

IDAHO ENERGY and Green Building CONFERENCE



**Making the
Business Case
2017**

October 4-5, 2017

**Red Lion
Boise Downtown
Boise, Idaho**

WELCOME TO THE CONFERENCE

Welcome to the 2017 Idaho Energy and Green Building Conference. This year is officially the 29th year of the full conference. What began in 1987 as a regional gathering of states and the Bonneville Power Administration, has evolved into the conference we experience today.

This year's conference theme is "making the business case". For me, the business case has become the key factor in whether energy efficiency and green business will thrive or die. If there's no compelling business reason for a product or service, there won't be opportunity to grow something new.

Fortunately, even with blessedly low energy prices in the Northwest, there are many more opportunities for innovation in our business than ever. The local design and construction industries are currently thriving, and building design and construction practices have gone a long way toward changing how we experience our built environment. But remember, the economy always cycles. Sometimes the cycles are small, but sometimes we experience large spikes and drops. Energy efficiency is a winner on both ends.

In my forty years of direct experience with energy efficiency, energy codes and green building, the economy has gone through several notable cycles. I believe that both extremes offer business opportunity for those willing and ready to respond and innovate.

For example, I personally witnessed amazing resilience and shifts in approach that large commercial property managers made to keep the doors open in the aftermath of the 2009 bust. And, I met two large production builders in Utah in 2010 who had considered bankruptcy in 2009, but instead changed their core construction philosophy to smaller but more resilient, more comfortable, healthier, and more affordable homes. By 2012 business was better than ever for these innovators. Why? Because they stepped sideways and made a primary shift in their business, through development of a new business case. They added and provided services that were previously not considered. And energy efficiency was the foundation of these business changes.

For all of us, I hope the market maintains a steady growth for a while yet. But experience tells us that eventually we will hit a peak. Be ready. Energy efficiency and sustainable practices are a more valuable commodity as we cycle down. Develop new efficiency and sustainable business cases now and ride the next wave as a business leader.

And congratulations. Attending this conference is a positive step toward your future. Thank you all!

Ken Baker
Northwest Energy Efficiency Alliance
Senior Manager, Codes and Standards

WHAT YOU NEED TO KNOW

Certification

In order to receive credit for any workshops approved for certification, you must have your namebadge scanned at that workshop. Scanning will take place within the 10 - 20 minute mark of each workshop. No scanning will take place after the workshop is over. Please make sure you are seated in your workshop when an AIC representative comes in to scan your namebadge. A certificate reflecting your attendance will be emailed to you by November 10, 2017. PLEASE sign up at the registration desk if you would like to receive them. AIC will not email certificates out without a request.

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ADDITIONAL MEAL TICKETS

Breakfast	\$20.00
Lunch	\$23.00

AGENDA

WEDNESDAY, OCTOBER 4, 2017

7:00 a.m.
Lobby

REGISTRATION CHECK-IN/EXHIBITOR SET-UP

7:30 a.m.

BREAKFAST BUFFET OPENS

8:00 - 9:30 a.m.

Sawtooth/Selway

BREAKFAST GENERAL SESSION: THE FUTURE OF ENERGY PRODUCTION AND ROLE OF RENEWABLES

Power production sources are changing. Natural gas plays an increasingly large role in base load production, and renewables are gaining momentum in Idaho. Wind, solar and geothermal are becoming popular alternative sources for energy production. What's driving the adoption of on-site solar installations and is there a business case that makes sense for me? How do these alternative sources affect the grid and what are utilities doing to keep up with the changing energy environment? Join a panel of experts for answers to these questions with a follow-up Q & A Session.

Menu: Morning Breakfast Wrap Buffet - Fresh Assorted Fruit Juices; Seasonal Fruit & Berry Display; Warm Flour Tortilla Wraps; Seasoned Scrambled Eggs with Diced Onions; Salsa, Pepper Jack Cheese, Guacamole and Sour Cream; Spiced Pork Sausage Patty; Roasted Breakfast Potatoes; Coffee and Tea

9:30 - 9:45 a.m.

Bitterroot/Teton

EXHIBITOR BREAK

9:45 - 10:45 a.m.

White Pine

CONCURRENT WORKSHOPS

HIGH PERFORMANCE CLASSROOMS: THE INDOOR ENVIRONMENT

Classrooms represent the indoor environment where children spend the majority of their time at school. The quality of the classroom environment has a direct effect on children's health and academic performance. Studies have shown the relationship between improved air quality and higher performance and satisfaction for students. Nick Hansen of NBW Architects will teach us that heating, ventilation and air-conditioning represent key areas in the improvement of the environmental quality within a classroom, as well as opportunities for energy performance optimization. In addition to healthier, higher performing students, schools can achieve significant energy savings through improved classroom environments.

Spokane

UNDERSTANDING DEDICATED OUTDOOR AIR SYSTEMS

Washington State has recently codified the requirement for DOAS in all new construction, and other states will likely follow. What this requirement means for the design, operation, and energy performance of buildings is the focus of this presentation. Director Elizabeth Cooper of the University of Idaho's Integrated Design Lab gives an introduction to the latest strategies and technologies in ventilation.



WEDNESDAY, OCTOBER 4, 2017 CONTINUED

9:45 – 10:45 a.m.

CONCURRENT WORKSHOPS CONTINUED

Cottonwood

2015 INTERNATIONAL ENERGY CONSERVATION CODE - COMMERCIAL (ENVELOPES)

The Idaho Building Code Board has recommended the adoption of the 2015 IECC. This code will go into effect in January, 2018. Dave Freelove, Idaho's Energy Circuit Rider will review all of the changes affecting commercial construction from the currently adopted energy codes in Idaho.

This three hour class will be divided into three sections:

- Envelopes
- Lighting
- Mechanical

Each section will concentrate on issues within the identified area of the code.

10:45 - 11:00 a.m.

Bitterroot/Teton

EXHIBITOR BREAK

11:00 a.m. - Noon

CONCURRENT WORKSHOPS

White Pine

INDOOR ENVIRONMENTAL QUALITY - BEYOND 62.1

Integrated Design Lab Director Elizabeth Cooper examines both current practice and guidelines established by ASHRAE, and provides an introduction to the benefits of improved indoor environmental quality (IEQ), including energy savings and the health and productivity of the building occupants.

Spokane

UNDERSTANDING BUILDING CONTROLS

To misquote Tolstoy: "All high performing buildings operate alike; each dysfunctional building is dysfunctional in its own way." Properly operating controls are essential for a building to meet its energy goals. One of the best ways of identifying and correcting unique building malfunctions is to monitor the control system. This workshop will cover easy ways of recording control signals to track performance and diagnose building issues. Damon Woods of the Integrated Design Lab and Jake MacArthur of Buildingfit lead this workshop that will include a local case study by the Integrated Design Lab and an overview by ETC Group on how new software is making it possible to continuously monitor and improve building performance.

Cottonwood

EFFECTIVE AIR SEALING

This interactive workshop addresses one of the most misunderstood elements of the residential energy code. Jerry Peterson from the Idaho Division of Building Safety gives you a short history of air sealing in the codes and unravels some of the mystery of why one of the most important parts of building an energy efficient home is often overlooked. Based on years of field work and multiple Treasure Valley homes as case study, the presenter provides an overview of materials, costs and best practices for building a business case on why air sealing deserves more focus.

Noon - 12:15 p.m.

Bitterroot/Teton

EXHIBITOR BREAK

WEDNESDAY, OCTOBER 4, 2017 CONTINUED

12:15 – 1:15 p.m.
Sawtooth/Selway

LUNCHEON GENERAL SESSION: ELECTRIC CARS & ENERGY ON DEMAND: CHALLENGES, APPLICATIONS AND CONVERGENCE

Jean-Marc Gauthier will review the present and future of electric vehicles, their impact on power utilities and the development of new game changing technologies. For example, new charging stations and bi-directional charging for electric cars. According to Bloomberg New Energy Finance, “electric cars would become cheaper than conventional cars without government subsidies between 2025 and 2030”. The goal of fast development of business ecosystems lead by Tesla, Nissan, Toyota and others is clearly to create electric vehicles that consumers will be able to afford. “It is so heartening to see electric cars, considered curios for the rich or eccentric or both not that long ago, now entering the mainstream” (NYT, July 2017). For example, Volvo is phasing out conventional engines in new models of cars by 2019.

Menu: Tillamook Cheddar Chive Chicken: Chicken breast crusted with a Tillamook Cheddar-Panko Breading, Grilled Golden Crisp and topped with Cheddar-Chive Butter Cheese; Seasonal Vegetables; Rolls and Butter; House Salad; Chef’s Choice Dessert and Coffee, Iced Tea.

1:15 - 1:30 p.m.
Bitterroot/Teton

EXHIBITOR BREAK

1:30 – 2:30 p.m.

CONCURRENT WORKSHOPS

White Pine

K-12 SCHOOLS CONTINUOUS ENERGY IMPROVEMENT

This session will describe the Continuous Energy Improvement (CEI) process as applied to K-12 schools. CEI drives energy efficiency through low cost, no-cost measures and is designed to heighten energy awareness with staff and students that will also produce energy reductions through cultural and behavioral measures. Details and results of a CEI Cohort for Schools program that is being facilitated by Idaho Power will be highlighted and two school districts that are currently participating will have a panel discussion on their activities and observations so far.

Cottonwood

LEVERAGING PERFORMANCE DATA AND TRANSPARENCY TO CREATE HEALTHIER, MORE SUSTAINABLE BUILDINGS AND COMMUNITIES

You can’t manage what you don’t measure, and for building owners with sustainability and human performance goals, it can be hard to get a handle on actual building performance. The U.S. Green Building Council recently helped launch a new performance tracking tool called Arc. The Arc platform allows building owners to track and benchmark energy, water, waste, transportation, and human experience indicators in individual buildings so that improvements can be made over time. And if the building’s score within the platform reaches a high enough level, Arc provides a direct pathway to LEED Operations + Maintenance certification. Charlie Woodruff of Idaho’s USGBC and Richard Dykstra from CTA Architects Engineers teach what the Arc platform is, how it is being used in buildings across the country, and how it is helping to revolutionize building operations and sustainability benchmarking with a path towards the world’s most recognized certification system.

Spokane

IDAHO STATUTES, POLICIES, NATIONAL ELECTRICAL CODE, AND HAZARDS ASSOCIATED WITH RENEWABLE ENERGY SYSTEMS

Jimmie Stansell of the Idaho Division of Building Safety gives a brief description of Idaho Statutes, Policies, and the 2017 National Electrical Code, and associated hazards in reference to the installation of Renewable Energy Systems.

WEDNESDAY, OCTOBER 4, 2017 CONTINUED

2:30 - 2:45 p.m.
Bitterroot/Teton

EXHIBITOR BREAK

Join your exhibitors for Lemon Bars, Veggies and Assorted Sodas

2:45 - 3:45 p.m.

CONCURRENT WORKSHOPS

White Pine

PASSIVE HOUSE AND NATURAL MATERIALS

Lindsey Love of Love Schack Architecture shares implications of Passive House certification or techniques (comparison) implemented in residential construction and methods of incorporating alternative materials that not only keep the carbon footprint low but also help improve air quality.

Spokane

2015 INTERNATIONAL ENERGY CONSERVATION CODE (CONTINUED) - COMMERCIAL (LIGHTING)

The Idaho Building Code Board has recommended the adoption of the 2015 IECC. This code will go into effect in January, 2018. Dave Freelove, Idaho's Energy Circuit Rider will review all of the changes affecting commercial construction from the currently adopted energy codes in Idaho.

Cottonwood

ADVANCED CHILLER PERFORMANCE ANALYSIS

New tools provide the ability to analyze all facets of a chiller continuously. Glen Anderson of the ETC Group will discuss the utilization of ClimaCheck, a monitoring tool for looking into the details of how chillers operate. Glen has identified opportunities and implemented changes that were not available even 3 years ago. ClimaCheck monitors temperatures and pressures throughout the refrigerant circuit, the water temperatures, and chiller power. These monitoring points provide more accurate calculations of chiller loads and flows than standard practice (flowmeters and temperature sensors). In addition, the monitoring can help identify problems with the compressors, condenser and evaporator tubes, and refrigerant levels.

3:45 - 4:00 p.m.
Bitterroot/Teton

EXHIBITOR BREAK

4:00 - 5:00 p.m.

CONCURRENT WORKSHOPS

Cottonwood

PIONEERING LEEDV4 FOR HOMES IN IDAHO

Ash Street Townhomes is one of the first LEEDv4 residential projects in Idaho. Sharon Grant of Eco Edge will tell about the most significant changes from the previous version and effective ways to meet the new requirements from the perspectives of design, construction and ownership, moderated by the LEED Consultant with experience on over 100 LEED projects.

White Pine

2015 INTERNATIONAL ENERGY CONSERVATION CODE - (CONTINUED) COMMERCIAL (MECHANICAL)

The Idaho Building Code Board has recommended the adoption of the 2015 IECC. This code will go into effect in January, 2018. Dave Freelove, Idaho's Energy Circuit Rider will review all of the changes affecting commercial construction from the currently adopted energy codes in Idaho.

WEDNESDAY, OCTOBER 4, 2017 CONTINUED

4:00 - 5:00 p.m.

CONCURRENT WORKSHOPS CONTINUED

Spokane

VICTOR COTTAGE COURT - SMALL FOOTPRINT HOMES

The Victor Cottage Court is a an innovative new type of development allowed by the recently adopted Form-Based Code in Teton Valley, Idaho.

Costs of construction in Teton Valley are currently very high, and the market has yet to catch up. However, we are approaching this project as a boutique development with educational and integrative components to help buyers understand the value they are getting, to ensure empowerment of the HOA to fully integrate the long-term potential sustainability opportunities of the site, and to establish a baseline standard of best practices for balancing sustainability with costs in this particular community.

5:30 - 8:00 p.m.

Lincoln Building

U.S. GREEN BUILDING COUNCIL RECEPTION

Hear from leaders in the sustainable building industry and learn more about the state of LEED green buildings in Idaho. Tickets may be purchased at the registration desk.



THURSDAY, OCTOBER 5, 2017

7:00 a.m.

REGISTRATION DESK OPENS

7:30 a.m.

BREAKFAST BUFFET OPENS

8:00 - 9:15 a.m.

Sawtooth/Selway

BREAKFAST GENERAL SESSION: IDAHO AWARDS FOR LEADERSHIP IN ENERGY EFFICIENCY

Idaho Governor C.L Butch Otter will announce the Idaho Awards for Leadership in Energy Efficiency, honoring Idaho commercial and industrial organizations that go above and beyond in promoting energy efficiency at their local facilities.

Menu: The Downtowner Buffet - Fresh Assorted Fruit Juices; Seasonal Fruit and Berry Display; Country Fresh Scrambled Eggs; Crisp Bacon and Breakfast Sausage; Roasted Breakfast Potatoes; Assorted Breakfast Pastries, Muffins, and Breads; Coffee and Tea.

9:15 - 9:30 a.m.

Bitterroot/Teton

EXHIBITOR BREAK

THURSDAY, OCTOBER 5, 2017 CONTINUED

9:30 - 10:30 a.m.

CONCURRENT WORKSHOPS

Cottonwood

CITIES MAKE AN IMPACT WITH STRATEGIC ENERGY MANAGEMENT

Cities are gaining triple bottom line benefits by adopting a strategic approach to energy management. As of July 11, 350 mayors had signed onto the Paris Climate Accord, and many have ambitious energy and emission reduction goals. SEM outlines a process for achieving long term goals through benchmarking energy use, developing interim targets, analyzing trends and creating energy teams. Sharon Grant with Eco Edge teaches how 5 cities, including Boise, have adopted SEM and reaped the benefits.

White Pine

ENERGY RATING INDEX COMPLIANCE OPTION

Based on the popular HERS score, the ERI option allows for flexibility in meeting current, future and above code standards. David Freelove leads this one-hour session that will provide architects, designers, builders, contractors and inspectors with resources and code references to assist with the design, construction, installations and inspections of specific components of residential homes.

Spokane

ATTIC VENTILATION, ICE DAMS AND PEAK DEMAND

This interactive workshop addresses "attic ventilation" and the significant effect proper ventilation has on energy efficiency, comfort and durability. Using multiple case studies as a backdrop, the presenter explains that the same issues that create ice dams in winter also have an effect on air conditioning demands and premature roof failure. Jerry Peterson of Idaho's DBS will lead this class that covers codes, proper calculations, material specifications and best practices reviewing, inspecting and installing ventilation in a common sense, cost effective manner.

10:30 - 11:00 a.m.

Bitterroot/Teton

EXHIBITOR BREAK

11:00 a.m.- Noon

CONCURRENT WORKSHOPS

White Pine

PIONEERING LEEDV4 FOR NEW COMMERCIAL CONSTRUCTION IN IDAHO

Library! At Bown Crossing is one of the first LEEDv4 commercial projects in Idaho. Sharon Grant of Eco Edge and Anna Ellis of the CM Company tell us about the most significant changes (and challenges!) from the previous version and effective ways to meet the new requirements from the perspectives of design, construction and ownership, moderated by the LEED Consultant with experience on over 100 LEED projects.

Cottonwood

ENERGY CHAMPION ROUNDTABLE

Managing your city's energy costs doesn't have to be simply adding 3% to last year's budget. And strategic energy management doesn't have to start at the Mayor's desk. Most communities' highest energy costs are in water and wastewater infrastructure, and the organizations in charge of these systems are primed for success. So let's start there! In this roundtable discussion, municipal water and wastewater managers will share their stories, challenges, and successes in their ongoing commitments to lower their energy footprint through long-term operational optimization and strategic capital investments

THURSDAY, OCTOBER 5, 2017 CONTINUED

11:00 a.m.- Noon

CONCURRENT WORKSHOPS CONTINUED

Spokane

2015 INTERNATIONAL ENERGY CONSERVATION CODE - (CONTINUED) RESIDENTIAL

The Idaho Building Code Board has recommended the adoption of the 2015 IECC. This code will go into effect in January, 2018. Dave Freelove, Idaho's Energy Circuit Rider will review all of the changes affecting commercial construction from the currently adopted energy codes in Idaho.

12:00 - 12:15 p.m.
Bitterroot/Teton

EXHIBITOR BREAK

12:15 - 1:00 p.m.
Sawtooth/Selway

CLOSING LUNCHEON GENERAL SESSION: EXQUISITE COMMUNICATION FOR LEADERS

There are several things people want from you when they interact with you professionally. For the most part, these things are communicated implicitly and unconsciously. When they are present, your impact is positive and powerful!

What people want from you may depend on their gender and generational personality! How can you take these factors into account and flex your style for maximum effectiveness?

Dr. Janet Mills of Boise State University leads this session and teaches how to begin by sharpening skills and techniques for attending exquisitely to verbal and nonverbal cues in others. Then, we focus on ways to create wordless messages of acceptance and rapport. Next, we highlight listening skills that establish soothing empathy as well as informational savvy. Finally, we consider how to deliver information clearly, assess others' understanding and terminate interactions gracefully so that others leave feeling appreciated and optimistic!

Menu: Roast Turkey Breast Croissant Sandwich: Tender turkey breast, crisp bacon, lettuce, tomato, cheddar cheese, avocado and mayonnaise served with chips and freshly baked cookies. Served with water and assorted sodas.

1:00 p.m.

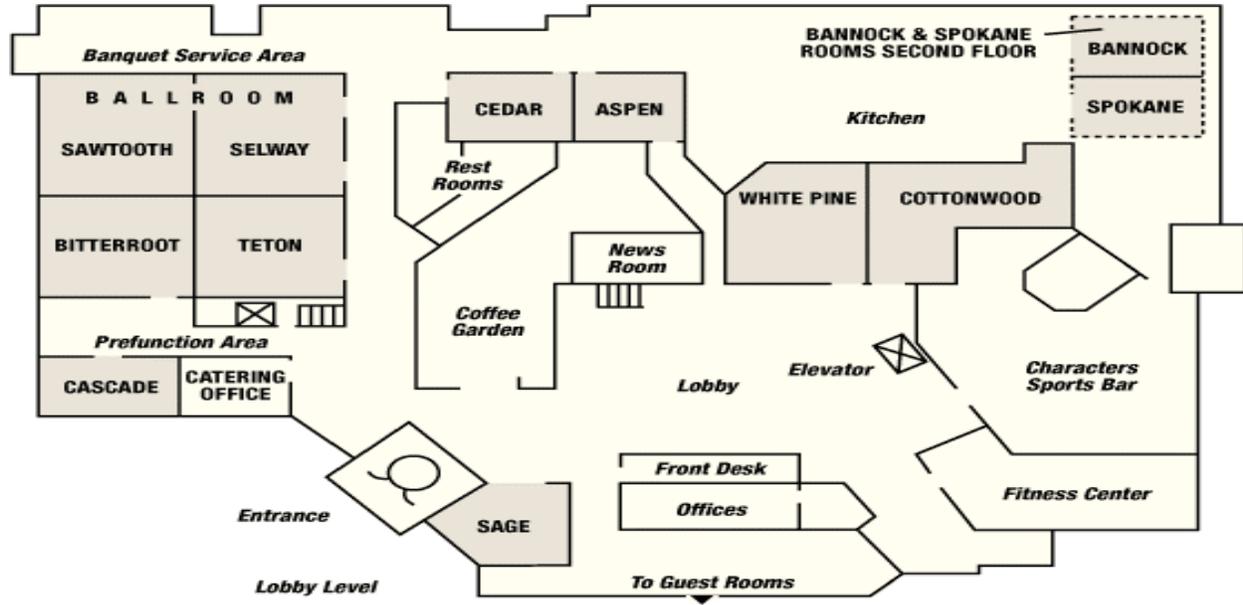
2017 IDAHO ENERGY & GREEN BUILDING CONFERENCE ADJOURNS

Many thanks to our title sponsor:



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Map of the Red Lion



Continuing Education Credit List

The 2017 Idaho Energy & Green Building Conference is proud to announce the following Continuing Education Credits are available. Name badges will be scanned at all eligible workshops. Please ensure your name badge is scanned for each workshop you are interested in attaining credits for. Sign up at the registration desk to receive Certificates of Attendance. Certificates will be emailed by November 10, 2017. AIC will not email certificates without a request.

Wednesday, October 4

Time	Workshop Title (AIA Course numbers in parenthesis)	ICC Contact Hours	AIA Credit (HSW Approved)	GBCI CEs (Self- Reported)
9:45 - 10:45 am	High Performance Classrooms: The Indoor Environment (766)		1.0	1.0
	Understanding Dedicated Outdoor Air Systems (772)		1.0	1.0
	2015 International Energy Conservation Code - Commercial (Envelopes)	1.0		
11:00 - Noon	Indoor Environmental Quality - Beyond 62.1 (767)	1.0	1.0	1.0
	Understanding Building Controls (773)		1.0	1.0
	Effective Air Sealing (763)	1.0	1.0	1.0
12:15 - 1:15 pm	Luncheon Gen. Session - Electric Cars & Energy on Demand: Challenges, Applications and Convergence (764)		1.0	
1:30 - 2:30 pm	K-12 Schools Continuous Energy Improvement Leveraging Performance Data and Transparency to Create Healthier, More Sustainable Buildings and Communities (770)		1.0	1.0

Wednesday, October 4 Continued

Time	Workshop Title	ICC Contact Hours	AIA Credit (HSW Approved)	GBCI CEs (Self-Reported)
1:30 - 2:30 pm	Idaho Statutes, Policies, National Electrical Code, and Hazards Associated with Renewable Energy Systems (765)	1.0	1.0	1.0
2:45 - 3:45 pm	Passive House and Natural Materials (769)		1.0	
	2015 International Energy Conservation Code - Commercial (Lighting)	1.0		
	Advanced Chiller Performance Analysis (762)		1.0	1.0
4:00 - 5:00 pm	Pioneering LEEDV4 For Homes in Idaho (768)	1.0	1.0	1.0
	2015 International Energy Conservation Code - Commercial (Mechanical)	1.0		
	Victor Cottage Court - Small Footprint Homes (761)		1.0	

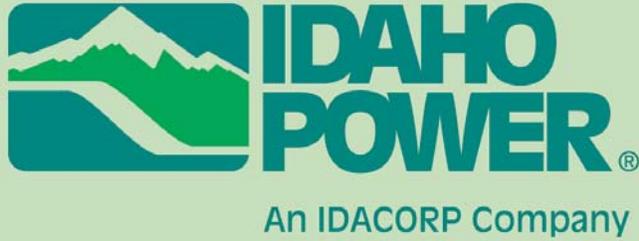
Thursday, October 5

Time	Workshop Title	ICC Contact Hours	AIA Credit (HSW Approved)	GBCI CEs (Self-Reported)
9:30 - 10:30 am	Cities Make an Impact with Strategic Energy Management (775)		1.0	1.0
	Energy Rating Index Compliance Option (760)	1.0	1.0	1.0
	Attic Ventilation, Ice Dams and Peak Demand (774)		1.0	1.0
11:00 am - Noon	Pioneering LEEDV4 for New Commercial Construction in Idaho (776)	1.0	1.0	1.0
	Energy Champion Roundtable			
	2015 International Energy Conservation Code (Residential)	1.0		

Please refer to the GBCI Credential Maintenance Program Guide for details.
Copies available at the Registration desk.



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