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Going Green at Binghamton

We live in a world where everything we need is at our fingertips. From being connected to friends and family over the internet to having a fridge and pantry full of food to having our basic needs fulfilled, such as running electricity and water and heat, it is easy to forget how convenient these all are and we take each of them for granted. After all, how many times a day do we worry about whether or not there will be a power outage or a lack of hot water when we return to our dorms after a long day of studying? The fuel and energy that powers our daily lives is something we see every day, yet hardly ever think about, and this topic of where our energy comes from and whether or not it is sustainable is something that needs to be addressed.

Binghamton University is powered like a small city; the university budgets approximately \$10 million dollars a year to pay for electricity, natural gas, wood chips, propane water, and for sewer services for all of the buildings on campus. All of this fueled by the power plant near the university; in 1989-1992,



Construction taking place near the Central Heating Plant

Binghamton University worked with contractors to update the Central Heating Plant, where 100M BTU/HR high temperature hot water generators were retubed and a 1MW emergency generator unit plus cooler was installed. The contract also included all related wiring, tubing, piping, controls, motors for high temperature hot water system distribution pumps, coils, and auxiliaries for plant combustion inlet air heaters. The coal handling, coal feed, and coal storage equipment, bottom ash and fly ash handling systems, the high temperature hot water generator equipment and combustion air systems were also upgraded.

Although this lauded as a great achievement initially, throughout the years, the students became more and more concerned over the university's use of non-renewable energy. In fact, in

September 2009, the Beyond Coal Campaign was launched to transition Binghamton University from coal to 100% clean, renewable energy sources. This movement on campus was inspired by the Sierra Club's national Coal-Free Campus Campaign, which was a movement across the country to get universities to stop their dependence on coal. After only 3 months of student organizing, coalition building, and media outreach, the Beyond Coal Campaign worked with the university's administration to win a commitment to transition Binghamton to 100% biomass by 2020. However, the students were adamant, saying that the planet couldn't wait that long; the students pushed harder, striving to make Binghamton coal-free by 2015. All of this energy use and building operations at the central heating plant has been monitored with the Energy Management System (EMS), a sophisticated device that allows control and programming of mechanical and lighting systems in accordance with how the buildings are used and occupied. For instance, if a building is not in use, then the system within that building can be curtailed so that energy is not wasted.

Aside from the central heating plant, Binghamton University has also implemented other clean energy and energy-saving projects across the campus. For example, in 2004, Binghamton University needed a new dormitory community to be opened in order to expand their campus and the school; the goal of this project was to provide high-quality housing that was also environmentally responsible and economically viable, as well as providing ample common areas as interior lounges and playing fields and green spaces for the residents. With this focus on green design,

Mountainview College was constructed with masonry and brick in order to capture the synergy of a well-integrated building. In fact, in 2008, two of the buildings in Mountainview, Windham Hall and Cascade Hall, became the first buildings at Binghamton University to earn LEED Certification based on the building's energy-efficient design, construction and operation.



Mountainview College (with Appalachian Dining Hall in the forefront)

Continuing with this trend, all new construction or major renovation projects are now built to LEED Silver standards or beyond. For instance, Newing College's Broome Hall and Delaware Halls are LEED Gold, and the Engineering and Science Building achieved LEED Platinum status in 2013. Binghamton University efforts to continuously improve itself and become sustainable is admirable; in fact, the Engineering Building has recently gone under renovation to install solar panels and windows, as well as update the mechanical, electrical, and plumbing

systems inside the building as well. As a student of Binghamton University, I can only hope that these efforts to become more energy efficient never cease.



Binghamton University President Harvey Stenger and Tracie Hall, executive director of the state chapter of the U.S. Green Building Council, get excited to mount the LEED Platinum plaque on the wall of the Engineering and Science Building