HOW NYU’S NEW COGENERATION PLANT WORKS

GETTING GREENER: In 2007, NYU committed to building a new, state-of-the-art cogeneration (CoGen) plant, which simultaneously produces heat and electricity to serve the NYU campus. Because of the plant’s efficiency, greenhouse gases will be reduced by 5,000 tons/year and there will be nearly 70% fewer regulated pollutants emitted compared to meeting NYU’s energy needs with conventionally produced energy. When it becomes fully operational in 2010, it will permit NYU to achieve and surpass the public commitment it made in 2007 to reduce its carbon footprint by 30% by 2017.

FAST FACTS:
- Approaching 90% efficient
- Providing electricity to 22 buildings*
- Providing heat to 37 buildings
- 23% decreases in greenhouse gas emissions
- 68% reduction of EPA Criteria Air Pollutants

THE PROCESS:
Natural gas 1 fuels twin high-tech gas turbines 2 which work very much like jet engines. As the turbines work, two things happen: hot exhaust from the turbine is directed to heat recovery steam generators 3 which make steam, and the rotation of the turbines is used to generate 11 megawatts of electricity. 4 Once steam is created in the steam generators, 3 it is piped to a steam turbine electrical generator 5 which produces an additional 2.4 megawatts of electricity. After the steam has passed through the steam turbine generator, it is still used: it makes hot water for the campus in two high-temp hot water heat exchangers 6 and it is used to operator a chiller that provides cool water and cold water for air conditioning. 7

ENERGY KEY:
- Natural gas
- Electricity
- Steam
- Hot water
- Mechanical energy
- Hot turbine exhaust
- Cold water

SITE MAP:
- Warren Weaver Hall
- CoGen Plant
- Mercer
- West 3rd St
- West 4th St

*UP FROM 7 WITH OLD PLANT

GRAPHIC BY STANFORD KAY STUDIO