# 

Conference + Trade Show

November 3, 2016

TKP New York Conference Center

#BENYC16

#### WELCOME





## Welcome from the 2016 **Conference Co-Chairs**

New York City is currently launching one of the most far-reaching energy policies in the United States to support its mission of an 80% reduction in carbon emissions by 2050. The initiatives around improving building enclosures, supporting renewable energy

projects, and determining how to improve energy storage capacity are among the many ideas being put in place to support this aggressive stance. To fulfill the City policies and meet its goals, we have some of the most challenging energy problems to address, and yet we also have some of the best energy professionals to help provide the solutions.

This year's BuildingEnergy NYC Conference + Trade Show is bringing together all the initiatives, all the players, for one day of presentations and discussions around how we can work together to move the City forward. The conference provides practical, hands-on solutions to the challenges and new requirements facing all of NYC's building owners and practitioners in every neighborhood and borough. Conceived in 2012 and growing exponentially each year, BuildingEnergy NYC sets itself apart as a place where members of New York's building industry come together to learn from each other how to make the buildings of this great city even better.

The goals of this year's conference are to:

- Understand best practices, from hands-on building systems management and high-performance enclosure integration to City-wide policies. What has happened in the City already? What have other cities and practitioners done? What practical strategies, policies, and programs can support our professional community?
- Understand new mandates and codes. What is the new Energy Code? Where is REV? What new programs and changes to programs are happening in the City, at the utilities, and in the State?
- Meet the success stories. Which consultants, practitioners, owners, and developers have examples of successful technologies, programs, structures, and certifications for achieving success, and how do they pay for it all?

Every year, Building Energy NYC pushes the envelope on case studies, policy introductions, and debates while raising questions for us all to tackle in the coming year. We are excited to provide the venue for all of the market players to network, learn, build partnerships, and grow the mission of making New York City the best of the best in energy efficiency, occupant satisfaction, and health and well-being. Thank you to the many, many volunteers, sponsors, exhibitors, and speakers who created the final product that you see today.

Thanks for supporting us, and we hope you have a great conference.

Lauren Burst Mrs Ken Cenn

Lauren Brust Moss (NORESCO) & Ken Levenson (475 High-Performance Building Supply)

#### Schedule At A Glance

Registration 7 - 8am

Welcome 8 - 8:15am

Session 1 8:30 - 10am

Session 2 10:30 - 11:30am 11:30am - 1pm

Lunch

Session 3 1 - 2:30pm

Session 4 3 - 4pm

Reception 4 - 5:30pm

Trade Show Open 7am - 5:30pm

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#### What is NESEA?

The Northeast Sustainable Energy Association (NESEA) helps high-performance building and energy efficiency professionals improve their practices by learning from and networking with each other. NESEA is a member-driven 501(c)(3) non-profit organization, whose mission is to advance the adoption of sustainable energy practices in the built environment.

BuildingEnergy conferences are curated by a group of volunteer NESEA members. Many thanks to this year's team.

#### **Conference Co-Chairs**

Ken Levenson 475 High Performance Building Supply Lauren Brust Moss **NORESCO** 

#### **Session Champions**

Amelia Amon, Alt. Technica Ryan Cassidy, RBSCC Saheel Chandrani, Johnson Controls, Inc. Eric Davis, Con Edison Colleen Flynn, Local Initiatives Support Coalition Faye Gao, Energy Focus Chris Garvin, Terrapin Bright Green Haym Gross, New York City 2030 Districts Program Laura Humphrey, ICF Ali Levine, NYC Mayor's Office of Sustainability

Patrick Love, NYC Mayor's Office of Sustainability Maureen Mahle, Steven Winter Associates Samantha Pearce, Selfhelp Community Services Nicole Scheunemann, Urban Green Council John Skipper, Con Edison Dave Sungarian, Steven Winter Associates Jenna Tatum, NYC Mayor's Office of Sustainability Cameron Thomson, Arup Daryle Ward-Cherry, Urban Green Council

# SOME OF THE MOST INNOVATIVE BUILDINGS ARE MADE OF GLASS AND STEEL. OTHERS, PIXELS.



Con Edison is proud to be a sponsor of NESEA's BuildingEnergy NYC 2016
Conference. Please stop by Booth #1 and attend our panel discussions to learn
more about how you can save energy and money for your commercial and
multifamily properties. Check out our new 3D interactive Commercial Buildings
website, ManageEnergy.conEd.com. It's a one-of-a-kind interactive journey, and it's
ready. Are you? #ManageEnergy



EVERYTHING MATTERS

#### **EVALUATIONS & MORE**



## Get the Conference App: Guidebook

Enhance your experience at BuildingEnergy NYC with our free conference app, Guidebook.

Use it to build a customized schedule, find your way around, connect with other attendees, learn about exhibitors, and get the latest event updates on your smartphone, tablet, or computer.

Go to the App Store or visit: guidebook.com/g/BENYC16

#### **Session Evaluations**

Your opinion matters. So does the environment.

That's why we are collecting all session evaluations through our conference app, Guidebook, rather than on paper.

If you have a smartphone or tablet, you can download Guidebook for free in the App Store. If not, simply visit guidebook.com/g/BENYC16 on your computer.

#### **Continuing Education Units (CEUs)**

Session 1: 1.5 GBCI, 1.5 AIA LU|HSW, 1.5 BPI

Session 2: 1 GBCI, 1 AIA LU|HSW, 1 BPI

Session 3: 1.5 GBCI, 1.5 AIA LU|HSW, 1.5 BPI

Session 4: 1 GBCI, 1 AIA LU|HSW, 1 BPI

All conference attendees are also eligible for 5 CPHC credits. Contact Susan Farber at sfarber@nesea.org for more information.

#### Join Us on the Trade Show Floor

Join us on the trade show floor in the Empire Ballroom for coffee throughout the day, opening remarks at 8:00am, lunch at 11:30am, and an afternoon reception at 4:00pm.

#### **Many Thanks**



# menck windows

Many thanks to Menck Windows and ARG & Co. as the inaugural sponsors of NESEA's BE the Future initiative at BuildingEnergy NYC. Their generosity has provided scholarships for 10 college students to attend today's conference.

To learn more about BE the Future, visit: <a href="https://www.nesea.org/emerging-professionals">www.nesea.org/emerging-professionals</a>.



Many thanks to TripZero for helping us tackle the huge carbon footprint created by attendee travel to NESEA events. Register your footprint for free on the BuildingEnergy site and TripZero will offset it by funding certified projects that remove CO2 from the atmosphere.

Learn more at tripzero.com.







# Discover another competitive edge.

Bring your building to peak performance.

Contact NYSERDA to help with energy efficiency solutions for your multifamily or commercial office buildings.

Multifamily: nyserda.ny.gov/multifamily-energy Commercial: nyserda.ny.gov/ctp



#### Welcome on the Trade Show Floor

Join us at 8:00 am and grab a cup of coffee on the trade show floor as we kick off the day. Lauren Brust Moss (NORESCO), Ken Levenson (475 High Performance Building Supply), Jennifer Marrapese (NESEA)

| Room Name       | <b>Session 1</b> 8:30 - 10am                                                                           | <b>Session 2</b> 10:30 - 11:30am                                                               | <b>Session 3</b> 1 - 2:30pm                                                 | Session 4<br>3 - 4pm                                                                        |
|-----------------|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| East<br>Village | Building Operations:<br>The Front Line<br>of Sustainability<br>Compliance & Green<br>Leadership        | One Building,<br>Two Buildings,<br>PORTFOLIO (Real-Life<br>Stories of Portfolio<br>Management) | How Smart are Buildings? Software Solutions for Improving the Bottom Line   | Beyond Incentives:<br>Addressing Market<br>Barriers Through<br>Customer-Centric<br>Programs |
| West<br>Village | Solar + Storage:<br>Technology Options<br>for Profitable<br>Resiliency                                 | What Does It Cost to<br>Achieve an Efficient<br>Building?                                      | New Component<br>Capabilities Help<br>Deliver High<br>Performance Buildings | Health & Wellness<br>& Your Bottom Line:<br>The Right Energy<br>Efficient Solutions         |
| Chelsea         | Building Energy<br>Efficiency: Why?<br>What? How? A 101<br>Session                                     | Beat the Clock: A 2030<br>District Can Accelerate<br>NYC's Sustainable<br>Progress             | Climate Adaptation &<br>Resiliency                                          | Energy on a Budget                                                                          |
| Madison         | LEED v4 in New York<br>City                                                                            | The Missing Piece:<br>Tenants in Building-<br>Wide Strategies<br>Towards Efficiency            | Campus Management:<br>It's a Mixed Bag of<br>Strategies                     | Battery Storage:<br>Are We Nearing the<br>Tipping Point?                                    |
| Manhattan       | Empowering NYC to<br>Fight Climate Change<br>& Thrive                                                  | NYC Public Buildings<br>& Public Housing:<br>Strategies, Programs,<br>Successes, & Failures    | NYC's Ambitious New<br>Energy Code – How<br>Does It Stack Up?               | REV Roundtable:<br>Program Design &<br>Projects Breaking<br>Ground                          |
| Bryant<br>Park  | Can We Future-<br>Proof Our Historic<br>Buildings? Passive<br>House & Preservation<br>Working Together | Commercial Buildings<br>Can Go Passive:<br>New Build & Retrofit<br>Examples                    | Multifamily Passive<br>House Construction:<br>Processes &<br>Techniques     | Passive House<br>Financing:<br>Strengthening the<br>Bottom Line                             |

#### Lunchtime Session: 11:30am - 1:00pm in Bryant Park

NYSERDA - Transforming the Clean Energy Landscape in Commercial & Multifamily Buildings

Join NYSERDA to learn about its Clean Energy Fund initiatives for the multifamily and commercial building industry. This session will highlight current and upcoming programs to help overcome barriers to energy efficiency in commercial and multifamily buildings. Greg Hale (Office of Governor Andrew M. Cuomo), Sophie Cardona, Loic Chappoz, & Emily Startz (NYSERDA)

#### Building Operations: The Front Line of Sustainability Compliance & Green Leadership

Operating buildings, especially in NYC, can be challenging all by itself. Throw in additional compliance or organization goals to operate more efficiently and the requirement to track the operational data, and you have an even bigger web of to-do's to get through as owners/operators. Hear how data is helping building owners, where there are still gaps in what we are collecting, how to start to turn data collection into actionable items, what groups are doing to stay involved and ahead of the curve, and how programs that cities have rolled out are impacting the industry. Michael Davis (Local Initiatives Support Corporation), Peter Lampen (Douglas Elliman Property Management), David Sachs (Bright Power), Richard Yancey (Building Energy Exchange) C M F

#### Solar + Storage: Technology Options for Profitable Resiliency

Current 21st-century buildings with no energy production and storage are as unprepared for the future as early 20th-century construction without electricity or indoor plumbing. With local utility, city, state, and federal incentives, these technologies not only provide resiliency, they also expand financing options and improve your building's bottom line. Each storage technology has its own strengths/liabilities such as expense, volume, safety requirements, power or discharge rates, peak demand shaving, load-shifting, and total life cycles. Speakers will discuss the advantages and challenges of matching solar and storage for the future of our buildings, cities, and civilization. Amelia Amon (Alt.Technica), Nicholas Davis (GridMarket), Lyle Rawlings (Advanced Solar Products), Steven Strong (Solar Design Associates) RS

#### **Building Energy Efficiency: Why? What? How? A 101 Session**

You know that energy efficiency is critical to meeting our society's carbon reduction goals, and you see it driving public policy, codes, and new certification programs. But where do you start to digest it all? This session takes a step back by giving an introduction to the underlying building science, the physics, and their connections to comfort, health, and efficiency. It will also give an overview of what's new in codes, certification programs, and policies - providing guidance on next steps professionally and which conference sessions might be most useful to you through the day. Yetsuh Frank (Building Energy Exchange), Christa Waring (CTA Architects) RS

#### **LEED v4 in New York City**

This session combines experts in LEED New Construction, LEED Existing Buildings Operations & Maintenance, and LEED for Homes Multifamily Midrise to get you ready to succeed with LEED v4. Presenters will first describe LEED v4 through the lens of the 2016 NYCECC as well as the changes and overlap in LEED v4 and 2016 energy code as they apply to large-scale new construction projects. They will then describe how NYC's LEED for Homes projects of various shapes and sizes can make the most of v4 changes. The final section will describe how Local Law 87 sets the stage for LEED-EBOM, and how NYC building owners can use EBOM certification for increased market value, tenant retention, and further operational savings. Asa Foss (USGBC), Susan Kaplan (BuildingWrx), Whitney Smith (Cosentini Associates), Paula Zimin (Steven Winter Associates) C M CI H

#### **Empowering NYC to Fight Climate Change & Thrive**

Climate change presents New York City with significant challenges in adapting its infrastructure and maintaining the quality of life that makes it one of the great world capitals. As New Yorkers, we face these challenges together: we breathe the same air, drink from the same water supply, and suffer the same impacts of hotter summers and bigger storms. To ensure we create a more sustainable, equitable, and resilient city, NYC Mayor Bill de Blasio has committed to reduce New York City's greenhouse gas emissions by 80% from 2005 levels by 2050 (80 x 50) - the level that the United Nations projects is necessary to avert the most disastrous impacts of climate change. Hear the Mayor's Office of Sustainability explain its integrated 80 x 50 Report, spanning buildings, energy supply, solid waste, and transportation networks. Anthony Fiore, Kate Gouin, John Lee, & Benjamin Mandel (NYC Mayor's Office of Sustainability) P RS

#### Can We Future-Proof Our Historic Buildings? Passive House & Preservation Working Together

Most of NYC's buildings are already built, and many are over 100 years old. An ever-growing portion of NYC falls within historic districts. Can we protect these structures so that they will last another 100 years while making them as energy efficient as needed to meet carbon reduction goals? Find out how architects, builders, engineers, and historic preservationists are implementing innovative Passive House methods in NYC to do just that. Kevin Brennan (Brennan Brennan Air Tightness & Insulation), Cory Herrala (NYC Landmarks Preservation Commission), Michael Ingui (Baxt Ingui Architects), Kramer Silkworth (Baukraft Engineering) H PH

#### 10:30 - 11:30am

#### One Building, Two Buildings, PORTFOLIO (Real-Life Stories of Portfolio Management)

What happens when you break the cycle of thinking about what audit is due and what compliance is required to operate your multifamily housing? What if we think about our portfolio as one entity. Learn how owners and operators used portfolio management, but not a computer system, to reduce spending, innovate capital repairs, and integrate them into an energy management plan to see real savings. A technical service provider will share some data on a year of portfolio management and what they are doing to make the system even stronger. Sometimes taking a step back brings you two or three steps forward. Samantha Pearce (Selfhelp Community Services), Sam Weisenberg (Bright Power, Inc.) M

# West Village

#### What Does It Cost to Achieve an Efficient Building?

This session will present the various options for funding efficiency upgrades in commercial buildings as well as how and why owners make decisions to move forward with energy upgrades: is it available funding, tenant requests, mission-driven, or none of the above? Panelists will review how to use re-financing, PACE, incentives, rebates, and traditional banking to improve the operations of a building and, most importantly, the value through increased leasing, reduced operations costs, and a streamlined approach to capital investments. Specific case studies will be discussed to highlight decision-making processes, funding opportunities, and how to create a cycle of change. Christopher Diamond (New York City Energy Efficiency Corporation (NYCEEC)), David Pospisil (Con Edison), John Puma (M-Core Credit), Dana Schneider (Jones Lang LaSalle) C F H

#### Beat the Clock: A 2030 District Can Accelerate NYC's Sustainable Progress

How can a district model facilitate integrating innovation, aggregation, and community action to accelerate progress toward Urban Climate Sustainability and Resilience? Speakers in this session will present background of the 2030 Districts, collaborative methods and goals, metrics for success, and the status of the Emerging NYC 2030 District. Rory Christian (Environmental Defense Fund), Brian Geller (Citi Bank), Haym Gross (New York City 2030 Districts Program), Frank Maricic (Energy Management Systems) C F H P RS

#### The Missing Piece: Tenants in Building-Wide Strategies Towards Efficiency

This session will explore the impact individual building occupants have on the whole building energy footprint and discuss ways to increase occupant engagement in active energy management, increase participation in sustainability initiatives, and encourage energy conscious decisions. We will talk about utilizing energy consumption data available to building management and ways to develop active participation from occupants in the overall sustainability plan. Saheel Chandrani (Johnson Controls, Inc.), Roya Kazemi (Mayor's Office of Sustainability - New York City), Molly Zinzi (Google) CI H P

#### NYC Public Buildings & Public Housing: Strategies, Programs, Successes, & Failures

NYC agencies have a mandate to "lead by example" in energy / CO2 emission reduction. Strategies employed by public agencies to improve, manage, and upgrade their buildings will be presented at this session. Lessons being learned in housing, institutional and educational along with traditional commercial buildings will be discussed along with a presentation on how to quantify and measure successes and failures. Panelists will discuss why certain strategies were chosen, what impact their decisions have had, and what has changed as a result of shifting targets and goals. Michael Bobker (CUNY Building Performance Lab), Tria Case (City University of New York), Bomee Jung (New York City Housing Authority (NYCHA)), Ellen Zielinski (NYC Department of Citywide Administrative Services) CI H M P

# **Bryant Park**

#### Commercial Buildings Can Go Passive: New Build & Retrofit Examples

Take an in-depth look at two commercial case studies: a new build cold climate production facility and a retrofit of an industrial office space in NYC. See new challenges and solutions as Passive House moves from residential to commercial construction. Stephen Lynch (Caliper Studio), Andrew Peel (Peel Passive House) H PH

#### **Areas of Focus**

- C Codes & Standards
- F Finance
- P Policy

- CI Energy Strategies: C&I
- H High Performance Building
- R Renewables

- M Energy Strategies: Multifamily
- PH Passive House
- **RS** Resiliency & Sustainability

East Village

# West Village

#### **How Smart are Buildings? Software Solutions for Improving the Bottom Line**

Energy-savings opportunities exist in buildings everywhere. Whether a building is new or old, large or small, energy systems will inevitably deteriorate without high-quality maintenance (or without fixing systems improperly configured in the first place). Identification of these problems and their ideal solutions is an expensive and time-consuming process, and expertise is limited. This session will explore a variety of software strategies that are helping building operators tackle this problem. We will explore real-world case studies and achieved results. Paul Reale (CUNY Building Performance Lab), Joshua Clyburn (NYSERDA), Dominique Lempereur (kW Engineering), David Sungarian (Steven Winter Associates) M Cl

#### **New Component Capabilities Help Deliver High-Performance Buildings**

What it means to be a high-performance building is changing with rapidly increasing demands for energy efficiency, comfort, health, and structural longevity. New developments in building components are critical to delivering these benefits. Hear about specific developments and results as this session dives into examining a handful of technologies: building membranes, glazing, and lighting. Floris Keverling Buisman (475 High Performance Building Supply), Todd Kimmel (Cosella-Dorken Products, Inc.), Cindy Malinchak (Philips Lighting Electronics North America), Lynn Petermann (Payette) H

#### **Climate Adaptation & Resiliency**

Four years ago, Superstorm Sandy hit New York and the east coast. The recovery focused attention on making the region's communities, infrastructure, and buildings more resilient. This session will explore successes and different approaches in public and private sectors working towards resiliency. We'll examine a large corporation's strategy for multiple buildings and operations and New York City Housing Authority's (NYCHA) approach to making vulnerable communities resilient while contributing to the City's 80x50 carbon goal. Discussions will consider how well prepared the City is now and weigh its ongoing public and private initiatives. Michael Bosco (JLL), Daphné Boret Camguilhem (NYCHA), Roland Lewis (Waterfront Alliance), Cameron Thompson (Arup) RS

#### **Campus Management: It's a Mixed Bag of Strategies**

This session will be an in-depth look at three of the largest university and hospital organizations in the New York Metropolitan area—New York Presbyterian Hospital, St. John's University, and Princeton University—and how they have been able to achieve significant energy and carbon savings through a variety of innovative projects on their campuses. Representatives will share their approach to planning, implementing, and maintaining the effectiveness of distributed generation systems and energy conservation measures. They will also explore unique financial mechanisms, contrasting procedures, integration into planning processes, progress to date, and lessons learned. Bill Broadhurst (Princeton University), Tom Goldsmith (St. John's University), Jennifer Kearney (Gotham 360), Joe Lorino (New York Presbyterian) RS H CI F

#### NYC's Ambitious New Energy Code – How Does It Stack Up?

NYC's new Energy Code went into effect this October and is a prime example of how cities are leading the charge to reduce carbon emissions. The code changes are meant to drive down energy usage, but could we do more? Other cities have implemented innovative energy codes meant to reach the next level in energy efficiency. This session will examine the best and the brightest emerging ideas on improving urban buildings and discuss where NYC codes might be headed next. Sally Blair (NORESCO), Sean Brennan (Urban Green Council), Emily Hoffman (New York City Department of Buildings), Sebastian Moreno Vacca (A2M), Danielle Spiegel-Feld (Guarini Center on Environmental, Energy, and Land Use Law) C P RS

ryant Park

Manhattan

#### **Multifamily Passive House Construction: Processes & Techniques**

Learn the challenges and techniques of multifamily passive house construction from those who have been there. All sides of the building's process including owner's rep, contractor, building science professional, and consultant will be featured. Lois Arena (Steven Winter Associates), Ryan Cassidy (Ridgewood Bushwick Senior Citizens Council (RBSCC)), Mario Procida (Procida Construction) H M PH

#### **Areas of Focus**

- C Codes & Standards
- F Finance
- P Policy

- CI Energy Strategies: C&I
- H High Performance Building
- R Renewables

- M Energy Strategies: Multifamily
- PH Passive House
- RS Resiliency & Sustainability

#### **Beyond Incentives: Addressing Market Barriers Through Customer-Centric Programs**

The creation of the NYC Retrofit Accelerator and Community Retrofit NYC marks a shift in how energy efficiency services are delivered to New York City's large and fragmented market. These programs are exploring new options for overcoming market barriers to efficiency investments through customer-centric programs that deploy data-driven marketing, innovative community outreach, and tailored assistance to help streamline the retrofit process. Learn how the City's programs are working to enhance and complement existing state and utility programs in order to scale energy and water upgrades and why this model will ultimately lead to market transformation. Loic Chappoz (New York State Energy Research and Development Authority (NYSERDA)), Ali Levine (Mayor's Office of Sustainability – New York City), Phil Madnick (Con Edison), Lance Williams (Marion Scott Real Estate) F P H RS

#### Health and Wellness and Your Bottom Line: The Right Energy Efficient Solutions to a Healthier Indoor **Environment That Gives More Than It Takes**

As the next generation of building design guidelines are being progressively questioned/challenged by the public, thought leaders in the public and private sectors are stepping up their games when it comes to the implementation of energy efficient building upgrades/retrofits/designs that make significant health and wellness impacts on the occupants. The elevated health impacts from the implementation of quality programs and projects have the potential for major economic and socioeconomic impacts as a result of enhanced productivity. This session will discuss some of the actions that have been taken by public and private organizations, featuring well lighting demonstrations and testimonials that conclude the preliminary results of these impacts in commercial spaces, schools, and on the general public. Colleen Flynn (Local Initiatives Support Corporation (LISC)), Jeremiah Heilman (Energy Focus, Inc.), Jennifer Taranto (Structure Tone) H CI RS M

#### **Energy on a Budget**

How are affordable housing companies doing energy retrofits with vulnerable populations, with the added challenges of how to make it happen on a tight budget? What measures are being taken on small budgets that make an impact, not only for savings but also for tenant education? What are these organizations doing about tenant engagement to help drive savings and foster assistance for the tenants to understand the importance of energy efficiency? The answers to these questions and more will be explored in this session. Anivelca Cordova (Lemle & Wolff), Shai J. Lauros (Cypress Hills Local Development Corporation), Laurie Schoeman (Enterprise Community Partners, Inc.) RS H M

#### **Battery Storage: Are We Nearing the Tipping Point?**

With costs dropping and fire codes being written, battery storage in New York City is becoming an attractive option to help manage peak loads. In this session we will explore actual NYC installations and the required considerations to successfully complete a battery storage project. We will also explore near- and long-term projections, and challenges for the battery storage industry as a whole. Philippe Bouchard (EOS Energy Storage), Joshua London (Glenwood Management), Andrew Reid (Con Edison), Luis Rios (Rudin Management Company), Doug Staker (Demand Energy) H Cl RS R

#### **REV Roundtable: Program Design & Projects Breaking Ground**

This session will provide attendees with a high-level update on the REV (Reforming the Energy Vision) proceedings in New York State paired with examples and discussion of how REV is impacting program design and energy projects on the ground. Leaders from REV Demo projects will present specific projects in addition to reviewing the program as a whole. Program administrators will be on hand to discuss how REV is impacting their program planning in the short and long term. The panel discussion will also invite managers of large building portfolios to outline the ways REV is impacting their energy planning and project implementation. Jamie Brennan (Con Edison), Kelly Dougherty (FirstService Residential), Greg Hale (Office of Governor Andrew M. Cuomo), Vanessa Ulmer (New York State Energy Research and Development Authority (NYSERDA)) F P C RS

#### **Passive House Financing: Strengthening the Bottom Line**

This session will outline how Passive House Construction can leverage better financing terms and look to the future of energy efficient building financing at the private and public level. Christopher Mahase (New York City Department of Housing, Preservation and Development), Sadie McKeown (Community Preservation Corporation (CPC)), Scott Short (Ridgewood Bushwick Senior Citizens Council (RBSCC)) PH F



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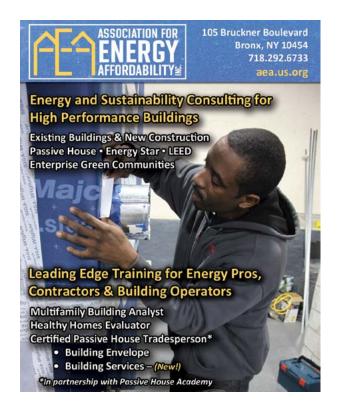
\*Think your environment is flicker-free? Look again. Find out more about the impact of LED lighting on our health and environment at Building Energy NY - 3 pm.

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#### **475 High Performance Building** Supply

#### Table 16

#### **NESEA Business Member**

475 High Performance Building Supply provides essential building components to professionals. As specialists on airtightness and vapor control, 475 helps optimize building comfort and health.

www.foursevenfive.com

#### **Aegis Energy Services** Table 44

#### **NESEA Business Member**

Aegis Energy Services, Inc. is an innovative Combined Heat and Power (CHP) company based in Holyoke, MA. Founded in 1985, Aegis Energy Services™ modular systems are currently utilized across the Northeast and Mid-Atlantic providing sustainable, clean power options for a wide array of customers. www.aegisenergyservices.com

#### **Association For Energy** Affordability, Inc.

#### Table 12

AEA provides energy technical services including GPNAs, investment grade audits, benchmarking and retro-commissioning, specializing in multifamily and affordable housing. We are energy efficiency and passive house consultants for existing buildings and new construction and a NYSERDA MPP Partner, AEA implements government and utility energy efficiency programs, and is the organizer of the Multifamily Buildings conference series. AEA's leading-edge certification training helps professionals and contractors deliver projects meeting the highest standards for deep energy savings. www.aea.us.org

#### **ConEdison Solutions, Inc.**

#### Table 50

ConEdison Solutions is a leading energy services company that provides competitive electricity and natural gas supply, renewable energy, sustainability services, cost-effective energy efficiency solutions, and energy performance contracting. The company serves commercial, industrial, residential and government customers, including universities, public school districts, and hospitals nationwide.

www.conedsolutions.com

#### **Consolidated Edison Company** of New York

#### Table 1

#### **NESEA Business Member**

Con Edison provides energy to 3.4 million customers in New York and Westchester County, New York. Newsweek recently named the company the 'Greenest' utility in the United States. To learn more about our energy-saving programs, visit:

www.conEd.com/greenteam

#### Cosella-Dorken Products, Inc. Table 10

#### **NESEA Business Member**

Cosella-Dorken delivers innovative, highperformance air and moisture barriers for commercial and residential construction sold under the DELTA® brand name. A North American manufacturer based out of Beamsville, Ontario, Cosella-Dorken Products, Inc. is a subsidiary of Ewald Dorken AG, a leading European developer and manufacturer of waterproofing and drainage products sold worldwide. Cosella-Dorken is known for delivering premium products while providing educational programs and full technical support. For more information, call 1-888-4DELTA4 (433-5824) or visit www.cosella-dorken.com.

#### **Danish Cleantech Hub**

Danish Cleantech Hub provides the local platform and strong network necessary to bring Danish solutions into play in New York. We offer Danish companies an effective route to success in the US through matchmaking with local partners and a joint promotion of Danish

di.dk/English/dch/Pages/default.aspx

#### **Demtroys Technology, Inc.** Table 7

Demtroys offers a leading heat management control system for multiresidential buildings. Savings from 10% to 42% on heating costs. Installation is possible in 3-10 days without remodeling. www.demtroys.com

#### **Dual Fuel Corporation**

#### Table 30

Dual Fuel is a NYSERDA certified Real Time Energy Management (RTEM) system and service provider, ConEd Multi Family Partner, Licensed Master Plumber and General Contractor that provides oil to gas conversions, combined heat and power systems (CHP), heating controls and monitoring, energy supply (gas and oil), energy efficiency design, and other cost saving energy system installations, repairs, and service to residential and commercial clients.

www.Dualfuelcorp.com

#### **Direct Energy**

#### Table 34

Direct Energy is part of a leading energy and energy-related services provider that is focused on helping customers make business better. www.directenergy.com

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#### **Energy Focus, Inc.**

#### Table 48

Energy Focus, Inc. is a leading provider of energy efficient LED lighting products, and a developer of energy efficient lighting technology. Our solutions provide energy savings, aesthetics, safety and maintenance cost benefits over conventional lighting. Our longstanding relationship with the U.S. Government includes numerous research and development projects for the DOE and DARPA, creating energy efficient LED lighting systems for the U.S. Navy fleet. www.energyfocus.com

#### **European Architectural Supply** Table 5

#### **NESEA Business Member**

European Architectural Supply has been delivering windows of unrivaled craftsmanship and environmental sensibility for over twelve years. We specialize in high-efficiency windows and doors, custom-built in every style, from classic traditional designs to sleek modern aluminum windows and curtain wall. www.eas-usa.com

#### **Evolve Technologies, LLC** Table 6

**Evolve Technologies develops** innovations that help homeowners Enjoy More and Use Less. Our core technology, ShowerStart, conveniently saves the water and energy that is wasted while waiting for the shower to warm. With ShowerStart a thermostatic shut-off valve (TSV) is all that is needed to conserve without changing shower pressure, flow or morning routines.

www.thinkevolve.com

#### **Fentrend**

#### Table 28

Fentrend makes finding and pricing windows and doors efficient and

transparent. We use data-driven market insights to match your project with the right products from our network of over 70 window and door suppliers. Send us your specifications and we'll send you a side-by-side product report listing the price, performance, material, and lead times for up to five matching products. With a single access point to the largest database of fenestration products, you will be confident that you are buying the product that best matches your requirements, not what a sales rep wants to sell you. All at no cost to you.

www.fentrend.com

#### Fujitsu General America, Inc. Table 19

For over 40 years, Fujitsu has been working hard to make the world a more comfortable place. We have produced and shipped 3.5 million systems throughout the world annually to become one of the largest providers of ductless mini-splits in North America. Fujitsu's Halcyon line of high-efficiency, eco-friendly mini-split systems have been designed to provide advanced zoned comfort solutions for residential and light commercial applications. Halcyon heat pumps are engineered to install quickly and easily with little-to-no ductwork and provide both cooling and heating in temperatures as low as minus 15°F. SEER ratings are as high as 33.0, making Fujitsu's mini-splits among the world's most efficient. www.fujitsugeneral.com

#### **Heat-Timer Corporation** Table 20

#### **NESEA Business Member**

Building efficient buildings starts with Heat-Timer Comfort. Precision control decreases fuel consumption by eliminating problems such as short cycling, overheating, undetected system leaks, etc. When buildings are expertly

controlled, temperatures are consistent and people are more comfortable. At Heat-Timer, our goal is to provide innovative, cost effective control solutions that enhance the comfort and efficiency of new and existing buildings. In doing so, we reduce the environmental impact of building heating systems worldwide often within the imperfect framework of existing mechanical systems. www.heat-timer.com

#### **Home Energy Solutions** Table 13

We provide HERS ratings, HVAC load calculations, sizing and duct design, and IECC certified inspections.

www.home-energysolutions.com

#### **Huber Engineered Woods** Table 39

**Huber Engineered Woods manufactures** innovative, high-performance engineered flooring and sheathing panels. ZIP System panels contain integrated built-in protective barriers, eliminating housewrap/felt and providing continuous moisture and air barriers. AdvanTech Subflooring provides superior strength and moisture resistance under the toughest conditions.

www.huberwood.com

#### InSoFast, LLC Table 27

InSoFast, LLC, since 2006, has manufactured single component continuous insulation panel. This panel combines do-it-yourself simplicity with cutting edge performance. InSoFast is an engineered alternative to the complex, multi-part conventional field assembled systems. InSoFast's R-10 continuous panel performs like a continuous insulated membrane that incorporates dual rainscreen layers and 16" o.c. framing. The non-conductive

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studs are covered with a 1/2" of foam to eliminate the thermal short circuits that plagues traditionally installed sidings. With millions of square feet in place and thousands of happy customers, why work so hard just to do it right, when you don't have too? www.insofast.com

#### **Integrated Environmental** Solutions, Ltd.

#### Table 24

IES is recognized as a world leader in 3D performance analysis software that is used to design tens of thousands of energy efficient buildings across the globe. Our technology is supported by integrated consulting services and today its capabilities are expanding from use on individual buildings to helping create sustainable cities. www.iesve.com

#### **Intus Windows**

#### Table 43

Intus Windows is one of the pioneers in manufacturing and distributing of super energy-efficient windows and doors in the US. Our super energy efficient Passive House certified and suitable windows, doors and curtain walls will fit any commercial, residential or industrial application. www.intuswindows.com

#### Johnson Controls, Inc.

#### Table 14

Johnson Controls is a \$42 billion global multi-industrial leader with multi-disciplinary expertise in complex engineering projects including automation, controls, energy efficiency, demand response, HVAC and systems integration. Our products and services optimize operational efficiencies for customers to get the most out of every unit of energy, water, and material resource used in their facilities.

www.johnsoncontrols.com

#### **LED Lighting Enterprises, LLC** Table 22

LED Lighting Enterprises LLC (known as LLE) was founded by a group of professionals with the intention to bring high quality, cost effective energy efficient LED lighting for public and private infrastructure in the United States. LLE designs lighting requirements, sources the product and components from reputed suppliers, and then assembles or manufactures primarily in their contract manufacturing facilities overseas and in the United States.

www.lle-us.com

#### **Legend Power Systems** Table 37

Legend Power Systems markets a proprietary device, the Harmonizer™ that helps individual buildings reduce energy consumption through the utilityproven concept of Conservation Voltage Reduction (CVR). Legend provides customers risk free energy savings, improves the value of their physical assets, and enhances their sustainability efforts. As an application with demand side benefits, Legend is also a key contributor toward utility conservation goals. Legend was accepted into Con Edison's Market Partner Program in 2016 and is recognized as the top performing cleantech company on the Toronto Venture Exchange. www.legendpower.com

#### **Lotik Labs**

#### Table 47

Lotik Labs is a portfolio company of Samsung. The company has developed and deploys a non-intrusive wireless water monitoring system to help reduce water consumption, increase water transparency, and reduce costs.

www.lotik.io

#### MaGrann Associates, Inc. Table 46

MaGrann Associates is an innovative energy/building consulting and engineering firm headquartered in Mount Laurel, New Jersey with additional offices in Pennsylvania, Washington, D.C., Kentucky, Ohio and Hawaii. Since 1982, it has partnered with clients to deliver exceptional performance in customized building design, program management, and green building certification.

www.magrann.com

#### Mitsubishi Electric Heating & Cooling

Table 33

#### **NESEA Business Member**

For the past 30 years, Mitsubishi Electric Cooling and Heating has enhanced people's lives by improving comfort, conserving energy, and promoting environmental sustainability. As a leading marketer of intelligent and efficient air-conditioning and heating systems for new construction or renovation, our product lines include CITY MULTI Variable Refrigerant Flow Zoning systems and Mr. Slim Splitductless A/C and Heat Pumps.

www.mitsubishielectric-usa.com

#### **National Grid**

#### Table 49

#### **NESEA Business Member**

National Grid, one of the world's largest utilities, connects consumers to energy sources through its networks. In the United States, National Grid delivers electricity to approximately 3.3 million customers in Massachusetts, New York, and Rhode Island. The largest distributor of natural gas in the northeast, National Grid serves approximately 3.4 million customers. www.nationalgridus.com

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#### **New York City Department of Environmental Protection** Table H-3

NYC DEP is NYC's water and wastewater utility serving the city and some upstate communities with 1 billion gallons per day of water as well as treating wastewater within New York. The DEP is also heavily involved in storm water management, water efficiency and quality issues. www.nyc.gov/dep

#### **New York State Energy Research and Development Authority (NYSERDA)**

#### Table 2

NYSERDA offers objective information, innovative programs, technical expertise, and funding to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. A public benefit corporation, NYSERDA has been advancing innovative energy solutions since 1975.

www.nyserda.ny.gov

#### **NORESCO**

#### Table 41

NORESCO offers a full suite of energy efficiency and sustainable design consulting services. We collaborate with building owners, architects and engineers to identify and integrate viable sustainable design strategies into projects to optimize overall energy and environmental performance in new construction and existing buildings. Our services include energy auditing, commissioning and retrocommissioning, energy and daylight modeling, LEED® certification consulting, WELL Certification Consulting and sustainability master-planning. Additionally, NORESCO is one of the

largest energy services companies in the U.S. We use a variety of performancebased contracting vehicles to deliver energy and maintenance savings and significant infrastructure upgrades to existing facilities. These upgrades can be funded through cost savings that the projects generate, without the need for up-front capital expenditures by the customer. www.noresco.com

#### **Northeast Sustainable Energy Association (NESEA)**

#### Table H-1

#### **NESEA Business Member**

Founded in 1974, the Northeast Sustainable Energy Association (NESEA) is today the region's leading membership organization advancing sustainable energy practices in the built environment. We as professionals in the fields of renewable energy and building embrace whole systems thinking as the path to sustainability. www.nesea.org

#### **Noveda Technologies, LLC** Table 42

#### **NESEA Business Member**

Noveda Technologies is an innovative leader in real-time, web-based energy and water monitoring. The company's patented software solutions help reduce energy and water usage, optimize performance of renewable energy systems, and reduce the carbon footprint for customers across commercial, retail, government, education, and utility sectors. www.noveda.com

#### NY Passive House, Inc.

#### Table H-2

NYPH is an independent non-for-profit organization that promotes the Passive House building energy standard in NYS and the NYC metropolitan area through public outreach, education, support of industry professionals and advocacy.

We provide marketing opportunities for our membership, and support the success and vitality of the Passive House community. www.nypassivehouse.org

#### Passive House Institute US (PHIUS)

#### Table 36

Passive House Institute US (PHIUS) is a 501(c)(3) organization committed to making high-performance passive building the mainstream market standard. PHIUS develops and promotes North American specific standards, practices, and certifications for buildings, professionals, and products to create structures that are durable, comfortable, healthy, and super energy efficient. Founded in 2003, PHIUS is the leading passive building research and information provider in North America, and administers the climate-specific PHIUS+ 2015 Passive Building Standard. Through its Passive House Alliance US (PHAUS) program, a membership-based organization with over 800 members across 18 local chapters and dozens of corporate sponsors, PHIUS is building a robust network of passive building communities across North America.

www.phius.org/home-page

#### **Philips Lighting Electronics North America**

#### Table 8

Philips Lighting is a global market leader with recognized and award winning expertise in the development, manufacturing & application of Innovative LED solutions. Serving the professional and consumer markets with sustainable and environmentally friendly lighting technology, Philips sells more energy efficient LED lighting than any other company.

www.lightingproducts.philips.com

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#### **Pioneer Millworks**

#### Table 4

#### **NESEA Business Member**

Pioneer Millworks is the leader in the reclaimed wood industry. To date, they've rescued nearly 26 million board feet of old wood from rot and landfills, giving it new life as flooring, paneling, millwork, cabinetry, and more. All wood is manufactured in a way that's healthy for customers, employees, and the environment, Pioneer Millworks is FSCcertified and Green America approved, All of their products are LEED point eligible. www.pioneermillworks.com

#### **Radiator Labs**

#### Table 45

Radiator Labs, winner of the 2012 MIT Clean energy prize, the 2014 Popular Science Innovation Award, and the 2014 Verizon Powerful Answers award, has developed a product that eliminates the waste implicit in steam heated buildings. The Radiator Labs system features the Cozy, a wireless, low-cost, and easily installed retrofit that drops on top of radiators, allowing room-level indoor temperature control in buildings with radiator heat, and granting this control to management and/or tenants via web and mobile apps. By retrofitting whole buildings, the Cozy redistributes steam flow saving up to 40% in heating costs and yielding a potential cumulative annual savings of \$7 billion over the 120 million residential and commercial radiators in the United States.

www.radiatorlabs.com

#### **RBI Solar, Inc.**

#### Table 18

#### **NESEA Business Member**

RBI Solar designs, engineers, manufactures and installs solar mounting systems for commercial and utility scale projects. As a specialist in ground

mount, roof mount, and specialty solar structures, we focus on providing bestin-class racking systems and project management capabilities to serve the owners and integrators. RBI Solar offers a broad range of solar racking systems to support every PV module manufacturer. Our services include complete design, signed and sealed engineering drawings for all 50 states, high-tech manufacturing, nationwide installation and end-to- end technical support to help you solve the toughest challenges in the industry. www.rbisolar.com

## ROXUL, Inc.

#### Table 15

Roxul, Inc. is a division of Rockwool International - the world's largest mineral or stone wool manufacturer. We manufacture batts for stud walls. semi-rigid boards for exterior walls and rigid products for roofs. Stone wool is non-combustible, water repellant, sound absorbent, and environmentally sustainable. www.roxul.com

#### Siga Cover, Inc. Table 40

#### **NESEA Business Member**

SIGA is a leading manufacture, with over 40 years of experience producing and supporting high-performance air, weather, and vapor tight tapes and membranes for the building envelope. www.sigacover.com

#### **Solar Liberty**

#### Table 21

Solar Liberty is committed to promoting energy independence through widespread installation of solar electric systems with a focus on engineering for system optimization. We further promote the technology through wholesale distribution of photovoltaic (PV) solar components. www.solarliberty.com

#### Steven Winter Associates, Inc. Table 32

#### **NESEA Business Member**

Steven Winter Associates, Inc. provides research, consulting and advisory services to improve commercial, residential and multifamily built environments for private and public sector clients. We specialize in energy, sustainability and accessibility consulting as well as certification, research & development and compliance services. Our engineers and architects have led the way since 1972 in the development of best practices to achieve high performance buildings. As a matter of course, we collaborate with our clients to produce the most cost-effective and innovative solutions. www.swinter.com

#### **TeamDURA**

#### Table H-5

TeamDURA is a team of CUNY students and faculty that participated in the U.S. Department of Energy 2015 Solar Decathlon; an international collegiate competition to design and build an energy-efficient home. DURA is an Urban approach to Resilient, energy-efficient housing that Adapts to the needs of a Diverse city and its people. We are currently looking to further apply the successful aspects of our project, as well as educate the community of the importance of sustainable energy. www.durahome.org

#### T.M. Bier & Associates, Inc. Table 35

T.M. Bier & Associates, Inc. (TMBA) was established in 1977 by its president, Ted Bier. Since that time, the company has grown into the region's most prominent independent control systems engineering company. The design and installation of HVAC systems, lighting controls systems, security systems and various industrial

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controls are only part of the solution that it provides to its clients. TMBA specializes in control systems integration and building automation. The firm's extensive applications and engineering experience in every facet of building automation design, installation, and service - ensure a cohesive strategy and appropriate implementation for the firm's clients.

www.tmba.com

#### Tecogen, Inc. Table 11

Tecogen's InVerde/INV-100 Inverter-**Based Cogeneration Module produces** electricity and hot water for commercial, institutional, and industrial facilities. The InVerde offers full "black-start" capability and is UL 1741and 2200 certified for simplified grid interconnection. The INV-100 can cut energy costs and GHG emissions by 40%. www.tecogen.com

#### **Tunstall Corporation**

**Tunstall Corporation & Macon Controls** is a manufacturer of steam traps, thermostatic radiator valves and a distributor of steam & hydronic heating and cooling specialties for over 58 years. Our steam products are being implemented in buildings all throughout the five boroughs to help reduce energy consumption. www.tunstall-inc.com

#### Ventacity Systems, Inc. Table 31

#### **NESEA Business Member**

Ventacity produces dedicated outdoor air systems (DOAS) with heat recovery ventilation (HRV) - the most efficient way to keep a building, and the people in it, healthy and comfortable.

www.ventacity.com

#### Zehnder America, Inc.

#### **NESEA Business Member**

Zehnder specializes in high-performance ventilation solutions to promote comfortable, healthy, and energyefficient indoor living. As an important component of an energy-efficient home or multi-family building, Zehnder's heat recovery ventilation systems typically recover over 90% of the room temperature and ensure fresh filtered air for the inhabitants year-round. www.zehnderamerica.com

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