water. Would this project be subject to the Clean Energy Rule?

Response: The agency must track the cost of the upgrades to the base building portions and the manufacturing portions separately to determine if the cost threshold of the Clean Energy Rule is crossed and compliance would be mandatory. The process load (manufacturing / blast furnace) costs would not be subject to the Clean Energy Rule and would not contribute to crossing the cost threshold. Base building systems are subject to the rule and if their cost exceeds the cost threshold then Clean Energy Rule compliance would be mandatory for the building. The process loads would be allowed to consume fossil fuels, but base building operations would need to comply with the Clean Energy Rule.

2.2.5 Defining Major Renovations

It is important to recognize that the Clean Energy Rule applies both to whole building retrofits as well as multiple smaller renovations that may occur in phases on the same Federal building as long as renovations to the building as a whole meets the cost thresholds as explained in Section 2.2.5. More specifically, the rule applies to "Major Renovations" as both:

1. Whole Building, those that are so extensive that they replace all on-site fossil fuel-using systems in the building, such as comprehensive replacement or restoration of most or all major systems, interior work (*e.g.,* ceilings, partitions, doors, floor finishes, etc.), or building elements and features.

2. System and Component, the rule also considers major renovations that are less than whole building renovations (*i.e.*, component and system level renovations, including multiple sequential renovations) that provide significant opportunities for substantial improvements in energy efficiency and reduce on-site fossil fuel usage across the Federal building portfolio.

Example: Do Deep Energy Retrofits[1] initiate mandatory compliance with the Clean Energy Rule?

An agency is developing a comprehensive deep energy retrofit project in a single building facility that currently has natural gas-fired (or fossil fuel-fired) boilers for heating. The current implementation value of the performance contract is $10M (above the Clean Energy Rule dollar threshold), but there are not sufficient cost savings or available appropriations to convert to electric boilers. Can the agency award the project without violating the Clean Energy Rule?

Response:

1. If the deep energy retrofit project does not replace or modify the natural gas-fired boilers, the project can be awarded as is and compliance with the Clean Energy Rule is not mandatory (*e.g.*, the project would not need to seek the conversion of fossil-fuel fired boilers to electric to meet Clean Energy Rule requirements). The project can include work on the connected components (*e.g.*, boiler controls, hot water pumps) that are within and touching the natural gas-fired boilers, which will reduce natural gas consumption of the natural gas-fired boilers, without necessitating compliance with the Clean Energy Rule. The rule applies only to the portions of the proposed building or proposed building systems that are being renovated. Thus, if the fossil fuel-consuming equipment is not replaced but its consumption is altered, the equipment does not need to be replaced. But when fossil fuel-consuming equipment is being replaced, the replacement equipment would need to comply with the rule. Unaltered portions of the proposed building or proposed building systems are not required to comply with the rule. However, the next project that replaces any fossil fuel-consuming equipment in the building, even if that project or the replacement boiler cost is below the Clean Energy Rule cost threshold, will need to comply with the Clean Energy Rule due to the prohibition of breaking up renovation projects to get around the cost threshold. Multiple sequential renovations to the same building are likely to provide significant opportunities for substantial improvements and their cumulative effect over time should be evaluated and utilized to determine the cost of the project for the application of the Clean Energy Rule.
2. If the deep energy retrofit project incorporates replacement of the existing natural gas-fired boilers, the replacement technology would need to meet the energy performance standards of the Clean Energy Rule. The agency could petition DOE for a one-time downward adjustment following the requirements in Section 4 - *see* Section 4.2.

2.2.5.1 Emergency Replacement

The statutory authority for the Clean Energy Rule does not directly address or make accommodations for the emergency replacement of systems or components of building systems. When considering such scenarios it is important to note that compliance with the rule is only made mandatory when the appropriate cost threshold is exceeded. If that is the case for an emergency situation, then compliance with the rule would be initiated, and the replacement would be subject to the appropriate rule requirements. However, if a non-fossil fuel-consuming system cannot be procured in the necessary amount of time prior to building operations needing to resume, then an agency must submit a petition on behalf of the emergency replacement as soon as possible after installation. DOE urges agencies to consider both long term and emergency replacement planning for systems that directly utilize fossil fuels and are located in buildings that could have enough direct fossil fuel using or indirect fossil fuel using systems whose replacement or upgrade would result in costs that would combine to mandate compliance with the rule.

> **Example:** An agency's natural gas-fired boiler plant has had an operational failure, and a major repair or replacement of equipment is needed. It is determined that a like-for-like replacement is needed immediately to protect the personnel and property. Is this subject to the Clean Energy Rule? Is a petition for downward adjustment needed?
>
> **Response:** The Clean Energy Rule is not explicit about this type of situation. Therefore, an emergency repair or replacement of on-site fossil fuel-consuming equipment is subject to the Clean Energy Rule. The agency should begin planning for the removal of fossil fuel-consuming equipment at the end of its useful life in their design and budgeting process for the facility. Backup electricity generation to power emergency heat is allowable as the Clean Energy Rule does not apply to the on-site consumption of fossil fuel from energy generation associated with the supply of emergency backup electricity. If non-fossil fuel-consuming equipment cannot be installed due to timing concerns to protect personnel and property, like-for-like equipment can be installed, but the agency must file a petition for the equipment as soon as possible. No petition would be required in this scenario if the permanent equipment installed is in compliance with the rule.

2.2.5.2 Breaking Up Renovations / Multiple Sequential Renovations

The Clean Energy Rule discourages the practice of breaking up renovation projects into smaller pieces to prevent each building's project cost from exceeding the Clean Energy Rule cost threshold. Particularly in cases of replacing individual systems or equipment, for which the Clean Energy Rule applies, DOE believes agencies should prioritize pairing energy efficiency measures with reducing fossil fuel use. DOE notes that section 433 of EISA states that "[i]n establishing criteria for identifying major renovations that are subject to the requirements of this subparagraph, [DOE] shall take into account the

scope, degree, and types of renovations that are likely to provide significant opportunities for substantial improvements in energy efficiency." Multiple sequential renovations to the same building are likely to provide significant opportunities for substantial improvements and their cumulative effect over time should be evaluated and utilized to determine the cost of the project for the application of the rule. For the purposes of the rule, DOE broadly applies the term "major renovations" to include projects for which Federal agencies can practicably implement the energy efficiency and fossil fuel reduction goals of ECPA and EISA. The energy performance standards adopted in the final rule apply both to whole building retrofits as well as multiple minor renovations that occur in phases on the same Federal building as long as the building meets the cost thresholds as explained above.

Federal agencies may opt to implement a major renovation in phases. For instance, if appropriations are unavailable for an entire electrification project, a Federal agency may phase the project over time, so the entire project meets the rule. This could be done for renovations that combine multiple sources of funding and associated timelines as well as renovations phased to spread out or minimize impact (such as applying load reduction energy conservation measures (ECMs) prior to electrification ECMs as part of a deep energy retrofit to minimize peak electric load impacts).

Example: Sequential Renovations

An agency is planning renovations to a building but is concerned about project funding and is going to split the renovation into three phases. Phase 1 consists of dedicated outdoor air system furnace upgrades. Phase 2 consists of upgrading the central heating hot water plant, and Phase 3 is to upgrade the fossil fuel based domestic hot water heating systems. Each of these phases individually falls below the cost threshold of the Clean Energy Rule. Would these projects need to comply with the rule?

Response: These phased projects represent significant opportunities for improvements to the building and should be considered wholistically when determining compliance with the Clean Energy Rule. All projects directly affect on-site fossil fuel consumption and so their cost should be considered together for Clean Energy Rule compliance. If the cost of all three phases falls above the cost threshold, then compliance with the Clean Energy Rule would be necessary and should be planned for in each individual phase.

2.2.5.3 Renovations That Do Not Directly Influence On-Site Fossil Fuel Consumption

The rule urges agencies to include any modification or replacement of any building systems (including systems such as lighting or building envelope systems that do not use fossil fuel-generated energy directly but that lead to an increase or decrease in the

use of fossil fuel-generated energy) when determining compliance with the rule. The cost of such projects or identified ECMs should be considered with other past or planned renovations affecting Scope 1 fossil fuel-generated energy consumption to determine if compliance with the rule would be mandatory. It is not the intent of the rule for renovations that only indirectly affect Scope 1 fossil fuel-generated energy consumption to initiate the rule by themselves, resulting in agencies needing to modify or replace the equipment that does directly consume Scope 1 fossil fuel-generated energy. It is the intent of the rule to rather consider the cost of the indirect projects in addition to what the future costs may be for the direct consuming equipment for compliance of that future project. Agencies should consider ECMs or projects in a more comprehensive approach, rather than a piecemeal approach, to better align with the goals of section 433 of EISA.

Example: Sequential Renovations with Varying Energy Scope

An agency is planning renovations to a building but is concerned about project funding and is going to split the renovation into three phases. Phase 1 consists of lighting upgrades, building control upgrades and low flow water fixtures. Phase 2 consists of upgrading the domestic hot water plant, and Phase 3 is to upgrade the fossil fuel based primary heating systems. Each of these phases individually falls below the cost threshold of the Clean Energy Rule. Would these projects need to comply with the rule?

Response: These phased projects represent significant opportunities for improvements to the building and should be considered wholistically when determining compliance with the Clean Energy Rule. All projects either directly or indirectly affect Scope 1 fossil fuel-generated consumption and so their cost should be considered together for Clean Energy Rule compliance. If the cost of all three phases falls above the cost threshold, then compliance with the Clean Energy Rule would be necessary and should be planned for in each individual phase.

2.3 Compliance Dates

The Clean Energy Rule has a compliance date 1 year from the date of publication (May 1, 2024). After May 1, 2025, all new EISA-subject buildings and EISA-subject building renovations that have entered the design-for-construction or design-for-renovation phases must comply with the energy performance requirements adopted by the Clean Energy Rule. A prospective project is considered to have entered the design phase of the construction or renovation when the energy efficiency and sustainability details (such as insulation levels, HVAC systems, water-using systems, etc.) are either explicitly determined or implicitly included in a project cost specification.

For projects being implemented through performance contracting (such as a utility energy service contract (UESC) or Energy Savings Performance Contract (ESPC)), design phase begins with the task order award phase, which explicitly establishes the performance and energy efficiency details of the proposed renovation or ECM/water conservation measure (WCM) (to determine the guaranteed cost savings) and provides firm-fixed price costs. The compliance date of May 1, 2025, applies to both the initial task order as well as any modification to an existing project. The flow chart in Figure 1 indicates where this stage falls in the general performance contract development process. Note that “design for construction” in this context falls at the actionable phase of the task order award, which is after the Preliminary Assessment and Investment Grade Audit (IGA) phases. If a project is expecting to need to be in compliance with the Clean Energy Rule based on the expected timing of the task order award, it should incorporate compliance designs strategies into the earlier assessment phases.

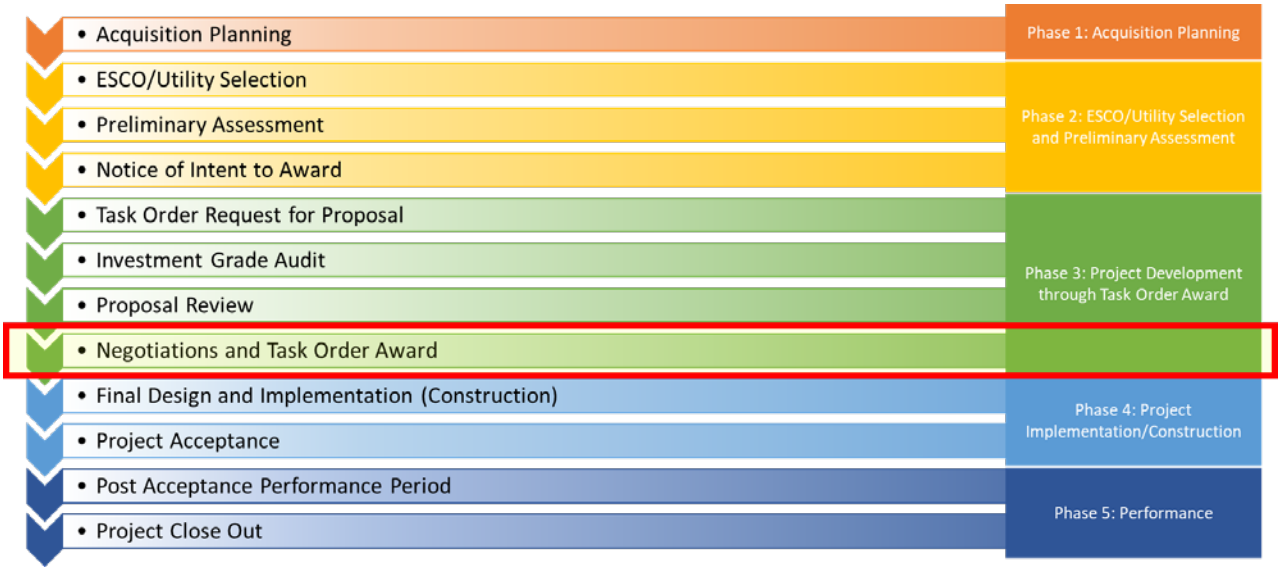

Figure 1. Performance contracting development phases flow chart; the point at which a project reaches "design for construction" (task order award) is indicated with red outline

Example: Applying the Clean Energy Rule to a performance project in development
An agency's performance contracting project is in development, the Energy Services Company (ESCO) is still completing the IGA. At task order (contract) award, the design package may only be at 35 percent completion level or more (*i.e.*, not final design). At what point does the Clean Energy Rule apply for projects currently in development (and anticipated award dates prior to May 1, 2025)? When does the Clean Energy Rule determine design as having started?

Response: A prospective project has entered the design phase of the construction or renovation when the energy efficiency and sustainability details (such as insulation levels, HVAC systems, water-using systems, etc.) are either explicitly determined or implicitly included in a renovation project cost specification.

Given this definition in the context of a performance contract, design phase begins with the task order award, which explicitly establishes the performance and energy efficiency details of the proposed renovation or ECM/WCM (to determine the guaranteed cost savings) and provides firm-fixed price costs. For projects currently in development of a performance contract, if the task order will be awarded on or after the compliance date (May 1, 2025), then the Clean Energy Rule would apply.

Example: Modifications to Previously Awarded Performance Contract:
An agency is awarded a performance contracting project in FY 2023. The agency would now like to modify the task order award to add additional measure(s), such as replacing natural gas-fired (*i.e.*, fossil fuel-consuming) equipment. At what point does the dollar threshold start if the project was awarded prior to the issuance of the Clean Energy Rule?

Response: If the original task order award occurred prior to May 1, 2025, and fossil fuel-consuming equipment will be impacted by the scope of the modification, then the design phase of the modification begins with award of the modification. In this case, the cost of the *modification* (not the full project cost) is used to determine whether the construction or major renovation meets the cost threshold. If the modification was instead for non-direct-using fossil fuel systems (*e.g.*, upgrading lighting, building envelope), then the Clean Energy Rule would not apply (*see* Section 2.4 for additional details).
Note: If the original task order award occurred on May 1, 2025, or after, then the design phase begins with task order award, and the full cost of the contract would be included to determine whether the construction or major renovation under the modification meets the cost threshold.
The date at which a project enters the design phase shall also be used to apply the appropriate statutory fossil fuel reduction targets. These are identified Section 1.1 Table 1 and are based on the FY during which the construction or major renovation entered the design phase.

2.4 Step-Down Targets

The final rule provides individual fossil fuel-generated energy consumption phase-down targets (mandated by EISA) that apply to EISA-subject buildings depending on whether the design for construction or major renovations began between FY 2025 and FY 2029, or during or after FY 2030.

For buildings for which design for construction or whole building renovation began during FY 2025 to FY 2029, step-down target tables of the maximum allowable on-site fossil fuel-generated energy consumption (expressed in both kBtu per ft^2 and Scope 1 GHG emissions in lb CO_2e per ft^2) by building type and climate zone are provided in Appendix B: Step-Down Target Tables, which are found in 10 C.F.R parts 433 and 435, subpart B. The values in the tables come from DOE's EIA CBECS (for commercial buildings) and RECS (for multi-family high-rise and low-rise residential buildings), both of which are converted from site energy consumption to kBtu and Scope 1 GHG emissions in CO_2e.

For EISA-subject buildings for which design for construction or whole building renovation begins in FY 2030 or later, the covered on-site fossil fuel-generated energy consumption of the building must be zero for all building types and climate zones, based on the calculation established in the regulations.

Agencies can find a building's climate zone by referencing ANSI/ASHRAE Addendum a to ANSI/ASHRAE Standard 169-2020.[5]

[5] https://www.ashrae.org/file%20library/technical%20resources/standards%20and%20guidelines/standards%20addenda/169_2020_a_20211029.pdf

3 Definition of Fossil Fuel Generated Consumption

3.1 Scope 1 vs Scope 1+2

The statutory authority for the Clean Energy Rule, section 433 of EISA, directed DOE to establish regulations that require certain new Federal buildings and Federal buildings undergoing major renovations be designed to reduce their on-site fossil fuel-generated energy consumption. The scope of the building energy covered by the rule was limited by the term "fossil fuel-generated energy consumption." Though the term is not defined in section 433 of EISA, the Clean Energy Rule defines "fossil fuel-generated energy consumption" as the following:

> On-site stationary combustion of fossil fuels that contribute to Scope 1 emissions for generation of electricity, heat, cooling, or steam as defined by "Federal Greenhouse Gas Accounting and Reporting Guidance" (Council on Environmental Quality, January 17, 2016). This includes, but is not limited to, combustion of fuels in stationary sources (e.g., boilers, furnaces, turbines, and emergency generators). This term does not include mobile sources, fugitive emissions, or process emissions as defined by "Federal Greenhouse Gas Accounting and Reporting Guidance" (Council on Environmental Quality, January 17, 2016).

89 FR 35384, 35416 and 35433.

Pursuant to this definition, the standard applies to energy consumption from fossil fuels used by equipment and systems designed to support building operations; that is, fossil fuels consumed on-site. Additional discussion on this topic is presented in Section 2.1.

3.2 Cogeneration and Distributed Energy Resources (DERs)

When an EISA-subject building is connected to an existing DER that is located off the building site and is servicing more than one building, it may then be treated as energy generated off-site, and the energy stream would not be subject to the Clear Energy Rule. New DERs or projects on DER buildings, when qualified as an EISA-subject building, would be subject to the final rule.

For Combined Heat and Power (CHP) projects, if the CHP plant only serves one building and utilizes fossil fuel(s), any work to expand or alter this system would be subject to the Clean Energy Rule. For situations where an existing CHP plant is servicing multiple buildings, from the perspective of the buildings being serviced by the existing central plant, it is considered a DER, is not subject to the Clean Energy Rule and only covered under Scope 2 reporting. The building may remain connected to the central plant in this case even if compliance with the Clean Energy Rule is mandatory and other systems within the building are renovated to bring EISA-subject loads into compliance.

Q1: An agency that owns a CHP or fuel cell facility is intending on making upgrades to the equipment that cross the "major renovations" cost threshold. Does the Clean Energy Rule apply?

A1:

- The Clean Energy Rule addresses only fossil fuel usage; therefore, this excludes the regulation of any power or heat provided through biomass or biogas fuels.
- For any CHP or fuel cell systems that combust or use fossil fuels, the electricity generated from the waste heat is deducted from the proposed design site electricity as non-fossil fuel based.

Q2: What is an agency required to do if CHP is in a performance contract that has multiple years left in the contract term?
A2: If the performance contract was awarded before May 1, 2025, then the Clean Energy Rule does not apply. However, for performance contracts that were awarded before May 1, 2025, where the design has not been completed, DOE recommends that agencies assess if there are opportunities to modify the awarded design so that it meets the Clean Energy Rule energy performance standards.

Q3: An agency is planning to build a natural gas-fed fuel cell connected to a microgrid into a new construction project that passes the cost threshold. Does the Clean Energy Rule apply?
A3: Yes, the building housing the new equipment would be subject to the Clean Energy Rule. In this case the "building" housing the fuel cell and potentially other microgrid equipment would be subject to the rule when/if the cost threshold is exceeded.

Q4: An agency is planning to build a fuel cell as backup emergency generation. Does the Clean Energy Rule apply?
A4: No, fossil fuel consumption providing emergency backup electricity generation is currently excluded from the rule and such a project would not need to comply. However, if the fuel cell were to be used in non-emergency situations, then the rule would apply for that usage.

3.3 Exceptions and Exclusions

Not all on-site fossil fuel use cases are subject to the Clean Energy Rule. DOE identifies several on-site uses are that exempted or excluded from the Clean Energy Rule.

3.3.1 Stationary Combustion

First, the standards only apply to on-site fossil fuel use from stationary combustion or fossil fuel use sources. Section 433 of EISA requires that certain new Federal buildings and Federal buildings undergoing major renovations be designed to reduce on-site fossil fuel-generated energy consumption. As such, the rule is a buildings rule and does not apply to consumption of natural gas or other fossil fuels for alternatively fueled vehicles (AFVs) (or any other "alternative fuel," defined at 42 U.S.C. § 13211) because building design measures do not include use of AFVs.

3.3.2 Industrial / Manufacturing / Process Loads

Second, DOE notes that because the CBECS and RECS data from which the step-down targets are derived do not contain manufacturing or industrial process loads, DOE *excludes* these loads from the scope of the energy performance standards at this time. For buildings with such process loads, the process loads will need to be accounted for in the analysis of the building's fossil fuel consumption, but such loads would not be subject to the percentage reductions in on-site fossil fuel-generated energy consumption required for the building related loads as related to the rule. Excess heat from process load serving equipment may be utilized to reduce covered heating loads in the following cases:

- The covered loads are being reduced by the inclusion of heat recovered from the process load by an energy recovery system that would have otherwise been lost, or
- When process load serving equipment has excess capacity whereby its operation results in energy consumption waste due to a change in load or other design condition

New fossil fuel-consuming systems may not be designed to directly service base building functions unless they can be shown to be in compliance with the step-down targets. Waste heat from new process load systems may be utilized in new designs to reduce covered equipment loads.

Example: Process Loads

An agency has significant process loads as part of their facility under consideration for a performance contract. For process loads that consume natural gas or fossil fuels, 1) do ECMs that improve efficiency of process loads activate the Clean Energy Rule, and 2) do projects that include efficiency ECMs covering both process and non-process loads activate the Clean Energy Rule?

Response: The process loads in (1) and (2) are excluded from the scope of energy performance standards at this time because the CBECS and RECS data (that provide the targets for the Clean Energy Rule) do not contain manufacturing or industrial process loads. Such process loads should be accounted for in the analysis of the building's fossil fuel consumption but would not be subject to the percentage reductions in on-site fossil fuel-generated energy consumption required for the building related loads covered by the Clean Energy Rule.

For projects that only address efficiencies of process loads, compliance with the Clean Energy Rule is not mandatory. For projects that cover both process and non-process loads in the same building(s), only the non-process loads (*e.g.*, building or site heating system) would be affected by Clean Energy Rule requirements.

3.3.3 Emergency Power Generation

Third, the rule does not apply to the on-site consumption of fossil fuel from energy generation associated with the supply of emergency backup electricity. Section 433 of EISA requires building design measures for certain Federal buildings to reduce on-site fossil fuel-generated energy consumption. Thus, the rule is focused on the use of on-site energy as designed for *standard* building operations. Emergency backup generation is generally used infrequently and for short periods, for emergency services only when Federal buildings are not operating as designed. In addition, given their limited use, the impact from emergency backup generators, in terms of both direct fossil fuel consumption, is usually quite small relative to the impact from ongoing building operations. However, non-emergency generation from backup generators (such as those used for peak shaving or peak shifting) is within in the scope of the rule. DOE also notes that if Federal agencies use their backup generators for both purposes, they will be required to calculate the fraction of their backup generator fossil fuel consumption that is associated with emergency use and the fraction associated with non-emergency use.

Fossil fuels used for emergency backup boiler operation, for heating/hot water/steam, or to directly drive pumps (most often fire suppression system pumps) are **not** exempted from the rule and are subject to the step-down targets. In this case “emergency heating” is defined as when real-world load conditions exist that are beyond the design day calculations by which the capacity of the heating system(s) are designed (as specified

by the appropriate agency / authority having jurisdiction). If a building design requires such systems, they would be subject to the rule and step-down targets. Post FY 2030, when the step-down targets equate to zero on-site fossil fuel usage, an agency may petition for a reduction of the target when no practicable alternative systems exist. "Supplementary Heating" or heating from a secondary heating system (or heating source) turned on to provide heat when the primary heating system, like a heat pump, is unable to maintain a comfortable temperature, is subject to the rule and the step-down targets. It is likely that these systems are not utilized often and their consumption if powered by fossil fuel would likely fall into the allowable ranges for FY 2025-FY 2029. Post FY 2030, when no on-site fossil fuel usage is permitted, projects may pursue a petition to allow for such systems.

> **Example:** Backup Generators - An agency wants to include replacing fossil fuel-fired backup generation at their site. The project does not include any other measures or scope that directly touches fossil fuel consuming equipment (outside of the backup generation equipment) and has an estimated project investment above the Clean Energy Rule cost threshold. Does the backup generation ECM cost count towards the Clean Energy Rule cost threshold for the building to which it applies? Does the agency need to seek a petition for the replacement of the fossil fuel-fired backup generation equipment?
> **Response:** Emergency backup generation is exempted from the Clean Energy Rule and, therefore, the cost to replace such a system would not count towards the Clean Energy Rule cost threshold. Replacing backup generation assets would not require a petition.
> However, non-emergency generation from backup generators (such as those used for peak shaving or peak shifting) is within in the scope of the rule. DOE also notes that if Federal agencies use their backup generators for both purposes, they will be required to calculate the fraction of their backup generator fossil fuel consumption that is associated with emergency use and the fraction associated with non-emergency use.

3.3.4 Biomass

Fourth, the rule does not apply to on-site energy generation associated with biomass fuels because biomass fuels are not considered fossil fuels. Because EISA directed DOE to establish regulations that require on-site fossil fuel-generated energy consumption reductions, and biomass is not a fossil fuel, DOE has intentionally left biomass fuels out of the CBECS and RECS targets developed for the rule. DOE acknowledges that guidance from the Council on Environmental Quality (CEQ) takes a somewhat different approach on biomass fuels, but DOE believes CEQ's guidance is complementary to this final rulemaking. CEQ's guidance[6] states that the CO_2 emissions from biomass and biofuel combustion are considered biogenic and are reported separately from on-site fossil fuel-generated GHGs and biomass and biofuel-generated

[6] Federal Greenhouse Gas Accounting and Reporting Guidance (sustainability.gov)

methane (CH_4) and nitrous oxide (N_2O). This CEQ guidance ensures that any GHG emissions associated with biomass or biofuel use at a covered Federal building are still taken into account in reporting emissions (though reported separately). The rule does not cover such fuels, however, as they are not fossil fuel derived and therefore fall outside the statutory authority.

3.3.5 National Security

The Clean Energy Rule does not provide a blanket exemption for national security sites, as section 433(a) of EISA does not provide an exemption from the standard for national security. For some buildings, it may be technically impracticable to achieve the consumption targets and the petition for downward adjustment is appropriate. Each agency must provide a petition if they believe their facility cannot meet the statutory requirements due to technical impracticability. Petitions that include information with national security implications will not be made public. FEMP will work directly with agencies and building projects to accommodate national security type projects that have classifications.

4 Petitions for Downward Adjustment

4.1 Petition Requirements.

Under the Clean Energy Rule, agencies other than GSA may petition DOE for an adjustment to the on-site fossil fuel-generated energy performance standard with respect to a specific building if meeting the requirement is technically impracticable in light of the agency's functional needs for the building. Although the GSA is not allowed to directly submit petitions itself, the GSA will continue to perform technical practicability and life-cycle cost (LCC)-effectiveness analysis and ensure the outcomes are incorporated into the prospectus that GSA transmits directly to Congress. Note that the Clean Energy Rule does allow GSA tenant agencies that have significant input and control over building design to petition DOE. If a tenant agency is involved in the design and budgeting process of a Clean Energy Rule EISA-subject project, specifically with input on equipment selection, then the tenant agency may file a petition on behalf of the project even if GSA is technically the owner of the building.

The head of an agency may designate someone to sign off on petitions for downward adjustment prior to submitting such petitions to FEMP. Agencies should follow their own internal guidance when available on who can serve as such a designee, but it should be someone with decisional authority to approve the building design and/or budget (or budget request). The designee should be aware or made aware of the details of the building construction or renovation and why the petition for downward adjustment is necessary.

4.2 Technical Impracticability

Technical impracticability exists when achieving the on-site fossil fuel-generated energy consumption targets would do the following:

1. not be feasible from an engineering design or execution standpoint due to existing physical or site constraints that prohibit modification or addition of elements or spaces;

2. significantly obstruct building operations and the functional needs of a building, specifically for industrial process loads, critical national security functions, mission critical information systems as defined in NIST SP 800-60 Vol. 2 Rev. 1, and research operations; or

3. significantly degrade energy resiliency and energy security of building operations as defined in 10 U.S.C. § 101(e)(6) and 10 U.S.C. § 101(e)(7) respectively.

Upon determination that complying with the rule is technically impracticable, the building is still required to reduce consumption of fossil fuel-generated energy to the maximum extent practicable.

Agencies do **not** need to petition FEMP for downward adjustment when the project in question cannot comply with the standard due to scope exceptions as defined in

Section 3.3. This includes when fossil fuel loads include process loads, backup generators, or are solely sourced from compliant levels of biomass or bio-based fuels.

Consistent with the statutory authority, technical impracticability may include technology availability and cost considerations but may not be based *solely* on cost considerations. While conducting an LCC analysis is an allowable way to reduce the overall efficiency target for new construction projects under 10 C.F.R part 433.100, it does not apply for Clean Energy Rule compliance. Cost may be considered a factor when combined with other valid conditions of technical impracticability described previously, and in particular when the added cost of compliance with the rule results from items from which the government and project do not have direct control and are not able to competitively bid. This could be the case if a project needed to bring in additional electric capacity to a site in order to comply with the rule, but that additional capacity involves paying a utility directly to improve their infrastructure.

> **Example:** An agency is planning a major renovation project for a building located in a remote area. The expected cost of the renovation project is expected to exceed the Clean Energy Rule cost threshold. In developing designs for the renovation, the design team finds that a Clean Energy Rule compliant design would necessitate additional electric capacity that does not currently exist at the site. Upon discussion with the local utility, it is found that additional service could be brought out to the site, but the cost of doing so would have to be paid by the agency and such a cost would put the entire project in jeopardy. Do the Clean Energy Rule energy performance standards apply in this case?
>
> **Response:** Yes, whenever a major renovation to an EISA-subject building exceeds the cost threshold and affects Scope 1 fossil fuel-based consumption, then the Clean Energy Rule performance standards apply. In this case, the agency could file a petition for downward adjustment of the fossil fuel-based consumption targets based on the technical impracticability that alternative power sources are not available. It should be noted that the agency should still design the renovation to include the Scope 1 fossil fuel-based consumption reductions that are technically practicable and present that proposed design along with other impracticable options evaluated with the petition.

4.3 When to Petition (based on project progression)

Once an agency has identified a technical impracticability that would prevent a qualifying project's compliance with the Clean Energy Rule consumption targets (as early in the design process as possible), it should begin the petition process for obtaining a downward adjustment of these targets. Ideally an agency would identify the need for a petition prior to setting the final budget of the project. After the agency collects and submits the information required for a complete petition, FEMP will review

and notify the submitting agency within 30 calendar days whether the petition is approved or rejected. FEMP may reach out to an agency during the 30-day review window to request clarification or discuss further. If significant revision of the petition is necessary, DOE may ask the submitting agency to resubmit its petition and begin a new 30-day review window.

4.4 Defining Requested Downward Adjustment

Agencies seeking a downward adjustment are required to do the following:

1. Describe the building and associated components and equipment;
2. Explain why compliance with the requirements is technically impracticable considering the functional needs of the building;
3. Demonstrate that all LCC-effective energy efficiency and on-site renewable energy measures were included in the building design;
4. Provide the largest feasible reduction in on-site fossil fuel-generated energy consumption that can reasonably be achieved; and
5. Discuss measures that the agencies evaluated but rejected.

For major renovations that are whole building renovations (a complete replacement of an existing building from the foundation up), a downward adjustment would be provided at a level equal to the energy efficiency level that would be achieved were the proposed building designed to meet the baseline energy efficiency standard applicable to new construction in 10 C.F.R parts 433 or 435. For whole building renovations, Federal agencies must provide the same information that is required for new construction.

For major renovations that are limited to system or component-level retrofits, DOE has a streamlined process that will provide downward adjustments at a level equal to the energy efficiency level that would be achieved through the use of commercially available systems and/or components by using ENERGY STAR or FEMP designated products. A major renovation that is limited to a single system or multiple systems could receive a downward adjustment equal to the energy efficiency level that would be achieved through the use of products of the same ENERGY STAR or FEMP designated products as required for component renovations and through use of the system level requirements found in the baseline energy efficiency standards in 10 C.F.R part 433 (Standard 90.1-2019) or 10 C.F.R part 435 (2021 IECC) or as updated in the future.

4.5 Documentation

When filing petitions for downward adjustment related to new construction, Federal agencies must include the maximum allowable on-site fossil fuel-generated energy consumption for the proposed building, the requested alternative allowable on-site fossil fuel-generated energy consumption for the building, and the estimated on-site fossil fuel-generated energy consumption of the proposed building.

For system or component-level renovations requesting petitions, the calculations mentioned above are allowable when available, but when explicit modeling or calculations are not warranted, then a description of the proposed products to be used should be provided per Section 4.4.

In addition, both project types must provide the total estimated project cost and a description of the building and building energy systems. A description of the building or existing building includes, but is not limited to, location, use type, floor area, number of stories, expected number of occupants and occupant schedule, functional needs of the building, and any other information the agency deems pertinent. Federal agencies must describe HVAC systems and service water heating systems, as well as the loads in the building, including any specialized process, specialized research loads, electric vehicle charging stations, alternatively fueled vehicle fueling stations, emergency backup generators and other energy consuming systems or components. This information will provide DOE the necessary information to review petitions, and help agencies address key questions and options during the design process.

4.6 Petition Process

FEMP has developed petition-specific resources including a process diagram with details on all steps an agency and FEMP undertake when processing a petition. These include a diagram (see Figure 2) as well as a template (available at https://www.energy.gov/femp/federal-building-energy-efficiency-rules-and-requirements) that agencies should complete and submit to FEMP to formalize the process.

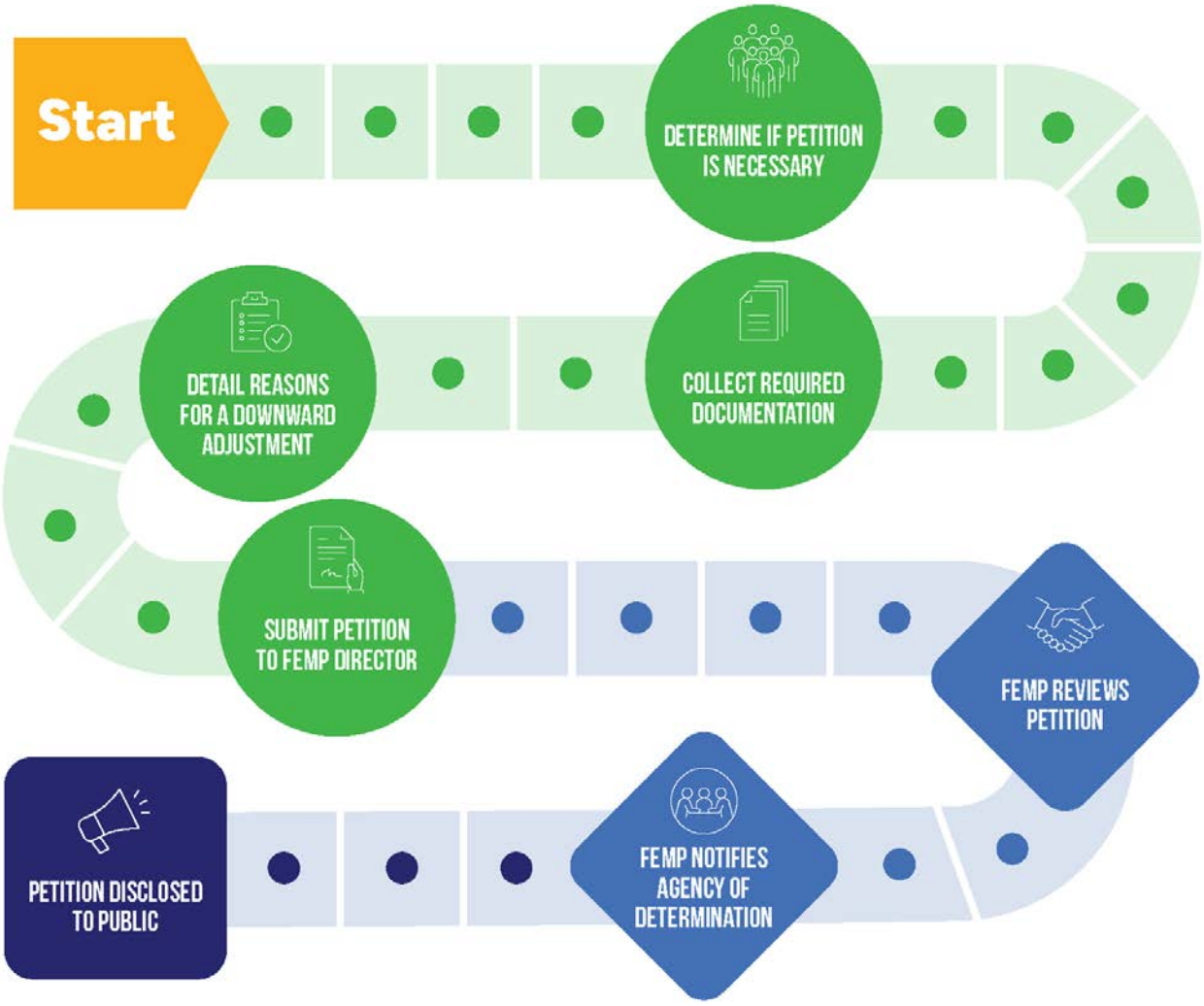

Figure 2. Petition process diagram outlining the suggested steps involved in the Clean Energy Rule petition process; the large green circles are the primary steps undertaken by agencies, the large blue squares are the primary steps taken by FEMP, and the smaller circles and squares are sub-steps of the process as outlined below

4.6.1 Agency Steps

Once an agency or project team determines that a petition for downward adjustment to the fossil fuel-generated energy performance standard is necessary they may pursue the following steps to help organize the information required as part of the petition process. Participation is likely required by both the project's design team subject matter experts as well as the agency representatives in charge of the project development. The following steps are a suggestion of how an agency may pursue a petition and provide the required information necessary for the petition submission.

1. Agency/design team determines petition is necessary:

a. Agencies may petition for a downward adjustment to the fossil fuel-generated energy performance standard with respect to a specific building if meeting the requirement is technically impracticable in light of the agency's functional needs for the building. “Technical impracticability” exists when achieving the fossil fuel-generated energy consumption targets would:

    i. Not be feasible from an engineering design or execution standpoint due to existing physical or site constraints that prohibit modification or addition of elements or spaces;

    ii. Significantly obstruct building operations and the functional needs of a building, specifically for industrial process loads, critical national security functions, mission critical information systems as defined in National Institute of Standards and Technology (NIST) Special Publication (SP) 800-60 Vol. 2 Rev. 1, and research operations; or

    iii. Significantly degrade energy resilience and energy security of building operations as defined in 10 U.S.C. § 101(e)(6) and 10 U.S.C. § 101(e)(7), respectively.

        1. The term “energy resilience” means the ability to avoid, prepare for, minimize, adapt to, and recover from anticipated and unanticipated energy disruptions in order to ensure energy availability and reliability sufficient to provide for mission assurance and readiness, including mission-essential operations related to readiness, and to execute or rapidly reestablish mission-essential requirements.

        2. The term “energy security” means having assured access to reliable supplies of energy and the ability to protect and deliver sufficient energy to meet mission-essential requirements.

b. Cost may not be used as the only basis for technical impracticability.

c. Petitions are not required when loads are exempted or excluded from the basis of on-site fossil fuel-generated energy consumption. This includes the following:

    i. Manufacturing and industrial process loads

    ii. Alternatively fueled vehicles

    iii. Energy generation associated with the supply of emergency backup electricity

iv. Biomass fuels.

d. Agencies may bundle petitions to reuse documentation for projects of similar scope, design, and location—*see* details under Section 4.7.

2. Design team and agency collect required documentation materials:

   a. A description of the systems, technologies, and practices that were evaluated and unable to meet the required fossil fuel reduction, including a justification of technical impracticability for achieving the Scope 1 fossil fuel-generated energy consumption targets.

   b. A general description of the building or modifications to an existing building including (but not limited to) location, use type, floor area, stories, expected number of occupants and occupant schedule, project type, project cost, functional needs, mission critical activity, research, and national security operations, as applicable.

   c. The maximum allowable Scope 1 fossil fuel energy consumption for the building.

   d. The estimated Scope 1 fossil fuel energy consumption of the proposed building.

   e. A description of the proposed building's energy-related features.

   f. Any other information the agency determines would help explain its request.

3. Agency details reason for seeking a petition and the requested reduction in the requirement.

   a. Note that the petition process is not a full exemption; rather, it is a requested downward adjustment. The building must still aim to achieve as much reduction as practicable.

   b. The head of the agency or their designee must provide a statement requesting the petition for downward adjustment for the building or renovation, stating that the building or renovation reduces Scope 1 fossil fuel energy consumption in accordance with the applicable energy performance standard to the maximum extent practicable, and that each fossil fuel-using product included in the proposed building meets ENERGY STAR® or FEMP designated product criteria.

4. Head of Agency (or their designee) submits petition to Director of FEMP

   a. Submitted via email to cer-petition@hq.doe.gov

4.6.2 FEMP Steps

Once an agency submits a complete petition and it is accepted by FEMP they will review the provided documentation and determine if technical impracticability has been demonstrated and if the proposed downward adjustment should be established as the new to the fossil fuel-generated energy performance standard target.

1. FEMP determines if petitioning agency successfully demonstrated the need for a downward adjustment.

    a. Petitions that are incomplete will not be accepted.

    b. Petitions that do not demonstrate technical impracticability will not be approved.

    c. FEMP will notify the agency as early as possible if a petition is determined not to successfully demonstrate technical impracticability so that FEMP can work with the agency directly to determine an appropriate resolution. The agency may revise their design and/or petition documentation to resubmit.

    d. It should be noted that overall rule compliance will be tracked and reported (as detailed in Section 5.3), and completed petitions, both approved or rejected, will be disclosed to the public (subject to classification allowances).

2. FEMP notifies agency in writing.

    a. FEMP will notify an agency within 30 calendar days of submittal of a complete petition whether that petition is approved or rejected.

    b. FEMP may establish an adjusted value of on-site fossil fuel-generated energy consumption standard, other than the adjusted value requested in a petition. If DOE finds that the petition does not support the requested adjusted value but that the statutorily required level was nonetheless technically impracticable, DOE can establish a new adjusted value.

3. Petition Disclosed to Public – Publication will be subject to classification allowances.

4.7 Bundling Petitions

DOE will allow agencies to bundle petitions for new buildings or whole building renovations that are the same or similar design, have the same set of reduction targets, and would require similar measures to reduce the on-site fossil fuel-generated energy consumption. The bundled petitions must clearly state any differences between the buildings and explain why the differences do not warrant the submission of separate evaluations. For component-level major renovations, DOE will allow bundling petitions that are of the same component and building type.

Agencies may file one petition for a project with multiple buildings if the buildings have these attributes:

- are of the same building type and of similar size and location (*i.e.* climate zone),
- are being designed and constructed to the same set of targets for on-site fossil fuel-generated energy consumption reduction, and
- would require similar measures to reduce on-site fossil fuel-generated energy consumption and similar adjustment to the numeric reduction requirement.

The bundled petition must include the information that pertains to all buildings included in the petition and an additional description of the differences between each building. The agency is only required to show work for adjustment once.

4.8 Public Disclosure Considerations

FEMP will make its best effort to publish any petitions for downward adjustment that are filed, deemed complete, and screened for national security concerns with input from the appropriate agency. Petitions that include information with national security implications will not be made public. FEMP will work directly with agencies and building projects to accommodate national security type projects that have classifications. Agencies are encouraged to go through the “Agency Steps” portion of the petition process as detailed in Section 4.6.1 and document through the use of the Petition Template (or comprehensive and similar agency specific form) even if a substantial amount of the information cannot be shared. The building information that will be made publicly available for a typical petition will be the agency, building name, location (broad location identifier or city/state, not full address), project type, proposed fossil fuel reduction target, and the petition status (approved/rejected). Complete and approved petitions will be available on the Clean Energy Rule webpage. Information on rejected petitions will be limited to summaries with limited reasoning for the rejection of the petition and included with overall petition summarization statistics.

5 Compliance Best Practices

5.1 Efficiency First

5.1.1 Role within New Construction 10 C.F.R Parts 433 and 435

The Clean Energy Rule is an amendment to existing energy standards that establish performance targets for all Federal new construction based on a reference code (ASHRAE 90.1 for commercial buildings and the IECC for residential buildings). In addition to establishing minimum performance requirements (complying with the reference code), the energy standards in 10 C.F.R parts 433 and 435 also mandate that new building projects achieve energy consumption levels that are at least 30 percent below minimum performance compliance if LCC effective. Furthermore, if a 30 percent reduction is not LCC-effective, the design of the proposed building shall be modified so as to achieve an energy consumption level at or better than the maximum level of energy efficiency that is LCC-effective, but at a minimum still complies with the base reference code.

The base building efficiency standards at 10 C.F.R. 433 and 10 C.F.R. 435 should be applied first, prior to applying the step-down targets to the proposed design and further changing the design of the directly consuming Scope 1 fossil fuel consuming stationary combustion equipment. A building should be designed to minimize loads, recover energy, and optimize efficiency to the highest extent practicable and LCC-effective per performance factors as defined by the reference code or the Authority Having Jurisdiction (AHJ). Once the design is optimized for efficiency, then compliance should be demonstrated for the Clean Energy Rule, with subsequent design alterations as necessary. An agency may choose to allow for the performance determination for the base energy code compliance post Clean Energy Rule to be done in metrics other than energy cost (like site energy or GHG emissions) given that there are no considerations for cost or cost-effectiveness for compliance with the rule.

5.1.2 Interaction with Renovations 10 C.F.R Part 436

For system and component renovations subject to the Clean Energy Rule, meaning a group of equipment pieces that function together to satisfy a building energy load, agencies must utilize electric or non-fossil fuel-using FEMP designated or ENERGY STAR equipment, in alignment with 10 C.F.R part 436, subpart C and must also meet the system level requirements for the systems being renovated, as specified in the model energy codes used to establish baseline energy efficiency standards for Federal buildings (*i.e.*, the current ASHRAE Standard 90.1 for Federal commercial and high-rise multi-family buildings covered under 10 C.F.R part 433 or the current IECC for Federal low-rise buildings covered under 10 C.F.R part 435). When no such designation exists for a proposed piece of equipment, the agency may utilize a non-FEMP designated or ENERGY STAR certified electrified option.

5.2 Cost Effectiveness

5.2.1 Role of Life-Cycle Cost Analysis

Traditional LCC analysis (as required for selecting the optimized design for subpart A of 10 C.F.R parts 433 and 435 or for selecting efficient equipment per subpart A of 10 part C.F.R 436) is not required for demonstrating compliance with the Clean Energy Rule. In addition, section 1002 of Energy Act of 2020 directs agencies that "Not later than two years after the date of completion of each evaluation under [42 U.S.C. 8253(f)(3)], each energy manager shall implement any energy- or water-saving measure that the Federal agency identified in the evaluation; and is life cycle cost-effective, as determined by evaluating an individual measure or a bundle of measures with varying paybacks." Agencies should consider Clean Energy Rule compliance when designing audit identified ECMs including bundling considerations for all applicable LCC-effective ECMs. DOE urges agencies to design compliant projects to evaluate measures beyond base efficiency levels and compliance to improve overall LCCs.

Technical impracticability may include technology availability and cost considerations but may not be based solely on cost considerations. Cost may be considered a factor in petitions when combined with other valid conditions of technical impracticability described above and in particular when the added cost of compliance with the rule results from items from which the government and project do not have direct control and are not able to competitively bid.

5.3 Reporting Requirements

FEMP will track reporting and compliance with the Clean Energy Rule within its existing Compliance Tracking System (CTS) platform. While there is not statutory mandate within the underlying authority for the rule for a formal tracking or reporting program, FEMP is committed to working together with the Office of Management and Budget (OMB) and CEQ to ensure that proper transparency, reporting and compliance will be achieved. Clean Energy Rule reporting accommodations will be incorporated into the FY 2025 Annual Energy Management Data Report along with the efficiency standards (from 10 C.F.R parts 433 and 435) that are already in place. Major renovation project types that do not fit the definition of new construction and would not previously have needed to report may increase the reporting scope of agencies.

5.4 Compliance Metrics

The following flow chart highlights the type of compliance pathways that a project may undergo to show compliance with the Clean Energy Rule. Major renovations can follow one of the streamlined compliance pathways for system or component-level renovations.

Figure 3. Compliance Pathways for the Clean Energy Rule

5.4.1 New Construction

The Clean Energy Rule defines quantitative requirements to determine compliance with the fossil fuel reduction targets within the revised energy performance standards for EISA-subject new construction (*i.e.*, new Federal buildings for when compliance with subpart A of 10 C.F.R part 433 or 10 C.F.R part 435 is required and an energy model is being done for the proposed design). These are presented as step-down targets in Appendix B: Step-Down Target Tables.

The adopted quantitative requirements require agencies to calculate on-site fossil fuel-generated energy consumption in kBtu of fossil fuels or the Scope 1 GHG emissions in CO_2e of their proposed building design and compare that estimate to the allowable fiscal year percentage reduction target found in the step-down target tables. This is done by identifying the allowable target (in either kBtu of on-site fossil fuels or Scope 1 GHG emissions attributed to the generation of electricity, heat, cooling, or steam) for stationary combustion sources as per the "Federal Greenhouse Gas Accounting and Reporting Guidance." The agencies then divide the kBtu values or the lb of CO_2e Scope 1 emissions by the floor area of the building to calculate the per square foot value to compare with the target values in the step-down target tables.

5.4.2 Major Renovations

The Clean Energy Rule also provides streamlined prescriptive requirements to determine compliance with the energy performance standards for major renovations of systems or components within EISA-subject buildings. Such prescriptive requirements include requiring the systems within the building undergoing major renovation to be brought up to the performance requirements of the individuals of the standard that is incorporated by reference in 10 C.F.R. part 433, ASHRAE Standard 90.1 (chapters 5–10 in 90.1-2019). For major renovations in EISA-subject buildings that meet the project cost threshold and coverage requirements and are less than whole building renovations (*i.e.*, projects within the existing building comprising retrofits to a single system or component, such as an HVAC system or a chiller), agencies are required to adhere to the following requirements.

- For component-level renovations, meaning an individual product or piece of equipment, the final rule requires agencies to utilize electric or non-fossil fuel-using FEMP designated or ENERGY STAR equipment, which follow existing Federal requirements for equipment efficiency (found in 10 C.F.R part 436, subpart C, "Agency Procurement of Energy Efficient Products").
- For system level renovations, meaning a group of equipment pieces that function together to satisfy a building load, agencies must utilize electric or non-fossil fuel-using FEMP designated or ENERGY STAR equipment, in alignment with 10 C.F.R part 436, subpart C and must also meet the system level requirements for the systems being renovated, as specified in the model energy codes used to establish baseline energy efficiency standards for Federal buildings (*i.e.*, the current ASHRAE Standard 90.1 for Federal commercial and high-rise multi-family

buildings covered under 10 C.F.R part 433 or the current IECC for Federal low-rise buildings covered under 10 C.F.R part 435).

5.4.3 Calculating Target

The following section details how a project that must meet the fossil fuel-generated energy performance standard targets may calculate their target and determine if their project design is in compliance with the standard.

5.4.3.1 New Construction and Major Renovations of all Scope 1 Fossil Fuel-Using Systems in EISA-Subject Buildings.

(i) Design for construction began during FY 2025 through FY 2029.

For new construction or major renovations of all Scope 1 fossil fuel-using systems in a Federal building for which design for construction or renovation, as applicable, began during FY 2025 through FY 2029, the Scope 1 fossil fuel-generated energy consumption of the proposed building, based on the building design and calculated according to Equation 2 below, must not exceed the value identified in Appendix B: Step-Down Target Tables for the associated building type, climate zone, and fiscal year in which design for construction begins.

(A) Federal agencies may apply a shift adjustment multiplier to the values in Appendix B: Step-Down Target Tables based on the baseline hours of operation assumed in Appendix A: Shift Adjustment Multipliers. To calculate the shift adjustment multiplier, agencies shall estimate the number of hours of operation for their new building and multiply by the appropriate factor shown in Appendix A: Shift Adjustment Multipliers for their building type.

(B) The fossil fuel-generated energy consumption target for the building is the applicable value from Appendix B: Step-Down Target Tables multiplied by the shift adjustment multiplier calculated for that building.

(C) The fossil fuel-generated energy consumption of a proposed building is calculated as follows:

Equation 2: Fossil Fuel-Generated Energy Consumption = Direct Scope 1 Fossil Fuel-Generated Energy Consumption of Proposed Building / Floor Area

Where:

Direct Fossil Fuel-Generated Energy Consumption of Proposed Building equals the total Scope 1 fossil fuel-generated energy consumption of the proposed building calculated in accordance with the Performance Rating Method in Appendix G of ASHRAE Standard 90.1-2019 (incorporated by reference; *see* 10 C.F.R part 433.3) and measured in kBtu/yr, except that this term does not include fossil fuel consumption for emergency electricity generation. Agencies must include all on-site

fossil fuel use or Scope 1 emissions associated with non-emergency generation from backup generators (such as those for peak shaving or peak shifting). Any energy generation or Scope 1 emissions associated with biomass or biofuels are excluded. Any emissions associated with natural gas for AFVs (or any other alternative fuel defined at 42 U.S.C. § 13211 that is provided at a Federal building) are excluded. For buildings with manufacturing or industrial process loads, the process loads should be accounted for in the analysis for the building's fossil fuel consumption and GHG emissions, but these process loads are not subject to the step-down targets.

Floor Area is the area enclosed by the exterior walls of a building, both finished and unfinished, including indoor parking facilities, basements, hallways, lobbies, stairways, and elevator shafts.

(ii) Design for construction began during or after FY 2030.

For new construction or major renovations of all fossil fuel-using systems in an EISA-subject building for which design for construction or renovation, as applicable, began during or after FY 2030, the Scope 1 fossil fuel-generated energy consumption of the proposed building must be zero, based on building design and calculated according to 10 C.F.R. part 433.201(a).

5.4.3.2 Major Renovations of a Federal Building System or Component within an EISA-Subject Building

System level renovations shall follow the renovation requirements in the appropriate section of the applicable building baseline energy efficiency standards listed in 10 C.F.R parts 433.100 and 435.100 substituting the "design for construction" with "design for renovation" for the relevant date and shall replace all equipment that is included in the renovation with all electric or non-fossil fuel-using ENERGY STAR or FEMP designated products as defined in 10 C.F.R 436.42. For component-level renovations, Agencies shall replace all equipment that is part of the renovation with all electric or non-fossil fuel-using ENERGY STAR or FEMP designated products as defined in 10 C.F.R part 436.42.

5.4.4 Shift Adjustment Multiplier

The Clean Energy Rule notes and accounts for the fact that many types of Federal buildings are operated for longer hours than typical for private sector buildings covered in CBECS and RECS databases from which the step-down targets are derived. This is done by adopting a shift adjustment multiplier. A building's hours of operation are typically known and are implicit in any whole building simulation done on a building design, with longer hours of operation typically leading to higher energy usage.

The shift multiplier in this Clean Energy Rule is based on analysis by Oak Ridge National Laboratory and was originally developed for ASHRAE Standard 100-2018. The multiplier is expressed in "number of operating shifts," which is determined by ranges

from the actual hours of operation. Shift multipliers vary by building type and are presented in Appendix A: Shift Adjustment Multipliers.

For example, for government offices, operating the building for 51–167 hours or “two shifts” does not increase the energy usage multiplier, but operating the building for 168 hours or “three shifts” does increase the energy use with a multiplier of 1.4.

Because residential buildings by their very nature are already considered to be 24-hour operation, the final rule only applies the shift multiplier to Federal commercial buildings regulated under 10 C.F.R part 433.

Appendix A: Shift Adjustment Multipliers

Table 3. Shift Adjustment Multiplier by Hours of Operation and Building Type

Building Activity/Type	Weekly Hours of Operation		
	50 or less	**51 to 167**	**168**
Admin/professional office	1	1	1.4
Bank/other financial	1	1	1.4
Government office	1	1	1.4
Medical office (non-diagnostic)	1	1	1.4
Medical office (diagnostic)	1	1	1.5
Mixed-use office	1	1	1.4
Other office	1	1	1.4
Laboratory	1	1	1.4
Distribution/shipping center	0.7	1.4	2.1
Non-refrigerated warehouse	0.7	1.4	2.1
Convenience store (without gas station)	1	1	1.4
Convenience store with gas station	1	1	1.4
Grocery store/food market	1	1	1.4
Other food sales	1	1	1.4
Fire station/police station	0.8	0.8	1.1
Other public order and safety	0.8	0.8	1.1
Clinic/other outpatient health	1	1	1.5
Refrigerated warehouse	1	1	1
Religious worship	0.9	1.7	1.7
Entertainment/culture	0.8	1.5	1.5
Library	0.8	1.5	1.5
Recreation	0.8	1.5	1.5
Social/meeting	0.8	1.5	1.5
Other public assembly	0.8	1.5	1.5
College/university	0.8	1.3	1.3
Elementary/middle school	0.8	1.3	1.3
High school	0.8	1.3	1.3

Building Activity/Type	Weekly Hours of Operation		
	50 or less	51 to 167	168
Preschool/daycare	0.8	1.3	1.3
Other classroom education	0.8	1.3	1.3
Fast food	0.4	1.1	2.1
Restaurant/cafeteria	0.4	1.1	2.1
Other food service	0.4	1.1	2.1
Hospital/inpatient health	1	1	1
Nursing home/assisted living	1	1	1
Dormitory/fraternity/sorority	1	1	1
Hotel	1	1	1
Motel or inn	1	1	1
Other lodging	1	1	1
Vehicle dealership/showroom	0.8	1.2	1.8
Retail store	0.8	1.2	1.8
Other retail	0.8	1.2	1.8
Post office/postal center	0.7	1.5	1.5
Repair shop	0.7	1.5	1.5
Vehicle service/repair shop	0.7	1.5	1.5
Vehicle storage/maintenance	0.7	1.5	1.5
Other service	0.7	1.5	1.5
Strip shopping mall	1	1	1
Enclosed mall	1	1	1
Bar/Pub/Lounge	1	1	1.4
Courthouse/Probation Office	1	1	1.4

Appendix B: Step-Down Target Tables

Table 4. FY 2020-FY 2024 Maximum Allowable Scope 1 Fossil Fuel-Generated Energy Consumption by Building Category, Building Type and Climate Zone, Commercial Buildings and Multi-Family High-Rise Residential Buildings (lb CO_2e/yr-ft^2)

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (lb CO2e/yr-ft^2)																		
Education	College/ university	0.21	0.22	0.23	0.28	0.35	0.33	0.47	0.42	0.47	0.61	0.59	0.60	0.76	0.72	0.64	0.89	0.89	1.04	1.39
Education	Elementary/ middle school	0.33	0.34	0.36	0.44	0.54	0.51	0.73	0.65	0.73	0.95	0.92	0.94	1.19	1.13	1.01	1.38	1.39	1.63	2.17
Education	High school	0.02	0.02	0.06	0.17	0.34	0.29	0.62	0.50	0.62	0.96	0.90	0.94	1.33	1.22	1.04	1.62	1.63	1.99	2.82
Education	Other classroom education	0.13	0.13	0.14	0.16	0.20	0.19	0.27	0.25	0.27	0.36	0.35	0.35	0.45	0.42	0.38	0.52	0.52	0.61	0.82
Education	Preschool/ daycare	0.30	0.31	0.33	0.40	0.49	0.46	0.66	0.59	0.66	0.87	0.83	0.85	1.08	1.02	0.92	1.26	1.26	1.48	1.97
Enclosed Mall	Enclosed mall	0.35	0.35	0.38	0.46	0.57	0.54	0.76	0.68	0.76	1.00	0.96	0.99	1.25	1.18	1.06	1.45	1.46	1.71	2.27
Food Sales	Convenience store (without gas station)	0.33	0.34	0.36	0.43	0.54	0.51	0.73	0.65	0.73	0.95	0.91	0.94	1.19	1.12	1.00	1.38	1.39	1.62	2.16
Food Sales	Convenience store with gas station	0.24	0.24	0.26	0.31	0.39	0.36	0.52	0.46	0.52	0.68	0.65	0.67	0.85	0.80	0.72	0.98	0.99	1.16	1.54
Food Sales	Grocery store/food market	0.35	0.36	0.38	0.46	0.58	0.54	0.77	0.69	0.78	1.01	0.97	1.00	1.27	1.20	1.07	1.47	1.48	1.73	2.30
Food Sales	Other food sales	1.09	1.11	1.18	1.43	1.78	1.68	2.38	2.13	2.39	3.12	3.00	3.08	3.91	3.69	3.30	4.54	4.56	5.33	7.11
Food Service	Fast food	2.06	2.09	2.23	2.70	3.37	3.16	4.50	4.02	4.51	5.90	5.67	5.82	7.39	6.97	6.24	8.56	8.60	10.06	13.41
Food Service	Other food service	0.27	0.27	0.29	0.35	0.44	0.41	0.59	0.52	0.59	0.77	0.74	0.76	0.96	0.91	0.81	1.11	1.12	1.31	1.74
Food Service	Restaurant/ cafeteria	1.47	1.49	1.59	1.92	2.40	2.25	3.21	2.87	3.21	4.20	4.04	4.15	5.26	4.96	4.44	6.10	6.13	7.17	9.56
Inpatient Health Care	Hospital/ inpatient health	1.06	1.08	1.13	1.31	1.56	1.48	1.99	1.81	2.00	2.53	2.44	2.50	3.10	2.93	2.66	3.54	3.56	4.12	5.40
Laboratory	Laboratory	0.79	0.80	0.85	1.03	1.28	1.21	1.72	1.53	1.72	2.25	2.16	2.22	2.82	2.66	2.38	3.26	3.28	3.83	5.11
Lodging	Dormitory/fraternity/sorority	0.51	0.51	0.55	0.66	0.83	0.78	1.10	0.99	1.11	1.45	1.39	1.43	1.81	1.71	1.53	2.10	2.11	2.47	3.29
Lodging	Hotel	0.46	0.47	0.50	0.60	0.75	0.71	1.00	0.90	1.01	1.32	1.26	1.30	1.65	1.55	1.39	1.91	1.92	2.24	2.99
Lodging	Motel or inn	0.60	0.61	0.65	0.78	0.98	0.92	1.31	1.17	1.31	1.71	1.65	1.69	2.14	2.02	1.81	2.49	2.50	2.92	3.90
Lodging	Other lodging	0.23	0.24	0.25	0.30	0.38	0.36	0.51	0.45	0.51	0.66	0.64	0.65	0.83	0.78	0.70	0.96	0.97	1.13	1.51

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (lb $CO_2e/yr\text{-}ft^2$)																		
Nursing	Nursing home/ assisted living	0.82	0.83	0.88	1.07	1.33	1.25	1.78	1.60	1.79	2.34	2.25	2.31	2.93	2.76	2.47	3.39	3.41	3.99	5.32
Office	Administrative/ professional office	0.30	0.31	0.33	0.39	0.49	0.46	0.66	0.59	0.66	0.86	0.83	0.85	1.08	1.02	0.91	1.25	1.26	1.47	1.96
Office	Bank/other financial	0.18	0.19	0.20	0.24	0.30	0.28	0.40	0.36	0.40	0.53	0.50	0.52	0.66	0.62	0.56	0.76	0.77	0.90	1.19
Office	Government office	0.31	0.31	0.33	0.40	0.50	0.47	0.67	0.60	0.67	0.88	0.84	0.87	1.10	1.04	0.93	1.27	1.28	1.50	2.00
Office	Medical office (non-diagnostic)	0.34	0.35	0.37	0.45	0.56	0.52	0.74	0.66	0.74	0.97	0.94	0.96	1.22	1.15	1.03	1.41	1.42	1.66	2.21
Office	Mixed-use office	0.26	0.27	0.28	0.34	0.43	0.40	0.58	0.51	0.58	0.75	0.72	0.74	0.94	0.89	0.80	1.10	1.10	1.29	1.72
Office	Other office	0.40	0.40	0.43	0.52	0.65	0.61	0.86	0.77	0.87	1.13	1.09	1.12	1.42	1.34	1.20	1.64	1.65	1.93	2.58
Outpatient Health Care	Clinic/other outpatient health	0.25	0.25	0.27	0.33	0.41	0.38	0.55	0.49	0.55	0.71	0.69	0.71	0.90	0.84	0.76	1.04	1.04	1.22	1.63
Outpatient Health Care	Medical office (diagnostic)	0.27	0.27	0.29	0.35	0.44	0.41	0.58	0.52	0.59	0.77	0.74	0.76	0.96	0.90	0.81	1.11	1.12	1.31	1.74
Public Assembly	Entertainment/ culture	0.20	0.20	0.21	0.25	0.32	0.30	0.43	0.38	0.43	0.56	0.54	0.55	0.70	0.66	0.59	0.81	0.81	0.95	1.27
Public Assembly	Library	0.23	0.24	0.25	0.30	0.38	0.36	0.51	0.45	0.51	0.67	0.64	0.66	0.83	0.79	0.70	0.97	0.97	1.14	1.51
Public Assembly	Other public assembly	0.23	0.24	0.25	0.31	0.38	0.36	0.51	0.46	0.51	0.67	0.64	0.66	0.84	0.79	0.71	0.97	0.97	1.14	1.52
Public Assembly	Recreation	0.24	0.24	0.26	0.31	0.39	0.37	0.53	0.47	0.53	0.69	0.66	0.68	0.86	0.81	0.73	1.00	1.00	1.17	1.57
Public Assembly	Social/meeting	0.30	0.30	0.32	0.39	0.49	0.46	0.65	0.58	0.65	0.85	0.82	0.84	1.06	1.00	0.90	1.23	1.24	1.45	1.93
Public Order & Safety	Fire station/ police station	0.54	0.55	0.58	0.70	0.88	0.83	1.17	1.05	1.18	1.54	1.48	1.52	1.93	1.82	1.63	2.23	2.25	2.62	3.50
Public Order & Safety	Other public order and safety	0.26	0.27	0.29	0.35	0.43	0.40	0.58	0.52	0.58	0.75	0.73	0.74	0.95	0.89	0.80	1.10	1.10	1.29	1.72
Religious Worship	Religious worship	0.24	0.24	0.26	0.31	0.39	0.37	0.52	0.47	0.52	0.68	0.66	0.67	0.85	0.81	0.72	0.99	1.00	1.16	1.55
Retail (except malls)	Other retail	0.40	0.40	0.43	0.52	0.65	0.61	0.86	0.77	0.86	1.13	1.09	1.12	1.42	1.34	1.20	1.64	1.65	1.93	2.57
Retail (except malls)	Retail store	0.01	0.01	0.04	0.11	0.22	0.18	0.40	0.32	0.40	0.62	0.58	0.61	0.85	0.79	0.67	1.04	1.05	1.28	1.81

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (lb CO_2e/yr-ft^2)																		
Retail (except malls)	Vehicle dealership/ showroom	0.56	0.57	0.60	0.73	0.91	0.86	1.22	1.09	1.22	1.60	1.54	1.58	2.00	1.89	1.69	2.32	2.33	2.72	3.63
Service	Other service	0.58	0.59	0.63	0.76	0.95	0.89	1.27	1.13	1.27	1.66	1.60	1.64	2.08	1.96	1.76	2.41	2.42	2.83	3.78
Service	Post office/postal center	0.24	0.25	0.26	0.32	0.40	0.37	0.53	0.47	0.53	0.69	0.67	0.69	0.87	0.82	0.73	1.01	1.01	1.19	1.58
Service	Repair shop	0.18	0.18	0.20	0.24	0.30	0.28	0.40	0.35	0.40	0.52	0.50	0.51	0.65	0.61	0.55	0.75	0.76	0.89	1.18
Service	Vehicle service/repair shop	0.37	0.37	0.39	0.48	0.60	0.56	0.80	0.71	0.80	1.04	1.00	1.03	1.31	1.23	1.10	1.51	1.52	1.78	2.37
Service	Vehicle storage/maintenance	0.29	0.30	0.31	0.38	0.47	0.45	0.63	0.57	0.64	0.83	0.80	0.82	1.04	0.98	0.88	1.21	1.21	1.42	1.89
Strip Shopping Mall	Strip shopping mall	0.35	0.35	0.38	0.45	0.57	0.53	0.76	0.68	0.76	0.99	0.96	0.98	1.25	1.17	1.05	1.44	1.45	1.70	2.26
Warehouse	Distribution/ shipping center	0.20	0.20	0.21	0.26	0.32	0.31	0.43	0.39	0.44	0.57	0.55	0.56	0.71	0.67	0.60	0.83	0.83	0.97	1.29
Warehouse	Non-refrigerated warehouse	0.19	0.19	0.20	0.25	0.31	0.29	0.41	0.37	0.41	0.54	0.52	0.53	0.68	0.64	0.57	0.78	0.79	0.92	1.23
Warehouse	Refrigerated warehouse	0.03	0.04	0.04	0.05	0.06	0.05	0.08	0.07	0.08	0.10	0.10	0.10	0.12	0.12	0.11	0.14	0.15	0.17	0.23

Table 5. FY 2020-FY 2024 Maximum Allowable Scope 1 Fossil Fuel-Generated Energy Consumption by Building Category, Building Type and Climate Zone, Commercial Buildings and Multi-Family High-Rise Residential Buildings (site kBtu/yr-ft^2)

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-ft^2)																		
Education	College/ university	2	2	2	3	3	3	4	4	4	6	5	5	7	7	6	8	8	9	13
Education	Elementary/ middle school	3	3	3	4	5	5	7	6	7	9	8	9	11	10	9	13	13	15	20
Education	High school	0	0	1	2	3	3	6	5	6	9	8	9	12	11	9	15	15	18	26
Education	Other classroom education	1	1	1	1	2	2	2	2	2	3	3	3	4	4	3	5	5	6	7

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-ft^2)																		
Education	Preschool/ daycare	3	3	3	4	4	4	6	5	6	8	8	8	10	9	8	11	11	13	18
Enclosed Mall	Enclosed mall	3	3	3	4	5	5	7	6	7	9	9	9	11	11	10	13	13	15	21
Food Sales	Convenience store	3	3	3	4	5	5	7	6	7	9	8	9	11	10	9	13	13	15	20
Food Sales	Convenience store with gas station	2	2	2	3	4	3	5	4	5	6	6	6	8	7	7	9	9	10	14
Food Sales	Grocery store/ food market	3	3	3	4	5	5	7	6	7	9	9	9	12	11	10	13	13	16	21
Food Sales	Other food sales	10	10	11	13	16	15	22	19	22	28	27	28	36	33	30	41	41	48	64
Food Service	Fast food	19	19	20	24	31	29	41	37	41	54	51	53	67	63	57	78	78	91	122
Food Service	Other food service	2	2	3	3	4	4	5	5	5	7	7	7	9	8	7	10	10	12	16
Food Service	Restaurant/ cafeteria	13	14	14	17	22	20	29	26	29	38	37	38	48	45	40	55	56	65	87
Inpatient Health Care	Hospital/ inpatient health	10	10	10	12	14	13	18	16	18	23	22	23	28	27	24	32	32	37	49
Laboratory	Laboratory	7	7	8	9	12	11	16	14	16	20	20	20	26	24	22	30	30	35	46
Lodging	Dormitory/ fraternity/ sorority	5	5	5	6	7	7	10	9	10	13	13	13	16	16	14	19	19	22	30
Lodging	Hotel	4	4	5	5	7	6	9	8	9	12	11	12	15	14	13	17	17	20	27
Lodging	Motel or inn	5	6	6	7	9	8	12	11	12	16	15	15	19	18	16	23	23	27	35
Lodging	Other lodging	2	2	2	3	3	3	5	4	5	6	6	6	8	7	6	9	9	10	14
Nursing	Nursing home/	7	8	8	10	12	11	16	14	16	21	20	21	27	25	22	31	31	36	48

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-ft^2)																		
	assisted living																			
Office	Administrative/ professional office	3	3	3	4	4	4	6	5	6	8	8	8	10	9	8	11	11	13	18
Office	Bank/ other financial	2	2	2	2	3	3	4	3	4	5	5	5	6	6	5	7	7	8	11
Office	Government office	3	3	3	4	5	4	6	5	6	8	8	8	10	9	8	12	12	14	18
Office	Medical office (non-diagnostic)	3	3	3	4	5	5	7	6	7	9	8	9	11	10	9	13	13	15	20
Office	Mixed-use office	2	2	3	3	4	4	5	5	5	7	7	7	9	8	7	10	10	12	16
Office	Other office	4	4	4	5	6	6	8	7	8	10	10	10	13	12	11	15	15	18	23
Outpatient Health Care	Clinic/other outpatient health	2	2	2	3	4	3	5	4	5	6	6	6	8	8	7	9	9	11	15
Outpatient Health Care	Medical office (diagnostic)	2	2	3	3	4	4	5	5	5	7	7	7	9	8	7	10	10	12	16
Public Assembly	Entertainment/ culture	2	2	2	2	3	3	4	3	4	5	5	5	6	6	5	7	7	9	11
Public Assembly	Library	2	2	2	3	3	3	5	4	5	6	6	6	8	7	6	9	9	10	14
Public Assembly	Other public assembly	2	2	2	3	3	3	5	4	5	6	6	6	8	7	6	9	9	10	14
Public Assembly	Recreation	2	2	2	3	4	3	5	4	5	6	6	6	8	7	7	9	9	11	14
Public Assembly	Social/meeting	3	3	3	4	4	4	6	5	6	8	7	8	10	9	8	11	11	13	18

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-ft^2)																		
Public Order & Safety	Fire station/ police station	5	5	5	6	8	7	11	10	11	14	13	14	17	16	15	20	20	24	32
Public Order & Safety	Other public order and safety	2	2	3	3	4	4	5	5	5	7	7	7	9	8	7	10	10	12	16
Religious Worship	Religious worship	2	2	2	3	4	3	5	4	5	6	6	6	8	7	7	9	9	11	14
Retail (except malls)	Other retail	4	4	4	5	6	6	8	7	8	10	10	10	13	12	11	15	15	17	23
Retail (except malls)	Retail store	0	0	0	1	2	2	4	3	4	6	5	5	8	7	6	9	9	12	16
Retail (except malls)	Vehicle dealership/ showroom	5	5	5	7	8	8	11	10	11	14	14	14	18	17	15	21	21	25	33
Service	Other service	5	5	6	7	9	8	12	10	12	15	14	15	19	18	16	22	22	26	34
Service	Post office/ postal center	2	2	2	3	4	3	5	4	5	6	6	6	8	7	7	9	9	11	14
Service	Repair shop	2	2	2	2	3	3	4	3	4	5	5	5	6	6	5	7	7	8	11
Service	Vehicle service/ repair shop	3	3	4	4	5	5	7	6	7	9	9	9	12	11	10	14	14	16	22
Service	Vehicle storage/ maintenance	3	3	3	3	4	4	6	5	6	8	7	7	9	9	8	11	11	13	17
Strip Shopping Mall	Strip shopping mall	3	3	3	4	5	5	7	6	7	9	9	9	11	11	10	13	13	15	21
Warehouse	Distribution/ shipping center	2	2	2	2	3	3	4	4	4	5	5	5	6	6	5	7	8	9	12

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-ft^2)																		
Warehouse	Non-refrigerated warehouse	2	2	2	2	3	3	4	3	4	5	5	5	6	6	5	7	7	8	11
Warehouse	Refrigerated warehouse	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	2	2

Table 6. FY 2025-FY 2029 Maximum Allowable Scope 1 Fossil Fuel-Generated Energy Consumption by Building Category, Building Type and Climate Zone, Commercial Buildings and Multi-Family High-Rise Residential Buildings (lb CO_2e/yr-ft^2)

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (lbs CO_2e/yr-ft^2)																		
Education	College/ university	0.11	0.11	0.12	0.14	0.17	0.16	0.23	0.21	0.23	0.30	0.29	0.30	0.38	0.36	0.32	0.44	0.44	0.52	0.69
Education	Elementary/ middle school	0.17	0.17	0.18	0.22	0.27	0.26	0.36	0.33	0.36	0.48	0.46	0.47	0.60	0.56	0.50	0.69	0.70	0.81	1.08
Education	High school	0.01	0.01	0.03	0.09	0.17	0.14	0.31	0.25	0.31	0.48	0.45	0.47	0.66	0.61	0.52	0.81	0.81	0.99	1.41
Education	Other classroom education	0.06	0.06	0.07	0.08	0.10	0.10	0.14	0.12	0.14	0.18	0.17	0.18	0.22	0.21	0.19	0.26	0.26	0.31	0.41
Education	Preschool/daycare	0.15	0.15	0.16	0.20	0.25	0.23	0.33	0.30	0.33	0.43	0.42	0.43	0.54	0.51	0.46	0.63	0.63	0.74	0.98
Enclosed Mall	Enclosed mall	0.17	0.18	0.19	0.23	0.29	0.27	0.38	0.34	0.38	0.50	0.48	0.49	0.63	0.59	0.53	0.73	0.73	0.85	1.14
Food Sales	Convenience store	0.17	0.17	0.18	0.22	0.27	0.25	0.36	0.32	0.36	0.48	0.46	0.47	0.60	0.56	0.50	0.69	0.69	0.81	1.08
Food Sales	Convenience store with gas station	0.12	0.12	0.13	0.15	0.19	0.18	0.26	0.23	0.26	0.34	0.33	0.33	0.42	0.40	0.36	0.49	0.49	0.58	0.77
Food Sales	Grocery store/ food market	0.18	0.18	0.19	0.23	0.29	0.27	0.39	0.35	0.39	0.51	0.49	0.50	0.63	0.60	0.54	0.74	0.74	0.86	1.15
Food Sales	Other food sales	0.55	0.55	0.59	0.71	0.89	0.84	1.19	1.07	1.19	1.56	1.50	1.54	1.96	1.85	1.65	2.27	2.28	2.66	3.55

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (lbs CO_2e/yr-ft^2)																		
Food Service	Fast food	1.03	1.05	1.11	1.35	1.68	1.58	2.25	2.01	2.26	2.95	2.83	2.91	3.69	3.48	3.12	4.28	4.30	5.03	6.71
Food Service	Other food service	0.13	0.14	0.14	0.18	0.22	0.21	0.29	0.26	0.29	0.38	0.37	0.38	0.48	0.45	0.41	0.56	0.56	0.65	0.87
Food Service	Restaurant/cafeteria	0.74	0.75	0.79	0.96	1.20	1.13	1.60	1.43	1.61	2.10	2.02	2.07	2.63	2.48	2.22	3.05	3.06	3.58	4.78
Inpatient Health Care	Hospital/ inpatient health	0.53	0.54	0.56	0.65	0.78	0.74	1.00	0.91	1.00	1.26	1.22	1.25	1.55	1.47	1.33	1.77	1.78	2.06	2.70
Laboratory	Laboratory	0.39	0.40	0.42	0.51	0.64	0.60	0.86	0.77	0.86	1.12	1.08	1.11	1.41	1.33	1.19	1.63	1.64	1.92	2.56
Lodging	Dormitory/ fraternity/ sorority	0.25	0.26	0.27	0.33	0.41	0.39	0.55	0.49	0.55	0.72	0.70	0.71	0.91	0.85	0.76	1.05	1.06	1.23	1.65
Lodging	Hotel	0.23	0.23	0.25	0.30	0.38	0.35	0.50	0.45	0.50	0.66	0.63	0.65	0.82	0.78	0.70	0.96	0.96	1.12	1.50
Lodging	Motel or inn	0.30	0.30	0.32	0.39	0.49	0.46	0.65	0.58	0.66	0.86	0.82	0.84	1.07	1.01	0.91	1.24	1.25	1.46	1.95
Lodging	Other lodging	0.12	0.12	0.13	0.15	0.19	0.18	0.25	0.23	0.25	0.33	0.32	0.33	0.42	0.39	0.35	0.48	0.48	0.57	0.75
Nursing	Nursing home/ assisted living	0.41	0.42	0.44	0.53	0.67	0.63	0.89	0.80	0.89	1.17	1.12	1.15	1.46	1.38	1.24	1.70	1.71	1.99	2.66
Office	Administrative/ professional office	0.15	0.15	0.16	0.20	0.25	0.23	0.33	0.29	0.33	0.43	0.41	0.43	0.54	0.51	0.46	0.63	0.63	0.74	0.98
Office	Bank/other financial	0.09	0.09	0.10	0.12	0.15	0.14	0.20	0.18	0.20	0.26	0.25	0.26	0.33	0.31	0.28	0.38	0.38	0.45	0.60
Office	Government office	0.15	0.16	0.17	0.20	0.25	0.24	0.33	0.30	0.34	0.44	0.42	0.43	0.55	0.52	0.46	0.64	0.64	0.75	1.00
Office	Medical office (non-diagnostic)	0.17	0.17	0.18	0.22	0.28	0.26	0.37	0.33	0.37	0.49	0.47	0.48	0.61	0.58	0.51	0.71	0.71	0.83	1.11
Office	Mixed-use office	0.13	0.13	0.14	0.17	0.22	0.20	0.29	0.26	0.29	0.38	0.36	0.37	0.47	0.45	0.40	0.55	0.55	0.64	0.86
Office	Other office	0.20	0.20	0.21	0.26	0.32	0.30	0.43	0.39	0.43	0.57	0.54	0.56	0.71	0.67	0.60	0.82	0.83	0.97	1.29

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (lbs CO_2e/yr-ft^2)																		
Outpatient Health Care	Clinic/ other outpatient health	0.13	0.13	0.13	0.16	0.20	0.19	0.27	0.24	0.27	0.36	0.34	0.35	0.45	0.42	0.38	0.52	0.52	0.61	0.81
Outpatient Health Care	Medical office (diagnostic)	0.13	0.14	0.14	0.18	0.22	0.21	0.29	0.26	0.29	0.38	0.37	0.38	0.48	0.45	0.41	0.56	0.56	0.65	0.87
Public Assembly	Entertainment/ culture	0.10	0.10	0.11	0.13	0.16	0.15	0.21	0.19	0.21	0.28	0.27	0.27	0.35	0.33	0.29	0.40	0.41	0.48	0.63
Public Assembly	Library	0.12	0.12	0.13	0.15	0.19	0.18	0.25	0.23	0.25	0.33	0.32	0.33	0.42	0.39	0.35	0.48	0.49	0.57	0.76
Public Assembly	Other public assembly	0.12	0.12	0.13	0.15	0.19	0.18	0.25	0.23	0.26	0.33	0.32	0.33	0.42	0.39	0.35	0.49	0.49	0.57	0.76
Public Assembly	Recreation	0.12	0.12	0.13	0.16	0.20	0.18	0.26	0.23	0.26	0.34	0.33	0.34	0.43	0.41	0.36	0.50	0.50	0.59	0.78
Public Assembly	Social/ meeting	0.15	0.15	0.16	0.19	0.24	0.23	0.32	0.29	0.33	0.42	0.41	0.42	0.53	0.50	0.45	0.62	0.62	0.72	0.97
Public Order & Safety	Fire station /police station	0.27	0.27	0.29	0.35	0.44	0.41	0.59	0.53	0.59	0.77	0.74	0.76	0.96	0.91	0.81	1.12	1.12	1.31	1.75
Public Order & Safety	Other public order and safety	0.13	0.13	0.14	0.17	0.22	0.20	0.29	0.26	0.29	0.38	0.36	0.37	0.47	0.45	0.40	0.55	0.55	0.64	0.86
Religious Worship	Religious worship	0.12	0.12	0.13	0.16	0.19	0.18	0.26	0.23	0.26	0.34	0.33	0.34	0.43	0.40	0.36	0.50	0.50	0.58	0.78
Retail (except malls)	Other retail	0.20	0.20	0.21	0.26	0.32	0.30	0.43	0.39	0.43	0.57	0.54	0.56	0.71	0.67	0.60	0.82	0.82	0.96	1.29
Retail (except malls)	Retail store	0.01	0.01	0.02	0.06	0.11	0.09	0.20	0.16	0.20	0.31	0.29	0.30	0.43	0.39	0.34	0.52	0.52	0.64	0.90
Retail (except malls)	Vehicle dealership/ showroom	0.28	0.28	0.30	0.37	0.46	0.43	0.61	0.55	0.61	0.80	0.77	0.79	1.00	0.94	0.84	1.16	1.17	1.36	1.82

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (lbs CO_2e/yr-ft^2)																		
Service	Other service	0.29	0.29	0.31	0.38	0.47	0.45	0.63	0.57	0.64	0.83	0.80	0.82	1.04	0.98	0.88	1.21	1.21	1.42	1.89
Service	Post office/ postal center	0.12	0.12	0.13	0.16	0.20	0.19	0.27	0.24	0.27	0.35	0.33	0.34	0.44	0.41	0.37	0.50	0.51	0.59	0.79
Service	Repair shop	0.09	0.09	0.10	0.12	0.15	0.14	0.20	0.18	0.20	0.26	0.25	0.26	0.33	0.31	0.27	0.38	0.38	0.44	0.59
Service	Vehicle service/ repair shop	0.18	0.19	0.20	0.24	0.30	0.28	0.40	0.36	0.40	0.52	0.50	0.51	0.65	0.62	0.55	0.76	0.76	0.89	1.19
Service	Vehicle storage/ maintenance	0.15	0.15	0.16	0.19	0.24	0.22	0.32	0.28	0.32	0.42	0.40	0.41	0.52	0.49	0.44	0.60	0.61	0.71	0.95
Strip Shopping Mall	Strip shopping mall	0.17	0.18	0.19	0.23	0.28	0.27	0.38	0.34	0.38	0.50	0.48	0.49	0.62	0.59	0.53	0.72	0.73	0.85	1.13
Warehouse	Distribution/ shipping center	0.10	0.10	0.11	0.13	0.16	0.15	0.22	0.19	0.22	0.28	0.27	0.28	0.36	0.34	0.30	0.41	0.41	0.49	0.65
Warehouse	Non-refrigerated warehouse	0.09	0.10	0.10	0.12	0.15	0.14	0.21	0.18	0.21	0.27	0.26	0.27	0.34	0.32	0.29	0.39	0.39	0.46	0.61
Warehouse	Refrigerated warehouse	0.02	0.02	0.02	0.02	0.03	0.03	0.04	0.03	0.04	0.05	0.05	0.05	0.06	0.06	0.05	0.07	0.07	0.08	0.11

Table 7. FY 2025-FY 2029 Maximum Allowable Scope 1 Fossil Fuel-Generated Energy Consumption by Building Category, Building Type and Climate Zone, Commercial Buildings and Multi-Family High-Rise Residential Buildings (site kBtu/yr-ft^2)

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-sqft)																		
Education	College/ university	1	1	1	1	2	1	2	2	2	3	3	3	3	3	3	4	4	5	6
Education	Elementary/ middle school	2	2	2	2	2	2	3	3	3	4	4	4	5	5	5	6	6	7	10
Education	High school	0	0	0	1	2	1	3	2	3	4	4	4	6	6	5	7	7	9	13

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-sqft)																		
Education	Other classroom education	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	4
Education	Preschool/ daycare	1	1	1	2	2	2	3	3	3	4	4	4	5	5	4	6	6	7	9
Enclosed Mall	Enclosed mall	2	2	2	2	3	2	3	3	3	5	4	4	6	5	5	7	7	8	10
Food Sales	Convenience store	2	2	2	2	2	2	3	3	3	4	4	4	5	5	5	6	6	7	10
Food Sales	Convenience store with gas station	1	1	1	1	2	2	2	2	2	3	3	3	4	4	3	4	4	5	7
Food Sales	Grocery store/ food market	2	2	2	2	3	2	4	3	4	5	4	5	6	5	5	7	7	8	10
Food Sales	Other food sales	5	5	5	6	8	8	11	10	11	14	14	14	18	17	15	21	21	24	32
Food Service	Fast food	9	9	10	12	15	14	20	18	20	27	26	26	34	32	28	39	39	46	61
Food Service	Other food service	1	1	1	2	2	2	3	2	3	3	3	3	4	4	4	5	5	6	8
Food Service	Restaurant/ cafeteria	7	7	7	9	11	10	15	13	15	19	18	19	24	23	20	28	28	33	43
Inpatient Health Care	Hospital/ inpatient health	5	5	5	6	7	7	9	8	9	11	11	11	14	13	12	16	16	19	24
Laboratory	Laboratory	4	4	4	5	6	5	8	7	8	10	10	10	13	12	11	15	15	17	23
Lodging	Dormitory/ fraternity/ sorority	2	2	2	3	4	4	5	4	5	7	6	6	8	8	7	10	10	11	15
Lodging	Hotel	2	2	2	3	3	3	5	4	5	6	6	6	7	7	6	9	9	10	14
Lodging	Motel or inn	3	3	3	4	4	4	6	5	6	8	7	8	10	9	8	11	11	13	18

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-sqft)																		
Lodging	Other lodging	1	1	1	1	2	2	2	2	2	3	3	3	4	4	3	4	4	5	7
Nursing	Nursing home/ assisted living	4	4	4	5	6	6	8	7	8	11	10	10	13	13	11	15	15	18	24
Office	Administrative/ professional office	1	1	1	2	2	2	3	3	3	4	4	4	5	5	4	6	6	7	9
Office	Bank/ other financial	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	4	5
Office	Government office	1	1	2	2	2	2	3	3	3	4	4	4	5	5	4	6	6	7	9
Office	Medical office (non-diagnostic)	2	2	2	2	3	2	3	3	3	4	4	4	6	5	5	6	6	8	10
Office	Mixed-use office	1	1	1	2	2	2	3	2	3	3	3	3	4	4	4	5	5	6	8
Office	Other office	2	2	2	2	3	3	4	4	4	5	5	5	6	6	5	7	7	9	12
Outpatient Health Care	Clinic/ other outpatient health	1	1	1	1	2	2	2	2	2	3	3	3	4	4	3	5	5	6	7
Outpatient Health Care	Medical office (diagnostic)	1	1	1	2	2	2	3	2	3	3	3	3	4	4	4	5	5	6	8
Public Assembly	Entertainment/culture	1	1	1	1	1	1	2	2	2	3	2	2	3	3	3	4	4	4	6
Public Assembly	Library	1	1	1	1	2	2	2	2	2	3	3	3	4	4	3	4	4	5	7
Public Assembly	Other public assembly	1	1	1	1	2	2	2	2	2	3	3	3	4	4	3	4	4	5	7
Public Assembly	Recreation	1	1	1	1	2	2	2	2	2	3	3	3	4	4	3	5	5	5	7
Public Assembly	Social/meeting	1	1	1	2	2	2	3	3	3	4	4	4	5	5	4	6	6	7	9

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-sqft)																		
Public Order & Safety	Fire station/ police station	2	2	3	3	4	4	5	5	5	7	7	7	9	8	7	10	10	12	16
Public Order & Safety	Other public order and safety	1	1	1	2	2	2	3	2	3	3	3	3	4	4	4	5	5	6	8
Religious Worship	Religious worship	1	1	1	1	2	2	2	2	2	3	3	3	4	4	3	4	5	5	7
Retail (except malls)	Other retail	2	2	2	2	3	3	4	3	4	5	5	5	6	6	5	7	7	9	12
Retail (except malls)	Retail store	0	0	0	1	1	1	2	1	2	3	3	3	4	4	3	5	5	6	8
Retail (except malls)	Vehicle dealership/ showroom	3	3	3	3	4	4	6	5	6	7	7	7	9	9	8	11	11	12	16
Service	Other service	3	3	3	3	4	4	6	5	6	8	7	7	9	9	8	11	11	13	17
Service	Post office/ postal center	1	1	1	1	2	2	2	2	2	3	3	3	4	4	3	5	5	5	7
Service	Repair shop	1	1	1	1	1	1	2	2	2	2	2	2	3	3	2	3	3	4	5
Service	Vehicle service/repair shop	2	2	2	2	3	3	4	3	4	5	5	5	6	6	5	7	7	8	11
Service	Vehicle storage/ maintenance	1	1	1	2	2	2	3	3	3	4	4	4	5	4	4	5	6	6	9
Strip Shopping Mall	Strip shopping mall	2	2	2	2	3	2	3	3	3	5	4	4	6	5	5	7	7	8	10
Warehouse	Distribution/ shipping center	1	1	1	1	1	1	2	2	2	3	2	3	3	3	3	4	4	4	6

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-sqft)																		
Warehouse	Non-refrigerated warehouse	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	4	4	4	6
Warehouse	Refrigerated warehouse	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1

Table 8. FY 2020-FY 2024 Maximum Allowable Scope 1 Fossil Fuel-Generated Energy Consumption by Building Category, Building Type and Climate Zone, Residential Buildings (lb CO_2e/yr-ft^2)

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Activity/ Type	Fossil Fuel-Generated Energy Use Intensity (lb CO_2e/yr-ft^2)																		
Residential	Mobile	0.66	0.67	0.68	0.73	0.80	0.78	0.92	0.76	0.87	0.92	1.07	1.05	1.06	1.23	1.19	1.11	1.36	1.36	1.51
Residential	Single-family detached	0.40	0.41	0.41	0.45	0.50	0.48	0.58	0.47	0.55	0.58	0.69	0.67	0.68	0.79	0.76	0.71	0.88	0.88	0.99
Residential	Single-family attached	0.76	0.76	0.77	0.78	0.80	0.79	0.83	0.79	0.82	0.83	0.87	0.87	0.87	0.92	0.90	0.88	0.95	0.95	0.99
Residential	Multi-family (in 2–4-unit building)	0.56	0.57	0.61	0.74	0.93	0.87	1.25	0.83	1.11	1.25	1.64	1.58	1.62	2.06	1.95	1.74	2.40	2.41	2.82
Residential	Multi-family (in 5+ unit building)	0.24	0.25	0.29	0.42	0.61	0.55	0.93	0.51	0.80	0.93	1.32	1.26	1.30	1.74	1.63	1.42	2.08	2.09	2.50

Table 9. FY 2020-FY 2024 Maximum Allowable Scope 1 Fossil Fuel-Generated Energy Consumption by Building Category, Building Type and Climate Zone, Residential Buildings (source kBtu/yr-ft^2)

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Activity/ Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-ft^2)																		
Residential	Mobile	6	6	6	7	7	7	8	7	8	8	10	10	10	11	11	10	12	12	14
Residential	Single-family detached	4	4	4	4	5	4	5	4	5	5	6	6	6	7	7	6	8	8	9
Residential	Single-family attached	7	7	7	7	7	7	8	7	7	8	8	8	8	8	8	8	9	9	9
Residential	Multi-family (in 2–4-unit building)	5	5	6	7	8	8	11	8	10	11	15	14	15	19	18	16	22	22	26
Residential	Multi-family (in 5+ unit building)	2	2	3	4	6	5	8	5	7	8	12	11	12	16	15	13	19	19	23

Table 10. FY 2025-FY 2029 Maximum Allowable Scope 1 Fossil Fuel-Generated Energy Consumption by Building Category, Building Type and Climate Zone, Residential Buildings (lb CO_2e/yr-ft^2)

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Activity/ Type	Fossil Fuel-Generated Energy Use Intensity (lb CO_2e/yr-ft^2)																		
Residential	Mobile	0.33	0.34	0.37	0.40	0.39	0.46	0.38	0.44	0.46	0.54	0.52	0.53	0.62	0.59	0.55	0.68	0.68	0.76	0.33
Residential	Single-family detached	0.20	0.21	0.22	0.25	0.24	0.29	0.24	0.27	0.29	0.34	0.33	0.34	0.40	0.38	0.35	0.44	0.44	0.50	0.20
Residential	Single-family attached	0.38	0.38	0.39	0.40	0.40	0.42	0.39	0.41	0.42	0.44	0.43	0.44	0.46	0.45	0.44	0.47	0.48	0.50	0.38
Residential	Multi-family (in 2–4-unit building)	0.28	0.30	0.37	0.46	0.44	0.62	0.41	0.56	0.63	0.82	0.79	0.81	1.03	0.97	0.87	1.20	1.20	1.41	0.28
Residential	Multi-family (in 5+ unit building)	0.13	0.14	0.21	0.30	0.28	0.46	0.25	0.40	0.47	0.66	0.63	0.65	0.87	0.81	0.71	1.04	1.04	1.25	0.13

Table 11. FY 2025-FY 2029 Maximum Allowable Scope 1 Fossil Fuel-Generated Energy Consumption by Building Category, Building Type and Climate Zone, Residential Buildings (source kBtu/yr-ft^2)

Building Category	Climate Zone:	0A	0B	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
	Building Activity/ Type	Fossil Fuel-Generated Energy Use Intensity (site kBtu/yr-ft^2)																		
Residential	Mobile	3	3	3	3	4	4	4	3	4	4	5	5	5	6	5	5	6	6	7
Residential	Single-family detached	2	2	2	2	2	2	3	2	2	3	3	3	3	4	3	3	4	4	4
Residential	Single-family attached	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5
Residential	Multi-family (in 2–4-unit building)	3	3	3	3	4	4	6	4	5	6	7	7	7	9	9	8	11	11	13
Residential	Multi-family (in 5+ unit building)	1	1	1	2	3	3	4	2	4	4	6	6	6	8	7	6	9	9	11

Glossary

Construction Cost	means all costs associated with the construction of a new Federal building. It includes, but is not limited to, the cost of preliminary planning, engineering, architectural, permitting, fiscal and economic investigations and studies, surveys, designs, plans, working drawings, specifications, procedures, and other similar actions necessary for the construction of a new Federal building. It does not include the cost of acquiring the land.
Design for Construction	means the stage when the energy efficiency and sustainability details (such as insulation levels, HVAC systems, water-using systems, etc.) are either explicitly determined or implicitly included in a project cost specification.
Design for Renovation	means the stage when the energy efficiency and sustainability details (such as insulation levels, HVAC systems, water-using systems, etc.) are either explicitly determined or implicitly included in a renovation project cost specification.
EISA-Subject Building / Project	means, for purposes of the Clean Energy Rule, any new Federal building or renovation project that is subject to the cost thresholds and reporting requirements in Section 433 of Energy Independence and Security Act of 2007 (EISA) ((Pub. L. 110-140, codified at 42 U.S.C. § 6834(a)(3)(D)(i))).
Energy Resilience	means the ability to avoid, prepare for, minimize, adapt to, and recover from anticipated and unanticipated energy disruptions in order to ensure energy availability and reliability sufficient to provide for mission assurance and readiness, including mission-essential operations related to readiness, and to execute or rapidly reestablish mission-essential requirements.
Energy Security	means having assured access to reliable supplies of energy and the ability to protect and deliver sufficient energy to meet mission-essential requirements.
Federal Building	means any building to be constructed by, or for the use of, any Federal agency. This term includes buildings built for the purpose of being leased by a Federal agency and privatized military housing.

Fiscal Year (FY)	means the 12-month period beginning on October 1 of the year prior to the specified calendar year and ending on September 30 of the specified calendar year.
Fossil Fuel-Generated Energy Consumption	means the on-site stationary consumption of fossil fuels that contribute to Scope 1 emissions for generation of electricity, heat, cooling, or steam as defined by "Federal Greenhouse Gas Accounting and Reporting Guidance" (Council on Environmental Quality, January 17, 2016). This includes, but is not limited to, combustion of fuels in stationary sources (e.g., boilers, furnaces, turbines, and emergency generators). This term does not include mobile sources, fugitive emissions, or process emissions as defined by "Federal Greenhouse Gas Accounting and Reporting Guidance" (Council on Environmental Quality, January 17, 2016).
Life-Cycle Cost	means the total cost related to energy conservation measures of owning, operating, and maintaining a building over its useful life as determined in accordance with 10 C.F.R. part 436.
Life-Cycle Cost-Effective	means that the proposed building has a lower life-cycle cost than the life-cycle costs of the baseline building, as described by 10 C.F.R. part 436.19, or has a positive estimated net savings, as described by 10 C.F.R. part 436.20, or has a savings-to-investment ratio estimated to be greater than one, as described by 10 C.F.R. part 436.21; or has an adjusted internal rate of return, as described by 10 C.F.R. part 436.22, that is estimated to be greater than the discount rate as listed in OMB Circular Number A-94 "Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs."
Major Renovation	means either major renovation of all Scope 1 fossil fuel-using systems in a Federal building or major renovation of one or more Scope 1 fossil fuel-using building systems or components • Component-level renovations, meaning an individual product or piece of equipment. • System level renovations, meaning a group of equipment pieces that function together to satisfy a building load,

Major Renovation Cost	means all costs associated with the repairing, remodeling, improving, extending, or other changes in a Federal building. It includes, but is not limited to, the cost of preliminary planning, engineering, architectural, permitting, fiscal and economic investigations and studies, surveys, designs, plans, working drawings, specifications, procedures, and other similar actions necessary for the alteration of a Federal building.
Major Renovation of All Scope 1 Fossil Fuel-Using Systems In A Building	means construction on an existing Federal building that is so extensive that it replaces all Scope 1 fossil fuel-using systems in the building. This term includes, but is not limited to, comprehensive replacement or restoration of most or all major systems, interior work (such as ceilings, partitions, doors, floor finishes, etc.), or building elements and features.
Major Renovation of a Scope 1 Fossil Fuel-Using Building System Or Scope 1 Fossil Fuel-Using Component	means changes to a Federal building that provide significant opportunities for energy efficiency or reduction in fossil fuel-related energy consumption. This includes, but is not limited to, replacement of the HVAC system, hot water system, or cooking system, or other fossil fuel-using systems or components of the building that have a major impact on fossil fuel usage.
Multi-Family High-Rise Residential Building	means a residential Federal building that contains three or more dwelling units and that is designed to be four or more stories above grade.
New Federal Building	means any new building (including a complete replacement of an existing building from the foundation up) to be constructed by, or for the use of, any Federal agency. Such term shall include buildings built for the purpose of being leased by a Federal agency and privatized military housing.

Process Load	means the load on a building resulting from energy consumed in support of a manufacturing, industrial, or commercial process (like labs or data center). Process loads do not include energy consumed maintaining comfort and amenities for the occupants of the building (including space conditioning for human comfort).
Proposed Building	means the design for construction of a new Federal commercial or multi-family high-rise residential building, proposed for construction, or a major renovation to a Federal commercial or multi-family high-rise residential building.
Shift Adjustment Multiplier	means a multiplication factor that agencies may apply to their Maximum Allowable Fossil Fuel-Generated Energy Consumption by Building Category target based upon the weekly hours of active operation of the building. The weekly hours of operation used as a basis for the shift adjustment multiplier lookup include the time in which in the building is actively occupied and operating per its intended use type and unoccupied hours or other times of limited use (such as night-time setback hours).
Technical Impracticability	means achieving the fossil fuel-generated energy consumption targets would: (1) not be feasible from an engineering design or execution standpoint due to existing physical or site constraints that prohibit modification or addition of elements or spaces; (2) significantly obstruct building operations and the functional needs of a building, specifically for industrial process loads, critical national security functions, mission critical information systems as defined in NIST SP 800-60 Vol. 2 Rev. 1, and research operations; or (3) significantly degrade energy resiliency and energy security of building operations as defined in 10 U.S.C. § 101(e)(6) and 10 U.S.C. § 101(e)(7) respectively.

References

ANSI/ASHRAE/IES Standard 90.1-2019, ("ASHRAE 90.1-2019"), Energy Standard for Buildings Except Low-Rise Residential Buildings, I-P Edition, 2019

ANSI/ASHRAE/IES Standard 100 ("ASHRAE 100"), Energy and Emissions Building Performance Standard for Existing Buildings, I-P Edition, 2018

Federal Greenhouse Gas Accounting and Reporting Guidance, Federal Greenhouse Gas Accounting and Reporting Guidance (sustainability.gov), January 17th, 2016

ICC 2021 International Energy Conservation Code (IECC) ("IECC 2021"), Redline Version

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