# NYC MAYOR'S CO2 CHALLENGE Universities

# **Barnard College**

Barnard College accepted the Mayor's Carbon Challenge in 2007. In just five years, Barnard cut emissions 34% from 2005 levels—and significantly reduced air pollution at the same time.

#### To meet the 30% goal, Barnard College:

- Completed extensive façade and roof repairs and replaced windows with low thermal emissivity glass to reduce heat loss
- Replaced steam traps in buildings to reduce steam leakage
- Retro-commissioned existing building equipment to optimize energy use
- Installed more energy efficient lighting, timers, and occupancy sensors
- Set up web-based building management systems to better control equipment energy use
- Reduced building operating temperatures during the winter and increased temperatures in the summer
- Installed pipe insulation to prevent heat loss
- Reduced usage of No. 2 heating fuel oil
- Built to Leadership in Energy and Environmental Design (LEED<sup>®</sup>) standards for new construction

## Total Savings: At least \$1 million per year

## **Highlights: Retro-Commissioning**

Retro-commissioning is a systematic process to optimize the energy performance of existing buildings by identifying and implementing operational and maintenance improvements. Through retro-commissioning, Barnard College has made a series of upgrades to its mechanical plant, including its boilers and ventilation systems, to make them more efficient—which reduces waste, lowers carbon emissions, and saves money. Under the NYC Greener, Greater Buildings Plan, beginning in 2013 all buildings greater than 50,000 square feet will be required to undertake these common-sense measures to optimize building performance and reduce their energy usage.



"As a leading New York academic institution, Barnard pledged to reduce its greenhouse gas emissions by 30% within 10 years. To meet this challenge, we committed to not only reduce the amount of energy the campus consumes, but also to reduce waste and encourage environmentally-friendly habits among the Barnard community." —Daniel Davis, Associate Director of Facilities Services



Founded in 1889, Barnard was the only college in New York City, and one of the few in the nation, where women could receive the same rigorous and challenging education available to men. Today, as the world-renowned liberal arts college for women at Columbia University, Barnard remains devoted to empowering extraordinary women to become even more exceptional.