

A Holistic Approach to Managing Campus Energy Costs

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In a climate of escalating utility costs, the need to aggressively manage energy expenditures and consumption has become a paramount concern for higher education facilities officers.

The development of a holistic energy management plan can yield benefits large and small: sourcing at better prices and/or from more reliable suppliers, reducing consumption through no-cost/low-cost changes in operations, extending the expected useful life of equipment through improved maintenance, and more. The cumulative contribution to the bottom line pays for the expense of the planning, many times over.

The College of Notre Dame of Maryland has undertaken an aggressive energy management program that has been highly effective at mitigating the impact of the rapid rise in utility rates. The College recently completed an ambitious capital construction program which included a new science facility and new centralized heating, cooling and ice storage plants. The results of these initiatives were a revitalized campus, however, escalating fossil fuel and electricity prices necessitated the development of an aggressive new program to evaluate savings opportunities.

Strategic Building Solutions, LLC was engaged to develop an Energy Management Program for the College's 56 acre campus, housing thirteen (13) major buildings and encompassing approximately 565,000 gross square feet. Since November 2005, representatives from SBS have undertaken a broad based process of investigation, analysis, discussion and review. This process includes working closely with representatives of the Facilities Management organization to collect historical energy billing information, review of current operating practices, and test findings and recommendations.

A three-step process is being utilized to systematically identify energy savings opportunities and translate these concepts into an energy management plan that can serve as the foundation for the energy program in the years ahead. The three-step process includes 1) Energy Cost and Consumption Analysis; 2) Evaluation of Energy Savings Opportunities; and, 3) Implementation Plan Development.

SBS Principal-in-Charge for the energy management program, David Vallerie , advises facilities managers and owners "If you think the initial costs are high, just look at the lifetime costs. By utilizing our '3-P' process clients successfully **Propel** (*produce rapid savings impact*); **Perform** (*implement highest priority energy saving conservation measures*); and, **Persist** (*continue priority implementations and ensure savings persistence*).

Notre Dame has recognized the significant cost of energy and its associated environmental impact and is consequently proceeding to convert the campus from direct expansion cooling and steam heat to central Chilled Water and Hot Water plants and distribution systems. This strategy to modernize the central heating and cooling plants will have a significant impact on both campus energy costs and energy consumption.

When asked for his overview of the implementation and effect of the College's energy management program, Joe Caruso, Director of Facilities Management was quoted as saying that "SBS offered an approach to energy management that not only produced savings quickly, but the savings far exceeded their fees. In fact, we were able to achieve a 20% consumption reduction in the first year which exceeded my expectation by 4 times. Together, we were creative as well as practical about how to engage the various constituencies on campus. This included SBS development constructive relationships with our department members which has led to a great deal of enthusiasm and the promise that these savings will persist into the future"

Finally, one of the common elements of any successful energy management program is commitment. In fact, the most successful institutional energy management programs have a commitment that extends well beyond just one individual or even a single department. These organizations have buy-in and support through all divisions and departments. Therefore, one of the keys to success at Notre Dame has been in building the awareness, support and assistance of the community at large. Towards this end, the establishment of a dedicated energy council to lead the program has been a model proven to be successful. In acknowledging the importance of community involvement and reporting, the College of Notre Dame of Maryland hosted a "Fire & Ice Fair" to encourage energy savings, support the College's energy program, and, to promote good public relations for the facilities management organization. Fair attendees included senior administration, trustees, faculty, staff and students, as well as consultants and members of the Maryland energy office.

David Vallerie serves as Principal and Director of Project Services for Strategic Building Solutions, LLC – provider of facilities planning, owner's representation & construction program management, building commissioning, retro-commissioning, and energy management services. He has over 20 years of experience in central heating/cooling plants, mechanical and electrical systems, HVAC controls, plant operations, and energy conservation.

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