



GreenNY

New York State Environmental Excellence Awards

State University of New York Fashion Institute of Technology

Case Study on Reducing Carbon Emissions

Summary

For the past 10 years, the Fashion Institute of Technology (FIT) has taken an aggressive approach to reducing carbon intensity by providing the highest level of sustainable campus culture, as well as implementing facility improvements. The educational and cultural component of FIT's sustainability efforts may, in the long-run, overshadow our facilities-based, carbon-intensity reductions. Thousands of graduates of FIT are at work right now spreading the FIT message of sustainability and environmental responsibility in New York City, New York State, and all over the world as they enter the fashion and textile industries and seek to make changes to energy- and resource-intensive practices. Sustainability efforts at FIT include large projects ranging from an upgrade of the chiller plant, to the renovation of an academic building, and the installation of green roofs totaling 17,000 square feet. Smaller, student-focused pilot projects include an innovative fabric-composting system and a rooftop dye-garden where students grow plants to develop non-synthetic textile dyes for use in the fashion industry.

Benefits

Dramatic 43% reduction in the college's carbon intensity from 2005 to 2015 with future goals of further reducing carbon intensity by achieving the 50% reduction milestone by 2020.



Department of
Environmental
Conservation



The State University
of New York

About the Fashion Institute of Technology

- The Fashion Institute of Technology (FIT) is a design, art and business community college of the State University of New York.
- FIT is an internationally recognized college for design, fashion, art, marketing, and business and one of New York City's premier public institutions. The college is known for unique academic programming; experiential learning opportunities; academic and industry partnerships; and commitment to research, innovation and entrepreneurship.

Key Metrics

- In 2005, the FIT's carbon intensity (lbs CO₂e/SF) stood at an estimated 56.39. Just 10 years later, the 2015 carbon intensity had dropped to 30.59, a reduction of 43%. Going forward, FIT has set the goal of achieving a full 50% decrease by 2020 from the 2005 baseline

About the New York State Environmental Excellence Award

The New York State Environmental Excellence Award is given by the Department of Environmental Conservation in recognition of outstanding innovative and sustainable projects or programs and unique partnerships that are improving and protecting New York State's environmental resources and contributing to a stronger economy.



Highlights

FIT installed more than 17,000 square feet of pre-vegetated, green-roof material on multiple campus buildings in 2014. Overall, the system has netted impressive results including:

- 300 kilograms of carbon dioxide removed from the atmosphere per year
- 2% decrease in electricity consumption according to studies of similar projects
- Potential to divert an estimated 300,000 gallons of run-off from the sewer system annually on the six-inch-thick, Kaufman Building green roof, which retains as much as 90% of runoff (34 bird species use the Green Roof including hummingbirds, warblers, sparrows, doves, mockingbirds, falcons, and four bat species, two of which are migratory and traditionally roost in trees)
- Provides the annual oxygen intake requirement for approximately 850 people.
- Students also built a natural dye garden into the green roof system with a goal to develop plants that have the potential to reduce or replace synthetic dyes.
- In 2015 a muslin composting system was installed and the resulting compost acts to feed the soil on the green roof system.

Funding

- Beginning in 2013, FIT became a partner in the city's DCAS ACE and ExCEL programs. These programs provide funding to the college to improve its energy efficiency and reduce carbon impacts. By 2018, the ongoing projects are expected to yield a further reduction of 3,810 lbs CO₂e/SF.
- FIT's Sustainability Council, a 20-member group of students and faculty who act as ambassadors for building a campus culture of sustainability, grants up to \$15,000 annually to support creative and innovative projects that infuse sustainability into the college's culture and physical environment.

A Model of Excellence

- FIT's President, Dr. Joyce F. Brown, has made environmental sustainability a centerpiece of campus life and the institution integrates sustainable practices into all facets of academic life and facilities management.
- FIT's participation in the Mayor's Carbon Challenge and the White House Climate Pledge exemplifies FIT's commitment to sustainability.
- FIT installed iVina BookScan station in the FIT library allowing students and faculty to duplicate materials without toner and lower paper output.
- In 2014, FIT renovated its Printing Shop with new, more-sustainable equipment and operations the results include a 15% reduction in paper waste, elimination of volatile organic compounds, and elimination of waste chemicals from offset plate developing process.
- FIT's Energy reduction projects include: installed lighting retrofits with daylight and occupancy sensors, installed "Energy Star" refrigerators in all dormitories, new elevator and escalator controls, and purchasing an ultra-low emission generator for its new data center.
- The new 500-ton, electric chiller and the refurbishment of three 1,000 ton steam turbine chillers with no CFC refrigerants, pays big environmental dividends including: removing 11 million pounds of CO₂ per year, saving \$600,000 annually, providing an electricity savings of 557,856 kWh/year and 71,993 MMBTU/year of steam, and a more than 5,000 ton reduction in CO₂ emissions.