

Large Business Program

Union College

Union College

Union College was founded in 1795 in Schenectady, NY. They are one of the nation's oldest and most distinguished liberal arts colleges. In 2012, Union College started working with National Grid to identify and implement energy efficiency upgrades throughout the campus.

Energy efficiency solutions lead to improved comfort and reduced operating and maintenance costs.

- New cooling and air handling system for the Schaffer Library. Improvements to the cooling system included the addition of a heat-recovery chiller and geothermal chiller utilizing geothermal wells from the World Science Center (LEED Gold). Along with three new make-up air units, reheat coils and improved controls, the system at the Library can now efficiently maintain required indoor temperature and humidity conditions. The new chillers will also provide cooling and dehumidification to the Library in the spring and fall when the main campus chilled water plant is not running. The annual energy savings from this project is 732,158 kWh.
- A new air handling unit and separated distribution systems for the College's animal and biology laboratories. The new unit reduces air flow to desired levels that are energy efficient without sacrificing comfort for students and staff. The distribution systems enable more efficient provision of space conditioning. Electric reheat was reduced significantly, resulting in energy reductions. The college saved 162,258 kWh annually as a result.
- Variable speed drives on three condenser pumps at the College's chilled water plant, resulted in annual savings of 76,354 kWh.

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The result:

Annual kWh saved	1,713,644 kWh
Annual Therms Saved	87,681 Therms
CO₂ Reduction	5,008,997 pounds
Authorized Incentive	\$381,576
Annual Savings	\$208,990



Schaffer Library

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- A new high-efficiency natural gas boiler that replaced an existing boiler in College Park Hall (student residence hall). To further improve efficiency of the new boiler, a 240 MBH electric heat pump templifier was added. By extracting heat from the heat pump loop, the templifier allows a newly resized boiler to operate in condensing mode more frequently. The improvements save 30,156 therms annually.

National Grid assisted Union College in identifying efficiency opportunities, verifying energy savings, and providing incentives, which played a critical role in the school's decision to move forward with the projects and to identify future efficiency opportunities. Planned projects include lighting and HVAC upgrades, new energy efficient boilers, new high efficient LED lighting for the Achilles Center (Messa Rink) and multiple electric and gas upgrades.

These projects are welcomed at a college where energy efficiency has become a staple of everyday life. The energy savings allows Union College to put more money towards financial aid and lower tuition. Union College's Environmental Science, Policy and Engineering Departments provide student study groups to incorporate energy efficient practices on campus. A member of the EPA's Green Power Partnership, Union College also proudly promotes energy efficiency beyond its campus. The College hosted a conference, Climate Change: Adaptation and Building Resiliency in our Communities, where executives, engineers, and local efficiency stakeholders discussed how energy efficiency could be further utilized in New York.

In its commitment to energy conservation, Union College demonstrates the kind of smart, analytical thinking that distinguishes its well-rounded graduates.



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