

The Road to High-Performance Green  
Commercial Buildings:  
*The Power of Technical Expertise and  
Grassroots Support*

*Mark Ames, Senior Manager of Federal  
Government Affairs, ASHRAE*



# About Us

*ASHRAE, founded in 1894, is a global society advancing human well-being through sustainable technology for the built environment. The Society and its more than 55,000 members worldwide focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability. Through research, standards writing, publishing, certification and continuing education, ASHRAE shapes tomorrow's built environment today.*



# About Us

- 6 Professional Certifications – Many Recognized by States ([www.ashrae.org/certification](http://www.ashrae.org/certification))
  - Building Energy Assessment Professional
  - Building Energy Modeling Professional
  - Commissioning Process Management Professional
  - Healthcare Facility Design Professional Certification
  - High-Performance Building Design Professional
  - Operations and Performance Management Professional
- Building Energy Quotient Program ([www.buildingenergyquotient.org](http://www.buildingenergyquotient.org))
- Lots of large and specialty conferences held each year in the US and around the globe
  - Jointly sponsored AHR Expo is the world's largest trade show for the heating, ventilation, air conditioning, and refrigeration industry, attracting some 50,000 attendees from all 50 States and more than 140 countries
- Over 140 Standards & Guidelines, with More in Development

# Tools for High-Performance Green Commercial Buildings

*Standard 189.1 – The Path Forward*  
*Standard 90.1 – A Key Part of the  
Present*



# ANSI/ASHRAE/USGBC/IES Standard 189.1-2014

## Standard for the Design of High- Performance, Green Buildings Except Low- Rise Residential Buildings

*Interested in laying the groundwork for the future of commercial buildings? Consider adopting this standard and the International Green Construction Code.*



# Standard 189.1

## A Comprehensive Standard Addressing

- Site sustainability
- Water-use efficiency
- Energy efficiency
- Indoor environmental quality
- The building's impact on the atmosphere, materials and resources, and construction and plans for operation

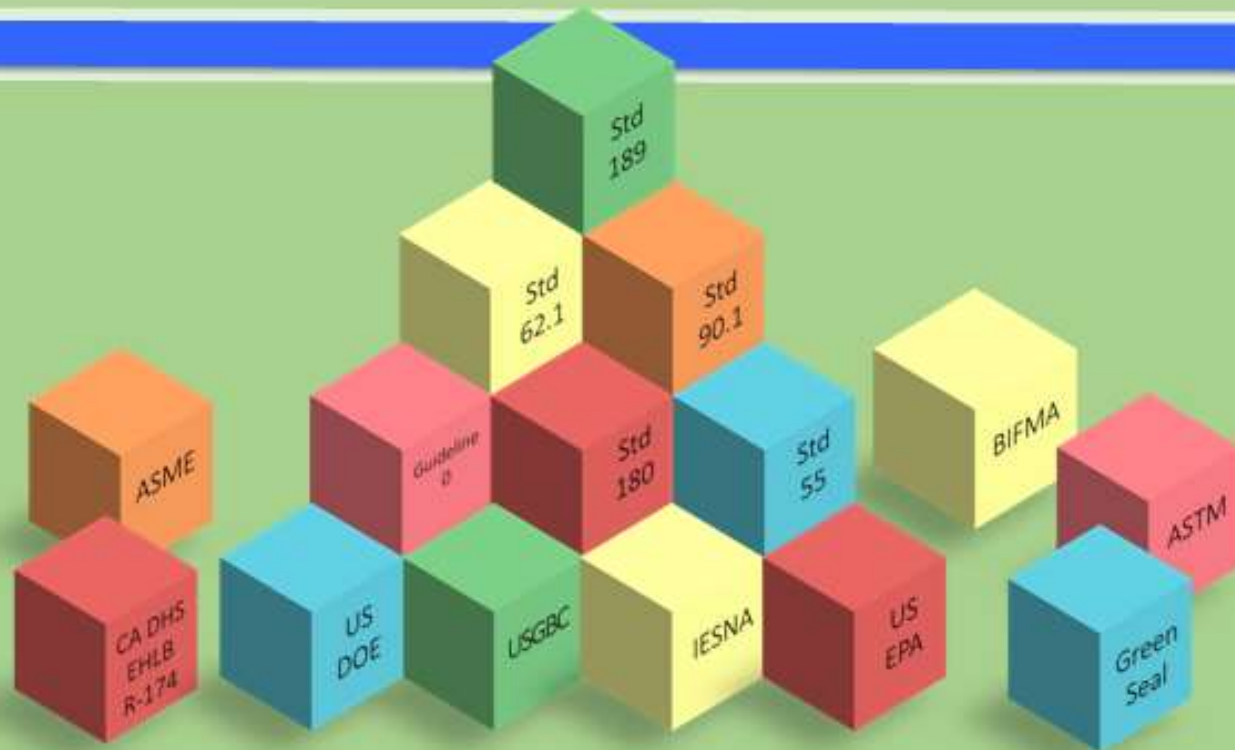
189.1 is a product of immense collaboration, as evidenced by the many standards it references. Here's a sampling:

- Standard 55: Thermal Comfort Conditions for Human Occupancy
- Standard 62.1: Ventilation for Acceptable Indoor Air Quality
- Standard 90.1: Energy Standard for Buildings Except Low-Rise Residential Buildings
- Standard 154: Ventilation for Commercial Cooking Operations
- Standard 160: Criterion for Moisture-Control Design Analysis in Buildings
- Standard 170: Ventilation of Health Care Facilities
- Standard 180: Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems



Here's another look at the relationship between 189.1 and other standards...

## Standard 189.1 Building Blocks



# Standard 189.1

New User's Manual recently published to help engineers, architects, contractors, code officials, and others comply with its requirements.

The full standard is available to view online for free at [www.ashrae.org/greenstandard](http://www.ashrae.org/greenstandard).

Consolidating with the International Green Construction Code (IgCC) to provide the industry with the single, most effective way to deliver sustainable, resilient, high-performance buildings.

Next edition will be in 2017.



# ANSI/ASHRAE/IES Standard 90.1-2013

## Energy Standard for Buildings Except Low-Rise Residential Buildings

*As we move toward high-performance green commercial buildings, remember the importance of adopting and enforcing the newest versions of existing, “non-stretch” standards.*



# Standard 90.1

Provides minimum requirements for the energy efficient design, construction, a plan for operations and maintenance, and utilization of on-site renewable energy.

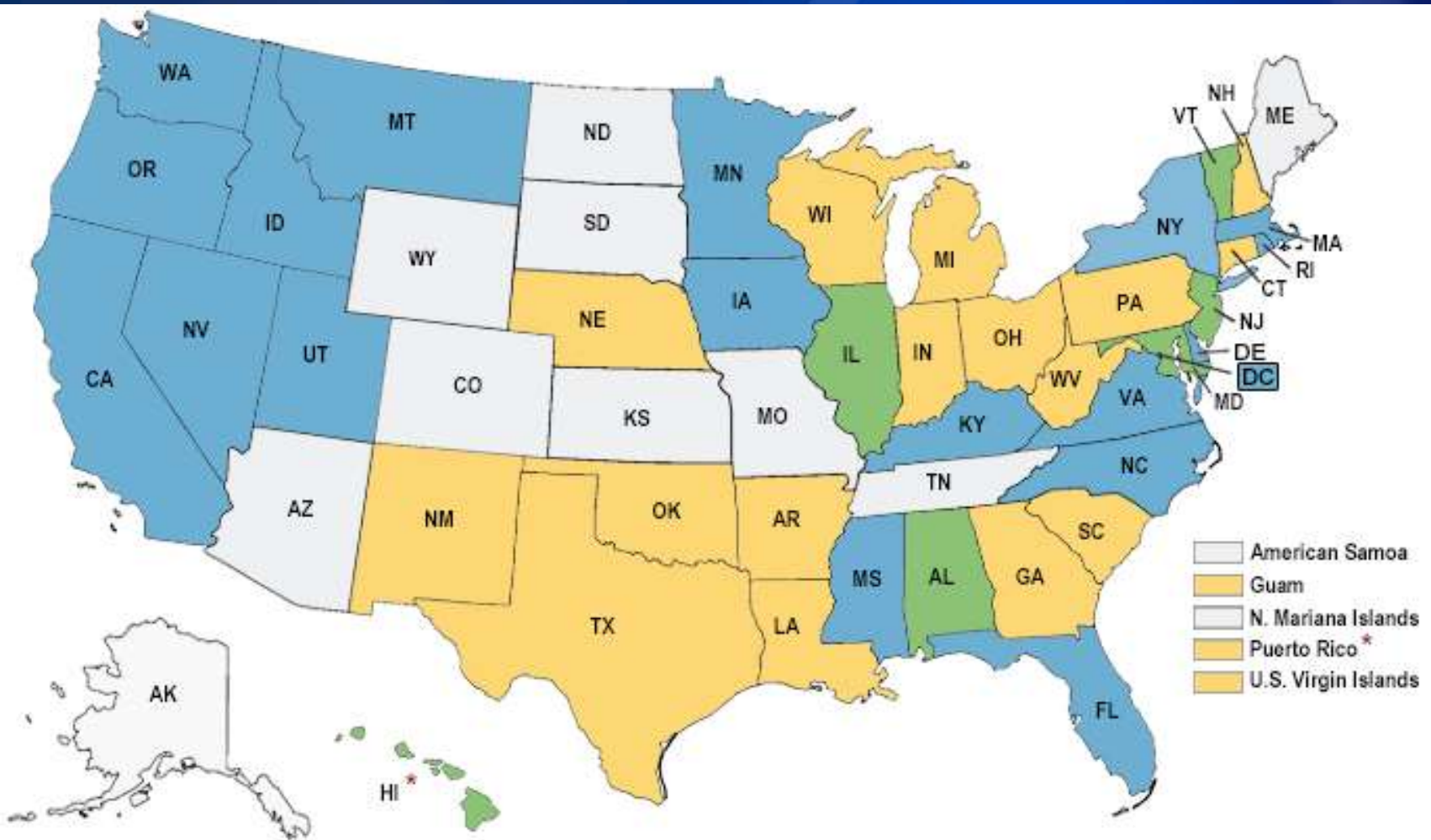
Does not apply to single family houses, multifamily structures of three stories or less above grade, manufactured houses (mobile homes), and manufactured homes (modular).

Next edition will be published this year (2016).

# Standard 90.1

- States are required to adopt the most recent edition of Standard 90.1 for which DOE has issued a final determination on its energy savings. (Currently 90.1-2013)
- But many States haven't complied with this requirement.
  - 6 States are using 90.1-2013
  - 19 States are using 90.1-2010
  - 10 States are using 90.1-2007
  - 12 States have no statewide code or are using an older or less efficient version of 90.1-2007
- Although more data is needed, research suggests that compliance rates of building energy codes are between 25% and 80%, with some States as low as 3%.

# Adoption of Standard 90.1



6

ASHRAE 90.1-2013/2015 IECC, equivalent, or more energy efficient

19

ASHRAE 90.1 - 2010/2012 IECC, equivalent, or more energy efficient

19

ASHRAE 90.1 - 2007/2009 IECC, equivalent, or more energy efficient

12

Older or less energy efficient than ASHRAE 90.1 - 2007/2009 IECC, or no statewide code.

\* Adopted new Code to be effective at a later date

As of January 2016

*Want to do better?*

*ASHRAE's members are your  
resource.*

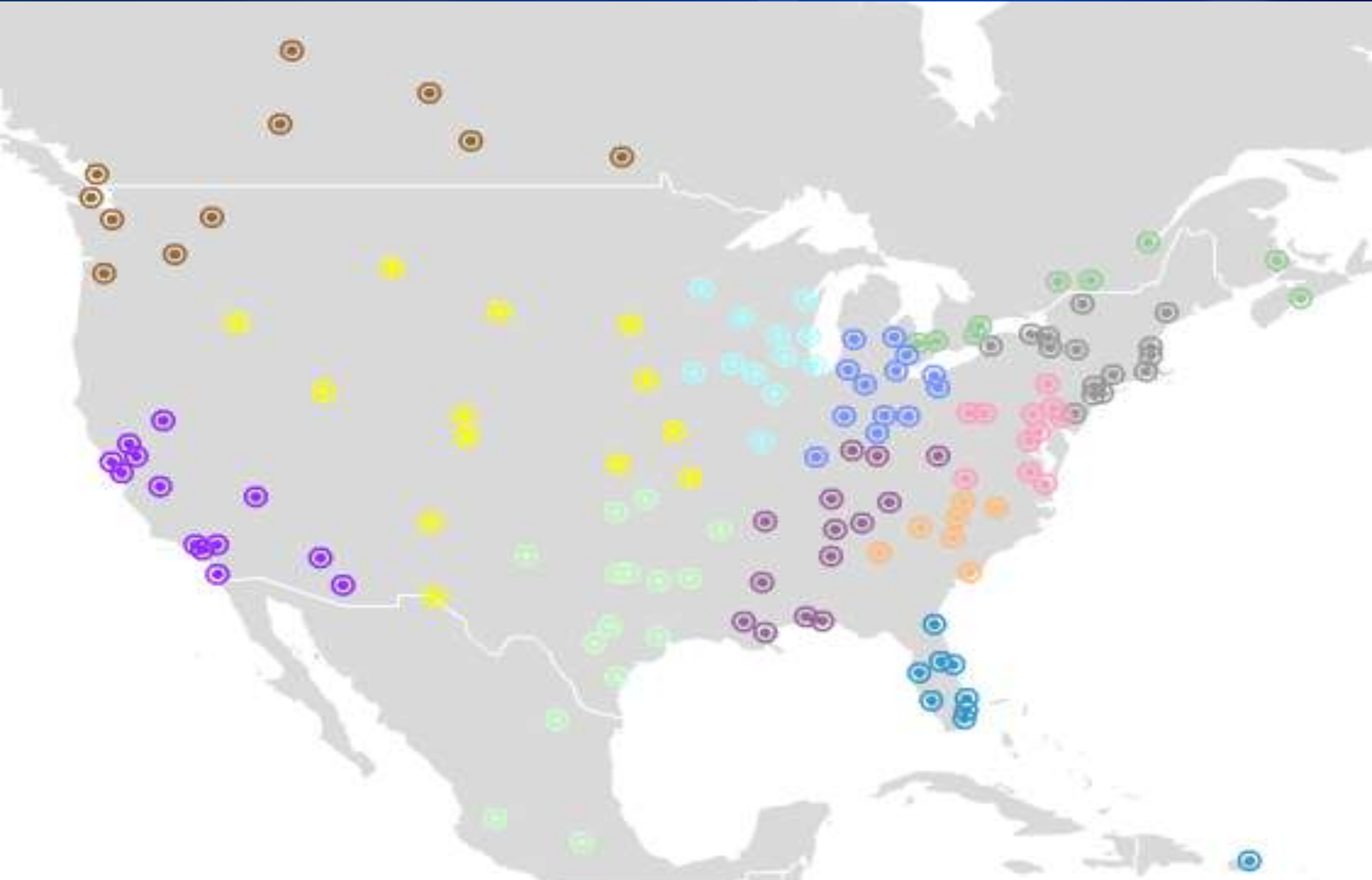


# ASHRAE's Presence in Your States

- Over 38,000 members in US
- Members are active in their communities and include
  - Consulting engineers
  - Contractors
  - Manufacturers
  - Manufacturer's representatives
  - College students
  - University professors
  - Architects
  - Others
- 144 Chapters and Sections, Over 300 Student Branches



# ASHRAE's North American Chapters



# The Real Faces of ASHRAE

- \*Video\*



*Thank You!*

Mark Ames

Senior Manager, Federal Government Affairs

Phone: 202-833-1830

Email: [mames@ashrae.org](mailto:mames@ashrae.org)

