Student Green Energy Fund
Proposal Application Form

Section 1: Summary Information

Project Title:	Beard Parking Garage LED Lighting Installation
Duration (months):	3 months
Total Budget ($):	$429,603.90
Requested SGEF Funds ($):	$409,603.90
Matching Funds ($):	$20,000.00
Proposed Starting Date:	November 2
PI Graduation Date (if applicable):	June 2016

Section 2: Applicant Information

	Full Name	**Unit/ Department**	**Phone**	**Email**
Principal Investigator	John Pilz	College of Arts and Sciences	(727)452-0603	johnpilz@mail.usf.edu
Investigator 1	Frank Granda	Parking and Transportation Services (PATS)	(813) 974-5963	fgranda@usf.edu
Investigator 2	Raymond Mensah	PATS Director	813-974-5961	rmensah@usf.edu

Investigator 3	Roger Stern	Morsani College	(813) 817-9231	rogerstern@mail.usf.edu
Investigator 4	Chi-Kai Hung	College of Business	(813) 300-0216	Chikai@mail.usf.edu

Section 3: Project Description

Describe the project, including goals and objectives, methods to be used to assess the outcome of the project, and how the results of the project will be communicated to the USF community and the sustainability of the project

- Project background and purpose (reasons motivating request) (Max 500 words)

USF Tampa has the potential to dramatically reduce it's energy consumption and greenhouse gas contributions through saving the energy through amenities it already has – parking garage lighting. The Beard Parking Garage is an 8 stories structure that uses a lot of electricity, with several lights noticeably constantly burning out due to the short life spans they have and their constant usage. USF has the potential to pay more for lighting that will last longer and cost less over their lifetime. After speaking with Parking and Transportation Services (PATS), it was discovered that they want to update the lighting. They have dedicated $20,000 towards this project, should it be approved by SGEF.

- Project activities (Max 250 words)

With funding from SGEF, this project will provide 746 light fixtures to the Beard Parking Garage Facility. The light fixtures currently existing will be replaced with new fixtures that are scientifically proven to last longer and cost less to maintain overall (the majority of the lighting industry approves as it is common knowledge).

- Project results (Max 500 words)

The benefit of this project is immediate, with the potential to dramatically reduce the energy consumption and carbon footprint of the Beard Parking Garage. Over the course of 10 years, the total project has the potential to save the school $1,003,823.02.00 in combined 10 years savings, with the $935,236.40 coming from lighting and the $68,586.62 from yearly re-lamping savings.

- Outcomes of the project (narrative)

The project is expected to serve as a testament to the money of SGEF being well-spent, as people coming into the garage will notice the difference and an educational sign can be utilized to educate

students by the now pre-existing electric car charging stations placed on the first floor. As the costs of this project serve to eliminate huge costs to USF, the funding saved could be potentially used as collateral for projects that need maintenance funding from the university to be maintained (funding to pay for upkeep of solar umbrellas, solar panels arrays, maintenance of electric car charging stations, the USF energy monitor at the Marshall Student Center that has remained broken for over a year). The money saved from the LED lighting can help SGEF justify projects that require maintenance from USF Physical Plant.

- Annual Cost Savings:
  ($1,003,823.02.00 total savings) / 10 years = $100,382.30 saved per year

- Return on Investment, %:
  ($1,003,823.02.00 total savings - $449,603.90 total cost)/ ($449,603.90 total cost)
  = 123%return on investment

- Annual Energy Savings

  -More detail on annual kWh savings:

First we estimate the amount of energy saved from both lightings, and we multiply by total 746 lamps in Beard Parking Garage:
Energy saved for total lighting

= - [(Total retrofit LED consumption) – (total current energy consumption)]
= - [(746 lamps * 60 Watts * 24 hours * 365 days * 0.001 converted to kilowatt)
- (746 lamps * 175 Watts * 24 hours * 365 days * 0.001 converted to kilowatt)]
= - [(392,097.6) – (1,143,618)]
= 751,520.40 kWh saved per year

- Annual Greenhouse Gas Reduction ->
  -More detail on annual Carbon Footprint savings:

Calculate with Carbon Dioxide Equivalent provided by EPA, United States Environmental Protection Agency:
Greenhouse Gas Equivalence 751,520.40 kWh = 518 metric tons of CO_2 saved per year
P.s. Value obtained using EPA's calculator, plugging in the annual energy savings value below:
http://www.epa.gov/cleanenergy/energy-resources/calculator.html#results

- Project Sustainability (Max 200 words)

This project has a very high return on investment (ROI). The Payback is expected to complete within only 1.71 years (value is constantly shrinking). Parking and Transportation Services will assume the ownership of the lighting, and they will maintain as needed. This project will pay for itself.

Section 4: Additional Materials

Provide detail all activities and responsibilities including schedule for the project from start to finish, noting the general dates of major milestones and accomplishments.
Also provide details of expenditures for the project, including a brief statement describing the nature and necessity of the expense. Provide a schedule for the project from start to finish, noting the general dates of major milestones and accomplishments (These may be uploaded as additional files)

- Detailed work plan/schedule of activities (Max 250 words)

The project is expected to start with the filing of space impact form with PATS and SGEF Project Manager followed by the official bidding process to obtain bids that provide the best in terms of performance and cost. Once vendor is secured, the project will commence with any required permitting to be secured. Then the installation should commence and take 9.3 weeks for all the lights to be installed.

- Budget breakdown and justification

  -Project budget cost breakdown:
  1. Personnel: For Beard Garage, we estimate that total hourly wage asks for $102.00, including hourly master electrician $43.00, hourly journey man $37.00, and hourly helper $22.00. We estimate that total labor cost asks for $76,092.00. Lastly, we estimate the schedule will be accomplished within 18.7 weeks for 40 working hours per week.

  -Disposal cost calculations:
  Project has not been competitively bid. Recommend allocating 25% of the proposal labor for disposal costs as following:
  $76,092.00 * 25% allocating = $76,092.00 * (1 + 0.25) = **$95,115.00**.

  2. Contractual: ($279.00 for each LED * 746 lamps)
  + ($50.00 retrofit installation * 746 lamps) =
  = ($208,134.00) + ($37,300.00) = $245,434.00
  $245,434.00 + $30,000.00 estimated contract arrangement = **$275,434.00**

  3. Other (specify):
  Adding 4% contingency and 6% FP&C cost = 10% additional costs needed
  = $370,549.00 * 10% = **$37,054.90**

  4. Total project cost:
  $370,549.00 project costs + $ 37,054.90 additional costs = **$429,603.90**

  5. Request from SGEF:
  $429,603.90 - **$20,000.00** matching funds from Parking and Transportation Services (PATS)
  = **$409,603.90**

Project Budget breakdown must follow the following format:

Category	Request from SGEF	Applicant Contribution	Total
Personnel (include all involved)	$95,115.00		
Equipment			
Supplies/Materials			
Contractual	$275,434.00		
Construction (PATS)		$20,000.00	
Signage			
Other (10% of cost)	$37,054.90		
Total Project Cost	$409,603.90	$20,000.00	$429,603.90