CONTENTS

ANSI/ASHRAE/USGBC/IES Standard 189.1-2009
Standard for the Design of High-Performance Green Buildings
Except Low-Rise Residential Buildings

NOTE

When addenda, errata, or interpretations to this standard have been approved, they can be downloaded free of charge from the ASHRAE Web site at www.ashrae.org/technology.

(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

FOREWORD

This is the first edition of ANSI/ASHRAE/USGBC/IES Standard 189.1. This standard was created in a collaborative effort between ASHRAE, the U.S. Green Building Council, and the Illuminating Engineering Society. This standard is written in code-intended language (mandatory, enforceable language) so it may be referenced or adopted by enforcement authorities as the minimum acceptable level of performance for high-performance green buildings within their jurisdiction. States and local jurisdictions within the United States that wish to adopt Standard 189.1 into law may want to review applicable federal laws regarding preemption and related waivers that are available from the U.S. Department of Energy (www1.eere.energy.gov/buildings/appliance_standards/state_petitions.html).

The environmental impact of the building design, construction, and operations industry is enormous. Development frequently alters land from natural, biologically diverse habitats to hardscape that is impervious and devoid of biodiversity. Buildings in the United States are responsible for 39% of CO_2 emissions, 40% of energy consumption, 13% water consumption, and 15% of GDP per year, making green building a source of significant environmental opportunity.

The far-reaching influence of the built environment necessitates action to reduce its impact. To meet its responsibility, the project committee undertook an extensive program to obtain input from all segments of industry and the public. Provisions in this standard can reduce negative environmental impacts through high-performance building design, construction, and operations practices.

In arriving at the set of requirements necessary to achieve the performance referenced herein, the project committee considered a variety of factors, including their professional judgement. However, there was no overall economic assessment of the criteria within the standard. Developing an economic threshold for each requirement is beyond the scope of this standard.

The standard addresses site sustainability, water use efficiency, energy efficiency, indoor environmental quality (IEQ), and the building's impact on the atmosphere, materials, and resources. These five key subject areas, as well as plans for construction and high-performance operation, are each addressed in a separate chapter using the following format:

***x.1 General.** This subsection includes a statement of scope and addresses other broad issues.*

***x.2 Compliance Paths.** This subsection indicates the compliance options for each section.*

***x.3 Mandatory Provisions.** This subsection contains the criteria that must be complied with by all projects (i.e., the criteria that cannot be traded off).*

***x.4 Prescriptive Option.** This subsection contains additional criteria specified in a manner that provides a simple way to show compliance that involves little or no calculations.*

***x.5 Performance Option.** This subsection contains an alternate way to show compliance that is typically more complex than the prescriptive option.*

This standard is now on continuous maintenance and the project committee will consider changes and propose addenda for public review. The committee welcomes suggestions for improving the standard. Users of the standard are encouraged and invited to use the continuous maintenance procedure to suggest changes. A form for submittal of a proposed change is included at the back of this standard. The committee will take formal action on every proposal received.

When addenda are approved, notices will be published on the ASHRAE Web site. Users are encouraged to sign up for the free ASHRAE Internet Listserv for this standard to receive notice of all public reviews and approved and published addenda and errata.

1. PURPOSE

The purpose of this standard is to provide minimum requirements for the siting, design, construction, and plan for operation of high-performance green buildings to:

a. balance environmental responsibility, resource efficiency, occupant comfort and well being, and community sensitivity, and
b. support the goal of development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

2. SCOPE

2.1 This standard provides minimum criteria that:

a. apply to the following elements of *building projects*:

1. new buildings and their systems
2. new portions of buildings and their systems
3. new systems and equipment in existing buildings

b. address *site* sustainability, water use efficiency, energy efficiency, indoor environmental quality (IEQ), and the building's impact on the atmosphere, materials, and resources.

2.2 The provisions of this standard do not apply to:

a. single-family houses, multi-family structures of three stories or fewer above grade, manufactured houses (mobile homes) and manufactured houses (modular), and
b. buildings that use none of the following: electricity, fossil fuel, or water.

2.3 This standard shall not be used to circumvent any safety, health, or environmental requirements.