



ADDENDA

**ANSI/ASHRAE Addendum a to
ANSI/ASHRAE Standard 90.4-2022**

Energy Standard for Data Centers

Approved by ASHRAE and the American National Standards Institute on January 31, 2025.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. Instructions for how to submit a change can be found on the ASHRAE® website (www.ashrae.org/continuous-maintenance).

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FOREWORD

The primary goal and responsibility of the SSPC 90.4 Committee is to publish a consensus standard in mandatory language that sets practical and technologically feasible energy efficiency requirements for data centers on a consistent schedule. In addition to this primary goal, the SSPC and its working groups are charged with positioning the standard as an essential reference to the data center industry and broader built environment discipline. Addendum a was drafted in response to two developments it considers important both to its constituency and to the wider ASHRAE ecosystem:

- *The advent and prioritization of environmental, social, governance (ESG) as core policy for many businesses and the corresponding goal-setting and reporting discipline around sustainability these organizations have adopted*
- *ASHRAE's recently declared positions on decarbonization of the built environment and the elimination of greenhouse gas (GHG) emissions from the built environment as essential elements in addressing climate change*

With respect to the first development, many companies have established a net zero emission pledge, GHG emission reduction targets, and water conservation goals as distinguishing features of their ESG programs.

With respect to the second development, ASHRAE's decarbonization and standards harmonization priorities are now components of ASHRAE's strategic plan, and the organization is actively coordinating joint building decarbonization initiatives with other organizations. Significantly, ASHRAE is working internally to strengthen the decarbonization components of its standards, including:

- *Developing and revising guidelines and standards to reduce GHG emissions while maintaining or improving building indoor environmental quality, sustainability, and resilience*
- *Coordinating with the standards project committees to address GHG emissions*
- *Identifying gaps to address both operational and embodied carbon standards*
- *Harmonizing standards to respond to industry and member needs*

Addendum a aims to provide alignment between Standard 90.4, ASHRAE's strategic plan, and contemporary industry needs. Standard 90.4 currently regulates data center energy consumption. However, under its current purpose statement, it does not clearly encompass related data center greenhouse gas emissions, environmental impact, water consumption, or other resources or considerations beyond energy. Addendum a expands the purpose statement to include resources and considerations beyond direct energy use that contribute to data center sustainability and decarbonization.

Informative Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Addendum a to Standard 90.4-2022

Modify Section 1 as shown.

1. PURPOSE

The purpose of this standard is to establish ~~the minimum energy efficiency requirements of data centers for the design, construction, and planned operation and maintenance of data centers, and to balance those requirements with related factors affecting the environment. Factors to be evaluated include the following:~~

- ~~design, construction, and a plan for operation and maintenance~~
- ~~use of on-site or off-site renewable energy resources.~~
- Nonrenewable energy consumption
- Renewable energy consumption
- Water consumption
- Greenhouse gas emissions

POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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As an industry leader in research, standards writing, publishing, certification, and continuing education, ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries.

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