



TO: Students, Staff, and Faculty
UC Santa Barbara

FROM: Grant Making Committee
The Green Initiative Fund (TGIF)

DATE: December 2010

RE: TGIF Funding Applications for 2010-11

Supported by a quarterly lock-in fee paid by all UCSB students, The Green Initiative Fund (TGIF) provides funding for projects that enhance our campus' environmental, cultural, and economic sustainability. TGIF supports projects that provide renewable energy, increase energy efficiency, conserve water, reduce waste, educate the campus about environmental impacts, and facilitate strategic research to improve the campus' operational sustainability. The fund awards approximately \$150,000 total to 10-12 projects per year.

Any UCSB student, staff, or faculty member may submit a proposal for consideration. All proposals will be reviewed by a student-majority governance board that will select projects based on the following guiding principles:

1. UCSB students, staff, and faculty are able to submit project proposals, as long as they are under the umbrella of a campus department. Individuals and organizations outside the University are not able to submit project proposals.
2. TGIF funding will not support projects that are already mandated by law or UCSB policy/directive. TGIF will only fund projects that are not currently paid for by the University or through existing rebate programs.
3. TGIF is limited in its funds and is more likely to support projects which have secured additional funding through other sources such as grants and donations.
4. Projects shall reduce UCSB's impact on the environment.
5. Projects shall have publicity, education, and outreach components.
6. Student participation is encouraged in all projects.
7. Projects shall have received all necessary written approval by appropriate campus officials prior to consideration (if you are not sure if this is applicable to your project, contact Grant Keefe).
8. Preference will be given to projects that:
 - a. demonstrate the greatest reduction of UCSB's greenhouse gas emissions, water consumption, waste generation, and/or energy usage for the least cost.
 - b. can demonstrate short-term returns on investments.
 - c. are located on the main UCSB campus to enable transparency between the student body and the results of the projects they are funding.
9. Projects that are able to repay the fund are encouraged to do so when appropriate.
10. Project organizers/leaders must prepare a final poster presentation to the campus community.

If you would like to submit a proposal, please email the attached funding application to the TGIF Grants Manager, Grant Keefe, at grant.keefe@vcadmin.ucsb.edu by **January 25, 2011**. Also, feel free to contact Grant with any questions regarding TGIF or the review process.

The TGIF Committee looks forward to reading your proposals!



The Green Initiative

Fund

Funding Application

APPLICANT INFORMATION

Project Title: **Isla Vista Theater Theatrical Lighting**

Sponsoring Organization (must be part of a campus department): **Instructional Development**

Primary Contact

Name: **Erik Moore** Title: Sr. Public Events Manager

Phone: 805-893-4466 Email: **moore@id.ucsb.edu**

Secondary Contact

Name: **Michael Figueroa** Title: Public Events Manager

Phone: 805-893-4990 Email: **figueroa@id.ucsb.edu**

Start Date: 1 July 2011 End Date: 16 September 2011

How did you hear about TGIF? mass email

PROJECT DESCRIPTION

(1) Give a brief overview of the project. Please be concise (3-4 sentences)

We would like to replace all of the high wattage halogen theater lighting fixtures at the Isla Vista Theater with low wattage LED fixtures. The goal is to effectively replace a 100-amp, 3-phase electrical service in IV#1 with a single 20 amp circuit. We would also break the cycle of high voltage lighting upgrades and outfit IV#2 with a low power LED theater lighting solution that adds new functionality while also reducing it's existing electrical footprint.

(2) Please state specifically what the funding will be used for. (3-4 sentences)

The funding will purchase thirty-six (36) LED lighting fixtures and 2 control interfaces with all cables required to interconnect the system. Twenty-four (24) fixtures would be installed in IV#1 and twelve (12) would be installed in IV#2. These will be used to light regularly scheduled events and classes in both rooms.

(3) Will this project require ongoing maintenance or servicing? If yes, how will this be continually funded? Who will be responsible for conducting this maintenance/service?

Maintenance and service are a reality with any electro-mechanical system. Instructional Development staff have always maintained and serviced the equipment used under our auspices. These systems would be no different. Maintenance/replacement fees could be built into our existing event support recharge infrastructure to keep these systems on line. Existing rates for maintaining our high energy systems could be used as a model. Rates are affordable and as they already apply to current event support, should not add impact to event planners.

- (4) How do the project goals meet the TGIF mission statement and guiding principles (see cover letter)? (3-4 sentences)

The model depicts a huge energy savings. It has been established by other Theater Lighting projects approved by TGIF at UCSB in the recent past (Embarcadero Hall, Hatlen, MCC) that conventional to LED conversion like this is worthwhile. Students are a major part of our workforce and the majority of our clients and therefore students benefit on both ends of this project. Instructional Development will do all of the installation labor and pick-up the cost of some installation materials so that the only cost to TGIF is the energy saving fixtures. While the details would need to be worked-out, recharge for maintaining the systems could be adjusted so that TGIF would receive a "rebate" from Instructional Development that is directly tied to use of the systems.

- (5) What specific environmental impact will this project help mitigate on campus? (2-3 sentences)

It eliminates heavy, hot, high voltage lighting from elevated (20+ft) positions over people's heads. LED units are lightweight (4.2lbs versus 25lbs), burn cool, and run on 50 watts versus the 1000 watts we currently use. LED lights are rated to last 10 years versus the current lighting that has replaceable bulbs with a 1500-2000hr optimal bulb life.

- (6) How does this project support other sustainability efforts on the campus and help move the university beyond its current programs? (3-4 sentences)

UCSB has a mission to reduce expenses related to electrical use. This project greatly reduces the footprint on the electrical grid by the IV Theater on a day to day basis. With this, the fourth major theatrical venue on campus to convert to LED lighting, the campus can show a comprehensive approach to energy savings.

- (7) Is there an example of a similar project that has been completed or is currently being implemented at another institution? If yes, please elaborate. (3-4 sentences)

At UCSB there have been similar projects at Embarcadero Hall, Hatlen Theater, and the MCC. The goals are the same: huge energy savings while providing the same or better service to UCSB students, faculty and staff.

- (8) What sources of labor will your project use? Consider the labor involved in manufacturing and recycling any project materials in addition to the labor here at UCSB. (3-4 sentences)

ID staff and students.

The labor will primarily be Michael and myself with as many as two student employees as assistants.

- (9) What materials will you need for your project? Where do these materials come from and what are the plans for safe disposal of any products or byproducts of your project? (3-4 sentences)

Lighting fixtures and cable. Come from??

We need LED fixtures, 5-pin DMX cables, standard Edison power cables, and hanging hardware. Old fixtures will be retained so as to avoid purchasing new fixtures in other facilities under our auspices until such a time as those facilities can benefit from a similar upgrade.

PROJECT TIMELINE- SEE ATTACHED TIMELINE

Please append a projected timeline for the proposed project. This timeline will be used by the TGIF Committee and Grants Manager to assess the project's ongoing advancement. You may choose the format of the timeline, but it should be as detailed as possible and include the following:

- a) Specific progress checkpoints or achievements that will occur prior to receiving funding (e.g. identification of vendors, permitting preparation, organizing team meetings, etc)
- b) Specific progress checkpoints or achievements that will occur after funding is allocated (around the end of June 2011) (e.g. purchase of supplies, publicizing the launch of the project, hiring employees, data analysis, etc..)

- c) Estimates on the amount of time elapsed between project checkpoints and for the amount of time required to complete the project as a whole
- d) Designations for who or what entity is responsible for completing each portion of the project; please also include their contact information

EDUCATION AND PUBLICITY PLAN

- (1) Please give a brief overview of your educational and publicity program.
We will do an analysis of energy savings and demonstrate the physical advantages of this system over the old conventional system through a series of "open house" demonstrations.
- (2) Who is your audience, and what do you hope to communicate to them?
Our audiences are energy professionals at Physical Facilities, "Green" advocates at Associated Students and the campus "at large", and our event clientele. We hope to show that technology has developed theater lighting that has a much higher functionality to cost ratio than older conventional systems. Theater lighting is traditionally the highest energy consumption component of a production. Now it battles with ushers' vacuums for who can use the least.
- (3) How will you engage UCSB students in the education and publicity components of your project?
UCSB students are our primary clients. We can publicize the energy cost savings analysis at the theater in general and more specifically target specific show examples to show the direct impact of a single production. An open house demonstration of the new systems emphasizing energy savings as well as functionality can be included as an addendum to OSL club registration in Fall quarter 2011 and in all subsequent Fall registration periods.
- (4) Will there be a hands-on and/or service component?
UCSB students are our employees and in this there will be a "hand's on" component as they will be trained to operate and maintain the lighting systems. There is no public "hand's on" or "service" component.

PROJECT INDICATORS

- (1) How will the success of the project be measured? Consider both quantitative and qualitative measures.
Obvious success will be the visual difference between existing and the proposed lighting systems. Associated Students Finance Board funds thousands of dollars worth of programming through the Theaters. Student clients will receive much more "bang for their buck" so to speak. On the back-end the electric bills for the theater should be greatly reduced. Facilities Management should be able to see a quantitative difference in use and expense and from it be able to use this savings data to show state and federal entities in order to meet energy goals.
- (2) Can you provide or develop a quantitative baseline prior to beginning the project and then reassess these measurements after its completion in order to show the impact of the project? If yes, please explain the methodology.
Yes. Facilities Management should be able to make energy consumption readings prior to installation and compare them to readings made after installation.
- (3) Do you anticipate the project will result in Greenhouse gas reductions? If yes, use the CO₂ calculation spreadsheet available on the TGIF webpage and include it with your application. NA

- (4) Can you provide quantitative or qualitative data or reports demonstrating the success or achievements of similar projects at other institutions?

Not at other institutions but similar projects have been funded by TGIF at Embarcadero Hall, the Mulicultural Center, and Hatlen Theater at UCSB. Pre and post installation power data was collected for these projects. It may be possible to get this data from Facilites or from final reports of these projects filed with the TGIF committee.

- (5) Describe the projected cost savings to the University and describe which entities on campus will benefit from these savings. (3-4 sentences)

Facilites Management- electricity bill

In 2009-2010 we billed out 2791.50 instrument hours (fixtures x hours of use) in IV#1. This is conservative as the max charge per day is 4hrs and we do several full day events. Each fixture here utilizes 1000w bulbs. By extension we burned 2,791,500 watts of energy. By comparison, at 50w maximum, the new LED fixtures would only expend 211,125 watts of energy.

When the grid is near capacity and the campus is being asked to cut back, the fact that we do not draw nearly as much power will benefit all of campus.

EH&S- safety: Not changing bulbs in high, hard to reach spaces means less opportunity for workplace injury.

- (6) What is the estimated return on investment or payback time in years? Please provide details on how you calculated this ROI.

Payback would be in the form of reduced energy bills:

Actual energy savings data are not available at this time but by extension the following should hold true: X dollars of energy savings per year times 10 years (life of LED light)= energy savings from 10yr fixtures
Compare 10yr energy savings to cost of project for break even point.

Proposed recharge for maintenance/replacement could result in partial rebate to the TGIF program. Current Instructional Development rate for lighting instrument is \$0.70/hr each and \$7/hr for lighting control (4hrs max per day). These rates are from 1999. If the rate was increased to \$1/hr each and Control to \$8 with \$0.30/hr each light and \$1/hr for control rebated to TGIF, we could rebate TGIF approx ('09-'10 data):

Lights (2791.5 hrs @ \$.30) + Control (274.5 hrs @ \$1)= 837.45 + 274.5= \$1111.95 annually to help offset the investment.

APPROVALS

- (1) What approvals are needed to ensure project implementation? (Example: Campus Planning Committee, Design Review Committee, or Department approval)

None for the installation. All fixtures are "temporary" theatrical lighting fixtures utilizing existing power sources.

The recharge "rebate" concept might require a presentation before the Campus Rate and Recharge Committee.

- (2) If your project requires modification or additions to existing campus structures, have you contacted Design and Construction Services for input and "real cost" estimation? If yes, please attach documentation.

NA

- (3) Do you have confirmed written support from all departments involved in the project?

Chris Kelsey: Area Manager, Physical Facilities

Katya Armistead: Assistant Dean of Students, Director Office of Student Life

George Michaels: Executive Director, Instructional Development

Please include all letters of support with your proposal, if applicable. Applications missing them will be considered incomplete.

The Green Initiative Fund Budget Form

If this project has been ongoing or occurred before, please describe previous years' budgets, including total amount spent and sources of funding. Please also include any justifications for increasing previous years' budgets and seeking funding from TGIF as oppose to using only the previous years' funding sources.

Please keep these questions in mind: If you are funded, will your project need any on-going funding after the completion of this grant? What is your strategy for supporting the project after this initial period to cover replacement, operational, maintenance, and/or renewal costs? Please note: TGIF is unlikely to renew funding year to year for the same project.

Use the following spreadsheet to list all budget items for which funding is being requested. Include cost and total amount for each item requested. Attach additional pages if necessary. Due to limited funding, TGIF is reluctant to employ Graduate Student Researchers (GSR) or other positions that pay student fees/insurance, and encourages projects to utilize student assistant positions instead. TGIF is also reluctant to provide funding for food or drinks for events.

PROJECT BUDGET		
ITEM	COST	REQUEST
Infrastructure (Capital expenses, etc.)		
IV#1 Equipment (Fixtures, control, cables) + laptop and rigging hardware (ID)	\$26,675.66	\$25,925.66
IV#2 Equipment (Fixtures, control, cables) + rigging hardware	\$11,878.05	\$11,628.05
Education (Outreach, publicity, etc.)		
Open House for Campus at large (1)- 2hrs each staff labor and equipment	\$115	\$0
Open House (2) in conjunction with OSL club orientation	\$230	\$0
Final Poster Printing	\$50	\$50
Personnel (Salary/wage, worker's compensation*, etc.)		
Installation- Instructional Development (2 staff at \$42/hr for 40hrs)	\$3360	\$0
Installation- Instructional Development (2 students at \$18/hr for 40hrs)	\$1440	\$0
	TOTAL	\$37, 603.71

*Make sure the salary request includes take-home pay + worker's comp benefits.

OTHER FUNDING SOURCES

- (1) List all sources of funding (pending and approved) for this project including grants, volunteer efforts, and in-kind donations. Please include the following information: a) Fund description, b) Date submitted and status, c) Amount received that applies to this proposal.

As we hold the knowledge necessary to install this equipment and would prefer to save the Fund the cost of outsourcing the installation to a 3rd party lighting company it is our hope that you will accept our personal installation of this equipment as a cost savings. To this end I have estimated the installation hours at current ID recharge rates while also showing that our department is committed to this project by absorbing the cost of this installation.

In addition our department has committed to purchasing some additional hanging hardware for both installations as well as a laptop for the control of the system in IV#1.

- (2) Is your project scalable? Please explain.
Yes. It is broken into two parts:
1- The replacement of existing IV1 theatrical lighting system
2- The installation of new LED theatrical lighting in IV2 and replacement of existing chandelier note-light in IV2.
- (3) Would your project still be viable if it does not receive complete funding from TGIF?
Yes. We could scale back to either of the two components.
- (4) What is the minimum amount of funding required for a successful project?
\$11,678.05.