**Live Green Loan Fund – Project Proposal**

**Project Background:**

Black Engineering Building, constructed in 1985, is home to two departments of the Engineering College, and offers shared space for classrooms, offices, laboratories, and mechanical systems. This results in the building’s energy costs and conservation being shared by five separate occupants.

Shared occupancy and its incorporation into the planning, implementation, evaluation, and monitoring of energy conservation and sustainability projects at Iowa State University is a very relevant and applicable area of focus. Nearly all campus buildings have multiple occupants. With multiple occupants come multiple perspectives and considerations regarding commitment to an energy conservation project or initiative and the use of any savings that may result.

In addition, the departments housed within Black Engineering are both committed to and actively engaged in educating and researching technological advancements in areas including energy efficiency and systems sustainability. This provides a unique opportunity to actively engage students, student groups, and curriculum into this project and empower them toward pursuing additional projects and initiatives.

This project will specifically focus on two main tasks area:

1. Reduction of electrical consumption in Black Engineering
2. Modification of individual behavior that can result in overall electricity usage

**Project Description; Project # LG0010:**

The overall goal of this project is to reduce the electricity consumption in Black Engineering Building through installing more efficient lighting systems and behavior modifications.

Some of the light fixtures in Black Engineering are over 20 years old and a significant savings will be realized by using more energy efficient options. This will be the focus of the task area associated with the reduction of electrical consumption in Black Engineering. Specific products and processes that will be utilized include:

* replacing current light fixtures and lamps with more energy efficient varieties,
* installing occupancy sensors in rooms and offices and timers in hallways
* offering power strips for easy on-off operation of multiple energy consumers

Building occupants, through low-effort behavior modification, can also provide significant impact to a building’s overall energy consumption. Consideration of the role of education and awareness building on occupant energy consumption behavior will be the focus of the task area associated with the modification of individual behavior and overall electricity usage. Specific products and processes that will be utilized include:

* two building-wide seminars will be offered to all building occupants (one to kick-off the project in spring 2010 and one to update on the project successes)
* installation of electrical meters to allow for the display of real-time and historical electrical usage in a visible and high traffic area in Black Engineering Building
* creation of a specific web page on the College of Engineering website that displays real-time and historical electrical usage and is easily accessible for download by students for projects and assignments

In addition, project methodology will be compiled into a step-by-step project workbook that any campus building or department, regardless of their experience and expertise can utilize in evaluating and implementing a similar project.

**Project Contact:** Gary Mirka 515-294-8661 or Ted Heindel 515-294-1423

**Live Green Loan Fund – Project Profile**

**College of Engineering**

**Applicant**

Name/Contact Info: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Name/Location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Project Return on Investment:**

Total project costs are estimated at $165,500. A $165,000 loan is requested. Expected annual savings equals $33,000/year with a payback period of 5 years.

**Project Outcomes:**

In addition to annual budget savings for ISU and Iowa taxpayers, the College of Engineering will have an opportunity to showcase significant reduction in energy consumption, through a combination of technology and behavior modification. This project will also provide invaluable information and resources necessary to provide a model for multiple building occupant collaboration. In all facets of a learning, working, and strategic planning environment, as the College of Engineering represents, implementing energy efficiency products and processes, as outlined above, provides unique and valuable ongoing relevant demonstration for students, faculty, staff, alumni, grantors, donors, and ISU’s academic and research peers and partners throughout the US and around the world.

**Confirmation of Due Diligence:**

Technical and financial viability is considered satisfactory for the scope of this project.

Required signatures for project administrative approval have been received (see attached application signature page).

**Funding Recommendation by Live Green Loan Fund Committee:**

$165,000

This amount reflects total project costs of $165,500 minus matching funds of $500.

**Recommended Action by Live Green Loan Fund Committee:**

Project approval by President and signature of attached Funding Agreement.

**On Behalf of the Live Green Loan Fund Committee**

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Director of Sustainability Date