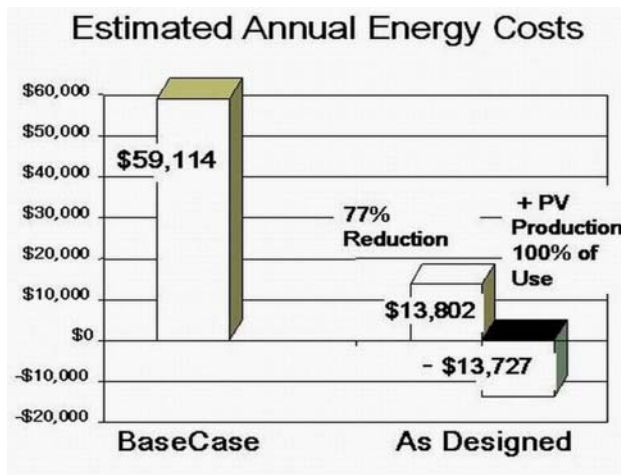


Hickory Fosters Advanced Low-Cost Super Sustainable Building

Artists for Humanity is a non-profit organization that offers paid apprenticeship programs in the arts to inner-city teens. Their new headquarters, located in the Fort Point arts district of Boston, includes passive cooling systems, 45 kilowatts of roof-mounted photovoltaic cells, a glass curtain wall for daylighting benefits, and energy efficiency measures. From the beginning it was clear that the client wanted an energy efficient building that would have an iconic presence in the community, would provide flexible accommodation of their varying arts programs, and would demonstrate a progressive approach towards sustainable design for the teen artists and the community as a whole. Their new headquarters, called the Epicenter, embodies the dreams as well as the mission of the organization.

This project is a great example of Hickory's integrated whole building design and construction process. A sophisticated sustainable design approach was employed to guide the entire planning, design and construction process. This process includes sustainability considerations as well as high efficiency envelope and equipment, should be a model for other organizations. The demonstration of a naturally cooled commercial building in an urban setting is very important milestone for sustainable construction. The entire building was thus designed to minimize energy demand, provide healthy conditions, use sustainable practices and materials and finally apply Photovoltaic electricity generation to the optimized building.

Hickory's whole-building approach requires looking at all parts of the building and the building process to reveal opportunities to improve the building at the lowest possible cost. The Artists for Humanity Epicenter, comprised of studios, classrooms, a large gallery, and offices, represents an exemplary model of the process and the results that can be achieved through integrated whole-building design. From the initial prioritization workshops, which included sponsors, directors, students, architects and engineers, to the ongoing operation of the building, this project demonstrates the value of the sustainable design approach. This is a groundbreaking, naturally cooled urban building, with daylighting, energy efficient systems, and envelope, as well as a 45 kWp grid-connected photovoltaic system (currently Boston's largest). This building is expected to save approximately 100% of the base case energy costs (see Fig. 1), and is expected to achieve LEED Platinum status.



The EpiCenter is the first naturally cooled commercial building in Boston. The demonstration of a naturally cooled commercial building in an urban setting is very important milestone for sustainable construction. A 45kW photovoltaic system generates renewable energy that meets a third of their needs, glass walls maximize daylighting in the facility, a tight building envelope and high-efficiency lighting all further decrease energy use of the building.

The EpiCenter is expected to achieve a LEED platinum rating. It is quickly earning

its reputation as a place where others, from grammar school students to architects, can come to learn about ways to minimize their impact on the environment. AFH is currently developing educational programs that will be offered to area schools to teach children about renewable energy, sustainable building practices, and environmental responsibility in a creative fashion.

With a final cost of \$177/square foot (including soft costs, utility incentives and energy rebates), this building is among the lowest cost buildings of its type in the nation. The building is expected to use only 32% of the energy that the average building of similar size would, with 33.4 kBTUs per square foot (if PV production is included, these numbers drop to 25% and 25.75 kBTUs/sf). It is expected to reduce carbon dioxide emissions by approximately 56,000 pounds per year. The EpiCenter sets an example not just for environmentally sound building practices but also how green buildings can be built on a very tight budget. Finally, the Epicenter is a clear demonstration of the potential for sustainable living on the planet.

For more information on the Artists for Humanity Building, see
[The Artists for Humanity Epicenter](#)