

Office of Sustainability Initiatives 2014-2015 Incentives Fund Application

Applications due to ecumbie@emory.edu by **8am on Monday, October 6, 2014**

The Office of Sustainability Initiatives provides the Sustainability Incentives Fund to support research, campus-based projects, and the development of new rituals to promote sustainability on Emory's campuses. Creative proposals are welcomed that seek new knowledge, support new behavior patterns, and foster cultural change. Grants may be awarded up to \$3,000.

Faculty, staff, and students from Emory University, including Oxford College, and Emory Healthcare are eligible to apply for the Sustainability Incentives Fund. Funds may be used for supplies, materials, publicity, travel costs, and research stipends for undergraduate or graduate students. Proposals are welcome in all areas of sustainability. Research and rituals must be carried out on campus. Team applications are encouraged and all student applications must include approval from a faculty/staff advisor.

A committee of faculty, staff, and students select grant recipients based on the following criteria:

1. Relevance of the project to [Emory's Sustainability Vision](#) and/or [Emory's Climate Action Plan](#)
2. Clarity and feasibility of the proposal, including clear goals and objectives
3. Sustained impact and reach of proposed project
4. Innovation and creativity to address complex sustainability-related challenges
5. Relevant skills and experience of project personnel.

Please submit applications in a Word document saved in the format: "Last name_First name (of project lead)_2014"

For a list of last year's Incentives Fund recipients, go to: http://news.emory.edu/stories/2013/11/er_sustainability_fund_winners/campus.html

Questions? Email Emily Cumbie-Drake at ecumbie@emory.edu

Project Title: Fevans Hall LED Patio Light
Amount Requested: \$1400
Name of Department, Club, or Group (if applicable):
Team Leader: Tyler Stern

Project Personnel (if applicable): For each team member, including leader, please submit the following information:

Name	Role (undergraduate, graduate, staff, faculty)	Expected graduation date (if student)	Email	Phone
Tyler Stern	Undergraduate	2016	tjstern@emory.edu	678-799-4923
Kevin Keefe	Staff		Kevin.keefe@emory.edu	404-727-7557
Mary Romestant	Staff		mromest@emory.edu	404-727-7210

Summary (2-3 sentences) of each applicant's relevant skills and experience:

Tyler Stern is a resident advisor in Few and Evans Hall and was a sophomore advisor in the same residence hall last year. His two-year residency in Fevans is a testament to how well he understands the pillars of sustainability upon which the residence hall's LLC is built, as well how the community of first-year students living in the building operates. Tyler is also resourceful, which combined with his passion for sustainable engineering allowed him to connect with campus staff, communicate his vision for the project, and ultimately gain their support.

Kevin Keefe, Emory University's electrical engineer, provides the technical expertise for our team to properly analyze the building's electrical infrastructure, craft a practical plan, and understand how to implement our final vision. His engineering background also allows him to know which lighting fixtures are the optimal choice for our project and which lights are compatible with the University's systems.

Mary Romestant is the Director of Housing Operations, making her an excellent liaison between Residence Life and Facilities. She possesses a seemingly infinite number of connections, an advanced understanding of the inner workings of Emory's residence halls, and is an LEED AP.

If applicant is a student or all-student team:

Faculty/staff advisor's name:

Email:

Date of faculty/staff advisor's approval of project:

Project theme(s): Identify one or more themes to categorize your project

- ☐ Climate Action
- ☒ Green Building
- ☐ Green Space
- ☐ Curriculum
- ☐ Research
- ☐ Transportation
- ☒ Energy
- ☐ Greening healthcare
- ☐ Sustainable procurement
- ☐ Water
- ☐ Food
- ☐ Waste
- ☐ Social justice
- ☐ Health & wellness
- ☒ Community
- ☐ Other (specify _____)



Project Description: Provide a detailed description of the goals, activities, methods, and success indicators of the proposed research, project, or ritual.

As evidenced by the overwhelming lack of activity after dark in the upper patio area outside the entrance to Few and Evans hall, it was clear that the space was not very welcoming for students to utilize. The dull and gloomy atmosphere could easily be brightened both metaphorically and literally with the placement of two LED lighting fixtures that would shine down on the area, thereby illuminating and encouraging the use of the space after sundown.

Because Fevans Hall proudly hosts a *Living Green* LLC, we wanted the lights to correlate with Emory University's sustainability vision, specifically the portion that states the goal of "retrofit[ing] existing buildings to embody new technologies" and "encourag[ing] new behaviors in harmony with sustainability goals" (1). Although the implemented lights would be LEDs, meaning they are inherently more energy efficient, generate less heat, and last up almost ten times longer than a CFL (and even more-so than an incandescent bulb) (2), our team decided this was not a strong enough argument to justify the creation of a light. Therefore, our original project incorporated the installation of a solar panel to generate sufficient energy to power the lights at night. Unfortunately, after some research and deliberation, this method of powering the light proved to be too expensive to try and implement with this funding opportunity. We presented this idea to Jen Fabrick, Emory University's Architect, who expressed interest in the project. Future options are still being considered.

Since solar power was out of the question, our team landed on the option of powering the outdoor lights with "energy credits" created by replacing some of the existing lights inside of Evans hall with more efficient LED lights. The fluorescent lights currently installed in the fixtures inside the first floor of Evans hall currently use 32 Watts to run. If we were to replace these lights with LED lights, which require only 21 Watts to run, we would save 11 Watts per light. Therefore, our plan is to replace 10 fluorescent lights on the first of Evans Hall with 10 LED lights, thereby generating 110 Watts of "energy credits." We would then install two outdoor LED lighting fixtures, which require 55 Watts to power (110W total). Thus, the installation of the outdoor lights would use the freed "energy credits" to run, ensuring a net-zero draw on the building's power supply and acting in accordance with Emory's vision of "reduc[ing] average campus energy use by 25% per square foot by 2015" (1).

While not as conspicuous as a solar powered light, the hope is that these outdoor lights become a symbol of the environmental and social responsibility that Fevans residents learn about from their LLC. We also hope that the newly illuminated area would encourage more residents as well as staff to come and utilize the space at night to enjoy dinner once the sun begins to set much earlier in the day, host residence life programs, and engage in other activities that will boost community engagement. More ambitiously, we

would like to see the installation of this light spur conversations to implement more LED lighting (potentially powered with solar energy) throughout the campus.

Appendix:

1-http://sustainability.emory.edu/uploads/press/2012/03/2012031411311814/Emory_Sustainability_Vision.pdf

2- http://eartheasy.com/live_energyeff_lighting.htm

Project Timeline: Provide a timeline for project implementation and completion. All projects must be completed by August 31, 2015.

December 1st – Submit order for tube lights and fixtures

March 1st – Organize implementation of new tube lights and mounting of lighting fixtures

August 1st – Completion of interior lighting transfer and construction of exterior lighting fixtures

Budget: Provide an itemized description of expenditures with short explanation and justification. \$3,000 maximum.

Description	Amount
LED T8 Tube Light (10)	\$40 (x10)
LED Wall-Mounted Lighting Fixture (2)	\$500 (x2)
Total:	\$1400

Budget Explanation and Justification:

The tube lights can be viewed by following the link below:

<http://www.cree.com/Lighting/Products/Indoor/Lamps/T8-Series>

They can be purchased from a number of retailers, whose average price hovers around \$40 (with shipping).

The outdoor light we are planning on purchasing can be seen by following the link below:

<http://www.ylighting.com/lbl-hunter-24-outdoor-wall-light.html>

While there a number of exterior lighting fixtures to choose from, there are several parameters that they must abide by.

The lights must operate a 277V in order to be implemented into the building's circuitry, run around 3000K so as to not be too harsh of a color, and produce an output of around 2000 lumens in order to be just bright enough to illuminate the area. Considering this, we believe the selected fixture is the best fit for our project, but are also considering the following:

<http://www.homedepot.com/p/Lithonia-Lighting-Wall-Mount-Outdoor-Dark-Bronze-LED-Wall-Luminaire-TWP-LED-20C-50K/204718182>

<http://www.ylighting.com/bega-led-directional-wall-light-2261.html>

<http://www.ylighting.com/bega-impact-resistant-led-ceiling-wall-light-3507-3508.html>