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GETTING TO **zero** NATIONAL FORUM 2018

Catalyzing the Future of Zero Energy Buildings

The only event dedicated to zero energy buildings where attendees share perspectives on the growth of ZE, learn about best practices for successful projects and collaborate on opportunities to transform the built environment.

Pittsburgh, PA | April 17-19 | Wyndham Grand Downtown

gettingtozeroforum.org

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celebrating **20 YEARS**



Thank you to our 2018 Program Advisors

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- **Jacob Corvidae**, Rocky Mountain Institute
- **Sean Denniston**, New Buildings Institute
- **Ann Edminster**, Net Zero Energy Coalition
- **Carolyn Sarno Goldthwaite**, Northeast Energy Efficiency Partnerships
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- **Alexi Miller**, New Buildings Institute
- **Alisa Petersen**, Rocky Mountain Institute
- **Shanti Pless**, NREL
- **Sam Rashkin**, U.S. Department of Energy
- **Kristin Seale**, Keystone Energy Efficiency Alliance
- **Craig Stevenson**, Western PA Passive House

Honoring Our Next Gen Leaders

For this year's National Forum, we gave special attention to inviting students and young professionals to join us and learn about the future of the built environment. Through the George Malek Scholarship Fund, we were able to waive registration for a number of students and young professionals with less than five years of work experience to attend the event. Please be sure to encourage these emerging leaders who will make a difference in driving zero energy buildings to a tipping point and transform the built environment in the next two decades. Thanks to all who made individual donations and to these sponsoring companies who offered help with scholarships.

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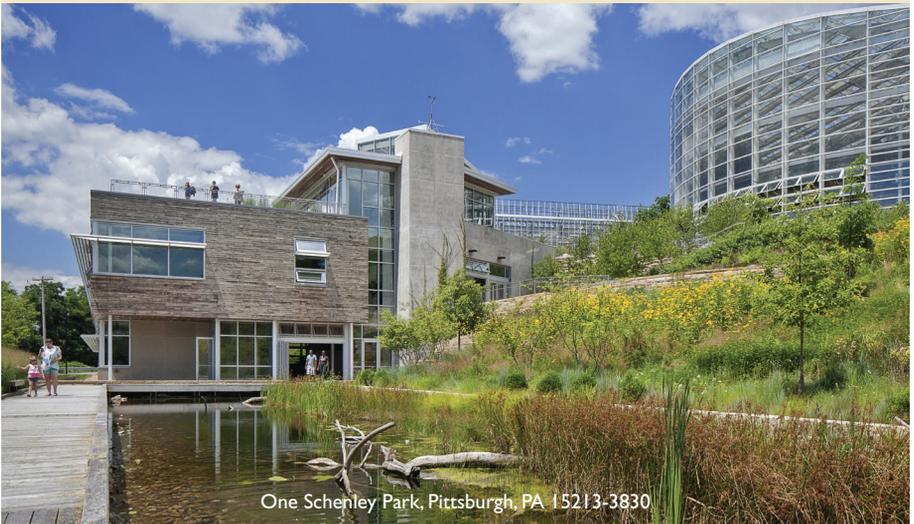




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NBI 20th Anniversary: The Arc of Innovation

To celebrate our 20th Anniversary, we have been collecting stories from our founders and industry luminaries of NBI milestones and achievements over the last two decades.

See videos and read blog contributions at newbuildings.org/20th-anniversary/



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celebrating **20 YEARS**

435 Indio Way | Sunnyvale, CA Photo: Bruce Damonte

Agenda-at-a-Glance

Tuesday, April 17	7:30 a.m. – 7 p.m. Registration Open
	8 a.m. – 1 p.m. Workshops (times vary)
	10:30 a.m. – 1:45 p.m. Building Tours (times vary)
	2:30 – 3:30 p.m. Opening Plenary + Keynotes
	3:30 – 4 p.m. Exhibitors Showcase + Networking Break
	4 – 5 p.m. Getting to Zero Case Study + Innovation Jam
	5:45-7:30 p.m. Opening Reception at Phipps Conservatory
Wednesday, April 18	7 a.m. – 7 p.m. Registration Open
	7 – 8:30 a.m. Exhibitor Showcase + Breakfast Buffet
	8:30 – 10 a.m. Morning Breakout Sessions 1
	10 – 10:30 a.m. Exhibitor Showcase + Networking Break
	10:30 a.m. – 12 noon Morning Breakout Sessions 2
	12 noon – 1:30 p.m. Lunchtime Keynote + Plenary Panel
	1:45 – 3:15 p.m. Afternoon Breakout Sessions 3
	3:15 – 3:45 p.m. Exhibitor Showcase + Networking Break
	3:45 – 5:30 p.m. Getting to Zero Status Update + ZEDx
	5:30 – 7 p.m. Networking Reception
7:15 p.m. Dine Around Dinners Out	
Thursday, April 19	7 – 7:30 a.m. Morning Run/Walk
	7:30 – 8:30 a.m. Breakfast
	8:30 – 9:45 a.m. Master Speaker Sessions
	9:45 – 10:15 a.m. Last Chance Exhibitor Showcase + Networking Break
	10:15 a.m. – 12:30 p.m. Closing Plenary + Keynotes

WindowMaster aspires to protect people and the environment by creating healthy and sustainable indoor climates through automated natural ventilation. We offer the construction industry foresighted, flexible and intelligent window actuators and control systems for natural ventilation and mixed-mode ventilation. With our extensive expertise built up since 1990, WindowMaster is ready to help the construction industry meet its green obligations and achieve their architectural and technical ambitions.



Program

Full session descriptions can be found at gettingtozeroforum.org/program. For a complete set of biographies of our speaker panels, please visit gettingtozeroforum.org/speakers. Presentation slides will be posted by session after the event.

TUESDAY, APRIL 17, 2018

7:30 a.m. – 7 p.m. Registration Open

8 a.m. – 1:45 p.m. Workshops and Building Tours

Times vary. See workshop and tour listings on page 23.

2:30 – 3:30 p.m. Opening Plenary Session + Keynotes | Grand Ballroom 1

Welcome + Opening Remarks from the Co-Hosts

Ralph DiNola | CEO, New Buildings Institute

Victor Olgay | Principal, Rocky Mountain Institute

Cities and States as Shining Beacons for Clean Energy and Climate Action

Leading jurisdictions are pulling out a battery of policy tactics, setting ambitious goals, and working to meet them with special attention being paid to improving the overall efficiency of local building stock. Zero energy buildings and the resulting carbon reduction benefits are more often being named in local policies, but questions remain for this nascent market. Our opening keynote speakers will showcase innovative leadership and share approaches for cities and states to deal with the pressing issue of cutting carbon emissions while stoking economic growth and ensuring electricity reliability and affordability.

Keynotes: **Mayor Bill Peduto** | Mayor, City of Pittsburgh

Andrew McAllister | Commissioner, California Energy Commission

3:30 – 4 p.m. Exhibitor Showcase + Networking Break

4 – 5 p.m. Getting to Zero Case Study + Innovation Jam

Get ready! These “jam sessions” will cover a lot of ground in a limited amount of time. Presenters will surface the latest experiences and thinking on a variety of ZE topics.

Deep Energy Retrofits to Zero (1 AIA LU | HSW CEUs) | Rivers Room

How can you interrupt the typical capital renewal process with commercial properties to create multi-building deep energy retrofit projects? This jam session will explore methods for benchmarking energy performance, integrated design, financing programs, operations and other techniques for impressive long-term energy and cost savings.

Moderator: **Myrrh Caplan** | Director, Green Project Solutions, Skanska USA, Inc.

Phillip Saieg | Regional Director, McKinstry

Blair Madden Bui | CEO, John Madden Company

Chris McEntee | Executive Director, American Geophysical Union

Roger Frechette | Managing Principal, Interface Engineering

Holly Lennihan | Senior Associate, Hickok Cole Architects

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Game Changing Innovation and Approaches (1 AIA LU | HSW CEUs) | Grand Ballroom 3

Although technologies are not the primary barrier to getting to zero, there are many emerging technologies that can greatly support low-energy outcomes. This session shares the recent research on technology gaps to get to ZE and unique approaches such as deploying existing digital technologies to create interactive engagement systems between buildings, environment and occupants.

Moderator: Mindy Craig | Blue Point Planning

Smita Gupta | Senior Principal Energy Consultant, Itron, Inc.

Edward McGraw | President/CEO, Ashley McGraw Architects, D.P.C.

Calvin Ahn | Associate Principal/Senior Project Manager, Ashley McGraw Architects, D.P.C.

Dan Burgoyne | Sustainability Manager, State of California, Department of General Services

Developing for Zero (1 AIA LU | HSW CEUs) | Grand Ballroom 4

Hear from developers and teams on innovative approaches to achieve zero energy performance and a foundation of building science and stakeholder investment. Conditions ripe for brainstorming, modeling options, evaluating certifications, and advanced design and operational practices are resulting in commercial buildings pushing the envelope of sustainability.

Moderator: Jason Tierko | Principal, Ewing Cole

Brandon Nicholson | Founding Principal, Nicholson Kovalchick (NK) Architects

Chris Light | Director of Engineering, Point Energy Innovations

Jim Gaither Jr. | Managing Partner, Hanover Page Mill Associates, L.P

Julia Rogers | Sustainable Design Leader, WSP

Brad Mahoney | Development Project Manager, MP Boston

Zero Energy and Passive House (1 AIA LU | HSW CEUs) | Commonwealth One

Passive House standards have the potential to deliver the efficiencies necessary to achieve zero and are growing in number across the country. Hear from this panel who will share aspects of the standards and the critical details of passive measures, including a sharp focus on the building envelope, as well as renewable generation resources—both on- and off-site—that interact on the path to zero energy and emissions.

Moderator: Laura Nettleton | Architectural Collaborator, Thoughtful Balance

Graham Wright | Senior Scientist, Passive House Institute US

Ken Levenson | Board Member, North American Passive House Network

Craig Stevenson | President, AUROS Group

Brenda Morawa | Vice President, North America, Integrated Environmental Solutions,

Rob Hosken | Principal, Building Performance Architecture

Cost and Finance (1 AIA LU | HSW CEUs) | Commonwealth Two

An investment made today for the future is the key to getting to zero, and it doesn't have to cost you. Learn about what happens when forward-thinking innovations in design, construction, and financing come together to catalyze the development sustainable real estate, improving efficiency and net operating incomes through residential and commercial PACE financing.

Moderator: Radhika Lalite | Rocky Mountain Institute

Iain Campbell | Managing Director, Rocky Mountain Institute

Paul Scharfenberger | Chief Operating Officer, Colorado Energy Office

Joshua Kagan | Vice President, Business Development, CleanFund Commercial PACE Capital

Rob Watson | CEO and Chief Science Officer, ECON Group US

5:45 – 7:30 p.m. Opening Reception at Phipps Conservatory

Shuttle buses will take attendees to Phipps, follow signs to the lobby.

WEDNESDAY, APRIL 18, 2018

7 a.m. – 7 p.m. Registration Open

7 – 8:30 a.m. Exhibitor Showcase + Breakfast Buffet

8:30 – 10 a.m. Morning Breakout Sessions

Get ready to feed your brain. Choice breakout sessions will delve deeper into key aspects of zero energy codes and policy, districts and portfolios, design, and operations with bonus sessions targeting critical topics.

BREAKOUT | CODES AND POLICY | GRAND BALLROOM 4

Getting to Zero with Stretch Codes (1.5 AIA LU | HSW CEUs)

With efforts to aggressively lower the greenhouse gas impacts of buildings, energy codes are becoming an important tool for driving building performance. Most stretch codes make small improvements on base codes, and/or adopting the provisions of a future code. But jurisdictions like Rhode Island, New York, British Columbia and the District of Columbia are instead taking a large leap to promote zero energy (and ready) homes and commercial buildings. This session will cover the leaders in stretch code development and partnerships that are establishing this path for driving low-energy buildings.

Track Sponsor:



Moderator: Brian McCowan | Senior Vice President of Technology and Development, Energy & Resources Solutions

Dave Epley | Green Building and Sustainability Program Manager, Department of Consumer and Regulatory Affairs, District of Columbia

Mark Lyles | Project Manager, New Buildings Institute

BREAKOUT | PORTFOLIOS AND DISTRICTS | GRAND BALLROOM 3

Net Zero Energy Leased Buildings (1.5 AIA LU | HSW CEUs)

Leased buildings make up a very small portion of the total zero energy buildings largely due to the split incentive issue where the building owner purchases the equipment and the tenants pay the utility bills. Since a substantial portion of commercial buildings are leased, unlocking the untapped market of leased net zero energy buildings is necessary. A handful of buildings have overcome this split incentive issue and have found that zero energy-leased buildings can be accomplished profitably. This panel will discuss how to write and negotiate a zero energy lease and will include perspectives from two developers that are making money on their zero energy multi-tenant leased office.

Moderator: Alisa Petersen | Associate, Rocky Mountain Institute

Jim Gaither Jr. | Managing Partner, Hanover Page Mill Associates, LP

Andy Bush | Founder and Managing Partner, Morgan Creek Ventures

Laurence Preble | Of Counsel, Holland & Hart

Blair Madden Bui | CEO, John Madden Company

BREAKOUT | RESIDENTIAL | BRIGADE ROOM

Approaching Social Equity, Affordable Housing and Net Zero in Residential Buildings (1.5 AIA LU | HSW CEUs)

Looking through the lens of the growing need for affordable housing for the disappearing middle class, a range of multi-unit or clustered housing types can meet the demand for walkable urban living by focusing on a walkable context, lower perceived density, smaller, well-designed units and the creation of community. This multi-family housing typology is also well suited to achieving ZE. This session will discuss approaches to the triple bottom line and social equity and how to create a replicable model for economic development, inclusion, environmental sustainability, and energy resilience while advancing climate goals within the context of both multifamily and single-family homes.

Before it was standard practice, Skanska became a leading voice in the construction and development communities for practices that contribute to sustainability. To enable us to deliver on our purpose

– building for a better society – we seek to deliver projects aligned with every aspect of sustainability. Our approach is rooted in the triple bottom line and in our belief that it is our duty to support and cultivate communities that can thrive for generations socially, economically and environmentally by addressing: safety, ethics, green, community investment and diversity & inclusion. Skanska celebrates NBI's leadership in creating a more sustainable world through net zero energy buildings. We support the use of the zEPI scale as a pathway to net zero energy buildings.

Learn more and explore projects at
www.skanska-sustainability-case-studies.com

SKANSKA

Moderator: Martha Campbell | Manager, Rocky Mountain Institute
Erica Dunn | Director of Design, GreenHammer
Brett Webster | Project Manager, Energy Solutions
Barry Hooper | Green Built Environment Senior Coordinator, San Francisco Department of the Environment
Katrin Klingenberg | Executive Director and Co-Founder, Passive House Institute US

BREAKOUT | OPERATIONS | COMMONWEALTH ONE

How Do You Measure Up? New Ways to Evaluate Project Success **(1.5 AIA LU | HSW CEUs)**

High performance is not only designing a building to reduce the amount of finite resources it uses, but also designing to improve and support the purpose for which a building is being designed. For a school, this purpose is to provide high quality education for future generations. For residences, to support the health and lifestyle. But how can all of these parameters be measured to get a more holistic picture of a design's performance? This session will cover tools to measure building and occupant performance, and ultimately community scale performance to gain this holistic picture of a project's impact at multiple scales. Attendees will be able to test drive these tools and understand the protocols necessary to get consistent and valuable data.

Moderator: Aurora Sharrard | Executive Director, Green Building Alliance
Heather Jauregui | Sustainability Specialist, Perkins Eastman
Katie Herber | Sustainability Specialist, Perkins Eastman
Sophia Duluk Beavis | Architect, Feldman Architecture

BREAKOUT | DESIGN | COMMONWEALTH TWO

Navigating the Natural Ventilation Design Strategy In ZNE Buildings **(1.5 AIA LU | HSW CEUs)**

Natural ventilation has always been a useful design strategy to lower energy use of buildings in moderate climates through the introduction of outside air usually through operable windows. Until now, the cooling potential has been limited by lack of fine-tuned control and integration

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with HVAC systems, inadequate hardware and poorly designed user-control features. The design approach for natural ventilation systems that include passive techniques such as thermal chimneys, and which use thermal comfort parameters as the basis of design, can further expand the cooling potential. The speakers will discuss the potentially remarkable reduction in building energy use for cooling comfort through the design of systems incorporating innovative but practical design strategies coupled with "smart building" technologies.

Moderator: Edward Dean | Principal, Bernheim + Dean, Inc.
Kasper Hoejmark Ravn | Building Performance Engineer, WindowMaster Control Systems Inc.
Paul Schwer | President, PAE Engineers

BONUS BREAKOUT | EFFICIENCY PROGRAM INNOVATION | RIVERS ROOM
Scalable Utility Programs Innovating Zero Energy Market Transformation
(1.5 AIA LU | HSW CEUs)

Efficiency program innovation to ZE feasibility – From early design to construction and through post-construction phases, utility programs are providing the foundational technical and financial support that is enabling ZE projects to overcome market barriers. This not-to-be-missed session will feature what we're learning from leading programs in Oregon, Michigan and California across the residential, K-12 education and commercial markets.

Moderator: Amy Cortese | Program Director, New Buildings Institute

Will Vicent | Residential ZNE Strategy, Southern California Edison

Celia King-Scott | Senior Engineer, DNV GL

Benjamin Glendening | Energy Advisor, Consumers Energy

Jessica Iplikci | Senior Program Manager – Commercial Sector, Energy Trust of Oregon

Seth Jacobson | Senior Director, Climate Resolve

10 – 10:30 a.m. Exhibitor Showcase + Networking Break

10:30 a.m. – 12 noon Morning Breakout Sessions 2

Town Hall and Solutions Lab-type sessions have been added to optimize attendee participation and engagement. Together, attendees, speakers and moderators will evaluate opportunities for scale, policies and programs that drive progress, barriers to success and other critical aspects of Getting to Zero.

BREAKOUT | CODES AND POLICY | GRAND BALLROOM 4

Two Ideals: Scaling Up ZNE vs A Healthy Grid – Can they work together?
(1.5 AIA LU | HSW CEUs)

With emerging standards requiring different forms of ZE and progressive owners developing ZE buildings already, it's an important time to look at the potential impacts net-metered buildings can have on the historic grid structure and operations. High penetration of renewable energy can destabilize the grid operations and cause havoc for grid operators. This session will outline ongoing changes to the grid structures, enhancements needed for ZE buildings on a mass scale, and potential building strategies that can improve ZE building design participation with the grid such as battery storage with renewables, demand response, thermal energy storage, and controls.

Moderator: Paula Zimin | Director of Sustainable Building Services, Steven Winter Associates, Inc.

Ted Tiffany | Director of Sustainability, Guttman & Blaevet Consulting Engineers, Inc.

Peter Turnbull | Principal, IDSM & Zero Net Energy Buildings, Pacific Gas & Electric Company

Erika Niedowski | Policy Advocate, Acadia Center

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CREATING A POSITIVE ENERGY FUTURE ON CAMPUS

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Learn about Energy Trust's Path to Net Zero at www.energytrust.org/zero.

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BREAKOUT | PORTFOLIOS AND DISTRICTS | GRAND BALLROOM 3

University Climate Commitments – The Role of Zero Energy in Carbon Neutrality (1.5 AIA LU | HSW CEUs)

For colleges and universities, Climate Action Master Planning provides a powerful platform for advancing and achieving institutional goals for reductions in carbon emissions, for carbon neutrality, and leveraging investments in renewable energy applications. A number of universities are taking bold steps to transform the way buildings use energy by developing pathways and master plans that ultimately will lead to carbon neutrality. Learn how several universities have created model frameworks to align energy reduction goals and programs to a zero energy target to achieve a common carbon reduction goal.

Moderator: Rob Bennett | Chief Executive Officer, EcoDistricts

Steven Baumgartner | Urban Systems and Infrastructure Strategy, SmithGroupJJR

Nelson Scott Smith | Principal, Artichoke Design Company

Joshua Hatch | Principal, Brightworks Sustainability

BREAKOUT | RESIDENTIAL | BRIGADE ROOM

Holistic Approach to Achieving Zero Energy High-Rise Residential Buildings (1.5 AIA LU | HSW CEUs)

As codes and standards evolve towards ultra-low or zero energy buildings, the practicality of achieving these targets in multifamily, especially high-rise concrete construction gets increasingly challenging. Current design and construction practice for high-rise in particular, present a number of constraints including water, energy and sufficient solar. The outcome of these combined constraints is often poor energy efficiency, with the burden of higher operating costs deferred to future owners. This session will explore the interconnected need for efficiency across all aspects becoming the primary consideration in residential buildings and what that will likely mean for the typical competing constraints.

Moderator: Leia Sims | Director of Sustainability, KOW Building Consultants

Christian Cianfrone | Building Energy Specialist, Morrison Hershfield

Patrick Roppel | Building Energy Specialist, Morrison Hershfield

Dylan Martello | Steven Winter Associates

Chris Klinga | Technical Director, Architectural Solar Association

BREAKOUT | OPERATIONS | COMMONWEALTH ONE

Occupant Education and Engagement in Achieving Zero Energy Performance (1.5 AIA LU | HSW CEUs)

As the architecture and engineering industry continues to focus on improving the energy performance of buildings, it has become apparent that some energy saving measures are outside the designer's control. Occupants play a significant role when it comes to the energy used. We engage users to discuss space needs, environmental and aesthetic desires, yet we often do not discuss users' roles in energy use. Using both residential and commercial case studies, as well as passive and active technologies, explore how design teams can bring occupants into the conversation to help improve energy efficiency and help zero energy projects meet energy use targets.

Moderator: Mona Chandra | Lead Program Manager, New Energy Solutions, National Grid

Sharon Mathes | Executive Director, Granite City Housing Authority

Tony Holub | Senior Project Manager, Farr Associates + Passive House Alliance Chicago

Katherine Bubriski | Director of Sustainability & Building Performance, Arrowstreet Inc.

Shannon Kaplan | Project Manager, In Posse

BREAKOUT | DESIGN | COMMONWEALTH TWO

Inefficiency is Old School! Lessons of Designing Zero Energy School Buildings (1.5 AIA LU | HSW CEUs)

More school districts are proving that zero energy is possible in both new construction and existing school retrofits. This session will weave the experiences and lessons learned multiple school districts and technical experts as they share case studies on their steps to zero energy. Lessons from zero energy school projects across the country will inform a discussion of how to mainstream zero energy school construction. This session includes highlights of how districts should plan, prioritize, and optimize energy efficiency and energy production throughout the district, while ensuring an enhanced environment for student and teacher performance.

Moderator: Nathaniel Allen | Science and Technology Policy Fellow, U.S. Department of Energy

Alexis Karolides | Principal and Sustainability Practice Leader, Point Energy Innovations

Wyck Knox | Principal, VMDO Architects

Tony Hans | National Director of Sustainable Projects, CMTA Engineers

Jon Cicconi | Associate Director, Skidmore, Owings & Merrill

Jeremy Shannon | Certified Passive House Consultant, NYC Construction Authority

Robert Diemer | Partner, In Posse

BONUS BREAKOUT | COMMUNITY DERS AND MICROGRIDS | RIVERS ROOM

Delivering Scalable and Affordable Zero Energy on a Community Scale (1.5 AIA LU | HSW CEUs)

With the overarching goal of creating a model for sustainable communities that are not only affordable, but go one step above to operate at zero energy, this team of presenters will evaluate the current barriers and opportunities for incorporating community-scale solar and biomass and address the high cost threshold within zero energy buildings and communities. This dynamite session will provide an overview of important issues regarding community scale zero energy and also reveal fundamental programmatic, regulatory, and business model components that need to be addressed.

Moderator: Abhijeet Pande | Associate Vice President, TRC

Vasudha Lathey | Director, TRC

Axel Lerche | Founder and CEO, EcoSmart Solution LLC

12 noon – 1:30 p.m. Lunchtime Keynote + Plenary Panel | Grand Ballroom 1 (1.5 AIA LU | HSW CEUs)

Systems Efficiency – A Pathway to Net-Zero

Improving the efficiency of building systems is increasingly necessary to scale up the delivery and operation of cost effective, high performance zero energy buildings. This session includes a keynote introduction of this topic from Johnson Controls' Clay Nesler and a follow-on panel to address the specific strategies for improving building energy efficiency, performance, and resilience through systems design, integrated project delivery, and system-level solutions beyond the building such as grid-responsive buildings.

Keynote: Clay Nesler | Vice President, Global Sustainability and Industry Initiatives, Building Technologies and Solutions, Johnson Controls

Panel Moderator: Laura Van Wie McGroary | Vice President, Strategic Initiatives, Alliance to Save Energy

Additional Panelists:

Maureen Guttman | President, Building Codes Assistance Project

Brian Patterson | President, EMerge Alliance

Matt Latchford | Principal, Lam Partners

1:45 – 3:15 p.m. Afternoon Breakout Sessions

Our afternoon sessions continue to delve into the details where conversations and vital connections can happen. Real-world experiences offer practical insights and information that can be use immediately when you get back to your desk.

BREAKOUT | CODES AND POLICY | GRAND BALLROOM 4

How Policy Tips the Scale to a Net Zero Energy Future (1.5 AIA LU | HSW CEUs)

Currently, at least 30 cities in North America have adopted commitments to 100% renewable energy by 2050 or sooner, and many others have goals of carbon neutrality during that same time frame. Achieving these ambitious goals will require unprecedented changes in building design for energy and water efficiency, and renewable energy deployment. This session will walk the audience through some of the key changes that are happening in the policy world, using specific examples from cities that have been most successful in catalyzing energy efficiency improvements in their local and regional markets.

Track Sponsor:



Moderator: Bill Updike | Principal, Integral Group

Anthony Brower | Director of Sustainable Design, Gensler

Mark Chambers | Director of Sustainability, New York City Mayor's Office of Sustainability

Sean Quinn | Senior Associate, Sustainable Design Leader, Pacific Region Chair of Social Responsibility, HOK Impact

Dr. Lisa Westerhoff | Senior Sustainability Planner, Integral Group

BREAKOUT | PORTFOLIOS AND DISTRICTS | GRAND BALLROOM 3

Overcoming Hurdles to ZE in Humid Climates, Urban Settings and Other Tough Challenges (1.5 AIA LU | HSW CEUs)

ZE buildings are largely feasible in most places, but dense urban development, humid climates, locational issues and other challenges can stretch design and operations to the limit. This session will look at ZE trends domestically and globally focusing on design tools/process, economics technology and integrated systems. Presenters will share examples of how innovative designers are tackling these obstacles and engage attendees on strategies to help them achieve zero energy goals going forward.

Moderator: Sarah Zaleski | Senior Advisor, U.S. Department of Energy

Stephen Selkowitz | Senior Advisor for Building Science, Lawrence Berkeley National Laboratory

John Keung | Dean, BCA Academy

Khee Poh Lam | Dean, National University of Singapore School of Architecture

Warren Neilson | Partner & Senior Strategist, stok

Byron Benton | Training Director, Zero Net Energy Center

The Alliance to Save Energy's **Systems Efficiency Initiative**

- a partnership of industry leaders, utilities, efficiency advocates, and government agencies
- promotes a systems approach to optimizing building efficiency and resiliency.

ase.org/SEI

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BREAKOUT | RESIDENTIAL | BRIGADE ROOM

Getting to Zero Residential: From Modeling to Operations to Marketplace Solutions (1.5 AIA LU | HSW CEUs)

With residential zero energy (ZE) construction ramping up, more attention is focused on cost, value and preference for ZE single-family and multifamily homes. This session will offer valuable insights into what residential homebuyers understand about ZE, how much value they place on advanced technologies such as storage that can help make zero more feasible, and what they are willing to pay for a clean energy residence. Speakers will cover the design-construction-operation life cycle including lessons learned from design, to research on ZE home value to operating a ZE home including storage options.

Moderator: Ann Edminster | Interim Executive Director, Net Zero Energy Coalition

Chelsea Petrenko | Managing Consultant, Opinion Dynamics

Troy Daniels | Head of Technical Support, Simpliphi Power

Jacob Corvidae | Manager, Rocky Mountain Institute

BREAKOUT | OPERATIONS | COMMONWEALTH ONE

Moving Past the Low-Hanging Fruit: High Performance and Innovative Control Strategies (1.5 AIA LU | HSW CEUs)

How do we move past the low-hanging fruit to get to the ultimate goal of low EUIs? Moving from tracking energy data on a granular level, to closely monitoring that usage, to making decisions on prioritizing bigger technology choices that impact the EUI significantly. With 99% of buildings in the existing building stock, this session focuses in on how to continue to use this data to measure energy use while observing behavior and operational patterns over time across dynamic daily and quarterly schedules. These stories of zero energy classrooms and commercial buildings focus on the tougher challenges faced in the pursuit of low EUI's, occupant education and driving behavior toward efficiency and conservation.

Moderator: Carolyn Sarno Goldthwaite | Director of Buildings & Community Solutions, Northeast Energy Efficiency Partnerships

Jim Maskrey | Associate Specialist, University of Hawaii-Hawaii Natural Energy Institute

Beth Eckenrodel | Principal, AUROS Group

Stefani Danes | Co-Chair, Renovations Committee, East Liberty Presbyterian Church

Eric Doyle | Senior Project Manager, Catalyst Partners

Rut Wattanasak | Engineer, Catalyst Partners

BREAKOUT | DESIGN | COMMONWEALTH TWO

What Ultra-Low Energy Buildings Are Telling Us About the Next Design Project (1.5 AIA LU | HSW CEUs)

After years of design and development of zero energy buildings, North America's leading architects and engineers have garnered a treasure-trove of lessons learned. This session will feature a number of practitioners with deep experience in a number of zero energy projects. Panelists will demonstrate that it is possible to transform a run-down, undesirable office building into a state-of-the-art, net zero workplace, how to make the most of emerging technologies to push the bounds of what is possible, and apply collaborative, strategic approaches that will resolve seemingly disparate project goals of achieving maximum sustainability while also providing an outstanding occupant experience.

Moderator: Blake Jackson | Sustainability Design Leader, Stantec

Sara Lappano | Managing Principal, Integral Group

Christopher Hoffman | Northeast Preconstruction Leader, DPR Construction

Greg Mella | Vice President, Director of Sustainable Design, SmithGroupJJR

Andrea Frisque | Associate, Senior Building Performance Engineer, Stantec

Porus Antia | Senior Associate, Stantec

Rachel Bannon-Godfrey | Sustainability Discipline Leader, Stantec

BONUS BREAKOUT | DESIGN | RIVERS ROOM

How Rigorous Planning and Effective Design Help Hit Ultra-Low Energy Goals (1.5 AIA LU | HSW CEUs)

It takes collaboration between a number of stakeholders to design and construct zero energy projects. Join the owner, architect, engineer, and LEED consultant on two small- to mid-sized office buildings both working toward ZE and Living Building Challenge design goals. These include the first city building (and fourth building of any type) in the world to achieve ZE and Living Building Challenge in Fort Collins, and a Living Building in Sacramento. Hear perspectives on how a strong integrative process leveraged synergies between occupant, building, and district scale goals and how you can apply these strategies in your own community.

Moderator: Brian Dunbar | Institute for the Built Environment, Colorado State University

Patty Karapinar | Sustainability Coordinator, Architectural Nexus

David Griffin | Energy Analyst, Architectural Nexus

John Phelan | Resource Conservation Manager, Fort Collins Utilities

Tom Hootman | Performance + Design Innovation Lead, MKK Consulting Engineers

Dominic Weilminster | Principal/Business Center Discipline Leader, RNL, now Stantec

3:15– 3:45 p.m. Exhibitor Showcase + Networking Break

3:45 – 5:30 p.m. Getting to Zero Status Update + ZEDx | Grand Ballroom 1

NBI Research Director Cathy Higgins will share the trends of zero energy buildings from NBI's latest *Getting to Zero Status Update and Buildings List*. Presenters of ZEDx (Zero Energy Developments) talks will share the latest in zero energy news and projects. The rapid sharing of ideas will feed the conversation where you can add your own perspectives through a group dialog and polling on key solutions, policy and market subjects.

Session Sponsor:

nationalgrid

Moderator: Cathy Higgins | Research Director, New Buildings Institute
Amanda Bogner | President, Energy Studio, Inc.
Bill Maclay | Principal, Maclay Architects
Mike Collignon | Executive Director, Green Builder Coalition
David Kaneda | Principal, Integral Group
Danielle Vitoff | Associate Director, Navigant Consulting, Inc.
Ellen Steiner | Vice President, Opinion Dynamics
Brett Bridgeland | Energy Engineer, Seventhwave

5:30 – 7:00 p.m. Networking Reception

7:15 p.m. Dine Around Dinners Out

Meet new friends or connect with old colleagues at one of our Dine Around Dinners hosted by friends of the National Forum. These organized pay-your-own way dinners offer a chance to experiences some of Pittsburgh's stellar culinary options. Sign up at the registration desk or online and meet in the lobby at 7 p.m.

THURSDAY, APRIL 19, 2018

7:00 – 7:30 a.m. Morning Run/Walk

7:30 – 8:30 a.m. Breakfast

8:30 – 9:45 a.m. Master Speaker Sessions

These Master Speaker Sessions will spotlight some of the critical conversations about what is driving momentum in zero energy buildings. Experts will share their perspectives and ask attendees to add their own.

Zero Energy Changemakers (1.5 AIA LU | HSW CEUs) | Grand Ballroom 2

Organizational leadership on zero energy can start at the top, but it doesn't have to. Champions, emerging at all levels of the org chart are creating the spark that is inspiring others' interest in zero energy projects and the benefits they offer. Hear from these changemakers who are leading transformation internal with impacts well beyond a single organization.

Moderator: Richard Piacentini | Executive Director, Phipps Conservatory and Botanical Gardens

Bakari Kennedy | Director of Facilities, SunCoast Credit Union

Nate Kinsey | Energy Manager, San Francisco Unified School District

Grant Ervin | Chief Resilience Officer and Assistant Director,
Division of Sustainability, City of Pittsburgh (Invited)

The Business Case for Zero Energy (1.5 AIA LU | HSW CEUs) | Grand Ballroom 3

With private ownership keeping pace with public buildings achieving zero energy, we want to know the business motivations behind investing in ultra-low energy buildings. Hear from several experts on why business are increasing investment in ultra-efficiency in their building portfolio and onsite renewables.

Moderator: Micah Brill | Vice President, Urban Land Institute

Michael Barnard | Project Director, Oxford Development Company

Angelica Ciranni | Pittsburgh 2030 District Director, Green Building Alliance

Alex Dews | Executive Director, Green Building United

Zero Energy and Carbon (1.5 AIA LU | HSW CEUs) | Grand Ballroom 4

Carbon increasingly is becoming the driver of progressive energy policies and corporate strategies that range from developing more stringent energy codes to targeting operations and behavior in existing buildings. This panel of energy policy and building experts will delve into the dynamic relationship between Zero Energy and Carbon Emission reduction goals, highlighting efforts being led by various Green Building Councils as well as policies driving market adoption in Europe.

Moderator: Jim Edelson | Director of Codes and Policy, New Buildings Institute

Fin MacDonald | Manager, Zero Carbon Building Program, Canada Green Building Council

Renilde Becque | Senior Sustainability Consultant

Jonathan Laski | Director of Global Projects and Partnerships, World Green Building Council

Elizabeth Beardsley | Senior Policy Council, U.S. Green Building Council

Brendan Owens | Chief of Engineering, U.S. Green Building Council

9:45 – 10:15 a.m. Last Chance Exhibitor Showcase + Networking Break

10:15 a.m. – 12:30 p.m. Closing Plenary Session + Keynote | Grand Ballroom 1

Moderator: Ralph DiNola | CEO, New Buildings Institute

Global Action on Climate Zeros In on Buildings

This session will explore the United Nations Economic Commission for Europe's (UNECE) new initiative to reverse the climate impact of the built environment. The UNECE launched its work by adopting the 2017 Framework Guidelines for Energy Efficiency in Building Standards, which Penn State is supporting with its new Global Building Network (GBN) initiative. Together the UNECE and Penn State are working to drive deployment of truly high performance buildings and communities. Hear from our keynote speakers about the this new consortium seeking to develop a more comprehensive science of building systems integration, while establishing Centers of Excellence around the globe that will apply diverse expertise to challenges in their own regions; case studies and data collection; and training, advice and counsel to participating cities, provinces and UN member states.

Keynotes: **Scott Foster** | Director, Sustainable Energy Division, United Nations Economic Commission for Europe

Tom Richard | Director, Penn State Institutes of Energy and the Environment

Building Community Power: Economic Empowerment & Equity for All

Kimberly Lewis brings to the fore a new perspective on the nexus of energy and humanity. Drawing connections between the future of energy science, policy and technology, and the fabric of society, Kimberly will illustrate the ways in which individuals and communities are impacted by energy systems, and will offer ideas to move the conversation around energy poverty, equity and community involvement forward. Embracing the important role ultra-low and zero energy buildings have to play in the holistic conversation around accessibility, affordability and prosperity for all, Kimberly will push attendees to rethink their view of energy as a resource.

Keynote: **Kimberly Lewis** | Senior Vice President, Market Transformation and Development, U.S. Green Building Council

Mainstreaming Zero Energy: Organizing for Collective Impact

How can we make zero energy common practice for all buildings? Market adoption of new ideas is most successful when proponents align behind a shared vision for change. In this session, we'll hear from industry thought leaders who will set the stage for what a successful marketing effort looks like. We will also draw from and leverage the collective expertise of Forum participants and marketing experts to develop the foundation for a common brand and messaging platform to advance zero energy buildings nationally.

Panelists: **Kimberly Lewis** | Senior Vice President, Market Transformation and Development, U.S. Green Building Council

Joey Marquart | Senior Vice President, Edelman

Sam Rashkin | Chief Architect, Building Technologies Office, U.S. DOE

12:30 p.m. Adjourn

Workshops and Tours

Workshops

Three intensive workshops dig into the details of zero energy buildings. Full descriptions can be found at gettingtozeroforum.org/workshops. Check at the registration desk for availability.

8:30 to 11:30 a.m. | *Zeroing in on Districts and Scale on ZE Projects* (3 AIA | HSW CEUs) | Grand Ballroom 3

8 a.m. to 11:30 a.m. | *Advanced Jurisdictions: Cities and States Take the Lead on Driving Zero* (3 AIA | HSW CEUs) | Rivers Room

8:30 a.m. to 12:30 p.m. | *Creating Optimal Buildings for the New Electricity Grid* (3 AIA | HSW CEUs) | Grand Ballroom 4

Tours

Pittsburgh boasts a number of model zero energy and ultra-efficient building projects. Join us to see first-hand how these buildings and districts are achieving high energy performance goals. Full descriptions can be found at gettingtozeroforum.org/tours. Check at the registration desk for availability. Tours will return by 1:45 p.m. and lunch is included.

12 noon to 1:45 p.m. | *Pittsburgh 2030 District Walking Tour*

Meet in the lobby of the Wyndham Grand at 12 noon

11:45 a.m. to 1:45 p.m. | *Hazelwood Green Tour*

Meet at the lobby of the Wyndham Grand at 11:45 a.m.

10:30 a.m. to 1:45 p.m. | *Frick Environmental Center + Morningside Crossing Senior Living Center*

Meet at the hotel lobby at 10:30 a.m.

11:30 a.m. to 1:45 p.m. | *Chatham University Eden Hall Campus*

Meet at the hotel lobby at 11:30 a.m.

ERS provides quantitative analysis, practical research, and multi-level project support in the energy space for policy, regulation, implementation, finance, and technology. From calculating savings at a project level to quantifying potential for entire service territories to estimating market sector opportunities, we are a technical company with quantitatively oriented engineers and analysts. Our experience includes: extensive field work; recruiting and outreach to building owners; identifying practical energy efficiency strategies; and installing the meters to prove savings; all of which provides experience that delivers realistic and practical polish to our results. ERS's staff includes professional engineers, certified energy managers, and LEED-accredited professionals that serve utility companies, authorities, regulators, communities, and institutions in this capacity nationwide.



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