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## **Beth Israel Deaconess: Reducing lab energy use while delivering superior indoor environmental quality**

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Known for its excellence in patient care, biomedical research along with teaching and community service programs, Beth Israel Deaconess Medical Center (BIDMC) has a history dating back to 1896. As a leader in a city filled with medical and technological innovation, the Boston-based teaching hospital was looking for a way to lower its energy use, reduce its carbon footprint and become a more sustainable organization. Similar to most hospitals and research facilities, BIDMC was faced with the challenge of reducing energy use while staying committed to a superior indoor environmental quality. The hospital soon learned about Aircuity's solutions, which directly addressed that concern. Aircuity's OptiNet system allows for a variable air change rate, which gave BIDMC the assurance that the ventilation rates could be lowered by real time measurement of the laboratory environment, and increased if contaminants were sensed, thus providing a safer and more energy efficient operation for their laboratories. With the promise of safer, more efficient ventilation in its labs, and a rebate incentive available from BIDMC's electric and gas utility provider, it made sense for BIDMC to get a jump start on its sustainability initiative by tackling the ventilation in its facilities. BIDMC decided to implement Aircuity's technology in research laboratories at The Center for Life Sciences Boston as turn-key projects in two phases. After the first phase was complete, BIDMC quickly began to realize lower energy costs and a safer indoor environment for its staff. Phase one of BIDMC's project resulted in an annual savings of \$270,000; after completing phase two the total annual savings totaled \$640,000, with a return on investment of less than one year. The actual savings were within 1% of the Aircuity estimated figures calculated prior to the beginning of this project. BIDMC's Center for Life Sciences has become a shining example for energy efficiency projects in research facilities. The New England Association of Energy Engineers recognized BIDMC as "Best Research Facility Energy Project in 2011", and the project was nominated for national recognition. "We were thrilled that BIDMC was recognized as the best research facility energy project by the New England Association of Energy Engineers", said Mark Lukitsch, utilities and energy manager at BIDMC. This project demonstrates that it is possible to achieve a significant energy reduction while providing a healthy environment for occupants.

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