

		Building Science	Advanced Building Science	Health & Safety	Program Management & Operations	New Wx Technician	Green & Sustainable Solutions
7:30 am		Registration, Trade Show (open all day) & Continental Breakfast					
8:30 – 10:00		Opening Plenary Session Green Gold Rush: A Vision for Energy Independence, Jobs, and National Wealth Robert Kennedy, Jr Reno Ballroom					
10:00 – 10:30		Break, Tahoe Room					
Session 1	10:30– Noon	Quality in a Home Performance Company John Tooley CARSON 1	Home Performance Diagnostics with House of Pressure (Part 1 of 2) Anthony Cox CARSON 2	Ventilation Best Practices Paul Raymer CARSON 3	Davis Bacon & Weatherization Jamie Moen CRYSTAL 3	Basic Building Science & Effective Weatherization Dan Berube & John Davies MCKINLEY	Climate Change: Weatherization and Low Income Clients Nancy Hirsh CRYSTAL 5
			Blower Door Testing in Multi-family Buildings Don Hynek CRYSTAL 2				
		High Performance Windows Tom Barrett CRYSTAL 1	Measuring Air Flow Bruce Manclark CARSON 4		Developing Training Plans Bob Scott CRYSTAL 4		Green Building Brian Hurd SHASTA
Noon – 1:30		Lunch & Awards, Summit Pavilion					
Session 2	1:40 – 3:10	House Characterization (Part 1 of 2) John Tooley CARSON 1	Home Performance with House of Pressure (Part 2 of 2) Anthony Cox CARSON 2	Combustion Safety Ken Pancost CRYSTAL 1	New Training Centers Joshua Pierce, Leslie Campanella & Chris Baker CRYSTAL 2	The Blower Door & Shell Air Sealing Chris Clay MCKINLEY	Hybrid Water Heater Keith Burkhardt CRYSTAL 4
		Building Science (Part 1 of 2) Marquam George CARSON 3	Air Sealing for Various Structures Mike Uniacke CARSON 4		Tribal Weatherization Panel Corrina Ikkakoula CRYSTAL 3		Value of Carbon Reduction Joel Eisenberg CRYSTAL 5
3:10 – 3:30		Break, Tahoe Room					
Session 3	3:30 – 5:00	House Characterization (Part 2 of 2) John Tooley CARSON 1	Advanced Blower Door Diagnostics Anthony Cox CARSON 2	IAQ Nightmares & Daydreams Kirsten Shaw CRYSTAL 1	Weatherization Program Evaluations Joel Eisenburg CRYSTAL 3	Duct Leakage & Air Sealing Bruce Manclark MCKINLEY	Selling & Retrofitting with HpwES Chandler VonSchrader CRYSTAL 5
		Building Science (Part 2 of 2) Marquam George CARSON 3	All R-Values are Created Equal - WRONG Charlie Gohman CARSON 4	Lead Updates Val Martinez & Rob DeSoto CRYSTAL 2	Energy Audit Submittals Jordon Kelso CRYSTAL 4		
6:00 – 9:00		Reception & Weatherization Competition, Reno Ballroom					

OPENING PLENARY Reno Ballroom 8:30 AM - 10:00 AM

Nevada Welcome: Lt. Governor Brian Krolicki

EOW Welcome: Mimi Burbage

DOE Welcome: Jean Diggs

Keynote Address

Green Gold Rush: A Vision for Energy Independence, Jobs, and National Wealth

Robert Kennedy, Jr., Visionary Environmental Business Leader and Advocate

The creation of a green economy is an increasingly promising solution to multiple challenges. Sustainable business and energy independence are keys to our economic revitalization, according to Kennedy. America can boost its own infrastructure by powering industry with plentiful and domestic renewable resources. A sophisticated, well-crafted energy policy will help sharpen American competitiveness while reducing energy costs and our national debt. Intelligent energy policy is also the national fulcrum for US foreign policy and national security. From green jobs and technologies to weaning our reliance on carbon energy, Kennedy offers a bold vision to restore US economic might, safeguard our environment, and reestablish America's role as an exemplary nation.

SESSION 1 10:30 AM - NOON

Building Science

Quality in a Home Performance Company Carson 1

John Tooley, Advanced Energy

With 128 million homes needing energy upgrades, our industry is facing a historic opportunity. This session focuses on how to build in quality rather than inspecting it in. We will look at quality from the 1700s to present, which process was most successful, why it worked and how to re-create it in your company. Attendees will learn: What quality really is; 6 critical attributes of a quality culture; how continual improvement is key; and how to create a blame-free workplace. (BPI Credits: 1.5)

High Performance Windows Crystal 1

Tom Barrett, RHA Inc

This session provides basic information on new window technologies, specifically the use of high performance windows as a weatherization measure. The course will 1) provide an overview of window technologies, 2) discuss innovations in window glazing, 3) compare window frame materials and their performance, 4) determine how to select high performance windows (HPW), 5) show how HPW are labeled, and 6) their use as a measure for weatherization programs. (BPI Credits: 1.5)

Advanced Building Science

Home Performance Diagnostics with House of Pressure (Part 1 of 2) Carson 2

Anthony Cox, Community Housing Partners/NRCERT

Part 1 will cover pressure diagnostics involving interaction of building components including exhaust fans, duct systems, and door closure while Part 2 will cover basic zonal pressures including pressure and thermal boundaries and pressure pan testing. (BPI Credits: 1.5)

Blower Door Testing in Multi-family Buildings Crystal 2

Don Hynek, Wisconsin Division of Energy Services

Blower door testing and guided air sealing is one of the most cost-effective cold-climate energy efficiency measures applied in existing single-family buildings. Sophisticated blower door testing protocols and systems now allow practitioners to use this strategy on multi-family buildings at a comparable cost (on a per-unit basis). Preliminary evidence suggests that testing and air sealing can be as useful in multifamily buildings as in smaller buildings.

Measuring Air Flow Carson 4

Bruce Manclark, Delta T

From expensive flow hoods to garbage bags, this class will show a variety of ways to test air flow at grilles and registers, air handlers and bath fans. Most importantly, the class will focus on why these tests may be or may not be important. (BPI Credits: 1.5)

Health & Safety

Ventilation Best Practices Carson 3

Paul Raymer, Heyoka Solutions

Residential ventilation is more than just the fan in the bathroom or meeting code. It is fundamental to the health and safety of our homes and their occupants. As homes get tighter, the importance of adequate ventilation increases. This session will provide an overview of these issues. It covers the importance of ventilation, and establishes the basic residential ventilation applications. (BPI Credits: 1.5)

Program Management & Operations

Davis-Bacon and Weatherization Crystal 4

Jaime Moen, FSL

Overview of Davis-Bacon and related acts. This session will cover the laws, payroll reporting, and common errors in the weatherization field.

Developing Training Plans Crystal 3

Bob Scott, NASCSP

Training has been an integral component of the Weatherization Assistance Program since its inception. A comprehensive training plan helps ensure new policies and procedures are implemented, new technologies and techniques are fully integrated, and the best quality work is consistently achieved. This session will cover issues such as adult learning, training methods, instructional strategies, and development of a comprehensive training program.

New Wx Technician

Basic Building Science & Effective Weatherization .. McKinley

John Davies, Opportunity Council/ Dan Berube, Alaska Community Development Corporation

This session is for the new weatherization technician and will cover the basics of heat flow, moisture flow and air flow in residential buildings. Emphasis will be given to aligning building pressure and thermal boundaries to minimize heat loss. (BPI Credits: 1.5)

Green & Sustainable Solutions

Climate Change: Low Income & Weatherization .. Crystal 5

Nancy Hirsh, NW Energy Coalition

Is climate change is the ultimate environmental injustice? Low-income households and communities can least afford to move, mitigate or respond to sea level rise, increased temperatures, spread of infectious diseases, wildfire, floods, water supply disruptions, etc. Will the cost of transitioning to a clean energy economy affect low- and moderate-income groups? Can reducing greenhouse gases present opportunities to low-income communities?

Green Building Shasta

Brian Hurd, East LA Skills Center

Green buildings are a whole house approach to saving energy by improving the structure so it will perform more efficiently. We hope to show the best practices for new building and retrofits.

AWARDS LUNCH Summit Pavilion **NOON - 1:30 PM**

SESSION 2 **1:40 PM - 3:10 PM**

Building Science

House Characterization (Part 1 of 2) Carson 1
John Tooley, Advanced Energy

House Characterization (HC) was developed by Advanced Energy to minimize efforts and maximize the efficiency of assessing and retrofitting a home. The goal is to improve the relationship between the homeowner and the performance company, ensure that performance expectations of the homeowner and funders are met, increase accuracy of the assessment, standardize the assessment approach, identify difficult and complexity of retrofits, and instruct pricing, all while doing no harm. (BPI Credits: 1.5)

Building Science (Part 1 of 2) Carson 3
Marquam George, University of Alaska-Southeast

This two-part building science bedrock class will cover details and processes that ensure home performance, increase building tolerance, raise customer satisfaction and increase and protect profit. Our approach will be to simplify complex details and processes that result in healthy, safe, durable, comfortable, energy efficient and environmentally responsible houses. We will cover: The bedrock of building science for new and existing homes; “apply” building science (heat flow, air flow, moisture flow); what are the critical details and how to ensure performance; how to build in quality along with bedrock building science. (BPI Credits: 1.5)

Advanced Building Science

Home Performance Diagnostics with House of Pressure (Part 2 of 2) Carson 2
Anthony Cox, Community Housing Partners/NRCERT

Part 1 will cover pressure diagnostics involving interaction of building components including exhaust fans, duct systems, and door closure while Part 2 will cover basic zonal pressures including pressure and thermal boundaries and pressure pan testing. (BPI Credits: 1.5)

Air Sealing for Various Structures Carson 4
Mike Uniacke, Advanced Insulation

This session will focus on how to balance cost-effective air sealing, minimum ventilation standards and affordable controlled ventilation strategies. Emphasis will be placed on envelope sealing that yields the biggest dividends in the shortest amount of time. Participants will learn about where the biggest opportunities for air sealing exist and how to balance these opportunities against health, safety and budgetary constraints. (BPI Credits: 1.5)

Health & Safety

Combustion Safety Crystal 1
Ken Pancost, Arizona Energy Management & Remodel

Visual safety inspection and performing combustion testing on furnaces, water heaters and stoves. (BPI Credits: 1.5)

Program Management & Operations

New Training Centers Crystal 2
Josuha Pierce, RHA Inc/ Leslie Campanella, California Dept of Community Services & Development/Chris Baker, FSL

All states have ramped up their training needs with the onset of ARRA. In a few states, new training centers have been developed and existing training centers improved to meet the increased demand for skilled workers. This session will describe the process of developing a successful training center and training programs to meet the unique training needs of the retrofit workforce. Focus will be given to design and implementation of immersive environments, lessons learned, and the emerging collaboration between central training centers, mobile field training programs, and online training.

Tribal Weatherization Panel Crystal 3
Corrina Ikakoula, Tribal Liaison, BPA

Successes and challenges of administering a tribal weatherization program. Panel of Tribal Weatherization Programs: Salish and Kootenai, Montana; Burns Paiute and Confederated Tribes of the Warm Springs, Oregon; Yakama Nation and Cowlitz Indian Tribe, Washington; Interior Regional Housing Authority and Tanana Chiefs, Alaska.

New Wx Technician

The Blower Door as a Tool/Shell Air Sealing McKinley
Chris Clay, Opportunity Council

This session will go over the specific techniques and tools used in effective air sealing tasks, including the use of appropriate materials, and the why and how different materials are to be applied. Once an air sealing task has been completed, how do you know you have done it correctly? Performance testing using a blower door. (BPI Credits: 1.5)

Green & Sustainable Solutions

Hybrid Water Heater Crystal 4
Keith Burkhardt, GE

This presentation will show the energy savings opportunities of GE's new hybrid water heater and will quantify the energy savings benefits of heat pump water heaters in general. Savings to investment ratio (SIR) calculations and installation considerations will also be covered.

Value of Carbon Reduction Crystal 5
Joel Eisenberg, Oak Ridge National Laboratory

Greenhouse gases can be reduced by attaching a price to carbon emissions. Those who can reduce emissions through energy efficiency are able to sell their reductions as emissions offsets. Participants will explore the ground-breaking work done by the Maine Housing Authority and others to develop and sell carbon offsets from low-income weatherization. The revenues from offsets can then be used to fund more weatherization! The session will focus on the potential for voluntary offset markets and the many challenges in turning low-income energy efficiency carbon reduction into a real, verifiable, and marketable commodity.

SESSION 3

3:30 PM - 5:00 PM

Building Science

House Characterization (Part 2 of 2) Carson 1

John Tooley, Advanced Energy
House Characterization (HC) was developed by Advanced Energy to minimize efforts and maximize the efficiency of assessing and retrofitting a home. The goal is to improve the relationship between the homeowner and the performance company, ensure that performance expectations of the homeowner and funders are met, increase accuracy of the assessment, standardize the assessment approach, identify difficulty and complexity of retrofits, and instruct pricing, all while doing no harm. (BPI Credits: 1.5)

Building Science (Part 2 of 2) Carson 3

Marquam George, University of Alaska-Southeast
This two-part building science bedrock class will cover details and processes that ensure home performance, increase building tolerance, raise customer satisfaction and increase and protect profit. Our approach will be to simplify complex details and processes that result in healthy, safe, durable, comfortable, energy efficient and environmentally responsible houses. We will cover: The bedrock of building science for new and existing homes; “apply” building science (heat flow, air flow, moisture flow); what are the critical details and how to ensure performance; how to build in quality along with bedrock building science. (BPI Credits: 1.5)

Advanced Building Science

Advanced Blower Door Diagnostics Carson 2

Anthony Cox, Community Housing Partners/NRCERT
This session will cover the next level of zonal pressure testing, including using simple charts to determine square inches of leakage between zones and how much air leakage reduction is available. (BPI Credits: 1.5)

All R-values are Created Equal – WRONG Carson 4

Charlie Gohman, FSL
We have always assumed that if a home is insulated, the insulation will perform at its rated R-value. But there are a number of defects that can limit the effectiveness of insulation. Over the past eight years, Charlie has used an infrared camera in hundreds of homes to document these defects. This presentation will review insulation defects and their impact on performance and comfort, and efforts to correct defects in new construction and existing homes. (BPI Credits: 1.5)

Health & Safety

IAQ Nightmares and Daydreams Crystal 1

Kirsten Shaw, Advanced Energy Efficiency & Environmental Quality
What are you breathing? What are your clients' families breathing? You know about CO and how your energy efficiency retrofits can increase or decrease indoor levels of this odorless deadly gas. But what about radon, the second leading cause of lung cancer? Learn how to keep your weatherization workers and clients safe from asbestos in duct tape, drywall, joint compound, popcorn ceiling, and vermiculite insulation; ammonia in cellulose insulation; formaldehyde in spray foam insulation; VOCs in caulk; sulfur in drywall, and the dust we inhale every day. (BPI Credits: 1.5)

Lead Update Crystal 2

Val Martinez, Redwood Community Action Agency/ Rob DeSoto, DOE
The session will review the Renovator Rule requirements and DOE LSW guidelines.

Program Management & Operations

Weatherization Program Evaluations Crystal 3

Joel Eisenberg, Oak Ridge National Laboratory
The Department of Energy's Weatherization Assistance Program has received \$5 billion under the American Recovery and Reinvestment Act. The law also changed key aspects of the program, including the low-income eligibility standards, average cost ceiling, and prevailing wage standards. DOE is undertaking a national evaluation of the program, which will be instrumental in redesigning the Weatherization Assistance Program in the post-ARRA period. Participants will learn what kinds of research questions will be conducted under the “retrospective evaluation” of the pre-ARRA period, and of the ARRA evaluation itself. They will learn how the studies will be conducted and about the requirements that weatherization agencies will face years as the evaluation is implemented.

Energy Audit and Priority List Submittals Crystal 4

Jordon Kelso, D&R International
Find out what is required for gaining approval of energy audit practices, including priority lists. Learn what materials to submit to DOE for review. Discover what priority lists are and how they can be used. Learn how to develop priority lists and what measures are generally found on priority lists.

New Wx Technician

Duct Leakage & Air Sealing McKinley

Bruce Manclark, Delta T

Green & Sustainable Solutions

Selling & Retrofitting with HPwES Crystal 5

Chandler VonSchrader, EPA
Building new revenues by expanding job scopes with the comprehensive delivery of home performance improvements, done under the banner of an HPwES program. (BPI Credits: 1.5)

RECEPTION & COMPETITION 6:00 PM - 9:00 PM

Reno Ballroom

		Building Science	Advanced Building Science	Health & Safety	Program Management & Operations	New Wx Technician	Green & Sustainable Solutions	
7:30 am		Registration, Trade Show (open all day) & Continental Breakfast						
Session 4	8:30 – 10:00	Energy Audit Software Scott Waterman & Tom Barrett CARSON 3	Data Logging Phil Kaluza CARSON 4	Indoor Air & Moisture Ken Pancost CRYSTAL 1	DOE Weatherization National Updates Bob Adams, Jean Diggs, Carole Gates CRYSTAL 3	Basic Wall Prep & Insulation Mitch Reid & Mike Uniacke MCKINLEY	California's Growing Solar Thermal Market Katrina Phruksukarn SHASTA	
		Heating & Cooling Fundamentals Vinny Pedalino & Vince Pacheco CARSON 1	Home Performance Diagnostics (Part 1 of 2) (Repeat) Anthony Cox CARSON 2	Woodstove Safety Bob Baca CRYSTAL 2	Online Training Leslie Campanella CRYSTAL 4			
				Surviving AND Thriving in Rapid Organizational Growth Jean Singer CRYSTAL 5				
10:00 – 10:30		Break, Tahoe Room						
Session 5	10:30 – 12:0	Pressure Balancing Tom Brodbeck, Dan Hughes & Marc French CARSON 3	Outside Insulation Techniques Marquam George CARSON 4	Dealing with Mold & Mildew John Davies CYRSTAL 2	DOE Reporting & OMB Carole Gates, Bob Adams, Jean Diggs CRYSTAL 3	Basic Mobile Home Prep April Richey MCKINLEY	Solar and Low Income Clients Sue Kateley & Jose Tengeo SHASTA	
			Where Buildings Touch the Sky Joe Lstiburek CARSON 1		Contractor Roundtable - Where the HPwES Mastic Meets the Sheet Metal! Chandler VonSchrader CRYSTAL 4			
		Duct Diagnostics Bruce Manclark CRYSTAL 1	Home Performance Diagnostics (Part 1 of 2) (Repeat) Anthony Cox CARSON 2		Strategic Thinking -- Navigating & Mapping the Terrain for Action Jean Singer CRYSTAL 5			
Noon – 1:30		Lunch & Keynote: Adventures in Building Science – Learning from Mistakes Joe Lstiburek, Summit Pavilion						
Session 6	1:40 – 3:10	Air Sealing & Sealed Crawspaces Mike Townsend CARSON 2	Ask the Experts Anthony Cox, Marquam George, & Joe Lstiburek CARSON 1	Combustion Safety (Repeat) Ken Pancost CRYSTAL 1	NASCSP Updates Bob Scott & Rebecca Stewart CRYSTAL 2	Water Heating Introduction & Techniques Rod Burk MCKINLEY	MASH (Multi Unit Solar Systems) Ange Stupak SHASTA	
		Business Practices: A Focus on Profitability Mike Uniacke CARSON 3			ARRA Monitoring DOE Leslie Campanella, Carole Gates, & Steve Payne CRYSTAL 3			Wx: The Prescriptive Method Jim Lee & Zac Stewart CRYSTAL 4
		Refrigerators, Appliances & Baseload Todd Hoener CARSON 4			Training Outside of the Box (Part 1) Phil Loudon, Chris Clay, Chris Baker, & Duke Elliott CRYSTAL 5			
3:10 – 3:30		Break, Tahoe Room						
Session 7	3:30 – 5:00	The Great Wx Rendezvous Jack Hruska CRYSTAL 1	Maritime Climates Marquam George CARSON 2	Crew Health & Safety John Danks CRYSTAL 2	Training Outside of the Box (Part 2) Phil Loudon, Chris Clay, Chris Baker, & Duke Elliott CRYSTAL 5	Attic Prep & Insulating Mitch Reid & Dan Ceasar MCKINILEY	Solar Energy Systems Brian Hurd SHASTA	
		Dense Pack Tom Brodbeck CARSON 3	Where Buildings Touch the Ground Joe Lstiburek CARSON 1		Update on DOE Regulations & Guidance Bob Adams, Jean Diggs, Carole Gates CRYSTAL 4		Energy Efficient Wood Burning Alternatives Larry Brockman CRYSTAL 3	
		Sizing Loads for Cold Weather Climates Phil Kaluza & Phil Loudon CARSON 4						
6:00 – 10:00		Banquet & Jam Session, Reno Ballroom						

SESSION 4

8:30 AM - 10:00 AM

Building Science

Energy Audit Software Carson 3
 Scott Waterman, Alaska Housing Finance Corporation/ Tom Barrett, RHA Inc

This session will discuss NEAT, TREAT, and REM-Design software programs. It will also look at AKWarm, an energy audit software that does energy ratings and helps weatherization service providers estimate the SIR for any given measure. The utilization of the software for Wx p programs will be discussed as well as the limitations.

Heating and Cooling Fundamentals Carson 1
 Vinny Pedalino, FSL/ Vince Pacheco, Community Services Consortium

Learn different types of heating and cooling systems, how to diagnose problems and how to make equipments work safe and efficient. (BPI Credits: 1.5)

Advanced Building Science

Data Logging Carson 4
 Phil Kaluza, Artic Energy

Simple inexpensive data loggers have long been used to monitor indoor air quality, heating system performance, energy use, and many other building performance variables. A new generation of low cost wireless sensors can offer real time monitoring via the internet. This session will discuss useful applications for data loggers, including program performance and training tools. (BPI Credits: 1.5)

Home Performance Diagnostics with House of Pressure (Part 1 of 2) (Repeat) ... Carson 2
 Anthony Cox, Community Housing Partners/NRCERT

Part 1 will cover pressure diagnostics involving interaction of building components including exhaust fans, duct systems, and door closure while Part 2 will cover basic zonal pressures including pressure and thermal boundaries and pressure pan testing. (BPI Credits: 1.5)

Health & Safety

Indoor Air & Moisture Issues Crystal 1
 Ken Pancost, Arizona Energy Management & Remodel

Dealing with indoor air quality and moisture issues. Determining when ventilation and/or client education is the answer. (BPI Credits: 1.5)

Woodstove Safety Crystal 2
 Bob Baca, Northern Arizona Council of Governments

Participants will learn about types and sizes of woodstoves, how to maintain woodstoves, proper Installation, the importance of properly sizing woodstoves, and how to treat a woodstove as a combustion appliance. (BPI Credits: 1.5)

Program Management & Operations

DOE Weatherization National Updates Crystal 3
 Bob Adams, Jean Diggs, and Carole Gates, DOE

Session will provide the latest information on how Recovery Act Weatherization has gained national attention. What are expectations from the White House, Congress, and the National DOE Office? What are the national goals and how they relate to each State and Local Agency. What grantees and local agencies should expect from the mandated increase in Federal monitoring and oversight. What hurdles must be overcome and what are some of the success stories to date? Where do we want to be in 2012?

Online Training Crystal 4
 Leslie Campanella, California Dept of Community Services & Development

This session describes how California’s training programs have created innovation in training development and delivery. The speakers will expand on new developments in training for California’s weatherization workforce, including expansion of training centers, development of mobile training laboratories and special emphasis on online weatherization training programs. This session will show how online training will take a worker through pre-weatherization training and can update longtime staff in current practices.

Surviving AND Thriving in Rapid Organizational Growth Crystal 5
 Jean Singer, Jean Singer Consulting

The stakes are higher than ever. Given the challenging economy AND the requirement to ramp up productivity, organizations and agencies must be more strategic and timely with determining the right people with the right skills, making informed decisions and giving clear communication throughout. Leaders and managers at all levels must develop capacities to responsively adapt by quickly assessing internal and external conditions, seeing the inherent patterns and engaging people where they can most effectively contribute. This session explores innovative approaches for surviving and thriving in rapid organizational growth. Participants will access a multi dimensional understanding of the human organizational system – the “soft” and the hard skills of dealing with rapid growth in a common sense way that engages emotional, rational, behavioral, and cultural factors. Through cutting edge experiential, peer learning and inquiry processes, individuals will develop capacity to assess complex issues, deepen insight, powerfully intervene, and will leave with tangible, proven solutions.

New Wx Technician

Basic Wall Prep & Insulation McKinley
 Mitch Reid, Alaska CDC/ Mike Uniacke, Advanced Insulation

This session will focus on the installation of insulation, materials, costs and quality control mechanisms in weatherization retrof ts. The session will use video from actual insulation jobs to focus on the problems routinely faced by contractors. (BPI Credits: 1.5)

Green & Sustainable Solutions

California’s Growing Solar Thermal Market Shasta
 Katrina Phruksukarn, California Center for Sustainable Energy

Come learn about what California is doing to increase the solar thermal marketplace. This presentation will cover the results from the SWH pilot program, leading into the development of the new California statewide incentive program, called CSI-Thermal. Hear how this exciting new program aims to significantly transform the solar thermal market.

SESSION 5

10:30 AM - NOON

Building Science

Pressure Balancing Carson 3
Tom Brodbeck, Universal Energy/ Marc French, CCOA
Weatherization/Dan Hughes, Multnomah County DCHS Wx
 This course will explain how to conduct the pressure diagnostics tests that verify a pressure balance problem exists. This class will also show what techniques are used to correct pressure problems and how to determine the best practice for correcting problems. Worst-case problems, appliance zone problems, draft issues and HVAC airflow balance issue will also be discussed. The presenters will explain how these problems could be related and how they fix, in many cases, are the same. **(BPI Credits: 1.5)**

Duct Diagnostics Crystal 1
Bruce Manclark, Delta T
 Pressure pans, duct blasters, Delta Q, dominant duct leak test! Bring it on. This will be the ultimate duct testing smack-down between various duct tests. The strengths and weakness of each test will be exposed in a grudge match. **(BPI Credits: 1.5)**

Advanced Building Science

Outside Insulation Techniques Carson 4
Marquam George, University of Alaska-Southeast
 Outside insulation provides significant advantages for building durability, energy efficiency, and the construction sequence. Explore a building approach that is changing thermal and moisture control strategies for new construction and retrofits. Advantages of the Outside Insulation Technique are a thoroughly sealed and protected structure, reduced thermal bridging, and reduced moisture problems caused by exterior water or interior condensation. **(BPI Credits: 1.5)**

Where Buildings Touch the Sky Carson 1
Joe Lstiburek, Building Science Corporation
 Retrofitting and diagnosing problem roofs. Vented vs. unvented roofs. Air-sealing attics without killing the roof or the occupants.

Home Performance Diagnostics with House of Pressure (Part 2 of 2) (Repeat) ... Carson 2
Anthony Cox, Community Housing Partners/NRCERT
 Part 1 will cover pressure diagnostics involving interaction of building components including exhaust fans, duct systems, and door closure while Part 2 will cover basic zonal pressures including pressure and thermal boundaries and pressure pan testing. **(BPI Credits: 1.5)**

Health & Safety

Dealing with Mold & Mildew Crystal 2
John Davies, Opportunity Council
 This session is for the new technician and will cover important moisture sources and their control. Specific attention will be given to identifying and eliminating condensing surfaces, and the use of basic tools for measuring humidity, predicting dew point and measuring moisture content in framing materials. Participants will gain an understanding of how to control or eliminate moisture sources to minimize mold growth inside residential buildings. **(BPI Credits: 1.5)**

Program Management & Operations

DOE Reporting & OMB Crystal 3
Carole Gates, Jean Diggs, & Bob Adams, DOE
 Session will cover information that is currently being collected by DOE and OMB. Review of the new PAGE (Performance and Accountability for Grants in Energy) web-based reporting system. We will review the reporting forms, frequency, information requested, and other ad hoc requests for information. How information is being used by DOE and reported to the public.

Contractor Roundtable—Where the HPwES Mastic Meets the Sheet Metal! Crystal 4
Chandler VonSchrader, EPA/ Ken Pancost, Arizona Energy Management & Remodel
 Will facilitate a session with several contractors delivering HPwES retrofit activity. Learn best practices of marketing, training, assessments, installations and QA from those in the field

Strategic Thinking— Navigating & Mapping the Terrain for Action ... Crystal 5
Jean Singer, Jean Singer Consulting
 Designed for experiential, applied learning, this session will explore strategic thinking as a process and a skill/competency enabling the shift of perspective and mindset. Participants will use real time/real work issues to practically engage with the strategic thinking process while building their competencies as strategic thinkers. As strategic thinkers, we will draw upon the resources within the group to create the conditions for creative synergy. Individuals will leave with practical approaches and proven tools.

New Wx Technician

Basic Mobile Home Prep McKinley
April Richey, Clackamas County Weatherization
 This session is directed at the new weatherization technicians. It explains the basics of mobile homes and what you need to know about air sealing, duct sealing and insulating. It will also go over techniques for insulating ceilings and floors, duct repair, duct sealing and belly patching. **(BPI Credits: 1.5)**

Green & Sustainable Solutions

Solar and Low Income Clients Shasta
Sue Kateley, California Solar Energy Industries Association (CALSEIA)/ Jose Tengco, AKEENA Solar
 This session will describe how solar works, identify opportunities for solar to help reduce energy bills, and provide resources for organizations that want to provide solar projects for their low-income clients.

LUNCHEON PLENARY Summit Pavilion NOON - 1:30 PM

Keynote Address

Adventures in Building Science— Learning from Mistakes Summit Pavilion
Joe Lstiburek, Building Science Corporation
 What we learned in the 70's and 80's that we ignored in the 90's and 00's that we better get right in the 10's.

THURSDAY

SESSION 6

1:40 PM - 3:10 PM

Building Science

Air Sealing & Sealed Crawlspace **Carson 2**
Mike Townsend, SNAP
 How to seal crawl spaces with two part foam for beginners. (BPI Credits: 1.5)

Business Practices: A Focus on Profitability **Carson 3**
Mike Uniacke, Advanced Insulation
 For the small weatherization contractor, some of the most important numbers are on the job cost report, as well as the income statement, balance sheet and cash flow statements. This session is designed for the small- to medium-size contractor who recognizes they would benefit from a better understanding of key financial numbers. It is also for the WAP agency director who would like to better understand the challenges their contractors face.

Refrigerators, Appliances & Baseload **Carson 4**
Todd Hoener, Golden Valley Electric Association
 This workshop focuses on how energy use statements, diagnostic tools and other information helps occupants control electric use. Energy Star product purchasing is discussed. Various evaluation tools, techniques and protocols that help probe electric energy usage in the home are considered. Attendees learn how to separate electric baseload from total whole house electric use, how occupants, equipment, and behavior affect electricity consumption, how to incorporate opportunities for electric baseload reduction and budgeting. Application of electric baseload analysis to sizing renewable energy generation systems is briefly reviewed. The session is designed for weatherization coordinators, assessors, and crews. (BPI Credits: 1.5)

Advanced Building Science

Ask the Experts **Carson 1**
Anthony Cox, Community Housing Partners/NRCERT/ Marquam George, University of Alaska-Southeast/ Joe Lstiburek, Building Science Corporation
 This Q&A session is based on you asking questions, then gaining insights from people who have worked in the field of weatherization for many years. Come get your questions answered, as well as learn from other questions.

Health & Safety

Combustion Safety (Repeat) **Crystal 1**
Ken Pancost, Arizona Energy Management & Remodel
 Visual safety inspection and performing combustion testing on furnaces, water heaters and stoves. (BPI Credits: 1.5)

Program Management & Operations

NASCSP Updates **Crystal 2**
Bob Scott, NASCSP/ Rebecca Stewart, NASCSP
 The National Association for State Community Services Programs (NASCSP) is a membership organization made up of state weatherization assistance programs and C SBG managers. On the weatherization side, NASCSP represents state WAP interests, creates opportunities for information sharing, discusses policy with Department of Energy staff, maintains the WAPTAC Web site, conducts two annual training conferences, and an annual orientation training for new WAP administrators. This session will review NASCSP's role with the Department of Energy and its membership, and provide updates on ARRA and other recent initiatives.

ARRA Monitoring **Crystal 3**
Leslie Campanella, California Dept of Community Services & Development/ Carole Gates, DOE/ Steve Payne, WA Dept. of Commerce
 This session will include stepped-up monitoring techniques and processes used by Arizona and California to ensure that DOE ARRA program requirements and thresholds are met by subgrantees. Also included will be DOE's new requirement for monitoring weatherization grantees and providing quality assurance to the administration that WAP grantees are meeting production goals while guaranteeing quality work.

Wx: The Prescriptive Method **Crystal 4**
Jim Lee, Interior Weatherization/ Zach Stewart, Arizona Dept. of Commerce
 With increased funding, the weatherization world has changed. Hurdles and bottlenecks are everywhere. In this session you will learn two perspectives on how to streamline the assessment process and allow for higher production rates. Participants will also learn the benefits and limitations of a prescriptive method of assessing.

Training Outside of the Box (Part 1 of 2) **Crystal 5**
Phil Loudon, Arctic Technical Services/ Chris Clay, Opportunity Council/Chris Baker, FSL/Duke Elliott, Elliott Management Consultants

New Wx Technician

Water Heating: Introduction & Techniques **McKinley Rod Burk, South Central Community Action Partnership**
 This session will cover all the components of the water heater and their function. Attendees will learn diagnostics for safe and efficient operation of gas and electric water heaters, including how to determine whether it is the element or the thermostat when an electric water heater malfunctions. Find out why a gas water heater located in the laundry room spells trouble with a capital T, and what can be done to ensure safe operation. Finally, this session will demonstrate methods for properly installing insulation on the tank and its pipes. (BPI Credits: 1.5)

Green & Sustainable Solutions

MASH (Multifamily Solar Units) **Shasta Anges Stupak, Center for Sustainable Energy**
 Multi-family Affordable Solar Housing (MASH) has been launched in California through the four Investor Owned Utilities (IOU) mandated by the state legislature and the CPUC. This session will be an overview of the state program, its obstacles and successes.

SESSION 7

3:30 PM - 5:00 PM

Building Science

The Great Wx Rendezvous-Stories from the Field by Those Who Lived Them Crystal 1
Jack Hruska, j.HRUSKA GLOBAL

This session is in the spirit of the mountain men and women who gathered to tell about their adventures. Come tell your story as it may have happened. Show others what a day in your life of weatherization is all about. Have some fun, and when all is said and done, we'll scratch our heads and say, "What the R-factor?" (Free beer for any story!)

Dense Pack Carson 3
Tom Brodbeck, Universal Energy

See the dense pack equipment and tools that make a difference in getting air sealing and insulation done quickly and effectively. Explore solutions to common air sealing challenges and how to overcome some of those challenges with dense pack insulation. Learn to identify areas where air sealing with dense pack is cost effective and an easier installation than other products. Understand why air sealing and insulating with dense pack needs to be done as an approach that addresses moisture, IAQ, and combustion safety concerns. (BPI Credits: 1.5)

Sizing Loads for Cold Weather Climates Carson 4
Phil Kaluza, Arctic Energy/ Phil Loudon, Arctic Technical Services

Most heating systems are grossly oversized, resulting in lower efficiencies and higher maintenance. Replacement of existing heating systems offers an opportunity to properly size a system and improve efficiency and comfort. This session will cover several simple methods of determining appropriate sizing and a discussion of design approaches for colder climates. (BPI Credits: 1.5)

Advanced Building Science

Maritime Climate Issues Carson 2
Marquam George, University of Alaska-Southeast

Maritime climates run the gamut from paradise to miserable. This session will focus on moisture control practices for wet, cool, and cold coastal environments. Design guidance and applications will be shared that work in a miserable climate to reduce moisture issues while providing increased drying, durability and healthier buildings. (BPI Credits: 1.5)

Where Buildings Touch the Ground Carson 1
Joe Lstiburek, Building Science Corporation

Retrofitting and diagnosing problem basements, crawlspaces and slabs. Interior vs. exterior insulation. Vented vs. unvented crawlspaces. Negative side waterproofing and slab insulation.

Health & Safety

Crew Health & Safety Crystal 2
John Danks, South Eastern Idaho Community Action Agency

A brief history of OSHA. A look at OSHA guidelines and standards as they apply to crews in the field.

Program Management & Operations

Update on DOE Regulations & Guidance Crystal 4
Bob Adams, Jean Diggs, Carole Gates, DOE

Session will focus on DOE WAP guidance issued over the past year. Information will cover topics such as Buy American, Historic Preservation, Davis Bacon, Release of the Final 50% of ARRA Funding, new Monitoring Requirements, Calculation of Job Creation, Eligibility in Multi-Family Buildings, new Opportunities, and more.

Training Outside of the Box (Part 2 of 2)
Phil Loudon, Arctic Technical Services/ Chris Clay, Opportunity Council/Chris Baker, FSL/Duke Elliott, Elliott Management Consultants

New Wx Technician

Attic Prep & Insulating McKinley
Dan Ceaser, Building Performance Center/ Mitch Reid, Alaska CDC

Attic preparation is critical to the safety, durability and energy efficiency of the entire house. In this session, attendees will learn the critical details of this important work. Topics include: How to baff the low venting, dam around heat producing fixtures and attic scuttles, appropriate materials and techniques for air sealing around chimneys and B-vent, the use of two part foam or one part foam and the blower. (BPI Credits: 1.5)

Green & Sustainable Solutions

Solar Energy Systems Shasta
Brian Hurd, East LA Skills Center

Brian Hurd will share an introduction to solar energy systems. This session will cover the basics of how photo voltaics work to provide clean energy, and some basics on the installation of these systems. (BPI Credits: 1.5)

Energy Efficient Wood Burning Alternatives Crystal 3
Larry Brockman, EPA/ John Davies, Opportunity Council/ John Crouch, Pellet, and Woodstove Trade Associations

There are an estimated 9 million inefficient old wood stoves in homes today and many are in WAP qualified homes. These old wood stoves are often improperly installed and have venting problems causing health and safety issues. The most logical time to upgrade those old stoves is when the house is being weatherized. New EPA-certified wood stoves and wood pellet stoves are 50% more energy efficient and 70% cleaner burning than the old inefficient stoves. Come learn how to identify new technology stoves, how they improve efficiency, indoor air quality and safety in homes. John Davies will share how his program has upgraded more than 200 old stoves through creative funding and partnerships. Two of those partners are the hearth industry and EPA. (BPI Credits: 1.5)

BANQUET & JAM SESSION 6:00 PM - 10:00 PM
Reno Ballroom

		Building Science	Advanced Building Science	Health & Safety	Program Management & Operations	New Wx Technician	Green & Sustainable Solutions
7:30 am	Networking Breakfast, Grand Salon						
Session 8	8:30–10:00	Baseload Measures Todd Hoener CARSON 1	Delta Q Bruce Manclark CARSON 4	Parking in Your Living Room Phil Kaluza CRYSTAL 1	Effective Desk Monitoring Michael Fray CRYSTAL 3	Heating & Cooling /CO Problems Vinny Pedalino & Vince Pacheco MCKINLEY	Graywater! — Why “Gray” May Become the Next “Green” Peter Byrne CRYSTAL 5
		Insulation Performance Failures Tom Brodbeck CARSON 2		Indoor Air & Moisture Issues (Repeat) Ken Pancost CRYSTAL 2	Client Education Val Martinez, Todd Van Osdel & Arleen Novotney CRYSTAL 4		
		Crawlspaces and Climate Change—How to Save the Planet One Crawlspac at a Time! Scott Waterman & Phil Loudon CARSON 3					
10:00 – 10:30	Break						
Session 9	10:30–Noon	Pressure Diagnostics/Blower Door Ken Pancost CARSON 1	Infrared Cameras Todd Faulkner CARSON 3	Electrical Safety Art Miller & Chuck Ruitter CARSON 4	New & Innovative Strategies in the Delivery of Residential Weatherization Diane Ferington CRYSTAL 1	Crawlspaces/Basement Prep Mitch Reid & Carey Shif ea MCKINLEY	European Technology Dan Berube CRYSTAL 5
		New Lighting Opportunities Mark Deeter CARSON 2			Weatherization Outreach and Marketing Roundtable Val Martinez CRYSTAL 2		
					Managing Today’s Wx Program John Davies & Carrie Smith CRYSTAL 3		
Noon	Conference Adjourns						

NETWORKING BREAKFAST 7:30 AM - 8:30 AM
Grand Salon

SESSION 8 8:30 AM - 10:00 AM

Building Science

Baseload Measures Carson 1
Todd Hoener, Golden Valley Electric Association

Managing electricity usage involves changing behavior, using controls, efficient and user-friendly technology, and metering and monitoring. All of these tools will be reviewed. Information provided is essential for assessors deciding to replace or retrofit refrigeration and lighting, in preparing home energy policies, and understanding the dynamics of electric energy use year round. Attendees learn how to separate electric baseload from total whole house electric use, how occupants, equipment, and behavior affect consumption, how to incorporate opportunities for electric baseload reduction and budgeting. Application of electric baseload analysis to sizing renewable energy generation systems is briefly reviewed. The session is designed for weatherization coordinators, assessors, and crews. (BPI Credits: 1.5)

Insulation Performance Failures Carson 2
Tom Brodbeck, Universal Energy

Installing insulation in attics without proper verifiable air sealing can lead to ice-damming, black mold and major structural damage especially in cold climates. Proper air sealing must be installed and verified with a blower door, zone pressure testing and an infrared camera if at all possible. In other climates improper air sealing or lack of air sealing may result in bad performance by the attic insulation, which can result in no saving and a very uncomfortable home. Typical insulation failures in attics are related to ceiling penetrations not being sealed in areas such as recessed lighting, whole house fans, attic hatches, HVAC registers, bathroom vents, plumbing penetrations, electrical penetrations and skylights. Is the insulation in the attic, knee wall attics and walls installed effectively? An infrared scan and blower door can help locate insulation failures. Fiberglass floor insulation is difficult to install perfect but can be thoroughly inspected to ensure good installation. Air sealing must be installed at the sub floor to ensure the performance of the insulation. Studies have shown houses with recently upgraded insulation can have significant insulation failures, simply because it is not tested or inspected properly. This class will discuss the insulation failures, how to identify the failures and how to correct the failures. (BPI Credits: 1.5)

Crawlspaces and Climate Change—How to Save the Planet One Crawlspace at a Time! Carson 1
Scott Waterman, Alaska Housing Finance Corporation/ Phil Loudon, Arctic Technical Services

Sometimes working in a crawlspace is one of the nastiest jobs a weatherization technician ever has to do. You find a rats nest of pipes, framing, support, and sometimes literally rats nests, dead animals, leaking duct work, leaking pipes, raw sewage – you all have seen it all. We will look at the unsung heroes of the weatherization world, and how to save the planet – one crawlspace at a time. Fixing the crawlspace; fixing the planet! (BPI Credits: 1.5)

Advanced Building Science

Delta Q Carson 4

Bruce Manclark, Delta T

The holy grail of duct testing or the yet another complicated test? Delta Q has been called both. This class will focus on what Delta Q does and doesn't do, and what using the test has taught researchers about which parts of a duct system are important to seal. (BPI Credits: 1.5)

Health & Safety

Parking in Your Living Room & Best Ventilation Practices Crystal 1
Phil Kaluza, Artic Energy

This session will briefly review several indoor air quality research projects that show the problems of CO and benzene associated with attached garages, along with attempts to mitigate the problem through ventilation. Attendees are encouraged to discuss their (BPI Credits: 1.5)

Indoor Air & Moisture Issues (Repeat) Crystal 2
Ken Pancost, Arizona Energy Management & Remodel

Dealing with indoor air quality and moisture issues. Determining when ventilation and/or client education is the answer. (BPI Credits: 1.5)

Program Management & Operations

Client Education Crystal 4

Val Martinez, Redwood Community Action Agency/ Arleen Novotney, Southern California Forum & CCES/Todd Van Osdol, Interior Weatherization

This session will show best practices for educating low-income clients on cash management and energy efficiency. We hope to help families decide how best to allocate their limited resources, and show agencies how to provide this education.

Effective Desk Monitoring Crystal 3

Michael Frary, Arizona Department of Commerce, Energy Office
With thousands of homes being weatherized, the network must become more efficient. Desk monitoring can be a manager's best friend. It doesn't eliminate field visits, but allows a high percentage of paperwork to be reviewed from your office. Attendees will learn about tools that the Arizona Energy Office uses to review all weatherized homes, identifying effective monitoring protocols, and best practices.

New Wx Technician

Heating/ Cooling and CO Problems McKinley

Vince Pacheco, Community Services Consortium/ Vinny Pedalino, FSL

Learn different types of heating and cooling systems, how to diagnose problems and how to make equipment work safe and efficient. (BPI Credits: 1.5)

Green & Sustainable Solutions

Graywater!—

Why "Gray" May Become the Next "Green" Crystal 5

Peter Byrne, BRAC Systems West/Northwest

Learn why converting residential plumbing systems to increase water conservation may present our most viable strategy for addressing a growing water shortage.

SESSION 9**10:30 AM - NOON****Building Science**

Pressure Diagnostics/Blower Door Carson 1
Ken Pancost, Arizona Energy Management & Remodel
 Overview of pressure diagnostic techniques. Proper use of the blower door.

New Lighting Opportunities Carson 2
Mark Deeter, Deeter Lighting

Advanced Building Science

Infrared Cameras Carson 3
Todd Faulkner, FLIR Infrared Cameras
 An infrared camera can be used to verify building construction quality, as well as perform energy audits and surveys, indoor air quality investigations, and plumbing and radiant floor inspections. Through real world examples, attendees will discover how infrared inspections can help facility managers to save thousands of dollars, improve comfort, and detect problems – all while conserving energy. (BPI Credits: 1.5)

Health & Safety

Electrical Safety Carson 4
Art Miller, NV Energy/ Chuck Ruitter, Ruitter Construction
 Electrical Safety (low/high voltage). Watch Elvis contact 15,000 volts. Learn how electricity affects the body, and some do's and don'ts. (BPI Credits: 1.5)

Program Management & Operations

New & Innovative Strategies in the Delivery of Residential Weatherization Crystal 3
Diane Ferington, Energy Trust of Oregon

This session will discuss new techniques that Energy Trust of Oregon has implemented to increase program uptake in Oregon. Topics will include consumer education components, marketing tactics, financing efforts, contractor approaches and discussion of Savings Within Reach moderate income incentive track. There will also be an in-depth discussion of Clean Energy Works Portland, a collaborative effort to promote home energy improvements and provide on-bill financing in the City of Portland.

Weatherization Outreach and Marketing Roundtable Crystal 2
Val Martinez, Redwood Community Action Agency

How do you get the word out to the community to ensure that your agency's weatherization goals are met? Are you doing health fairs, enrolling HEAP clients and/or advertising? Come join other local service providers and share what you're doing to meet your ARRA and LIHEAP weatherization goals. Participants are asked to bring 6 copies of your outreach and marketing materials for sharing during the roundtable. We will share what works, what doesn't work and work together to create the Best Imaginable tools to share.

Managing Today's Wx Program Crystal 1
Carrie Smith, Foundation for Senior Living/ John Davies, Opportunity Council

This session will highlight some key program management techniques used by two weatherization agencies to include leadership design, agency accountability, quality vs. quantity, using crews vs. contractors, motivating the team and team building strategies.

New Wx Technician

Crawlspaces/Basement Prep McKinley
Mitch Reid, Alaska CDC/ Carey Shif ea, Arctic Airsealing & Weatherization

This basic overview for the installer covers techniques for insulating and sealing crawl spaces and basements. The class will be both theory and hands-on. Topics include: Prepping, rim joist insulation and sealing techniques, sealed ground vapor retarder installation, crawlspace wall insulation techniques, basement wall insulation techniques, crawlspace ventilation. (BPI Credits: 1.5)

Green & Sustainable Solutions

European Technology Crystal 5
Dan Berube, Alaska Community Development Corporation

Get on the train and take in the beauty of Euro sensibility. From the roots of sustainability to the forward-thinking of efficiency, sit back and see applied physics at its best. Just back from a soul-searching, language-learning trip based out of Paris, I will share some of my discoveries. Visually stunning and entertaining, this will be the perfect way to wind down after a week of conference intensity.