

Mueller Policy Paper #3: Platinum LEED Certify All New Buildings

At a time when the cost of a Penn State education may increase by double digits the financial status of the University has never been more prominent in students' minds. Many concerned Penn Staters are wondering how we can maintain our status as one of the leading institutions in the country without putting the price of a PSU education out of the reach of the average Pennsylvanian. President Spanier has detailed several reasons for increased in tuition: i) competitive salary increase, ii) employee benefits, iii) information technology, iv) academic initiatives, v) increase insurance, vi) decrease in state appropriations, and vii) capital improvements. Here we will outline a method to limit the increase in PSU operational costs due to capital improvements.

One of the many reasons that tuition will be increased is the continued growth of the University – the new buildings on campus. Although donations often cover the vast majority of the *initial price* of a building they do not cover its *operational cost*. This operational cost generally represents 85-100% of the initial price over the life of standard buildings. It is obvious that the **initial price does not equal total cost**. This is an important consideration being that PSU is spending ~\$700 million over the next 7 years on 26 construction projects. Student tuition will largely be left holding the bill for the substantial increase in operation of these newly constructed facilities.

In addition, the energy and materials that supply the buildings that make up the physical infrastructure of Penn State determine the majority of our toll on the natural environment. In order to allow for PSU to continue growing while shrinking the operational costs of its new buildings and minimizing its environmental impact PSU should embrace smart growth through green design.

Neither Penn State nor the natural environment can afford unintelligent growth. In order to minimize this environmental impact, “smart” buildings must be built -- buildings whose energy use is minimized and material efficiencies are maximized. It is far easier to accomplish this from the beginning in the design of a building rather than trying to improve a flawed building with “band-aid” solutions as we have done with Mueller building and we are doing with Sackett building. The key to designing technically and environmentally superior buildings is to utilize an integrated process of design to minimize redundancies between systems, maximize their efficiency and, thereby, downsize or entirely eliminate systems or components.

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ already exists, which Penn State could apply to construct new campus facilities while maintaining its commitment to environmental stewardship, increasing the comfort of building occupants, and reigning in operational costs (by 20 to 60% per ft²) to reduce the rate of tuition increase.

Although generally “green” buildings cost approximately the same per unit area as conventional buildings, meeting some of these standards may entail an initial investment. Because our new buildings will last for at least 50 years the rate of return on these investments are extremely favorable as outlined in Mueller Policy Paper 2. By being smart about the design of our new buildings now we can offset costs of operating these buildings for future Penn Staters.

All new buildings on the Penn State campus should achieve the highest (Platinum) LEED certification and outperform Mueller by at least a factor of five (a conservative goal -- 8X is technically attainable as highlighted in the Mueller Report). Indeed, given the range and depth of knowledge and creativity Penn State commands, we surely have the means to build the most sustainable and life affirming buildings in the history of North America. To do less compromises both our spirit and our destiny.

Policy Suggestions:

1. The Executive Administration – Require Platinum LEED Certification for all new buildings constructed on campus.
2. Faculty- Make LEED Standards an integral part of the curriculum in Architecture, Landscape Architecture, Architectural Engineering and Mechanical Engineering.

This policy paper represents the 3rd in a series of PSU Green Destiny Council suggestions stemming from the Mueller Report. This study showed that it is possible to reduce ecological impact and save money by increasing efficiency, using technology intelligently, and increasing environmental awareness. The full text of the Mueller Report and the Indicators Reports are available free at: www.bio.psu.edu/greendestiny/
For more information on LEED visit: www.usgbc.org/programs/leed.htm

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