

Engineering

Educational institutions make significant steps toward being green

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A number of the major educational institutions in the New York area are undertaking initiatives to making their facilities more green. As a LEED Accredited Professional, I certainly am very pleased to see this extensive embracing of sustainable and LEED applications. In fact, these institutions were some of the first organizations to undertake major sustainable initiatives.

An early adapter of emerging technology was The City University of New York (CUNY). One of their first programs was the Million Solar Roofs Initiative (MSRI), executed with the U.S. Department of Energy's Million Solar Roofs program in the summer of 2005. Since CUNY set an ambitious goal of installing 500 solar roofs in New York City by 2010, the Center for Sustainable Energy (CSE) assisted them with a study to assess the solar energy market in the city and in the implementation of the plan. The final

report was instrumental in achieving CUNY's goal and in outlining a plan for NYC to build a sustainable solar future. As a result, the U.S. Department of Energy named New York City as one of the initial 13 Solar America cities.

Another CUNY project where sustainability is a key goal is the comprehensive mechanical, electrical, plumbing and fire protection infrastructure upgrade to the 285,000 s/f field building of Baruch College, located at 17 Lexington Ave. JFK&M designed the systems to achieve LEED requirements towards the goal of attaining LEED silver certification. This \$180 million project renovation is being done in a phased approach over a number of years while the facility is still under operation. The overall project goal is to achieve a superior academic sustainable facility.

Adelphi University is a leader in the field of energy conservation and recycling and developing programs and policies that ensure a sustainable friendly and fuel efficient campus. The university has programs affecting almost every facet of sustainability. Some of these include: sustainable site selection, alternative transportation, storm water design, roof color heat effect, water use reduction, collection of recyclables, construction waste management, recycle materials, regional

materials, low emitting materials, outdoor air delivery monitoring, solar panels, wind power, remote shut-down

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of lab computers, energy-efficient monitors, reduction of paper use, conversion to energy-efficient servers, transition to virtualization software, consolidation of storage, installation of energy-saving equipment, energy-efficient transportation and the list goes on.

Adelphi is even using geothermal energy for heating and cooling. The university installed two well field closed-loop systems, which do not use ground water but circulate the system water through a series of wells. This type of system does not require the burning of fossil fuels and will pay for itself over time. This project demonstrates the University's commitment as

an environmentally friendly campus.

Columbia University Facilities Department continuously strives to help make the university more energy efficient. A few of these examples include the installation and use of:

- Green roofs;
- Hybrid cars;
- Green labs;
- Energy-efficient lighting and lighting sensors;
- Geothermal Energy; and
- Heating/Cooling Management Systems.

Cooper Union has completed a major project at The Foundation Building to achieve energy optimization. They undertook a comprehensive MEP/FP infrastructure upgrade to improve energy efficiency and retrofitted existing building stock with clean energy technology including solar panels.

The university is also working with the Fourth Arts Block on an innovative project to improve the sidewalk infrastructure in the surrounding neighborhood of the Cooper Union campus. This project will enable a more intelligent management of storm water and provide other neighborhoods with a highly visible model of sustainable design.

NYU has a sustainability task force made up of students, faculty and administrators representing constitu-

encies from all over the campus. The task force conducts a comprehensive assessment of current practices; recommends a prioritized Green Action Plan to improve NYU's environmental footprint; engages faculty, students and administrators in sustainability efforts; and develops a method to award funds for green projects.

Nine universities accepted mayor Bloomberg's challenge for reducing their greenhouse emissions 30% in the next ten years, matching the commitment the mayor has for emissions from city operations. Each of the universities, known as 2030 Challenge Partners, created an inventory of their greenhouse gas emissions along with a plan that they are following to achieve their reductions. The nine 2030 Challenge Partners are Barnard, Columbia, Cooper Union, CUNY (23 campuses), Fordham, New York University, Pratt, St. John's University, and The New School.

As you can see, there are numerous sustainable initiatives underway in almost all our area universities. This trend will become the norm in the maintenance and growth of these institutions going forward.

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