



DEPARTMENT OF ENERGY

[EERE-2023-BT-DET-0017]

Determination Regarding Energy Efficiency Improvements in ANSI/ASHRAE/IES

Standard 90.1-2022

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Notification of determination.

SUMMARY: The U.S. Department of Energy (DOE) has reviewed ANSI/ASHRAE/IES Standard 90.1-2022: *Energy Standard for Buildings, Except Low-Rise Residential Buildings* (Standard 90.1-2022) and determined the updated edition would improve energy efficiency in commercial buildings. DOE analysis indicates that buildings meeting Standard 90.1-2022, as compared with buildings meeting the previous 2019 edition, would result in national average *site* energy savings of 9.8 percent of commercial building energy consumption. Under the Energy Conservation and Production Act, as amended (ECPA), upon publication of an affirmative determination, each State is required to review the provisions of their commercial building code regarding energy efficiency, and, as necessary, update their codes to meet or exceed Standard 90.1-2022. Additionally, this notice provides guidance on state code review processes and associated certifications.

DATES: Certification statements provided by States shall be submitted by March 6, 2026.

ADDRESSES: A copy of the supporting analysis, as well a link to the Federal docket, is available at: www.energycodes.gov/development/determinations.

Certification Statements must be addressed to the Building Technologies Office – Building Energy Codes Program Manager, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, 1000 Independence Avenue SW, EE-5B, Washington, DC 20585.

FOR FURTHER INFORMATION CONTACT: Mr. Jeremiah Williams; U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, 1000 Independence Avenue SW, EE-5B, Washington, DC 20585; (202) 441-1288; *Jeremy.Williams@ee.doe.gov*.

For legal issues, please contact: Ms. Laura Zuber; U.S. Department of Energy, Office of the General Counsel, 1000 Independence Avenue SW, GC-33, Washington, DC 20585; (240) 306-7651; *Laura.Zuber@hq.doe.gov*.

SUPPLEMENTARY INFORMATION

I. Background

II. Determination Statement

III. State Certification

I. Background

Title III of the Energy Conservation and Production Act, as amended (ECPA), establishes requirements for DOE to review consensus-based building energy conservation standards. (42 U.S.C. 6831 *et seq.*) Section 304(b), as amended, of ECPA provides that whenever the ANSI/ASHRAE/IESNA¹ Standard 90.1-1989 (Standard 90.1-1989 or 1989 edition), or any successor to that code, is revised, the Secretary of Energy (Secretary) must make a determination, not later than 12 months after such revision, whether the revised code would improve energy efficiency in commercial buildings, and must publish notice of such determination in the *Federal Register*. 42 U.S.C. 6833(b)(2)(A). If the Secretary makes an affirmative determination, within two years of the publication of the determination, each State is required to certify that it has reviewed and updated the provisions of its commercial building code regarding energy efficiency with respect to the revised or successor code and include in its

¹ ANSI—American National Standards Institute; ASHRAE—American Society of Heating, Refrigerating, and Air-Conditioning Engineers; IES—Illuminating Engineering Society.

certification a demonstration that the provisions of its commercial building code, regarding energy efficiency, meet or exceed the revised standard. 42 U.S.C. 6833(b)(2)(B)(i).

ANSI/ASHRAE/IES Standard 90.1–2022 (Standard 90.1-2022 or the “Standard”), the most recent edition, was published in January 2023, triggering the statutorily required DOE review process. Standard 90.1-2022 is developed under ANSI-approved procedures,² a public review and consensus process through which any interested party can participate, and is under continuous maintenance under the purview of an ASHRAE Standing Standard Project Committee (commonly referenced as SSPC 90.1). ASHRAE has an established program for regular publication of addenda, or revisions, including procedures for timely, documented, public review and consensus action on requested changes to Standard 90.1-2022. More information on the consensus process and Standard 90.1–2022 is available at www.ashrae.org/technical-resources/bookstore/standard-90-1.

In support of its model energy code determinations, DOE conducts a technical analysis to assess the energy savings impacts associated with the updated code (Standard 90.1-2022). DOE’s review under ECPA is technical in nature and helps to inform and advise interested industry stakeholders of the effects of the updated code, as well as states and local governments who ultimately adopt, implement and enforce building codes. Although, DOE is an active participant in the review and update process for Standard 90.1-2022, as directed under ECPA (42 U.S.C. 6836(b)), the Department neither administers nor publishes the model energy codes. Additionally, the directive for states to update their energy efficiency codes based on the updated edition of Standard 90.1-2022 is ultimately rooted in ECPA. DOE’s technical analysis serves as basis for DOE’s determination and helps inform adopting states who seek to update their codes and comply with ECPA.

DOE’s full technical analysis, including assumptions and parameters applied in the analysis, is published as a separate technical support document (TSD) and available for review at

² See www.ansi.org/american-national-standards/info-for-standards-developers/standards-developers.

[www.energycodes.gov/sites/default/files/2024-02/Standard_90.1-](http://www.energycodes.gov/sites/default/files/2024-02/Standard_90.1-2022_Final_Determination_TSD.pdf)

[2022_Final_Determination_TSD.pdf](http://www.energycodes.gov/sites/default/files/2024-02/Standard_90.1-2022_Final_Determination_TSD.pdf).

DOE publishes a wide range of technical assistance resources supporting building energy codes. This includes additional technical analyses evaluating the impacts of updated building energy codes, such as quantifying energy and environmental benefits, as well as additional resources supporting the adoption and successful implementation of energy codes across states and local governments. New federal assistance is also available supporting state and local adoption and implementation of building energy codes through the Bipartisan Infrastructure Law (Section 40511) and Inflation Reduction Act (Section 50131). Visit www.energycodes.gov to learn more about these initiatives and technical assistance resources.

II. Determination Statement

Commercial buildings meeting Standard 90.1-2022 (compared to the previous 2019 edition) are expected to experience the following savings on a weighted national average basis:

- 9.8 percent *site* energy savings
- 9.4 percent *source* energy savings
- 8.9 percent energy *cost* savings
- 9.3 percent carbon emissions savings

DOE concludes that Standard 90.1-2022 will improve energy efficiency in commercial buildings, and, therefore, receives an affirmative determination under Section 304(a) of ECPA.

III. State Certification

Upon publication of this affirmative determination, ECPA requires each State to review and update, as necessary, the provisions of its commercial building energy code to meet or exceed the Standard 90.1-2022 with regard to energy efficiency.³ 42 U.S.C. 6833(b)(2)(B)(i).

³ Standard 90.1.-2022 added prescriptive requirements for onsite energy generation in certain building types and climate zones which is to be achieved through the use of renewable energy systems. This determination excludes these provisions relating to renewable energy systems because they fall outside the scope of DOE's section 6833(2)(B) review. However, related impacts on whole-building energy savings are reported in DOE's technical analysis developed in support of this determination.

This must be completed not later than 2 years from the date the Notice of Determination is published in the *Federal Register*, unless an extension is provided.

State Review & Update

DOE recognizes that some States do not have a State commercial building energy code or have a State code that does not apply to all commercial buildings. States may base their certifications on reasonable actions by units of general-purpose local government. Each such State must review the information obtained from the local governments and gather any additional data and testimony in preparing its own certification.

The applicability of any State revisions to new or existing buildings would be governed by the State building codes. States should be aware that the scope of Standard 90.1-2022 includes high-rise (greater than three stories) multi-family residential buildings, and hotels, motels, and other transient residential building types of any height, as commercial buildings for energy code purposes. Consequently, commercial buildings, for the purposes of certification to DOE, would include high-rise multi-family residential buildings, hotels, motels, and other transient residential building types of any height.

State Certification Statements

Section 304(b) of ECPA, as amended, requires each State to certify to the Secretary of Energy that it has reviewed and updated the provisions of its commercial building energy code regarding energy efficiency to meet or exceed the Standard 90.1-2022. 42 U.S.C. 6833(b). The certification must include a demonstration that the provisions of the State's commercial building energy code regarding energy efficiency meets or exceeds Standard 90.1-2022. If a State intends to certify that its commercial building energy code already meets or exceeds the requirements of Standard 90.1-2022, the State should provide an explanation of the basis for this certification (*e.g.*, Standard 90.1-2022 is incorporated by reference in the State's building code regulations). The chief executive of the State (*e.g.*, the governor), or a designated State official (*e.g.*, director of the State energy office, State code commission, utility commission, or equivalent State agency

having primary responsibility for commercial building energy codes), would provide the certification to the Secretary. Such a designated State official would also provide the certifications regarding the codes of units of general purpose local government based on information provided by responsible local officials.

The DOE Building Energy Codes Program tracks and reports State code adoption and certification.⁴ Once a State has adopted an updated energy code, DOE strives to provide technical assistance supporting the successful implementation of such codes, including compliance tools, education and training, and support for the updated code. DOE has issued previous guidance on how it intends to respond to technical assistance requests related to implementation resources, such as building energy code compliance software. 79 FR 15112. The DOE Secretary is directed to provide incentive funding to States to implement the requirements of section 304, and to improve and implement State residential and commercial building energy efficiency codes, including increasing and verifying compliance with such codes. *See* 42 U.S.C. 6833(e). The Bipartisan Infrastructure Law (BIL)⁵ and Inflation Reduction Act (IRA)⁶ also provide substantial assistance—over \$1.2 billion in federal funding—supporting the adoption and implementation of updated building energy codes. DOE does not prescribe how each State adopts and enforces its energy codes.

Requests for Extensions

Section 304(c) of ECPA requires that the Secretary permit an extension of the deadline for complying with the certification requirements described previously, if a State can demonstrate that it has made a good faith effort to comply with such requirements and that it has made significant progress toward meeting its certification obligations. (42 U.S.C. 6833(c)) Such demonstrations could include one or both of the following: (1) a plan for response to the requirements stated in Section 304; or (2) a statement that the State has appropriated or requested

⁴ Available at www.energycodes.gov/adoption/states.

⁵ www.energycodes.gov/RECI.

⁶ www.energy.gov/scep/technical-assistance-adoption-building-energy-codes.

funds (within State funding procedures) to implement a plan that would respond to the requirements of Section 304 of ECPA. This list is not exhaustive. Requests are to be sent to the address provided in the **ADDRESSES** section or submitted to

BuildingEnergyCodes@ee.doe.gov.

Signing Authority

This document of the Department of Energy was signed on February 26, 2024, by Jeffrey M. Marootian, Principal Deputy Assistant Secretary for Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on March 1, 2024.

Treena V. Garrett,
Federal Register Liaison Officer,
U.S. Department of Energy.

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