

Q1

January – March 2022



**be
ex**

building
energy
exchange

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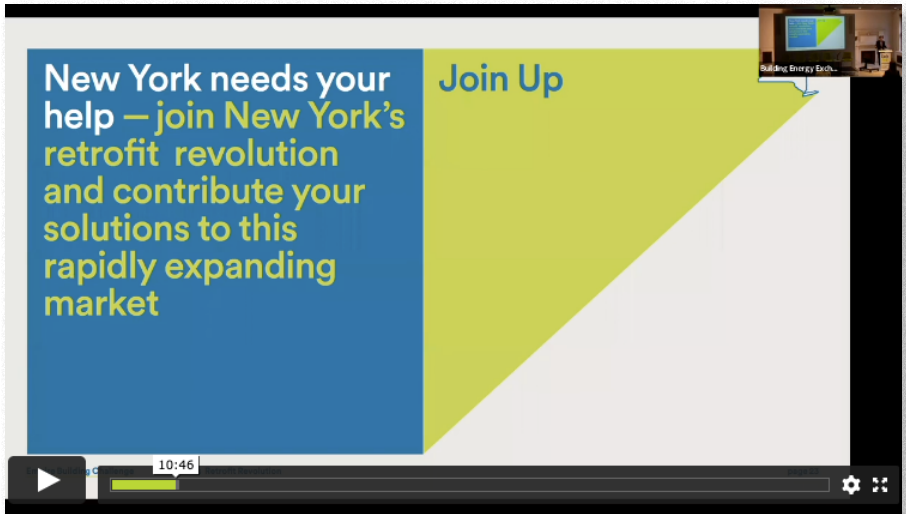
Noor Ain
Assistant, Projects

We have welcomed the start of the year with exciting new offerings, including the launch of a new educational series and slate of resources focused on low-carbon, high-rise retrofits, along with a set of high-performance design trainings.

February 3, 2022

High Rise / Low Carbon Series Launch

At the inaugural program of the Empire Building Challenge educational series, High Rise / Low Carbon, NYSERDA and the Building Energy Exchange welcomed industry leaders representing four Empire Building Challenge Partners for a discussion about innovative and scalable low-carbon retrofit approaches.





February 24, 2022

Beyond Zero Series: Decarbonizing Downtowns

With NYSERDA and BE-Ex, design experts highlighted the opportunity for carbon neutral buildings to revitalize and decarbonize town centers. Featured projects across New York State evidenced how decarbonized buildings met the needs of the community and spurred further redevelopment and economic opportunity.



► <https://be-exchange.org/beyond-zero-series-decarbonizing-downtowns/>

January 26, 2022

A Technical Guide to Heat Pump Installation

In this step-by-step training, project team members showcased the conversion of a multifamily building to all-electric heating and cooling. Speakers detailed the strategy and decision process for installing unitized air source heat pumps, case-specific considerations, data-backed impacts to cost and energy consumption, and the impact of the installation on occupant wellbeing.

► <https://be-exchange.org/a-technical-guide-to-heat-pump-installation/>

column:

Retrofit Incentives Get Real

by Yetsuh Frank

Managing Director, Strategy & Programs

Building Energy Exchange

The benefits of deeply retrofitting existing buildings in urban communities are almost too comprehensive to list in one place. There are the obvious and dramatic reductions in operational carbon emissions, and the less widely recognized improvements in embodied carbon when compared to new construction. Done properly, deep retrofits typically involve major improvements to the building enclosure, enabling far healthier conditions, proper ventilation, and greater comfort. Such retrofits either enable future electrification, or reach that blessed state right away, eliminating on site burning of fossil fuels and the local air pollution it inflicted on its community for every previous year of its existence. Additionally, retrofitting diverts capital that might otherwise be directed to

suburban developments into existing neighborhoods, reducing sprawl and the environmental and health disasters it carries in its wake.

But most of these benefits don't improve the balance sheet of individual buildings—they are, in economic parlance, externalized. As a result, retrofit costs are often compared to simple maintenance costs or, worse yet but very common, they are compared to zero, to doing nothing, and look expensive . . . and complicated . . . and disruptive to occupants. But despite these costs, whether perceived or real, retrofits must happen across virtually every community if we are to meet our climate goals—and governments are beginning to grapple with this basic reality.

One such example is the “Superbonus”

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program in Italy.¹ Recognizing that their built environment uses far too much energy and is also unprepared for earthquakes, the Italians devised a scheme that corrects for both problems while also acting as a much needed economic stimulus in the wake of Covid-19. Buildings that perform retrofits like insulating envelopes or converting to heat pumps can receive a subsidy that equals 110% of the cost of the work. Yes, you read that right, 10% more than 100%. This extra spice is provided to cover funding for soft costs like consultants or loan interest. Building owners claim the subsidy by subtracting the costs from tax returns over a five-year period. Or a contractor can pay for the work and subtract it from their own taxes, or you can sell the credits to a bank.²

The Superbonus program has been, well, super popular. More than 21 billion euros of work is being done by more than 120,000 applicants. The impact on carbon emissions will

be significant but there are already lessons that other jurisdictions should heed.³ The demand induced by the program pushed up prices for labor and materials, something the government is now looking to regulate. When it was conceived it seemed reasonable to include fossil fuel-based equipment like high efficiency boilers in the scheme, but disruptions to supply brought on by the Russian invasion of Ukraine are now highlighting that they likely should have required full electrification to access the funding. They also probably should have known that the generosity of the programs would attract grifters. The Italian government has been defrauded of hundreds of millions of euros—money they are looking to recoup and corruption they are looking to curb.

Here at home, New York State offers a suite of incremental efficiency incentives. But rather than push the market from behind by fully funding every retrofit, state agencies like

1 <https://www.theguardian.com/world/2022/apr/13/italys-superbonus-110-scheme-prompts-surge-of-green-home-renovations>

2 <https://www.casaandcountry.com/article/italian-super-bonus>

3 <https://www.reuters.com/markets/commodities/superbonus-italys-green-growth-gambit-lines-homes-pockets-2021-12-09/>

NYSERDA are looking to clear the path in front of the market by reducing friction that currently impedes it. Among the highest profile programs in this vein is the Empire Building Challenge (EBC). Working with ten major real estate owners on the prospects of deep energy retrofits of large buildings, NYSERDA selected four partners to receive \$5M each towards flagship retrofit projects. The Building Energy Exchange is lucky enough to support this program for NYSERDA through an educational series and the development of resources like in-depth profiles of the awardees and their projects. The educational series, High Rise / Low Carbon, launched in February with a celebration of the four partners—Hudson Square Properties, Empire State Realty Trust, L+M Development Partners, and Omni NY—setting the stage for events across the year that will educate the broader green building community on innovative approaches to decarbonizing large buildings, both commercial and residential.

The focus of this program is less on technology than it is on process, and importing lessons from places like the Nordic countries and Europe. A major push of the EBC is to encourage the market to develop long term capital plans that compare the incremental costs of decarbonization to already planned capital outlays, and map phased improvements to cash flow, providing a real rather than a distorted picture of the “costs” of decarbonization. The lessons learned from other countries include using existing technology like hydronic heating and cooling distribution and

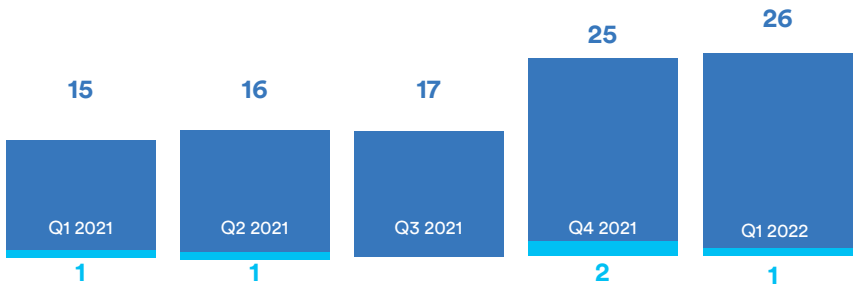
cold climate heat pumps to deliver excellent interior quality while enabling simultaneous heating and cooling demands within a building to share heat across spaces. This latter strategy will be the focus of our first EBC profile—of the Hudson Square Properties and their 345 Hudson deep retrofit proposals. You can learn more about both previous and upcoming EBC events, the profiles as they are published, and other resources at our High Rise / Low Carbon webpage: <https://be-exchange.org/high-rise-low-carbon-series/>. ■

● **programs**

BE-Ex is pleased to have resumed in-person programming, with the majority of events taking place in a hybrid format—both in person and online.

BE-Ex hosted events

Q1-Q2 2021 events took place virtually due to Covid-19 restrictions. Beginning in Q3, both online and hybrid (in person and online) programs have been offered.



BE-Ex developed events

diversity goals

- 1. No all male panels
Q1 number: 0
- 2. 50% female speakers across BE-Ex events
Q1: 44%



average number of days on calendar, BE-Ex events

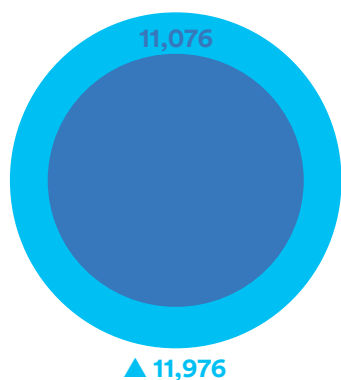


average attendance, BE-Ex events

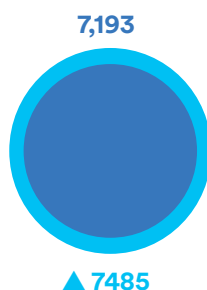
● audience

The BE-Ex audience has continued to grow in 2022. Notably, our national and global audience has expanded as we continue to offer hybrid programming, with about half of our audience residing in New York (44% in New York City and 56% in New York State), and the remaining attendees joining from the United States and abroad.

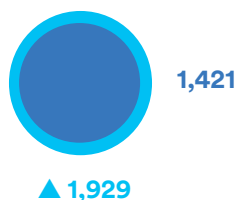
newsletter subscribers



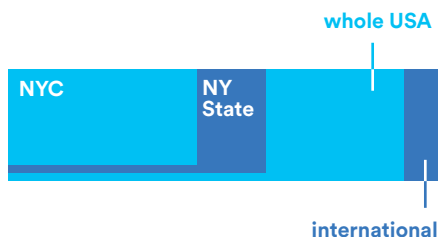
social media followers



resource downloads



program audience geographic distribution



26,864

unique website sessions in
Q1 2022

New Series Launch: High Rise / Low Carbon



The High Rise / Low Carbon Series from Building Energy Exchange and NYSERDA highlights the Empire Building Challenge and commitments of the Challenge Partners.

The Empire Building Challenge cultivates key public-private partnerships to bring innovative, scalable, low-carbon retrofit strategies to the New York market, reinforcing New York's position as a global hub for tall building decarbonization and inspiring action among New York's building industry stakeholders.

This educational series will showcase best-in-class retrofit approaches developed by Empire Building Challenge real estate partners, and foster dialogue among the real estate, construction, engineering, and design communities.

challenge partners



Empire State Realty Trust

Empire State Building



L+M Development Partners

The Heritage



Hudson Square Properties

345 Hudson



OMNI New York LLC

Whitney Young Manor

The Passive House Fundamentals Series

Dive deeper into high-performance design

Building Energy Exchange has launched a series of four, one-hour intermediate courses on Passive House: the high-performance building standard gaining momentum in the NYC market and abroad.

Each of these trainings, delivered live monthly and available on demand at BE-Ex Ed, provide additional detail on the principles introduced in the Passive House Primer:

- Airtightness
- Energy Recovery Ventilation
- Insulation & Thermal Bridging
- Windows & Doors

These courses are ideal for property owners, managers, developers, and anyone interested in an accessible overview of Passive House design and construction.

Register for a public session at be-exchange.org/events, or reach out to info@be-exchange.org to schedule a private delivery.

April 5, 2022

**Climate Mobilization Act
Series: All-Electric NYC
Buildings**

In December of 2021, New York City passed a bill requiring all-electric systems in new construction starting in 2023. During this event from BE-Ex and the Natural Resources Defense Council, panelists will discuss how this electrification mandate will impact the building industry, its implications on indoor air quality and public health, and success stories of designing and constructing all-electric buildings.



April 6, 2022

Beyond Zero Series: Climate-Friendly Campuses

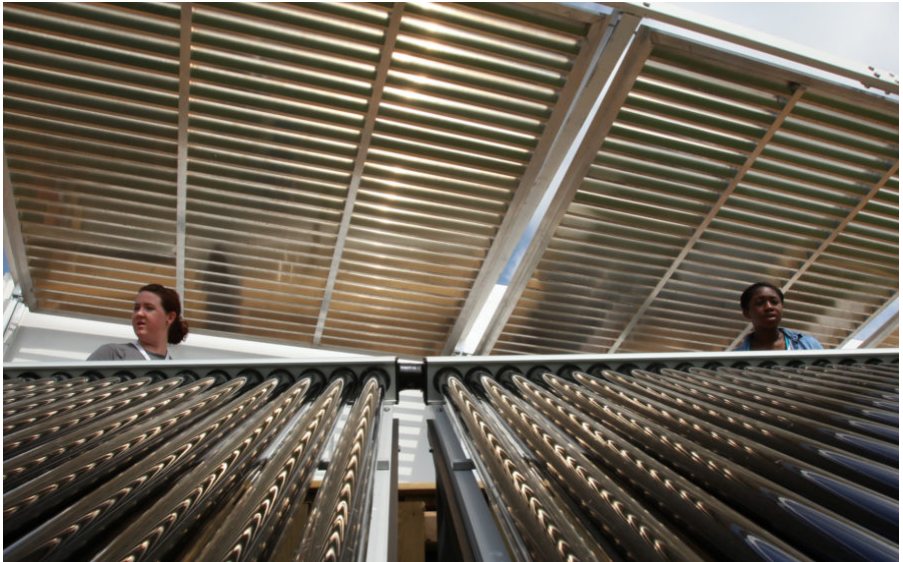
Tackling decarbonization at the portfolio level can fast-track our climate commitments and improve the health, comfort, and resiliency of our communities. During this program, hear from three academic institutions spearheading efforts to reduce carbon and improve the performance of existing buildings at the campus level.

► <https://be-exchange.org/beyond-zero-series-climate-friendly-campuses/>

April 7, 2022

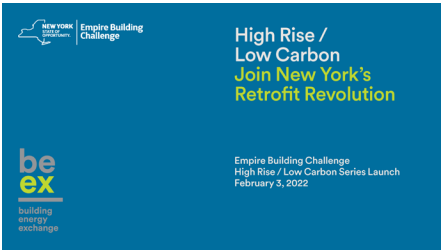
WISE Media Club: Climate Tech Innovation Fueled by Women Founders

With guest speaker Kate Frucher, Managing Director and Co-Founder of The Clean Fight, the Women in Sustainability & Energy (WISE) team invites community members to join an active discussion focused on women leading tech innovation in the climate world, and how to support diversification of founders in the industry.



► <https://be-exchange.org/wise-media-club-climate-tech-innovation-fueled-by-women-founders/>

completed



presentation
Empire Building Challenge
Pitch Deck

Debuted at the launch of BE-Ex and NYSERDA's High Rise / Low Carbon Series, this presentation outlines the Empire Building Challenge and invites New York building industry stakeholders to join the retrofit revolution. The pitch deck clearly outlines the role of New York's buildings in solving the climate crisis and next steps for action.

web portal
High Rise / Low Carbon
Series Portal

This interactive webpage highlights BE-Ex and NYSERDA's High Rise / Low Carbon Series on the Empire Building Challenge and the work of Challenge Partners. Peruse this page to learn about the Empire Building Challenge, access a slate of educational programs, tools, and resources, and join the challenge.



upcoming



profile Empire Building Challenge Partner Profile: Hudson Square Properties

This in-depth report profiles the 345 Hudson retrofit project by Empire Building Challenge Partner Hudson Square Properties, an innovative phased retrofit promising dramatic energy use reductions through a circular systems approach to heating, cooling, and ventilation.



tear sheets & report Commercial Data Into Action

This report will analyze energy benchmarking and auditing data from commercial office building typologies to determine the GHG emissions reduction potential of various energy efficiency and electrification measures. The associated tearsheets will provide guidance on potential building retrofit pathways to achieve compliance with New York City emissions limits.

BE-Ex is glad to help building owners prepare for a climate-ready future – with resources focused on high-rise, low-carbon retrofits and upcoming guidance on recommended retrofit pathways.

programs

Climate Mobilization Act Primer
January 13th, February 10th, March 10th

Passive House Fundamentals Series
January 4th-25th, February 16th, March 16-17th

WISE Ask Me Anything with Con Edison's
Caroline Kopp
January 6th

A Technical Guide to Heat Pump
Installation
January 26th

Beyond Zero Series: Carbon Neutral
Adaptive Reuse
January 27th

High Rise / Low Carbon Series Launch
February 3rd

RTEM + Tenants: Energy Management for
Leased Spaces
February 17th

Beyond Zero Series: Decarbonizing
Downtowns
February 24th

project status

Q1 2022

- High Rise / Low Carbon Outreach Materials
- High Rise / Low Carbon Series Portal
- High Rise / Low Carbon Series Partner Profile
- Commercial Data Into Action - Report
- Commercial Data Into Action - Office Decarbonization Pathway Tearsheets
- EGC Training: High Performance and Climate Resilient Building Design

Ongoing

- Decarbonizing New York City Offices: Resources & Training
- HPD Local Law 97 Affordable Multifamily Roadmap – Case Studies & Best Practices Manual
- Heat Pump Planner Round 2
- BE-Ex Midwest Hubs Support