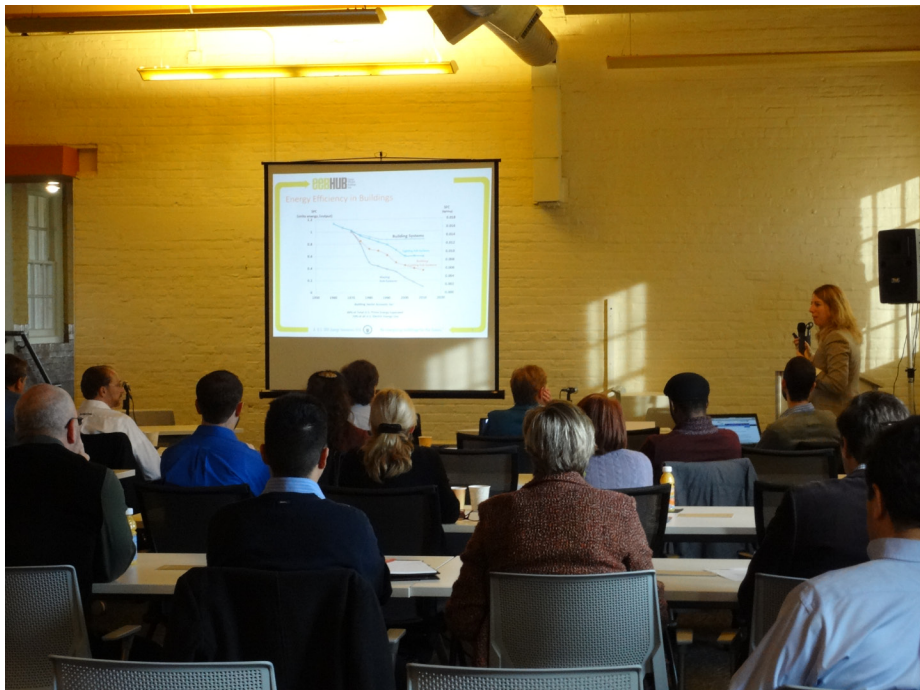


Showcasing Energy Efficiency Products

Original Equipment Manufacturers Present Industry Innovations

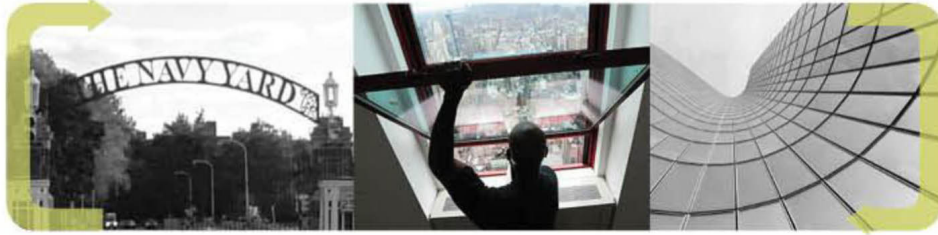
The Energy Efficient Buildings (EEB) Hub encourages building industry professionals – architects, engineers, those in the construction trades, and managers – to implement technological innovations using a holistic approach to energy efficiency. To that end, in its second year the EEB Hub began hosting a series of Integrated Solutions Showcases and held a full-day conference on EEB products. The showcases examine how new lighting systems, HVAC, windows, façade, building control systems, and other technologies can be integrated into whole building solutions to significantly reduce building energy use.



Laurie Actman, Deputy Director of the EEB Hub presenting at an Integrated Solution Showcase event.

Source: EEB Hub.

The four showcases thus far have covered a variety of topics from interiors to exteriors, laying out the details of building design technology for a specialized audience of building owners, occupants, design and construction professionals, and suppliers. Private sector experts also explore the potential benefits of Advanced Energy Retrofit (AER) projects, examine return-on-investment, learn about the



payback of energy efficient products and technologies, and discuss other regional market engagement issues. The showcases present another opportunity for the EEB Hub to engage with local practitioners and disseminate information about best practices and technologies.

Showcase 1: Building 661

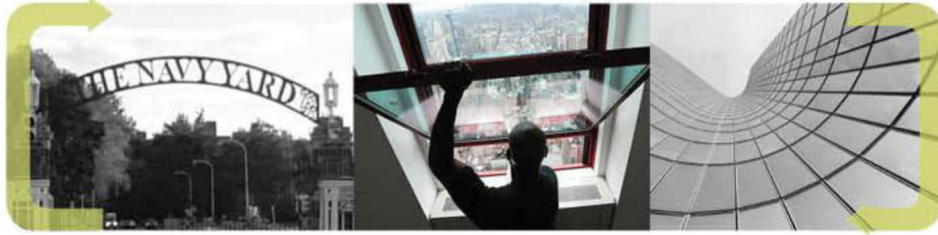
The first showcase, held on April 2, 2012, focused on the Building 661 Integrated Design Team, a group of technology and engineering service providers who are working to upgrade Building 661 at the Navy Yard. This building is the future permanent home of the EEB Hub. Currently undergoing an advanced energy retrofit, it will ultimately serve as a case study for future AERs in the region. The Design Team comprises architects, construction managers, building commissioners, and engineers, with input from [Integral Group](#), [Johnson Controls Inc.](#), [Tozour Energy Systems](#), [PPG Industries](#), [Bayer MaterialScience](#), [United Technologies Corporation \(UTC\)](#), and [Lutron Electronics](#). At the showcase, the assembled advisory group discussed sustainable engineering, building-wide system integration, energy retrofit technology, and integrated building design.

Showcase 2: Window Glazings

The second showcase, held on November 27, 2012, shifted to a narrower focus, looking at a specific building technology. Professionals from [PPG Performance Glazings](#) explained the technical aspects and potential benefits of glazings for high-performance windows. High-performance glass improves energy use in buildings by managing the sun's energy to allow more daylighting, and saves money by reducing HVAC capital and annual costs. Such window installations can easily save money down the line for developers.



A presentation at the Window Glazings showcase
Source: EEB Hub.



Two local case studies highlighted the benefits of glazing: Building 669 at the Navy Yard and 400 Market Street in Center City Philadelphia. In the former, glazing upgrades during window replacements will significantly reduce the building's energy load. In the latter, [Renovate by Berkowitz](#) converted older single-pane windows into efficient triple-glazed windows without needing to use the costly "rip out and replace" process, an approach that was key to the building's LEED Silver certification and 25% annual savings in energy costs.

Showcase 3: LED Lights

Attendees at the third showcase, held on December 11, 2012, discussed LED lighting with industry representatives from [The Lighting Practice](#), [Lutron Electronics](#), [Acuity Brands Lighting](#), and [Lighting Alternatives](#). Lighting accounts for 25% of building energy use and many commercial buildings continue to use older, inefficient lighting, making lighting the oft-cited "low hanging fruit" of energy retrofits in existing buildings. LEDs have emerged as a viable alternative to traditional lighting (incandescent, fluorescent, and metal halide) faster than expected (based on industry experience with compact fluorescent light bulbs (CFLs)), with LEDs projected to account for up to 11% of lighting sales in 2012. In addition to listing the advantages of LEDs, industry experts also highlighted challenges to incorporating LED lighting into retrofits and new commercial building projects. For example, LED illumination fades over time instead of sharply dimming as standard bulbs do, which makes scheduling bulb replacements especially important.



Industry professionals engaged in a presentation about HVAC systems.

Source: EEB Hub.



In addition, a series of case studies from large sites were presented, including two local examples: the Pennsylvania Convention Center and the University of Pennsylvania Parking Garage. The Showcase also provided an EEB Hub tour and demonstration of the Hub's Immersive Construction (I-Con) lab.

Showcase 4: HVAC Systems

The fourth showcase, held on January 1, 2013, previewed advances in heating, ventilation, and air conditioning (HVAC) technology for commercial buildings. Three representatives from the [Carrier Corporation](#), whose parent company, UTC, is an EEB Hub partner, discussed rooftop units, ceiling-mounted chilled or induction beams, and BACnet, a data communication protocol for building automation and control networks. Rooftop units are a standard method of providing air conditioning to buildings; recent advances allow for 38% energy savings over technology that is ten years old or more, while using the same physical footprint. Chilled or induction beams were first introduced in the 1930s by William Carrier, who founded Carrier Corporation, and have recently seen a resurgence in popularity among industry professionals; the technology does not circulate air from one room to another, making it especially applicable to schools and hospitals to halt the potential spread of germs. BACnet technology reinvents the thermostat, adding features like zoning (to set different temperatures in different rooms), remote smartphone access, and the ability to schedule multiple units through a single system; because of a lack of qualified HVAC specialists familiar with BACnet systems, this technology has been underutilized.

Conference on Energy-Efficient Building Products

The EEB Hub hosted a day-long event in partnership with the American Institute for Architects (AIA) Philadelphia. The event featured fifteen concurrent sessions presented by EEB Hub member organizations. The sessions were designed to give brief, informative overviews of state-of-the-art energy efficient building products by leading manufacturers in the industry, primarily focused on windows, lighting and controls, and daylighting. In attendance were regional architects who received continuing education credits for their participation.

Moving Forward

The EEB Hub will continue to host Integrated Solutions Showcases as part of the [Suppliers Platform](#).





For information about future events, contact Sharon Ross (sross@dvirc.org), Manager of the Suppliers Platform.