

# STUDENT ORGANIZATION SUSTAINABILITY INITIATIVE PROPOSAL FORM

## Part I- General Information:

Name of Student Organization	Environmental Innovation at Virginia Tech
Contact/Responsible Person	Jack Buchanan
Contact Office Held/Title	Vice President
Contact Email Address	jackbuchanan99@vt.edu
Contact Telephone Number	(540) 815 - 1108

## Part II- Project Cost Information

Estimated Cost of this Proposal  See III.C. below

Estimated Savings -  See III.D. below

Net Cost of this Proposal =

## Part III- Supporting Information

A. Please describe your sustainability initiative and attach supporting documentation.  
This initiative aims to utilize funding for the replacement of sink fluorescent lights in all 518 dorm rooms in Pritchard for energy-efficient LED lights. The payback period was calculated to be 6.7 years. Switching current sink lights for LED lights would not only improve light efficiency, but also reduce greenhouse gas emissions. GHG emissions associated with sink lights in Pritchard were calculated to be close to 12,500 pounds lower if LED lights were to be implemented.

B. How does this initiative help to achieve the goals of the Virginia Tech Climate Action Commitment Resolution and Sustainability Plan?  
This initiative will help achieve many of the goals outlined in the Virginia Tech Climate Action Commitment Resolution and Sustainability Plan. Virginia Tech has potential to be a leader in campus sustainability. By replacing sink lights in Pritchard, money and energy would be saved, as well as GHG emissions being offset without compromising needs of future generations (*Goal 1*). Replacing current lights for LED lights would reduce greenhouse gas emissions by a calculated 12,470.79 pounds CO<sub>2</sub> per school year and help further progress the goal of reducing GHG emissions to 80% below 1990 emission levels by 2050 through actions like improved energy efficiency (*Goal 3, Goal 4*).

C. What is the cost of your proposal? Please describe in adequate detail the basis for your cost estimate.  
The initial cost of this proposal is \$45,325. This cost includes price for the light (manufacturing, shipping), as well as labor. All 518 individual lights would have a collective cost of \$25,900 and labor would cost \$19,425 with the assumptions that four fixtures could be installed in an hour and labor costs \$150/hour. (1 fixture = 1 light)

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.  
Savings for the university per year would come out to \$6,731.51 per year, which would be reflected on the electricity bill. Additional savings would include CO<sub>2</sub> offset. By converting to lower-wattage LED lights, approximately 12,470.79 pounds of CO<sub>2</sub> would be prevented from emitting to the atmosphere. Those GHG savings would help to improve overall environmental quality.

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

**One-time**

**Ongoing**

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

No

## STUDENT ORGANIZATION SUSTAINABILITY INITIATIVE PROPOSAL FORM (Continued)

### **Part IV- Requestors/Reviewers**

Jack Buchanan

11/7/2019

Prepared By (Name of Contact for Student Organization)

Date

Todd Pignataro

Reviewed By (Name of Appropriate University Official)

Date 1/13/20

Denny Cochrane

Reviewed By (Name of Office of Energy and Sustainability Representative)

Date 1/13/20

## STUDENT ORGANIZATION SUSTAINABILITY INITIATIVE FUNDING PROPOSAL CONTACT LIST

In the preparation of your Green RFP form, we encourage student organizations to seek input and guidance from the following list of university employees. These individuals are familiar with the form and the process. They can address the feasibility of your proposal, can provide a technical review, and can evaluate the cost & potential savings.

<b>Area of Expertise</b>	<b>Name</b>	<b>Title</b>	<b>Email Address</b>
Energy Management	Ruben Avagyan	Campus Energy Manager	<a href="mailto:rubena@vt.edu">rubena@vt.edu</a>
Facilities: Housing & Residence Life	Todd Pignataro	Associate Director of Facilities	<a href="mailto:ptodd@vt.edu">ptodd@vt.edu</a>
Facilities: Buildings & Grounds	Jim McDaniel	Project Coordinator	<a href="mailto:jmcdani@vt.edu">jmcdani@vt.edu</a>
Water Bottle Refill Stations			
Exterior Lighting	Bob Dellinger	Assoc. Director, Utilities	<a href="mailto:rdelling@vt.edu">rdelling@vt.edu</a>
Student Engagement & Campus Life	Eric Margiotta	Association Director	<a href="mailto:margiotta@vt.edu">margiotta@vt.edu</a>
Dining Services	Anthony Purcell	Assistant Director	<a href="mailto:purcella@vt.edu">purcella@vt.edu</a>
Alternative Transport (Bike, Bus, Walk, etc.)	Jeri Baker	Director, Parking & Transportation	<a href="mailto:jab518@vt.edu">jab518@vt.edu</a>
Landscape Architect	Bob Massengale	Site Planner	<a href="mailto:rnmassen@vt.edu">rnmassen@vt.edu</a>
Hahn Horticulture Garden	Scott Douglas	Director/Instructor	<a href="mailto:dsd1@vt.edu">dsd1@vt.edu</a>
Recycling	Denny Cochrane	Sustainability Program Manager	<a href="mailto:denniscc@vt.edu">denniscc@vt.edu</a>
Miscellaneous	Karlee Siepierski	Campus Sustainability Planner	<a href="mailto:Skarlee3@vt.edu">Skarlee3@vt.edu</a>

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## Part II- Project Cost Information

Estimated Cost of this Proposal  See III.C. below

Estimated Savings -  See III.D. below

Net Cost of this Proposal =

## Part III- Supporting Information

A. Please describe your sustainability initiative and attach supporting documentation.  
 This initiative aims to utilize funding for the replacement of sink fluorescent lights in all 410 dorm rooms in **Lee Hall** for energy-efficient LED lights. The payback period was calculated to be 6.7 years. Switching current sink lights for LED lights would not only improve light efficiency, but also reduce greenhouse gas emissions. GHG emissions associated with sink lights in Lee were calculated to be close to 10,000 pounds lower if LED lights were to be implemented.

B. How does this initiative help to achieve the goals of the Virginia Tech Climate Action Commitment Resolution and Sustainability Plan?  
 This initiative will help achieve many of the goals outlined in the Virginia Tech Climate Action Commitment Resolution and Sustainability Plan. Virginia Tech has potential to be a leader in campus sustainability. By replacing sink lights in Lee, money and energy would be saved, as well as GHG emissions being offset without compromising needs of future generations (*Goal 1*). Replacing current lights for LED lights would reduce greenhouse gas emissions by a calculated 9,870.70 pounds CO<sub>2</sub> per school year and help further progress the goal of reducing GHG emissions to 80% below 1990 emission levels by 2050 through actions like improved energy efficiency (*Goal 3, Goal 4*).

C. What is the cost of your proposal? Please describe in adequate detail the basis for your cost estimate.  
 The initial cost of this proposal is \$35,875 This cost includes price for the light (manufacturing, shipping), as well as labor. All 410 individual lights would have a collective cost of \$20,500 and labor would cost \$15,375 with the assumptions that four fixtures could be installed in an hour and labor costs \$150/hour. (1 fixture = 1 light)

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.  
 Savings for the university per year would come out to \$5,328.032 per year, which would be reflected on the electricity bill. Additional savings would include CO<sub>2</sub> offset. By converting to lower-wattage LED lights, approximately 9,870.70 pounds of CO<sub>2</sub> would be prevented from emitting to the atmosphere. Those GHG savings would help to improve overall environmental quality.

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

**One-time**

**Ongoing**

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

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Energy Management	Ruben Avagyan	Campus Energy Manager	<a href="mailto:rubena@vt.edu">rubena@vt.edu</a>
Facilities: Housing & Residence Life	Todd Pignataro	Associate Director of Facilities	<a href="mailto:ptodd@vt.edu">ptodd@vt.edu</a>
Facilities: Buildings & Grounds	Jim McDaniel	Project Coordinator	<a href="mailto:jmcdani@vt.edu">jmcdani@vt.edu</a>
Water Bottle Refill Stations			
Exterior Lighting	Bob Dellinger	Assoc. Director, Utilities	<a href="mailto:rdelling@vt.edu">rdelling@vt.edu</a>
Student Engagement & Campus Life	Eric Margiotta	Association Director	<a href="mailto:margiotta@vt.edu">margiotta@vt.edu</a>
Dining Services	Anthony Purcell	Assistant Director	<a href="mailto:purcella@vt.edu">purcella@vt.edu</a>
Alternative Transport (Bike, Bus, Walk, etc.)	Jeri Baker	Director, Parking & Transportation	<a href="mailto:jab518@vt.edu">jab518@vt.edu</a>
Landscape Architect	Bob Massengale	Site Planner	<a href="mailto:rmassen@vt.edu">rmassen@vt.edu</a>
Hahn Horticulture Garden	Scott Douglas	Director/Instructor	<a href="mailto:dsd1@vt.edu">dsd1@vt.edu</a>
Recycling	Denny Cochrane	Sustainability Program Manager	<a href="mailto:denniscc@vt.edu">denniscc@vt.edu</a>
Miscellaneous	Karlee Siepierski	Campus Sustainability Planner	<a href="mailto:Skarlee3@vt.edu">Skarlee3@vt.edu</a>