

Net Zero Energy Performance  
Council on the Environment Resolution  
April 4, 2019

A structure was created nearly a year ago that has the responsibility to review all Council on the Environment Resolutions.

The President established a President's Sustainability Working Group in April, 2018. We have an inclusive representation from the University. Membership includes myself as the chair, the University Senate Chairperson (Tarek), the Provost, representatives from Student Affairs, Auxiliary Services, Budget office, Academic Affairs, Office of Institutional Diversity, Council on the Environment, Government Relations and University Marketing and Communications.

The Presidential Sustainability Working Group is working under a charge of reviewing and revising, as appropriate and feasible, the BSU Climate Action Plan to discern the capacity and strategy for revising the goal of BSU Carbon Neutrality from 2050 to 2030. The Presidential Sustainability Working Group's tasks include:

- Plan, implement, measure and evaluate the continuous integration of sustainability best practices into Ball State University strategic/master planning processes and the overall operational structure consistent with current fiscal planning and budget realities. The intent will be the creation a template for like universities to achieve Carbon Neutrality through reasonable and identifiable actions by 2030.
- In partnership with the Division of Marketing and Communications, and with the approval of the President, continuously create, disseminate and monitor all official internal and external communication associated with the Ball State University Carbon Neutrality by 2030 effort.
- In order to maintain a consistent and streamlined approach to the Ball State University Carbon Neutrality by 2030 effort, the Presidential Sustainability Working Group shall review all Council on the Environment resolutions and provide recommended action to the President consistent with its overall charge, including reasonable action, current fiscal planning and budget realities

The charge of the working group therefore is to take a holistic view of all sustainability opportunities for the entire university.

As such all resolutions adopted by Council on the Environment are to be sent directly to the Presidential Sustainability Working Group for consideration. This consideration includes exploring the idea, confirming findings and then reporting to the president a recommendation.

The Working Group has been exploring all approaches to achieving carbon neutrality by 2030, or a campus wide or global approach. Sustainability is defined as fiscally responsible development that meets the needs of the present without compromising the ability of future generations to meet their own needs. All actions should consider the three pillars of suitability that include social, economic and environmental. The Working Group chooses to avoid transitioning into ideas that have not been properly confirmed first. The confirmation includes all cost impacts to all units of campus, and examines all benefits, social, economic and environment.

Over the last 10 years in a fiscally responsible manner many projects have been implemented that contributed to a reduction of the University's overall energy use by over 40%. The university's carbon footprint has also dropped over 40% during the same period. We diligently considered the return on investment before implementing any of these projects. We also take into consideration all other opportunity costs or comparison type projects that have similar goals before implementation.

The definition of a net zero building is as follows. A net zero energy building produces enough renewable energy to meet its own annual energy consumption requirements, thereby reducing the use of non-renewable energy in the building sector. Based upon data compiled by the New Buildings Institute several years ago nearly 80% of the verified net zero buildings, a quantity that totals less than 60, are less than 25,000 square feet in size. These buildings are much smaller in size than those on the Ball State campus. Ball State University buildings typically are greater than 100,000 square feet in size.

Our design consultants for the Health Professions Building, a 165,000 square foot building, revealed that the cost impact to the construction budget to construct to net zero standards would be an increase in cost of between 20 to 30% above the square foot charge for our typical energy efficient design, a LEED or a Leadership in Energy and Environmental Design, silver or gold certified building standards.

For the Health Professions Building that increase in cost was estimated to be about \$8 to \$12 million dollars. Such a cost impact, and to stay within budget, would have forced the university to build a much smaller building. This reduction in size would resulted in a reduction in capacity to teach students, resulting in less tuition revenue generated for the College.

This cost impact was confirmed with the Health Professions Building. The design of the building includes a photovoltaic or solar system with the capacity to provide 3% of the annual electrical power needs of the building, the maximum size that could be installed, at a cost of nearly \$1,000,000. This model is not sustainable and does not provide a good return on investment.

An approach under consideration by the PSWG is to examine the potential of a virtual power purchase agreement for wind generated power through a private wind power developer. Again this model needs to be properly evaluated for cost impact and affordability.

The geothermal project is a good example of a holistic approach to sustainability. The university examined the potential of installing geothermal systems individually or building by building but quickly conclude that this approach would double the cost of the project. Ultimately a central system, or the current system was approved and installed.

Approaching carbon neutrality by investing capital dollars to achieve net zero buildings is not a sustainable model.

My recommendation is that membership in the University Council move this off the issues list in the senate system and redirect it the structure that is in place, the Presidents Sustainability Working Group. Thank you

Respectfully submitted,

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