**Live Green Loan Fund – Project Proposal**

**Live Green Loan Fund – Project Profile**

**College of Human Sciences,**

**Radiant Panel Heating**

**Project Background:**

A number of buildings within the College of Human Sciences have areas in which the temperature fluctuations make working conditions difficult and non-productive. This is particularly evident in buildings including: LeBaron Hall, MacKay Hall, Human Nutrition Sciences Building, Lagomarcino Hall, Food Sciences Building, Forker Building, and the Nutritional Wellness and Research Center.

Most of the problems can be contributed to older buildings with single pane windows or metal frames that allow the cold air to seep into the rooms. In newer buildings walls of glass and cubicles that run the entire periphery of the building can result in variability in workspace temperature. For example, as policy, the College of Human Sciences practices energy conservation measures and has all the automatic thermostats set at 68˚F. The temperature in workspaces near windows; however, consistently averages 48/52˚F.

Although window replacement is a consideration and a long-term solution, it requires significant funding and averages a 20-year return on investment. A short-term solution for building occupants has been the individual and independent addition of personal space heaters, which is in violation of state fire code regulations.

An interim solution is radiant panel heaters. Not only are these heaters considerably more energy efficient than traditional space heaters, they are also in compliance with fire code regulations.

**Project Description; Project # LG0012 College of Human Sciences – Radiant Panel Heating:**

This project will replace 30 traditional space heaters currently being utilized in Lebaron Hall, MacKay Hall, Human Nutrition Sciences Building, Lagomarcino Hall, Food Sciences Building, Forker Building, and the Nutritional Wellness and Research Center, with radiant panel heaters. This project will not only increase the energy efficiency of workspace heating, it will ensure the College of Human Sciences is utilizing personal space heaters which are not in violation of state fire code regulations required of the University.

Project Goals include:

* Reduce our electrical energy costs by replacing space heaters with energy efficient radiant panels.
* Eliminate the need for traditional space heaters, which are both in violation of current fire code regulations and a source of numerous fires and injuries in similar facilities.

Goals will be accomplished through the following means:

* Determine how many space heaters are in use in CHS and keep a one-week diary of current use and working conditions.
* Determine most beneficial locations for radiant panel heaters based upon need and potential energy savings.
* Have a training session for potential users of radiant panels and offer various options to couple with the use of the panel heaters in order to further increase energy efficiency.
* Install radiant panels and have users keep four-week diaries of their use of the panel heaters as well as additional energy efficient behaviors and options utilized.
* Monitor savings and evaluate expansion needs and opportunities.

An anticipated timeline for this project is as follows:

* Upon Approval – purchase radiant panels and begin user training sessions
* Upon Receipt of Panel Heaters – install heaters and request users begin recording diary entries
* Spring 2010 – evaluate project impact

**Applicant**

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

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

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**Project Contact:** Jeanne Stewart, 294-3926

**Project Return on Investment:**

Total project costs are estimated at $2,250. A $2,250 loan is requested. Expected annual savings equals $538/year with a payback period of 4.2 years. The savings will come from a reduction of energy consumption required by the radiant panel heaters versus traditional space heaters.

**Project Outcomes:**

In addition to the annual budget savings for ISU and Iowa taxpayers, this project serves as a demonstration project that can be disseminated throughout Iowa State University existing office spaces that experience similar supplemental heating needs, yet must adhere to current fire codes.

**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:**

$2,250

**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