

SUSTAINABILITY INITIATIVES BY STUDENT ORGANIZATIONS FUNDING PROPOSAL

Part I - General Information

Name of Student Organization	Office of Sustainability- Recycling Team
Contact/Responsible Person	Josh Hammes
Contact Office Head/Title	Office of Sustainability Intern
Contact Email Address	Jossh93@vt.edu
Contact Telephone Number	5407983213

Part II - Project Cost Information

Estimate Cost of this Proposal	\$4,531	See Part III.C
Estimated Savings –	\$1,082 payback: 4.2 years	See Part III.D
Net Cost of this Proposal	\$3,449	

Part III - Supporting Information

A. Please describe your sustainability initiative and attach supporting documentation.

The Office of Sustainability at Virginia Tech is requesting funding for the installation of 12 LED light packs in the tunnel running through Burruss Hall. Burruss Hall is a major hall on campus and the tunnel is heavily traveled every day. Lights must remain on this tunnel all day and night. The LED packs would replace current fixtures which are high pressure sodium units. These units do contain some traces of mercury so must be disposed of properly for environmental reasons. One example of this can be found in Portland where they recently converted 20,000 city street lights to LED in the largest efficiency the city has undergone. Savings from the program have now topped \$100,000 per month and those monthly savings will continue to grow as more lights are converted. Each LED bulb can last for around 50,000 hours which means the lights only need to be changed less than twice every decade.



- B. How does this initiative help to achieve the goals of the Virginia Tech Climate Action Commitment and Sustainability Plan?

Policy Point #1 - Virginia Tech will be a leader in Campus Sustainability.

- LED lights take only a tenth of the amount of energy that current lights consume. The tunnels lights must be on at all times for safety purposes which mean this is most certainly an area of interest. One small piece of the puzzle but I see an LED lit Virginia Tech over the coming years. A brighter campus, for a brighter future and in a sustainable way.

Policy Point # 3 - Virginia Tech will establish a target for reduction of campus GHG emissions to 80% below 1990 emissions level by 2050.

- Additional LED fixtures around campus, especially in places where lights must remain on or are used for a large percentage of the school year during all hours of the day will increase energy savings from lighting by 90% which saves 90% of the carbon emissions that would have otherwise been put out from this energy consumer in particular.

Policy Point # 4- Virginia Tech will work toward these emission reduction targets through improved energy efficiency, reduction of energy waste, replacement of high-carbon fuels, and other measures identified in the VTCAC&SP.

- Energy efficiency will be improved therefore energy waste will be reduced.

Policy Point # 7- Virginia Tech will improve electricity and heating efficiency of campus facilities and their operations by: a. Exceeding the most current version of ASHRAE 90.1 energy performance by 10% for all new buildings and major renovations. Capital budgets should account for future energy price, life cycle cost of building operation, and environmental benefits of achieving this level of performance. b. Improving the heating and cooling infrastructure and operation, lighting efficiency, equipment efficiency, and metering and controls of its existing buildings.

- Point A is met as it is suggested that 90% of energy for this system will be saved. Point B is met as LED packs will provide more light and are considered much safer.

Policy Point # 10 - Virginia Tech will engage students, faculty and staff through education and involvement to reduce consumption of energy, water, and materials in facilities.

- The tunnel can be seen as a primary example for those at the university, in the community and abroad due to the fact that lights must always remain on. Those interested may be educated as to how the conversion saved x amount of money over a couple years and making the payback period come even quicker.

C. What is the cost of your proposal? Please describe in adequate detail the basis for your cost estimate.

Between the wall mounts, light housings, LED bulbs, installation and labor costs, the final cost will be around \$3,901.

D. Will your proposal produce cost savings for the University? If so, how much? Please describe in adequate detail the basis for your savings estimate.

LED bulbs last much longer and use much less energy. The savings will equate to about \$1,082 a year meaning the project will have paid for itself in savings in approximately 4.2 years.

E. Is this funding request an Ongoing or One-Time change **(please check one)**?

One-time

Ongoing

F. Is funding available for this request from another source? If yes, describe the funding (source, amount, etc.)

There is currently no other additional source of funding for this request.

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Part IV- Requestors/Reviewers

Josh Hammes, OS Recycling Team intern	
Prepared By (Name of Contact for Student Organization)	Date 12/1/16
Ruben Avagyan, Energy Manager	
Reviewed By (Name of Appropriate University Official)	Date 12/1/16
Denny Cochrane, Sustainability program manager	
Reviewed By (Name of Office of Sustainability Representative)	Date 12/1/16