



# ASHRAE Members

Engineering the World We Live In

# Research Promotion

- **Hit the 2,075,000 mark, making this the third year in a row to reach the fundraising goal**
  - Represents a 2 percent increase over last year
- **ASHRAE's Research program has supported more than 700 projects in the last 50 years, addressing areas such as:**
  - Indoor air quality
  - Refrigeration
  - Energy efficiency
- **Thank you!**

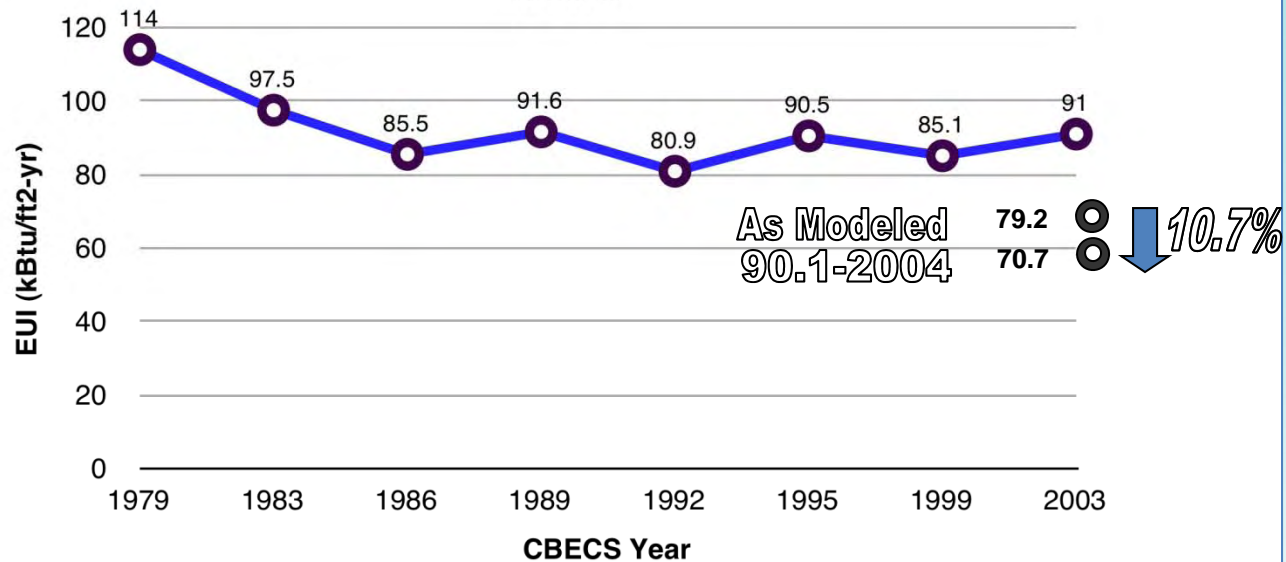
# Region X & Research

**\$1,385K- active research 2009-10 RP investments: \$159K**

<b>Field Performance Assessment of Package Equipment to Qualify the Benefits of Proper Service and Determine the Long Term Need for Monitoring, RDD and Continuous Commissioning technology</b>	<b>ADM ASSOCIATES - Sacramento, CA</b>
<b>Revisions to the ASHRAE Thermal Comfort Tool to Maintain Consistency with Standard 55-2004</b>	<b>CHARLIE HUIZENGA - Berkeley, CA</b>
<b>Effects of Typical Inlet Conditions on Air Outlet Performance</b>	<b>U. NEVADA- LAS VEGAS, NV</b>
<b>The Effect of Lining Length on the Insertion Loss of Acoustical Duct Liner in Sheet Metal Ductwork</b>	<b>U. NEVADA-LAS VEGAS, NV</b>
<b>Advanced Control Sequences for HVAC Systems - Phase I Air Distribution and Terminal Systems</b>	<b>TAYLOR ENG - Alameda, CA</b>
<b>Thermal Comfort in Commercial Kitchens</b>	<b>KEMA, INC. - Oakland, CA</b>
<b>Development of Typical Year Weather Files from ISH Database of Historical Weather Data for 2500 International Locations</b>	<b>WHITE BOX TECHNOLOGIES, INC. - Berkeley, CA</b>
<b>Thermal and Air Quality Acceptability in Buildings that Reduce Energy by reducing Minimum airflow from Overhead Diffusers</b>	<b>UC-BERKELEY, CA</b>
<b>Establishing Benchmark Levels and Patterns of Commercial Building Hot Water Use</b>	<b>APPLIED ENERGY TECHNOLOGY - Davis, CA</b>
<b>Optimal and Robust Control for Integrated HVAC-Envelope-Lighting Systems</b>	<b>UC-BERKELEY - Brian Coffey</b>
<b>Acoustic Investigation of Leadership in Energy and Environmental Design Guidelines for Healthcare Facilities</b>	<b>U. NEVADA - Cassandra Wiese</b>

# Energy Use Intensity

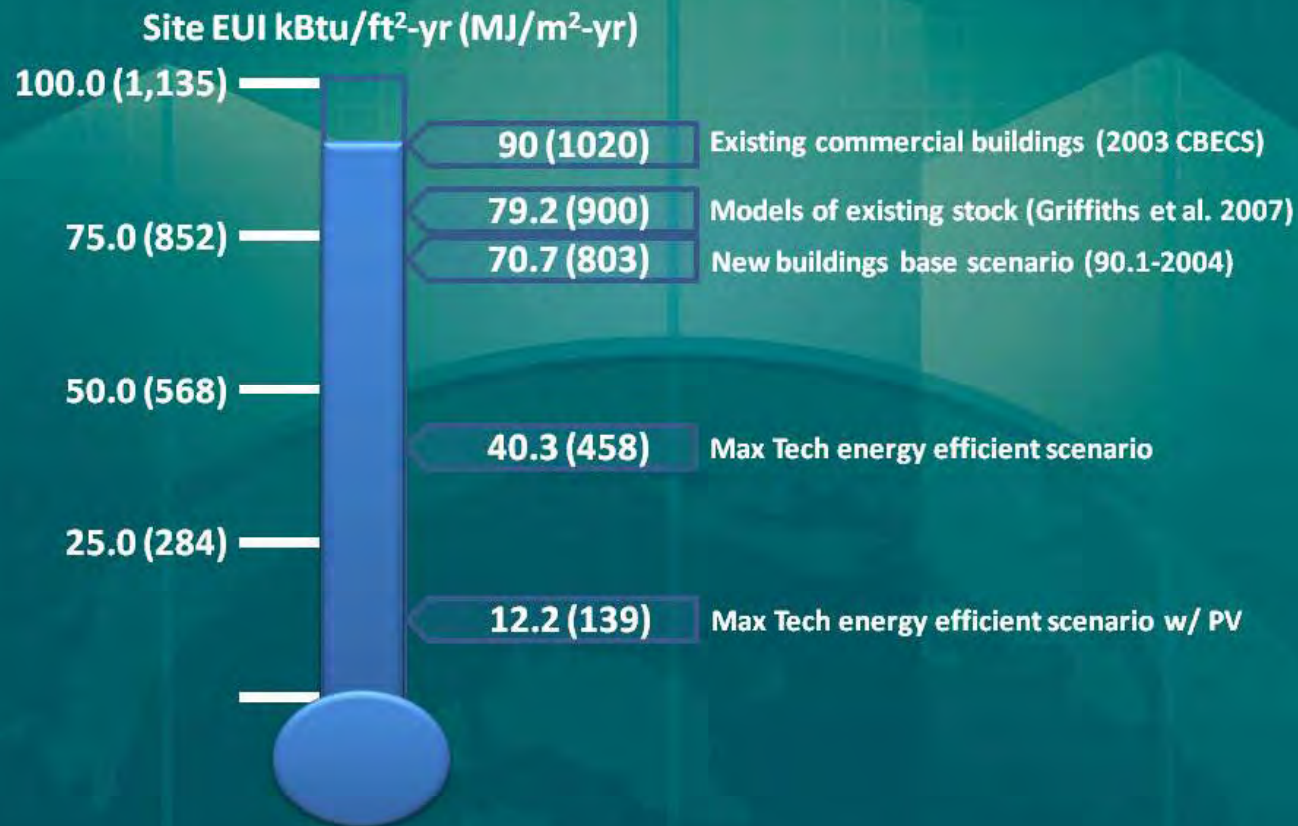
## U.S. Commercial Building Total Site Energy Intensity Trend



Energy Information Administration  
Commercial Buildings Energy Consumption Survey

# Energy Use Intensity

## Commercial Buildings



# Energy Use Targets

- Establish a single objective definition of energy use intensity (EUI) for commercial buildings
- Determine a single objective baseline EUI for commercial buildings from which to measure relative energy use reductions
- Develop a comprehensive plan to reduce unregulated energy consumption in commercial buildings
- Identify a single objective set of commercial building types and simulation models for establishment of target EUI
- Produce one set of target EUIs for the commercial building sector for use in state building energy codes

*[www.ashrae.org/energytargets](http://www.ashrae.org/energytargets)*

# 2010 Standards

- **Standards 62.1, *Ventilation for Acceptable Indoor Air Quality***
- **Standard 62.2, *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings***
- **Standard 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings***
  - Due to be released in Fall 2010
  - Based on analyses performed by a third party, the energy reduction from 90.1-2004 to 90.1-2010 is currently estimated to be between 21.7 and 30.9 percent, depending on modeling assumptions.

# Green Building Standard

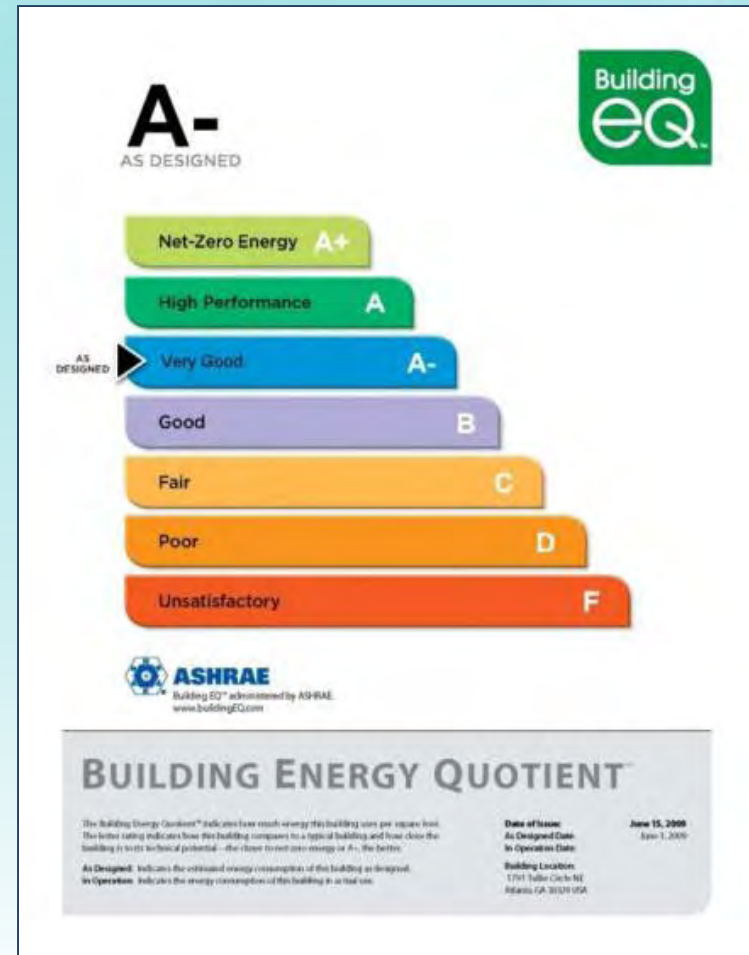


- Published in January 2010
- Serves as benchmark for sustainable green buildings – does not apply to all buildings
- Addresses energy, impact on the atmosphere, sustainable sites, water use, materials and resources and IEQ
- Jurisdictional compliance option for International Green Construction Code

[www.ashrae.org/greenstandard](http://www.ashrae.org/greenstandard)

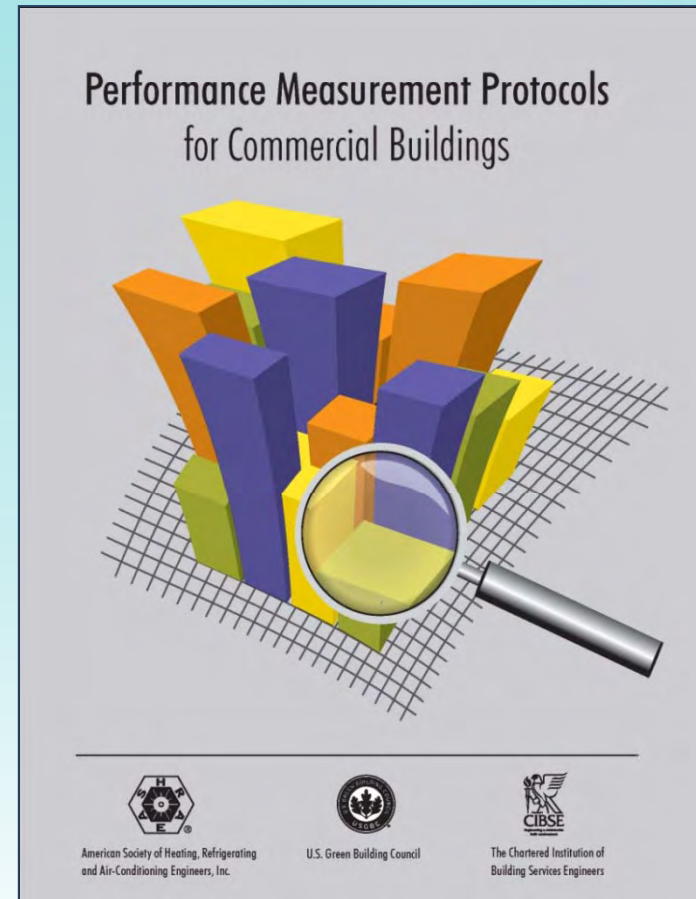
# .....'s Your Building EQ?

- In Operation Pilot completed in June 2010
- 23 buildings from 10 owners/operators
- 17 Provisional Assessors
- Assessments include:
  - Building characteristics
  - Building Energy Quotient
  - IEQ Assessment
- As Designed rating to follow in second half of 2010



# Performance Measurement Protocols

- Addresses the what, how and when of measurement
- Protocols for six performance categories: energy, water, thermal comfort, indoor air quality, lighting and acoustics.
- Companion book focusing on best practices due out in June 2011
- Developed with CIBSE and USGBC



[www.ashrae.org/bookstore](http://www.ashrae.org/bookstore)

# Indoor Air Quality Guide:

## Best Practices for Design, Construction and Commissioning

- Practical guidance on achieving good IAQ in commercial buildings
- Joint effort of ASHRAE, AIA, BOMA, EPA, SMACNA and USGBC



[www.ashrae.org/iaq](http://www.ashrae.org/iaq)

# Advanced Energy Guidance

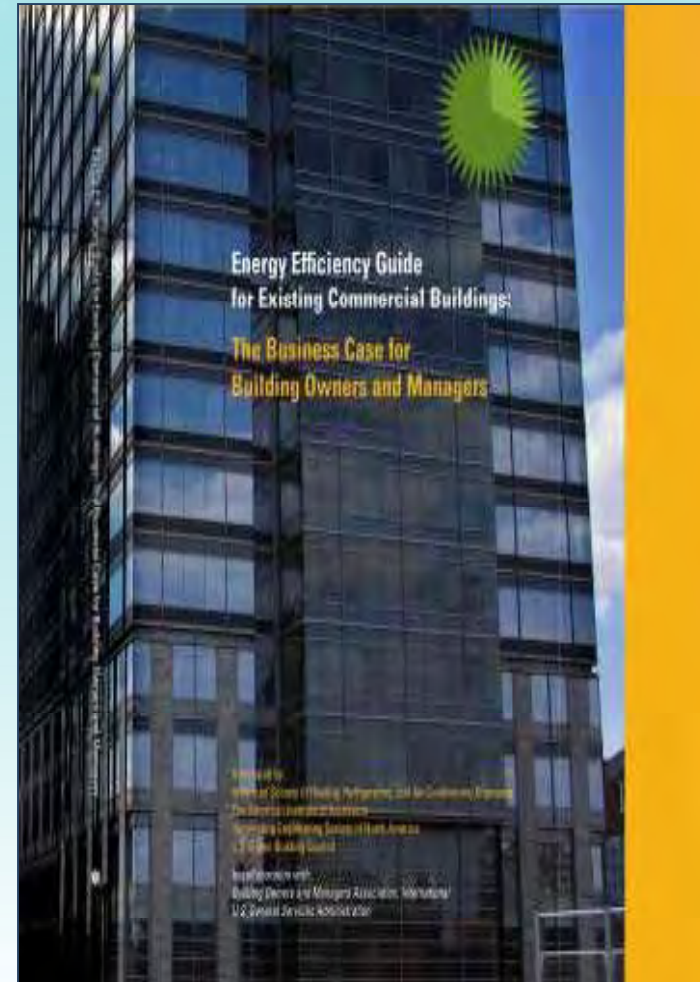


- Over 250,000 guides in circulation
  - 80 percent US, 8 percent Canada, 12 percent ROW
- DOE recently approved AEDG 50% Funding
  - First Guide to be Small-Med Office
- Available for free download

[www.ashrae.org/freeaedg](http://www.ashrae.org/freeaedg)

# Existing Building Guidance

- Provides business case for energy improvements
- Demonstrates how to benchmark performance against comparable buildings
- Illustrates how energy use and cost can be reduced by up to 30 percent
- Developed with BOMA, AIA, USGBC, IESNA, GSA
- Follow up Technical Guidance due in June 2011



[www.ashrae.org/bookstore](http://www.ashrae.org/bookstore)

# Certification

*ASHRAE certification provides members with benefit of professional designations that showcase their body of knowledge to the industry*



- **More than 1000 applicants for certification**
- **Current programs**
  - High-Performance Building Design Professional
  - Operations & Performance Management Professional
  - Healthcare Facility Design Professional
  - Commissioning Process Management Professional
  - Building Energy Modeling Professional

[www.ashrae.org/certification](http://www.ashrae.org/certification)

# Education

*ALI seminars provide professional development with depth information that is timely, practical and advanced beyond a fundamental level*



Fall 2010  
Online Courses

CEUPDH  
Credits  
Available

ASHRAE  
LEARNING INSTITUTE

Learn from your computer with instructor-led online courses in "real time" from  
ASHARE Learning Institute

- 11 online professional development courses offered this fall
- Two new courses related to Standard 90.1-2010
- One scheduled for convenience of Asian countries

[www.ashrae.org/onlinecourses](http://www.ashrae.org/onlinecourses)

# eLearning

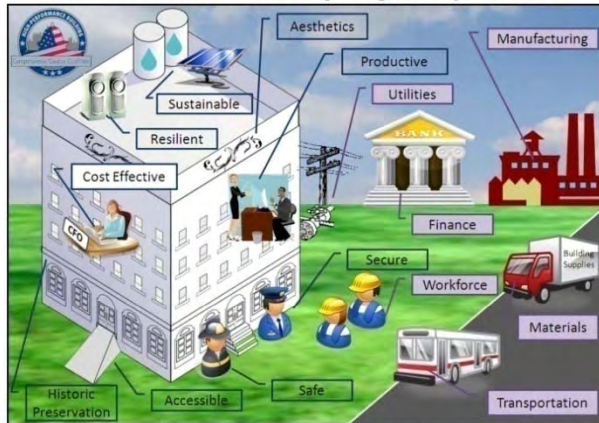
- **Now a fully owned ASHRAE enterprise – ideal for both individual and corporate training needs**
- **Better course delivery**
- **Better functionality**
- **Better records keeping**
- **Better ways to find courses**
- **Written and reviewed by respected experts in the industry**

[www.ashrae-elearning.org](http://www.ashrae-elearning.org)

# Government Affairs

## High-Performance Building Week June 13-19, 2010

*Get The Whole Picture of High-Performance*



Celebrate the importance of High-Performance Buildings and learn how they influence achievement of national goals

- June 14 Congressional Visit and Press Event at National Institute of Standards and Technology (NIST) (invitation only)
- June 15 Congressional Briefing on "Getting the Whole Picture of High-Performance" 10:00-11:30 am, 2325 Rayburn HOB
- June 15 Reception in honor of High-Performance Building Week, 5:30-7:30 pm, Location TBD
- June 16 HPBCCC Member CEO/President/Chair Congressional Visits
- June 16 Tour and Reception, ASLA Green Roof, 5:30-7:30 pm, 636 I Street, NW
- June 17 High-Performance Building and Energy Efficiency Roundtable and HPBCCC Meeting, 11:30 am-2:30 pm, National Institute of Building Sciences
- June 18 Briefing on Partnerships for Net-Zero Energy Buildings, 12:30-2:00 pm, 2325 Rayburn HOB

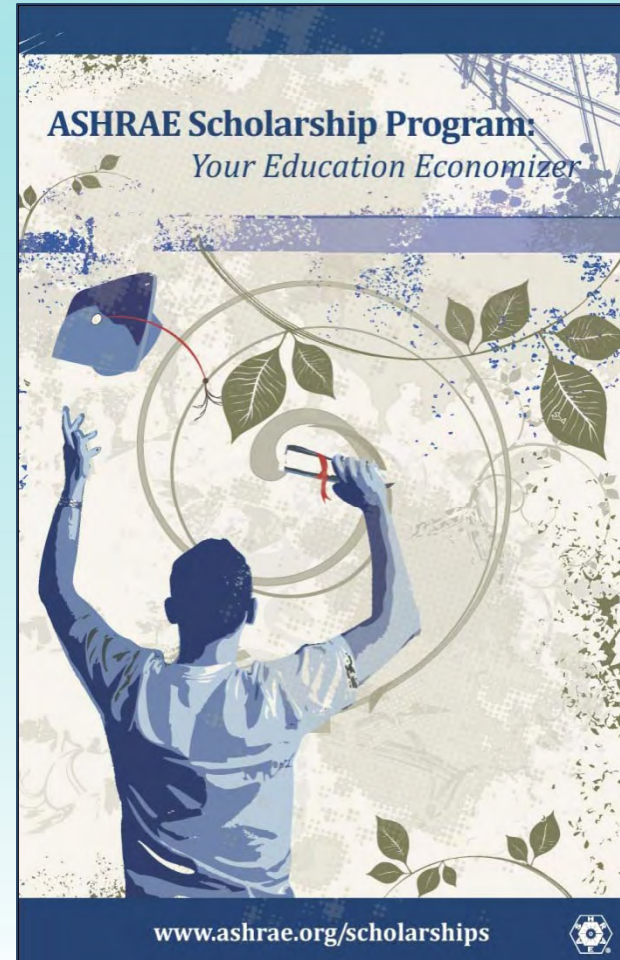
<http://www.hpbcc.org/HPBweek>

- Federal Building Personnel Training Act of 2010
- Working to establish consortium to advise U.S. Department of Energy on high-performance building (HPB) issues
- Briefings on HPB buildings, energy efficient schools, disaster preparedness

[www.ashrae.org/governmentaffairs](http://www.ashrae.org/governmentaffairs)

# Scholarships

- More students and more schools than ever eligible for ASHRAE scholarships
- Two new scholarships available to high school seniors to be applied to their freshman year of college



[www.ashrae.org/scholarships](http://www.ashrae.org/scholarships)

# Engineers Week 2011

ASHRAE – Lead Engineering Society

Raytheon – Corporate Sponsor

Event	Dates
Engineers Week	Feb. 20-26
Future City Finals, Washington, DC	Feb. 18-22
Family Day in Washington, DC	Feb. 20
Girl Day	Feb. 24
Global Marathon	March 8-9

[www.eweek.org](http://www.eweek.org)

# Join Us!



- **2011 Winter Conference**
  - Jan. 29-Feb. 2 2011
  - Las Vegas, Nevada
  - Virtual Conference
  - Technical program focused on zero-energy design
  - [www.ashrae.org/lasvegas](http://www.ashrae.org/lasvegas)
  - AHR Expo, Jan. 31-Feb. 2

# Join Us!



- **IAQ 2010: Airborne Infection Control – Ventilation, IAQ & Energy**
  - Nov. 10-12 2010
  - Kuala Lumpur, Malaysia
- **Building Energy Modeling Conference**
  - April 4-5, 2011
  - ASHRAE Headquarters

# **How you can help**

**Contribute to ASHRAE's worldwide best practices  
databank of innovative and successful technologies  
to better serve the HVAC&R community**

*[www.ashrae.org/volunteer](http://www.ashrae.org/volunteer)*