



A PATH TO ZERO? THE ROLE OF NET ZERO ENERGY BUILDINGS IN BOSTON – EVENT RECAP

On Wednesday, May 10, A Better City hosted its panel event and building tour, “A Path to Zero? The Role of Net Zero Energy Buildings in Boston,” which was held at Boston Medical Center. The event explored the role of net zero energy and net zero emissions buildings in meeting the mayor’s commitment to make Boston carbon neutral by 2050. Net zero energy and net zero emissions buildings are highly energy efficient and offset all their usage or emissions through on- or offsite renewable energy.

The event kicked off with opening remarks from **Rick Dimino, President of A Better City**. He emphasized that net zero energy buildings are a key component to reducing GHG emissions from the commercial and industrial sector, which account for 52% of all the city’s emissions. He then introduced **Bob Biggio, Senior Vice President for Facilities and Support Services at Boston Medical Center**. As the largest safety net hospital in New England, Bob shared how better serving its patients and the community has motivated Boston Medical Center (BMC) to become a green and sustainable campus with the goal to make Boston the “healthiest urban population in the world.” The BMC campus redesign has shrunk its footprint by 400,000 square feet and is projected to save an estimated \$25 million annually in energy and operating costs, allowing BMC to serve more patients. The campus expects to be carbon neutral by 2018.

The event then shifted to a panel discussion about the viability of and pathways towards net zero energy buildings. **John Dalzell, Senior Architect at the Boston Planning and Development Agency (BPDA)** moderated the panel. He challenged the audience to imagine a city where buildings are regenerative, healthy, and sustainable. He shared results from [Boston’s E+ Green Building](#) program, which has piloted net zero energy and energy positive residences in Boston, successfully exploring feasibility questions of “can we build it?” and “can we pay for it?”

Jacob Knowles, Director of Sustainable Design at BR+A Consulting Engineers spoke next. He shared the story of his firm’s work on the Sbregea Building at Bristol Community College, which is the first net zero energy laboratory building constructed in a cold climate. The college has set a goal of carbon neutrality by 2050, meaning that the footprint of the new building needed to be forward-looking and aligned with that goal. His team explored key strategies for the building, including a geothermal system for heating and cooling and a solar parking array with a PPA, and was able to design a net zero energy building with similar construction costs to a high-performance building.

Jill Kaehler, a Project Leader and Lead Designer at Behnisch Architekten, shared her firm’s work on designing a new building for Artists for Humanity, a nonprofit located in South Boston. She walked through some of the key modeling and design decisions her firm has explored, including process measures, active measures, and plug load management, to achieve a net zero energy design. Construction on the building will begin in July and it will include a large solar array, radiant heating and cooling, aerogel walls, natural ventilation, and additional passive design features throughout that maximize energy efficiency while also allowing for user comfort.

Seth Federspiel, a Net Zero Energy Planner at the City of Cambridge rounded out the panel presentations by sharing Cambridge's [Net Zero Action Plan](#). Driven by resident petition, the city formed a Net Zero Task Force to create a plan to move the city to net zero community carbon emissions by 2050. Since buildings generate over 80% of Cambridge's GHG emissions, the plan relies on key strategies that focus on existing buildings and new buildings, as well as strategies to decarbonize the city's energy supply. The city will begin leading by example by moving all city buildings to carbon neutrality by 2020.

Panel discussion following the presentations centered on the drivers for moving the market towards net zero energy buildings. From the private practice side, the speakers shared the need for incentives and regulatory guidance from the city and state, but also demand from developers. This can include stronger energy performance standards that can be tied to building disclosure ordinances. The panelists also emphasized the role of the client in the process, with the client as the key driver in encouraging net zero energy design and construction.

Amy Longworth, Director of the Boston Green Ribbon Commission, provided closing remarks for the event, highlighting the important of net zero energy buildings in ensuring healthy communities, with health at individual level, ecosystem, neighborhood level, and city level.

Following the panel, a smaller group of attendees joined **Bob Biggio** and his colleague **Nancy Hanright, Director of Space Management**, for a tour of the campus emphasizing the intersection of BMC's work on sustainability and community. The tour included a visit to the hospital's rooftop garden, its demonstration kitchen, and its food pantry.

Thank you to all of our speakers, discussion leaders, and attendees!