

Energy Codes 2010

The Future Is Now!



July 19-22, 2010
Charlotte, North Carolina

Energy Codes 2010

July 19-22, 2010 – Charlotte, NC

We wish to acknowledge those who have made this event possible and have worked hard to make it a success:

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U.S. Department of Energy,
Energy Efficiency and Renewable Energy Building Energy Codes Program



Building Energy Codes

U.S. Department of Energy

A Less-Paper Event

In our efforts to conserve resources, Energy Codes 2010 will not have copies of individual presentations available to attendees.

New this year! EC 2010 USB Cards to be used at any of our EC 2010 Kiosks to download presentation files. All presentations will be available at www.energycodes.gov after the event.

Thank You Sponsors

Please visit our sponsors in the Grand Promenade

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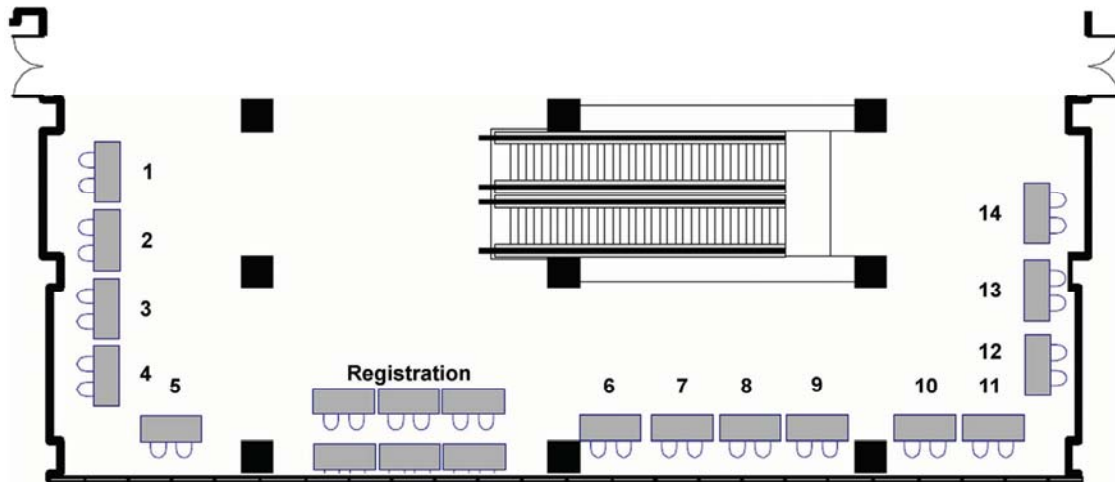
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Network With Our Industry Leaders!

Visit the following table-top exhibits, located in the Grand Promenade.



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Energy Codes 2010

Agenda-At-A-Glance

Pre-Training/Building Tours: Monday, July 19, 2010

7:00 am - 6:00 pm	Registration	<i>Grand Promenade</i>
8:00 am - 4:00 pm	Building Tours National Gypsum Company's Mt. Holly Plant David Weekley Homes: The Manor at Westmoreland Keynote Lunch Speaker: Joseph Lstiburek, <i>PH. D., P. Eng., ASHRAE Fellow</i>	<i>Motor coaches will load at 8:30 am and will depart promptly at 9:00 am. Lunch will be provided</i>
	Training Commercial Building Energy Codes COMcheck	<i>Grand Ballroom C</i>
6:00 pm - 8:00 pm	Welcome Reception Announcement: Jeffrey A. Johnson Award	<i>Grand Ballroom D</i>

DAY 2: Tuesday, July 20, 2010

7:00 am - 6:00 pm	Registration	<i>Grand Promenade</i>
7:00 am - 8:00 am	Continental Breakfast	
8:00 am - 9:30 am	Welcome	<i>Grand Ballroom C</i>
9:30 am - 9:45 am	Morning Break	<i>Grand Promenade</i>
9:45 am - 11:15 am	DOE Strategic Planning	
11:15 am - 11:45 am	Got Codes? . . . DOE Does!	<i>Grand Ballroom C</i>
11:45 am - 1:00 pm	Lunch and Keynote Speaker	<i>Grand Ballroom D</i>
1:00 pm - 3:00 pm	90% Compliance <ul style="list-style-type: none"> • PNNL Strawman and Tools • Code Compliance Measurement Panel • BCAP Compliance Plans 	<i>Grand Ballroom C</i>
3:00 pm - 3:15 pm	Afternoon Break	<i>Grand Promenade</i>
3:15 pm - 5:00 pm	Implementation Why is This So Hard?	<i>Grand Ballroom C</i>
6:00 pm - 8:30 pm	Optional Evening Event <i>An Evening of Sustainability</i>	<i>Grand Ballroom D</i>

DAY 3: Wednesday, July 21, 2010

6:30 am - 7:45 am	COMcheck Alterations Training	<i>Grand Ballroom C</i>
7:00 am - 6:00 pm	Registration	<i>Grand Promenade</i>
7:00 am - 8:00 am	Continental Breakfast	
8:00 am - 10:00 am	Code Development Overview of DOE's Goals Residential: <ul style="list-style-type: none"> • Common Recent Issues • Duct and Blower Door Testing • Plumbing Design • RESNET 	<i>Grand Ballroom C</i>
10:00 am - 10:15 am	Morning Break	<i>Grand Promenade</i>
10:15 am - 11:45 am	Code Development Continued Commercial: <ul style="list-style-type: none"> • 90.1 • IECC • Existing Buildings, ASHRAE Standard 100 	<i>Grand Ballroom C</i>
11:45 am - 1:00 pm	Lunch and Networking	<i>Grand Ballroom D</i>
1:00 pm - 2:00 pm	Adoption	<i>Grand Ballroom C</i>
2:00 pm - 2:15 pm	Afternoon Break	<i>Grand Promenade</i>
2:15 pm - 3:45 pm	Codes of the Future	<i>Grand Ballroom C</i>
4:00 pm - 6:00 pm	Cracker Barrel Snacks and beverages will be provided	<i>Grand Ballroom D</i>

DAY 4: Thursday, July 22, 2010

7:00 am - 1:00 pm	Registration	<i>Grand Promenade</i>
7:00 am - 8:00 am	Continental Breakfast	
7:00 am - 8:00 am	REScheck Training	<i>Grand Ballroom C</i>
8:15 am - 10:15 am	States Learning from Each Other	
10:15 am - 10:30 am	Morning Break	<i>Grand Promenade</i>
10:30 am - 11:30 am	Plumbing and Energy Efficiency	<i>Grand Ballroom C</i>
11:45 am - 1:00 pm	Lunch and Keynote Speaker, Hunter Lovins	<i>Grand Ballroom D</i>
1:00 pm - 1:30 pm	Closing/Wrap-up	<i>Grand Ballroom C</i>

Post-Training: Thursday, July 22, 2010 – Friday, July 23, 2010

Day 4: Thursday, July 22, 2010

1:30 pm - 5:00 pm	Residential Code Training	Grand Ballroom C
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Day 5: Friday, July 23, 2010

8:00 am - 11:30 am	Residential HVAC Design	Grand Ballroom C
11:30 am - 12:30 pm	Lunch	On Your Own
12:30 pm - 4:30 pm	Residential HVAC Design Continued	Grand Ballroom C

Continuing Education and Learning Units AIA Registered Provider

DOE's Building Energy Codes Program (BCEP) is a Registered Provider with the American Institute of Architects Continuing Education System. Credit earned upon completion of this event will be reported to CES Records for AIA members by the Provider. Certificates of Completion for non-AIA members are available upon request for participation in all training sessions conducted July 19-23, 2010. Session credits are based on the number of sessions attended and will be tabulated at the end of the event. An AIA / CES Conference Participation Form is included in each attendee's registration packet. Attendees will need to fill out the form, indicate which sessions they attended, and submit to the registration desk before final departure.



Look to ICC for Energy Codes and More!

2009 IECC® AND ASHRAE/IESNA 90.1-2007

Access the 2009 International Energy Conservation Code® (IECC) and ANSI/ASHRAE/IESNA Standard 90.1-2007 in one convenient volume.
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10-03534

Energy Codes 2010

Detailed Agenda

Building Tours: Monday, July 19, 2010

Registration

7:00 am - 6:00 pm

Building Tours

8:30 am - 4:00 pm

The Motor coach will load at 8:30 am and depart promptly at 9:00 am. In an effort to make sure that those registered for the building tours are ensured a seat on the bus, attendees will not be permitted to load the bus without the ticket given to them at registration.

Energy Codes 2010 Buildings Tour will include a visit to the National Gypsum Company's Mt. Holly Plant and three homes from David Weekley Homes Manor at Westmoreland.

Lunch will be provided, and will include Special Keynote Lunch Speaker, Joseph Lstiburek Ph.D., P.Eng., at the conclusion of the National Gypsum Plant tour. Lstiburek is a principal of Building Science Corporation and an ASHRAE Fellow. He has twenty-five years of experience in design, construction, investigation, and building science research.

National Gypsum Company is a fully integrated building products manufacturer and one of the leading producers in the world. The Mt. Holly Plant is the company's newest wallboard production facility. It is capable of producing approximately one billion square feet of wallboard annually at speeds over 500 feet per minute.



David Weekley Homes is an ENERGY STAR certified builder, who participates in *Environments for Living*®. DWH has partnered with Building Science Corporation (a Building America Partner), to assist with incorporation of building science into their construction practices. All homes are verified by a third-party rater. Tour participants will have the opportunity to see three homes in different stages of construction.

David Weekley Homes

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*Refer to local code requirements for your climate zone.

Pre-Training: Monday, July 19, 2010

Pre-Training

8:00 am - 4:00 pm

Commercial Building Energy Codes

An understanding of ANSI/ASHRAE/IESNA Standard 90.1-2007. This course will cover scope and application, building thermal envelope requirements, mechanical and service water heating, and building lighting requirements. A comparison to the 2009 International Energy Conservation Code will also be provided.

COMcheck Basics:

The COMcheck software simplifies energy code compliance by automating building thermal envelope and separate lighting trade-off calculations and customized mechanical and service water heating documentation.

Eric Makela, PNNL

Welcome Reception

6:00 pm - 8:00 pm

Announcement: Jeffrey A. Johnson Award for Excellence in the Advancement of Building Energy Codes and Performance. Please join us for a casual welcome reception with hors d'oeuvres and beverages.

Day 2: Tuesday, July 20, 2010

Registration

7:00 am - 6:00 pm

Continental Breakfast

7:00 am - 8:00 am

Welcome

8:00 am - 9:30 am

Diana Shankle, PNNL

Jim Bartl, Mecklenburg County (Charlotte, NC)

Saralyn Bunch, U.S. Department of Energy (DOE)

Morning Break

9:30 am - 9:45 am

DOE Strategic Planning

9:45 am - 11:15 am

For almost 40 years there has been an increasing focus on building energy use at the national, state and local level that continues to challenge not only the building industry in particular but the US population at large. External forces, both manmade and natural, are constantly changing and making the need to address building energy use more critical every day. Coupled with considerations ranging from technology availability to the economy, the possible solutions to the challenges are ever changing. For this reason, the course we set in 1975, 1990, 2003 or any other year in the past will not satisfy our needs today, nor will the course we set today necessarily satisfy our needs for 2020 or beyond. We need to constantly look ahead, conduct environmental scanning internally and externally, and strategically plan to address future challenges. This session will provide an overview of U.S. Department of Energy (DOE's) most recent efforts to look ahead and develop programs, products and services that will satisfy challenges we have today and hopefully minimize the number of future challenges.

- DOE Overview
- DOE RFI Results
- DOE Next Steps

Jean Boulin, U.S. Department of Energy (DOE)

Saralyn Bunch, U.S. Department of Energy (DOE)

Judith Dyer, NETL

Got Codes? ... DOE Does!

11:15 am - 11:45 am

A short video overview of DOE's Building Energy Codes Program (BECP) will communicate the program's role and partnerships within the broad, diverse world of energy codes. BECP plays a supportive role among numerous stakeholder groups by offering unique resources for the development, adoption, implementation, and enforcement of energy codes. Following the video presentation, BECP team leads will lead a discussion of DOE's role(s) in the codes community, and moderate a brief Q&A session.

Rose Bartlett, PNNL

Lunch and Keynote

11:45 am - 1:00 pm

Energy Codes: When I Rule the Universe. . .

For the past 15 years Barcik has been an advocate for change – arguing, cajoling, begging, pleading, teaching, explaining, encouraging, pushing, interpreting, adjusting, simplifying, compromising, and just plain trying to be an advancing agent for better, more efficient buildings. Mike will share experiences and perspective and then discuss how he would do things once he becomes exalted ruler of the known universe (he anticipates this happening sometime in the near future...)

Mike Barcik, Southface Energy Institute

90% Compliance

1:00 pm - 3:00 pm

A discussion of procedures and tools for measuring and reporting compliance with building energy codes will be held. These materials are being developed by the BECP to assist states in meeting to assist in demonstrating 90% compliance.

- PNNL Strawman and Tools
- Code Compliance Measurement Panel
- BCAP Compliance Plans

Rose Bartlett, PNNL

Linda Connell, PNNL

Afternoon Break

3:00 pm - 3:15 pm

Implementation – Why Is This So Hard?

3:15 pm - 5:00 pm

The process of getting energy codes in place is a definite challenge. Come and learn from the real world experience of experts who have identified and dealt with these challenges. Learn to avoid pitfalls, discover how to preemptively build consensus and break down resistance to implementing a new energy code. During the session, we'll start by identifying the steps, recognizing the challenges, and examining a scenario that demonstrates a successful path in a hypothetical situation.

Mike Barcik, Southface Energy Institute

Chris Matthis, NC

Ryan Meres, GA

Steve Easley, CA

An Evening of Sustainability

6:00 pm - 8:30 pm

This special dinner event will highlight national beyond code and green building programs placing these efforts at center stage. We will host speakers on ASHRAE 189.1, the IGCC, USGBC LEED, and the new ENERGY STAR for New Homes. This exciting optional evening activity will also include a social, plated dinner, door prizes and evening entertainment. Registration and an extra charge of \$25.00 will apply.

6:00 pm - 6:30 pm – Appetizers and Social

6:30 pm - 7:30 pm – Plated Dinner and Program

7:30 pm - 8:30 pm – Dessert and Evening Entertainment

PLEASE NOTE: If you pre-registered for this event, your name badge is specially marked for admittance. If you are interested in attending, please visit registration to purchase this special event. The cost to attend the Evening of Sustainability is \$25.

Thank you Evening of Sustainability Sponsors



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COMcheck Alterations Training

6:30 am - 7:45 am

An alteration feature is included when 90.1-2001, 90.1-2004 or 90.1-2007 is selected from the Code Menu in COMcheck. Learn how to enter alteration projects using COMcheck that involve changes to or replacement of 1) existing building thermal envelope components; 2) lighting equipment, and 3) heating, ventilating, air conditioning, and water heating equipment.

Pam Cole, PNNL
Eric Makela, PNNL

Registration

7:00 am - 6:00 pm

Continental Breakfast

7:00 am - 8:00 am

Code Development

8:00 am - 10:00 am

Come listen to a discussion of new code provisions (2009) and anticipated new code provisions (2012) that states need to be aware of. This session will kick off with an overview of U.S. Department of Energy (DOE's) code development goals.

Mike Erbesfeld, U.S. Department of Energy (DOE)

Residential

Common Recent Issues

This will touch on issues such as: walls, insulating sheathing replacing OSB and how that interacts with new structural provisions in the IRC; basement moisture issues resulting from increased insulation requirements; and more.

Todd Taylor, PNNL

Duct and Blower Door Testing

Practical considerations of doing this kind of testing—Where do you find a tester? Where do you find the test equipment, can a builder do it him/herself? What do the weird numbers in the test mean? Hear what has and hasn't worked in his jurisdiction.

Gil Rossmiller, Parker, Colorado

Plumbing Design

What is the maximum volume that should be allowed between the source of hot water and the hot water outlets? Should the hot water distribution piping be insulated? Should we consider trade-offs between hot water distribution system improvements and water heater efficiency?

Gary Klein, Affiliated International Management, LLC

RESNET

A discussion about ways in which Home Energy Raters can contribute to code compliance in the face of rapidly advancing codes. Raters have traditionally worked in the realm of beyond-code programs, but with codes advancing like they are, the situation may be ripe for HERS raters to help building code officials in some way.

Steve Baden, RESNET

Morning Break

10:00 am - 10:15 am



Building Energy Codes

U.S. Department of Energy

Code Development Continued

10:15 am - 11:45 am

Commercial

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

This presentation provides an overview of Standard 90.1-2010, with emphasis on significant changes and what energy savings have been achieved. The presentation will also provide a view where Standard 90.1 may head in the future.

Steve Skalko, *90.1 Committee Chair*

IECC

During the last ICC code development cycle, several proposals were submitted to the commercial provisions of the IECC that will increase the efficiency of new buildings by an estimated 30% over a building built to the 2006 IECC. This session will provide an overview of the changes that, if passed at the Final Action Hearings in Charlotte, NC, will impact the building envelope, mechanical and lighting system requirements for all new buildings built to the 2012 IECC.

Eric Makela, *PNNL*

ASHRAE Standard 100 Revision: Energy Efficiency in Existing Buildings

Standard 100 is currently being revised into code language, and the draft of the standard is targeted to be released for public review in April 2011. This presentation provides an overview of the draft standard and how an Authority Having Jurisdiction can adopt it into code or into an incentive program.

Michele Friedrich, *PECI*

Lunch and Networking

11:45 am - 1:00 pm

Adoption

1:00 pm - 2:00 pm

Adoption related to energy codes can be described as establishing the mechanisms whereby certain criteria that can improve building energy efficiency are put into place either through mandatory means such as legislation or regulation, or voluntary means wherein market forces or other incentives cause their adoption and use. State and local agencies have been adopting energy codes and standards for almost 40 years in response to national energy challenges. As consumers, the 50 states, DC and the territories, the agencies within state government, and the number of local governments and agencies (40K+) all have different needs, expectations, policies, E3 (energy, economic and environmental) challenges, and a myriad of other factors that a one-size-fits-all approach may not meet their needs. It is preferable to have national-level criteria developed and applied compared to the possibility of a crazy quilt of home-grown criteria. This session will focus on some of the challenges facing those who work at the state and local level in transferring nationally-developed criteria to the state and local level.

Pam Cole, *PNNL*

Dave Conover, *PNNL*

Monica Schneider, *BCAP*

Mark Tebbets, *NEEP*

Eric Lacey, *Responsible Energy Codes Alliance*

Amy Gomborg, *Office of the Ohio Consumers' Counsel*

Cammy Watkins, *Cool Cities Campaign Coordinator*

Afternoon Break

2:00 pm - 2:15 pm

Codes of the Future

2:15 pm - 3:45 pm

As codes get more and more stringent—we're expecting about 30% improvement over the 2009 IECC by 2012 and DOE has a 50% goal shortly thereafter—it is questionable whether existing formats, infrastructures, and enforcement paradigms can adequately implement and enforce the new codes. This session examines several alternatives to the traditional prescriptive code format, addressing their strengths and weaknesses.

- Performance Based Codes
- Outcome Based Codes
- Capacity Constraints

Charles Eley, *Architectural Energy Corporation*

Dave Hewitt, *New Buildings Institute*

Diana Shankle, *PNNL*

Todd Taylor, *PNNL*

Day 3: Wednesday, July 21, 2010 *continued*

Cracker Barrel

4:00 pm - 6:00 pm

Come enjoy snacks and beverages and select your five favorite topics of interest and spend 20 minutes exploring each of them. Topics include:

COMcheck and REScheck: The Evolution of Compliance

A variety of new features are in the works for REScheck and COMcheck. Come learn about the progress we're making towards interoperability with other building/energy code applications, while building performance-based compliance using EnergyPlus, and optimization enhancements coming to the web-based versions. The possibilities these new features will afford our user community are very exciting and we look forward to sharing them with you!

Tim Lawson, *PNNL*

COMNET

Have you heard about the Commercial Energy Services Network? Come learn more.

Charles Eley, *Architectural Energy Corporation*

Comparison Tool for Energy Codes

Come learn about a tool that provides a simple cross reference of the various new energy codes and standards. The tool allows users to compare LEED, 189.1 and CALgreen, with others under development, to quickly assess compliance overlap and stringency. This session will explain the process of comparison and how to best understand the differences.

Dan Whittet, *CTG Energetics*

Using the Database of State Incentives for Renewables and Energy Efficiency (DSIRE)

The DSIRE website is sponsored by the US Department of Energy and serves as the go-to resource for policies and incentives that support the use of renewable energy and energy efficiency. A policy analyst who works on DSIRE will talk about the content of DSIRE and give a live demonstration of the database's tools and resources.

Brian Lips, *NCSU*

Increasing Compliance Through Education

Come see a demonstration of the Online Learning Center, developed through DOE SEP funding and state funding, which includes courses made up of lessons that walk a plans examiner and a building inspector through their responsibilities to ensure compliance with the CA Energy Efficiency Standards for newly constructed, alterations and additions for residential and commercial buildings. The Online Learning Center can be accessed 24 hours a day and provides certificates of completion for participants and qualifies for CEUs.

Eurlyne Geiszler, *California Energy Commission*

Cheryl Lewis, *Building Media, Inc.*

Metal Building U-Factors in 90.1 Standard Do Not Reflect Typical Installations

ASHRAE issued a press release earlier this year regarding changes to the metal building assembly descriptions and modifying the U-Factors found in Appendix A. This was a result from an investigation which revealed the previously published U-Factors did not reflect the true, installed performance linked to the R-value assembly (published performance values were overstated up to 42%). Find out how this will impact your next code update and the intended stringency of the current energy code you are trying to enforce today.

Brad Rowe, *Thermal Design*

Additional Cracker Barrel Topics on the Next Page...

Utilities and Energy Codes: Where the Action is (and isn't)

Stop by our cracker barrel to find out where utility efficiency programs are intersecting with basic building energy codes. We'll review where utilities are incorporating energy codes into energy efficiency portfolios, and how they can claim "credit" towards meeting regulatory targets. We'll also look at the barriers to more utility involvement with codes, and with your help, speculate about future directions.

Harry Misuriello, ACEEE

Isaac Elneave, MEEA

RESNET

Learn about RESNET's infrastructure of over 4,000 certified raters qualified to verify the energy performance of a home's compliance with state energy codes. Learn how RESNET's standards and accreditation can apply to verification of codes.

Steve Baden, RESNET

How Renewable Energy and Green Power are Integral with LEED Requirements

Renewable Energy and Green Power is an important aspect of LEED. I will discuss solar thermal, solar photovoltaics, and wind sources of renewable energy as well as Green Power and how they fit into the LEED criteria.

Keith Pehl, USGBC



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Registration 7:00 am - 1:00 pm

Continental Breakfast 7:00 am - 8:00 am

REScheck Training 7:00 am - 8:00 am

The REScheck software simplifies energy code compliance by automating trade-off calculations. Learn the basics of how to use REScheck and understand how to enter building thermal envelope components, including area take-offs, insulation and fenestration levels.

Pam Cole, PNNL
Tim Lawson, PNNL
Eric Makela, PNNL

States Learning From Each Other 8:15 am - 10:15 am

Six states will participate in this session sharing challenges they have met and lessons learned. North Carolina, New Mexico, Colorado, Hawaii, New Hampshire, and Michigan will share on topics as diverse as home rule challenges to the special weather-related issues of the tropics. Finally we will wrap up with well intended amendments that gave states something they didn't bargain for – heartburn we should all avoid. The goal of this session is to learn from others on the road to statewide compliance.

- North Carolina – Going Beyond the 2009, **Billy Hinton**
- New Mexico – Collaboration, **Susie Marbury**
- Colorado – A Home Rule State's Approach, **Jim Meyers**
- Hawaii – Lessons from the Tropics, **Howard Wiig**
- New Hampshire – Energy Code Compliance vs. Live Free or Die, **Ryan Capers**
- Michigan - Michigan Energy Code – Litigation to Illumination, **Patrick Hudson**

Code Amendments - What to think about?

Dave Conover, PNNL
Eric Makela, PNNL

Morning Break 10:15 am - 10:30 am

Practical Plumbing for Water and Energy Efficiency 10:30 am - 11:30 am

What is the most energy, water and time efficient way to install a hot water distribution system for a given floor plan? Where is it appropriate to use drain water heat recovery? When should you install water heaters in multiple locations? How does the water heater impact overall system performance? How do the proposals for the IECC address these performance issues? This session will explore the answers to these questions by laying out the plumbing for a typical building on the floor of the classroom. The hot water locations will be drawn out to full scale using painter's tape to draw the building. Then, tape of different widths, representing pipe of different diameters will be used to "pipe" the building. The efficiency of different hot water distribution systems will be evaluated in terms of water, energy and time.

Gary Klein, Affiliated International Management, LLC

Lunch and Keynote Speaker 11:45 am - 1:00 pm

Hunter Lovins, L. Hunter Lovins is the founder and President of Natural Capitalism Solutions, a 501(c)3 non-profit in Longmont, Colorado. As a renowned author and champion of sustainable development for over 30 years, Hunter continues to be in great demand as an inspirational speaker and effective consultant. Hunter believes that citizens, communities and companies, working together within the market context, are the most dynamic problem-solving force on the planet. She has devoted herself to building teams that can create and implement practical and affordable solutions to the problems facing us in creating a sustainable future.

Wrap Up 1:00 pm - 1:30 pm

Residential Building Energy Codes and REScheck Training

1:30 pm - 5:00 pm

The IECC 2009 Residential Energy Code portion of this session will focus on important changes from the IECC 2006, with an emphasis on priorities for compliance. The presentation will include entertaining slides of recent homes that show how important enforcement is for making sure the energy code actually achieves the energy savings intended. Sample compliance guides will be shown, which might serve as models for similar documents in your state.

The REScheck software simplifies energy code compliance by automating trade-off calculations. Learn the basics of how to use REScheck, understand how to enter building thermal envelope components including area take-offs, insulation and fenestration levels.

Pam Cole, PNNL

Jeff Tiller, Appalachian State University



Just this once, we'd like to make some noise.


Panasonic ventilation fans are well known for their silence but we feel our selection as a 2010 ENERGY STAR® Partner of the Year is an award worth shouting about. Our whisper-quiet fans are less than 1 sone when tested under the new ASHRAE 62.2 standard of performance rated at .25" w.g. for continuous ventilation.

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WaterFurnace geothermal units qualify for a 30% TAX CREDIT

Thanks to the Economic Recovery Act, there's now a **30% "renewable energy" tax credit** for homeowners who install a qualifying WaterFurnace geothermal comfort system. **WaterFurnace geothermal units use the clean, renewable energy found in your own backyard to save up to 70% on heating, cooling, and hot water.** Call your local dealer and discover for yourself the benefits that only WaterFurnace can provide.



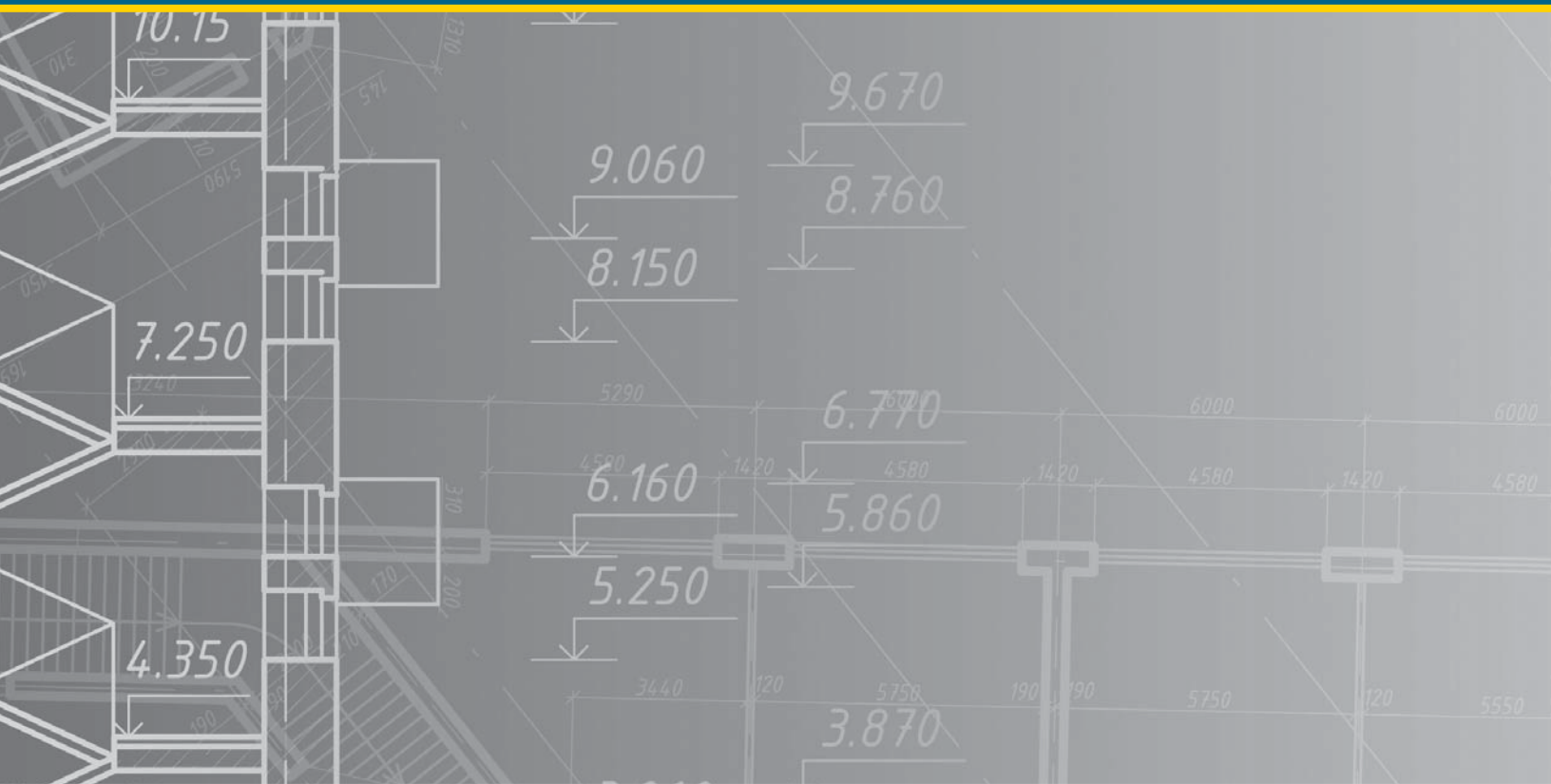
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Abbreviations and Acronyms

ACCA	Air Conditioning Contractors of America
ACEEE	American Council for an Energy-Efficient Economy
AIA	American Institute of Architects
ANSI	American National Standards Institute
ARRA	American Recovery and Reinvestment Act of 2009
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
BCAP	Building Codes Assistance Project
BECF	Building Energy Codes Program
CEU	Continuing Education Unit
COMNET	Commercial Energy Services Network
DOE	Department of Energy
DSIRE	Database of State Incentives for Renewables and Energy Efficiency
EERE	Energy Efficiency and Renewable Energy
HERS	Home Energy Rating System
HVAC	Heating, Ventilating, and Air Conditioning
ICC	International Code Council
IECC	International Energy Conservation Code
IESNA	Illuminating Engineering Society of North America
IGCC	International Green Construction Code
IRC	International Residential Code
LEED	Leadership in Energy and Environmental Design
LU	Learning Unit
MEEA	Midwest Energy Efficiency Alliance
NEEA	Northwest Energy Efficiency Alliance
NEEP	Northeast Energy Efficiency Partnerships
NETL	National Energy Technology Laboratory
OSB	Oriented Strand Board
PNNL	Pacific Northwest National Laboratory
RESNET	Residential Energy Services Network
RFI	Request for Information
SEEA	Southeast Energy Efficiency Alliance
SEP	State Energy Program
SWEEP	Southwest Energy Efficiency Project
USGBC	US Green Building Council



A LESS-PAPER EVENT

In an effort to conserve resources and provide usable electronic materials, **Energy Codes 2010** will not make hard copies of individual presentations available to attendees. Instead, you'll receive an EC2010 USB card.

New This Year!

Your EC2010 USB card can be used at any one of our EC2010 Kiosks to download presentation files. In addition, all presentations will be available at www.energycodes.gov/events/energycodes after the event. Other post-event highlights, videos, training resources, and articles will appear in the coming months within their respective topic areas at www.energycodes.gov.

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