Fall 2016 Campus Sustainability Fund Proposal

Public Safety Enhancement & Energy Conservation Project

Project Leader:

Kate Glenn, kglenn@paulsmiths.edu, 518.327.6054

Co-Participants: Steven McFarland, Valerie Hoffman

Amount Requested: $15,384.00

Goals and Objectives

Our project goal is to rewire the 96 light posts and replace with 38 watt LED bulbs.

Project Objectives

1. The array will use less electricity offsetting the college's current electricity consumption with a long lasting LED bulb- contributing to the college's goal of reaching carbon neutrality.
2. Promoting energy conservation in the Adirondack park
3. Provide an educational tool for classes, students, and surrounding community.
4. Serve as a symbol of our college communities' commitment to renewable energy while also promoting about the option of solar energy in the Adirondack Park.

The proposed 96 LED bulbs with an extended life of 50,000 hours will save the college 25,288.80 kWh annually. This will result in a reduction of carbon based fuel of 32,721.75 lbs. The college currently uses on average 4,000,000 kWh of electricity; the 25,288.80 kWh annually LED bulbs will offset approximately .63% of the colleges electricity consumption.

Project Justification and Relevance

Paul Smith's College is a signatory of the Colleges and Universities Presidents Climate Commitment, we are dedicated to reaching climate neutrality (Zero carbon Emissions) by 2029. Since 2007 we have taken several significant step towards this goal. These steps include the installation of 2 million dollars' worth of on campus energy efficiency projects, the installation of campus energy metering system, the building of several LEED certified Silver buildings, the establishment of a Center for Campus Sustainability and Campus Sustainability Fund to support

the development of sustainability projects and the installation of the region's first wood pellet boiler district heating system and solar array.

At Paul Smith's, a huge focus of the college's mission is to combine experiential learning with classroom instruction. Many of our classes and even some degree programs focus on or include the topic of energy conservation. Energy conservation is widely discussed in the Alternative Energy and Sustainable Development classes. The Environmental Sciences and Natural Resource Sustainability degrees both incorporate the topic heavily. So, the replacement of outdoor lamp bulbs on campus would align with the goals and values of our institution, and provide a valuable educational tool for instructors and a safe environment for the community.

As the college of the Adirondacks, we aim to be a source of knowledge and example not just for our students, but for the larger community as well. We are committed to energy conservation, and wish to encourage citizens of the park to do the same. By demonstrating our commitment with action in the development of several forms of energy conservation. By signing with a local contractor to perform the installation, we will be supporting the local industry that is needed to meet renewable and conservation energy goals.

There will be a significant cost saving factor of the replacement of the lamps. Each bulb will save $52.38 annually and the entire system will save $5,028.48 annually. The payback period for the project is 3.06 years with a 1,520.19% return on investment. Each bulb will save 262.80 kWh annually and the whole system will save 25,228.80 kWh annually. The carbon footprint will be reduced by 340.85 lbs. (pounds) per bulb and 32,721.75 lbs. for the whole system.

Methods

- October 26, 2016 Approval
- April 3, 2017 Engage contractor
- April 3 to 28, 2017 Follow their plan
- April 28, 2017 Confirm work has been done

Project Budget

Description	Quantity	Rate	Total
38 Watt Lamp for decorative pole lights	96	$76.20	$7,315.20
In-line fuse holder (Littlefuse LHR000)	96	$9.20	$883.20
5 amp slow blow fuse	96	$4.85	$465.60
Labor: 2 electricians*6 days to remove old bulb and ballast, install in-line fuse holder & fuses	1	$6,720.00	$6,720.00
			$15,384.00

Supporting Documentation

Appendix 1: North Country Electrical Service, Inc. Project Quote
Appendix2: Letters of Support

Campus Sustainability Fund Committee,

I wholeheartedly support this project.
I sincerely hope we will be doing more energy conservation projects in the years to come. The annual savings of 25,228.8 kWh annually is a significant achievement as is the 32,721.75 pounds of carbon eliminated from the PSC footprint.

The project provides a phenomenal (3) year return on investment and the LED lamps selected will provide (5) times the bulb life of the existing High Intensity Discharge lamps - 50,000/hrs vs 10,000/hrs.

Let's move ahead as quickly as possible to immediately reduce our carbon footprint.

Best regards,
Steve

Steven McFarland
VP Capital Projects
Paul Smiths College

North Country Electrical Services, Inc.

838 State Route 86
PO BOX 98
Gabriels, NY 12939

Estimate

Date #	Estimate #
7/13/2016	97

Name / Address
Light List PO Box 265 N.Y. Paul Smith's, NY 12970

Project
Light List

Description	Qty	Rate	Total
The following is an estimate to rewire 96 decorative light poles to accommodate LED Lamps.			
38 Watt LED lamp for decorative pole lights	96	76.20	7,315.20
In-line fuse holder (Littlefuse LHR000)	96	9.20	883.20
5 amp slow blow fuse	96	4.85	465.60
Labor: 2 electricians x 6 days to remove old bulb and ballast, install in-line fuse holder & fuses	1	6,720.00	6,720.00
Notes: 1) Estimated Saving For LED Lamps.			
Each Bulb Annual Savings $52.38	System $5,028.48		
Simple Payback/Years 3.06			
Return on Investment 1,520.19%			
Energy Cost Savings Over Life $432.00	 $41,472.00		
Total Savings Over Life $717.53	 $68,882.88		
Annual Energy Savings kWh 262.80	 25,228.80		
Annual Carbon Footprint Savings/Lbs 340.85	 32,721.75		
Sales Tax		8.00%	0.00
		Total	$15,384.00