



STUDENT SUSTAINABILITY COMMITTEE

Scope Change

From time to time unforeseen challenges or opportunities can affect the planned budget, timeline, or overall goals of a project funded by the Student Sustainability Committee. Past examples of these situations include projects coming in under budget but having additional opportunities available, or inclement weather delaying the planting of agriculture projects.

Below please include a brief project summary and your requested changes. Attach additional documents as needed. If you have any questions, please contact the Student Sustainability Committee at sustainability-committee@illinois.edu.

General Information

Project Name: Solar Panel Installation at the Master Gardener Idea Garden Shed

Total Amount Requested from SSC: \$65,450.00

Contact Information

Applicant Name: Ryan Pankau, Horticulture Educator
Unit/Department: University of Illinois Extension, Unit 13
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Project Information

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

The Idea Garden's mission statement is "helping others learn to grow." The site is maintained entirely by volunteers in the Master Gardening program, with the primary objective of providing a learning environment for University of Illinois students, faculty and staff, and for promoting environmentally responsible gardening practices. The Idea Garden benefits all ages promoting interest, inspiring ideas, and providing education to citizens in Champaign-Urbana and the surrounding communities. It directly impacts the University's students as it adjoins the student run Arboretum.

A primary goal of this project is to advance Idea Garden's mission and provide an opportunity to "learn to grow" through the use of environmentally responsible practices, like solar-powered electricity generation. This project will involve installing solar panels on the roof of the Idea Garden shed or in an adjacent area at the garden to supply a source of electricity since the shed and garden does not have utilities.

The Idea Garden is so named because of its educational and outreach mission. The addition of solar panels would complement the existing program and further the current instances of sustainability already in place. For example, we encourage sustainable gardening practices, such as incorporating native plants in the landscape which provide habitat for pollinators. The shed at the garden is already equipped with rain barrels that are used to water plants and reduce our use of the public water supply. We compost all waste plant material generated at the garden to reduce our carbon footprint and reduce the amount of organic matter brought in from outside sources to keep our soils productive. In all gardening applications, we use the principles of "Integrated Pest Management" to approach plant insect and disease problems more sustainably. We are a source of local food, since the Idea Garden has a vegetable and small fruits gardens. Although, intended for donation to local food banks, fruits and vegetables are most often picked and consumed right off the plants by our visitors. These are all examples of sustainable practices the Student Sustainability Committee supports and promotes. The addition of solar power will compliment these practices and provide a wonderful learning opportunity for students seeking examples of sustainability on campus.

As part of this proposal, we plan to hold a free presentation at the site that will discuss how the system was designed to fit our needs. We will partner with the Student Sustainability Council and other renewable energy groups in the community to identify possible attendees and advertise the event to the campus community and the general public. It will be open to the public and will serve to educate attendees on our design process so they can apply it to other projects, with emphasis on the sustainability of solar energy. Following the installation of the system, we plan to highlight the project with a permanently installed educational sign near the shed so all future visitors can learn from our example of sustainability. As future educational events are planned at the Idea Garden, the solar project will certainly be a highlight of other programs and a centerpiece of the Idea Garden's example of sustainability.

The primary outcome of this project will be an increase in sustainable practices applied at the Idea Garden. In conjunction with other examples of sustainability already in place at the Idea Garden, this solar power project will be a shining example of sustainable energy use in close proximity to campus and open to the public

Please provide a brief summary of how students will be involved in the project's changes:

This change of scope will not involve students in any new or different way from the original, approved project proposal.

Please provide a brief summary of your requested scope change. How is your request different from your original plan?

We are requesting additional funds for this project because the cost has increased from the originally quoted amount from F&S.

Earlier this spring, as F&S began to plan the actual PV panel installation, they realized that our shed will need a new roof prior to installation of the solar array. The original estimate from F&S failed to include an assessment or estimate for any roofing costs. The new roof will add \$5,000 to the total project cost.

Additionally, other costs in the original F&S estimate have increased over time. Earlier this year F&S explained that the original estimate they provided was actually a "time and materials" estimate, meaning the project cost can increase as they accumulate more time (labor costs) or material costs than were accounted for in their original estimate. F&S believes that providing a "time and materials" estimate offers their clients a cheaper overall price because the client assumes the risk of rising costs as the project progresses. Therefore, a "time and materials" estimate represents the cheapest price that F&S could potentially do the project. However, F&S does also offer a "fixed cost" estimate, which is a guaranteed total cost for a project. For this kind of estimate F&S assumes the risk and therefore adds additional costs to ensure they are covered in the event of any increasing costs for time or materials.

Since this project is funded through the SSC by a lump sum that is distributed at the beginning of the project, a "time and materials" estimate is really not a feasible way to account for the project cost. These concepts were not explained by F&S at the beginning of the project, or we would not have worked off of their "time and materials" estimate.

As this stage of the project we feel that our only feasible path forward was to request a "fixed cost" estimate from F&S and ask the SSC for additional funds to cover the additional costs F&S will include in the "fixed cost" estimate. Even under the current "time and materials" estimate, design costs and PV system costs have risen since our original SSC application was approved. Based on those increases, the total cost for the project be significantly more that our original "time and materials" estimate. Therefore, we requested a "fixed cost" estimate to ensure that

this proposed scope change will fund the project appropriately and ensure completion this year without additional funding changes.

Based on the new “fixed cost” estimate from F&S, our project will need an additional \$4,050.00 to cover increasing costs, plus some additional costs that F&S builds into their fixed cost estimate to cover their own risk.

In summary, our original, approved project budget was \$56,400.00 and we are now requesting a scope change to increase our total budget/costs to \$65,450.00 to cover a new roof and additional costs F&S has added to our project.

Additional comments