*Please submit this completed application, the supplemental budget spreadsheet, and any relevant supporting documentation by the deadline indicated in your Step 1 notification letter to* *Sustainability-Committee@Illinois.edu**.The Working Group Chairs will be in contact with you regarding any questions about the application. If you have any questions about the application process, please contact the SSC Program Advisor, Micah Kenfield, at* *kenfield@illinois.edu*

# General Information

**Project Name:** U16102 – Business Instructional Facility (BIF) Fourth Floor Office Addition – Photovoltaic (PV) Solar Panels

**Total Amount Requested from SSC:** $157,340

**Project Topic Area(s):** [x] Energy [ ] Education [ ] Food & Waste

 [ ] Land [ ] Water [ ] Transportation

# Contact Information

### Project Lead

Applicant Name: Kari Cooperider

Unit/Department: College of Business – Administrative Services

Email Address: kacoop@illinois.edu

Phone Number: 217.244.2929

### Financial Contact *(Must be Full-time University of Illinois Staff Member)*

Contact Name: Susan Elliott

Unit/Department: College of Business – Administrative Services

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Organization Code: 1-762986-952000-198000

### Facilities Management Contact *(If Applicable)*

Contact Name: Kevin Price

Email Address: kgprice@illinois.edu

**Primary Project Team**

|  |  |  |
| --- | --- | --- |
| **Name** | **Department** | **Email** |
| Carol Young | Business | cdyoung@illinois.edu |
| Susan Elliott | Business | aelliott@illinois.edu |
| Kevin Price | Facilities & Services | kgprice@illinois.edu |
| Doug Reddington | Facilities & Services | dredding@illinois.edu |
| Kari Cooperider | Business | kacoop@illinois.edu |

# Project Description

**Please provide a brief background of the project, the goals, and the desired outcomes:**

A strategic goal of both the UIUC and the College of Business is to attract and attain the best faculty. In order to do that, it is essential to provide faculty with office space that allows them maximum productivity. The fourth floor of BIF has proven to be excellent space where faculty can work on research. It allows them to collaborate due to the close proximity to other faculty, and work individually without classrooms or noise distractions on that floor. In addition, the fourth floor is locked after regular business hours, so only faculty with offices on the floor can enter the area using a proximity card. This allows faculty a secure work environment when they work evenings and weekends. The fourth floor faculty offices are in the same building where the faculty teach in BIF, which makes it easy for them to get to and from classes. The fourth floor faculty offices are highly sought after by research faculty for these reasons.

As the College expands the fourth floor to include sixteen new offices, there is an opportunity to include a PV solar panel system. However, the cost of this system is currently included as an alternate, rather than in the base project estimate. We are hoping to fund this alternative power source as a way to advance UIUC sustainability initiatives and reduce operating expenses.

**How will the project improve the sustainability of the Illinois campus and how will the project go above and beyond campus standards?**

The project maintains the energy performance of the existing LEED v2.1 Platinum building, improving upon current code requirements to the greatest extent possible given the constraints of existing infrastructure. A 12.5 kW PV array would not only wipe out the effect of the 4th floor addition on the campus energy supply (additional 13,185 kWh/year), but would also increase the overall percentage of renewable energy supplied to the building. The continuing Platinum performance of the building goes above and beyond the campus requirement for buildings to earn LEED Gold certification.

**Where will the project be located? Will special permissions be required to enact the project on this site? If so, please explain and submit any relevant letters of support with the application.**

The PV panels would be located on the roof of BIF’s fourth floor expansion as part of the College of Business construction project. The amount requested from SSC includes the cost of constructing a parapet – estimated to be $50,000. We do not believe the parapet will be necessary for the project to meet campus safety standards; however, it has not yet been eliminated as of the DD review meeting on March 28th. Safety and Compliance has reviewed the project and using tie-off points is an alternative solution to meet safety requirements. Further discussion is planned as the team moves into the 50% CD phase.

**Other than the project team, who will have a stake in the project? Please list other individuals, groups, or departments affiliated directly or indirectly by the project. This includes any entity providing funding (immediate, future, ongoing, matching, in-kind, etc.) and any entities that will be benefitting from this project. Please attach letters of commitment or support at the end of the application.**

The College of Business along with the architects, Reifsteck Reid and Company, and Facilities and Services are stakeholders in this construction project. Having the SSC join the team in this initiative would be remarkable.

Construction of the panels will have a positive effect on faculty, staff, and students, both directly and indirectly. Data from the panels would be available for trending analysis as well as research needs.

**Please indicate how this project will involve or impact students. What role will students play in the project?**

The addition of solar panels to the building expansion could provide research opportunities for students in related coursework. Data collection and trending facility usage can provide valuable, real life experience with a building students are familiar with on campus.

# Financial Information

*In addition to the below questions, please submit the supplemental budget spreadsheet available on the Student Sustainability Committee website. Submission of both documents by the submission deadline is required for consideration of your project.*

**Have you applied for funding from SSC before? If so, for what project?**

The College of Business has applied and received funding for (1) the photovoltaic array and green roof atop BIF’s Deloitte Auditorium and foyer spaces; (2) creation of the Prairie Garden in BIF’s courtyard; and (3) creation of a green roof along BIF’s fourth floor.

**If this project is implemented, will there be any ongoing funding required? What is the strategy for supporting the project in order to cover replacement, operation, or renewal costs?**

Ongoing funding will not be required for this project. The College of Business will assume responsibility for costs associated with the operation, maintenance, or replacement of any panels. The proposed SW 285 SolarWorld modules come with a 25-year linear performance warranty, and 20-year product warranty. For comparison, the solar panels atop BIF’s Deloitte Auditorium (installed in 2009) have had minimal upkeep costs to date. For the new PV panels, an estimated useful life of approximately 25-40 years and operations and maintenance costs $21/year is anticipated.

**Please note that SSC provides funding on a case by case basis annually and should not be considered as an ongoing source of funding.**

N/A

**Please include any other sources of funding that have been obtained or applied for. Please attach any relevant letters of support as needed in a separate document.**

N/A

# Environmental, Economic, and Awareness Impacts

*In addition to the below questions, please indicate specific measurable impacts as applicable on the supplemental budget spreadsheet.*

**Which aspects of sustainability does your project address, and how? Does the project fit within any of the iCAP goals? If so, how does the project go beyond the university status quo standards and policies?**

The proposed solar panels will act as a source of renewable, climate neutral power. Their installation fits within the iCAP 2020 goal of reducing Energy Emissions by 30% from the FY08 baseline. Long-term, the panels will help the UIUC campus achieve carbon neutrality by 2050.

**How will the environmental impacts of your project be measured in the near and long term? What specific monitoring and evaluation processes will you be using to track outcomes and progress?**

Data on BIF’s existing array of solar panels is accessible through the following links:

Output by day - <http://www.business.illinois.edu/vbb/solar/>

Annual output - <https://business.illinois.edu/solarpanels/>

Individual arrays - <https://business.illinois.edu/solarpanels/arrays.html>

We plan to create similar monitoring tools to measure the environmental impact of the new panels. This information would also reveal any output reductions in specific arrays, indicating a need for maintenance.

**What is the plan for publicizing the project on campus? In addition to SSC, where will information about this project be reported?**

The College of Business will showcase the new solar panels on its website and provide links where users can view real-time and historical performance. The panels will also be highlighted on the virtual bulletin boards in BIF’s commons area. In addition, informational signage will be posted in the building as has been completed for the past projects supported by SSC.

**What are your specific, measurable outreach goals? How will these be measured?**

Once installed, real-time data will be evaluated against benchmarking data. The College and University desire reaching the maximum efficiency in the system and well as reducing costs and the energy consumption.

**Do you have any additional comments or relevant information to aid in evaluation of this application?**

We explored the possibility of installing a green roof instead of solar panels. According to Campus Safety & Compliance, new standards have been developed since the initial green roof installation which require any green roof to be 15 feet from the roof edge. Otherwise, a 42-inch parapet would need to be built, increasing the project cost by an estimated $50,000; which we are trying to eliminate from the current project.

In addition, according to our project manager, even a lightweight tray type of green roof would add weight to the overall project load on the existing building members. As the new addition itself is utilizing much of the “capacity” of the existing footings and structure (without the green roof), it is unclear whether a green roof could even be part of the design.

After considering the above reasons, and recognizing the increased maintenance costs of a green roof vs. solar panels, our team believes placing a new green roof on the proposed addition is impractical.