# *Thank you for your commitment to green initiatives at the University of Illinois. One of the ongoing requirements listed in the terms of the funding agreement for your project is the submission of semesterly reports with key information about your project. In addition to this form, please provide additional financial documentation and/or progress photos if available.*

# *Please be as accurate as possible in describing the project (including possible setbacks or challenges in meeting the initial goals of the project). Not fully meeting your project's goals will not disqualify you from making future funding requests as long as your reports are as complete and accurate as possible. If you have any questions, please contact the Student Sustainability Committee, at* *sustainability-committee@illinois.edu**.*

**Project Name:** **Precious Plastic Campus Recycling Hub**

**Date of Report Submission:** 5/6/2022

**Project Purpose:**

Rapid prototyping and new product development are at the heart of the innovative work done on our campus.  While this is a much-needed form of advancement it often comes at the cost of increased waste generation.  We would help reduce the burden on local landfills through the following:

* Become Illinois’s first active recycling node in the Precious Plastics network.  This will grant access to the knowledge and resources that have been gathered by teams across the globe.  It will also provide a platform for us to share what we learn with a wider audience.
* Divert up to 100 pounds of plastic waste from the landfill each day based on the capacity of the equipment.
* Reduce the amount of new plastics used for rapid prototyping on campus by at least 1,500 pounds/year by offering a recycled option at a lower cost. (based on material consumption at the CU Community Fab Lab)
* Educate student designers and fabricators on working with recycled materials by providing them with the opportunity to participate in the recycling process from the ground up
* Create an Infographic showcasing the results of this recycling effort and display it on our website and social media

The Siebel Center for Design, Fab Lab and Informatics Department will contribute through

* Continuing operations beyond the 2 years that would be funded
* Ensuring our staff are trained to operate and instruct students on safe use of the equipment

Leveraging supervisory and support staff to assist with communications, promotions, and website development

**Detailed Accounting of Expenditures to Date:**



**Project Progress to Date:**

While our project is still on track to meet our goals, delays in shipping and increases in material costs have heavily impacted our timeline. We were able to purchase a used industrial plastic granulator and have tested it with a variety of materials. It is performing better than the original model we had looked at, while costing less. The company that we intended to purchase the sheet press from no longer offers them. Many of the shops that would take on the custom build quoted prices well in excess of our budget. As a result, we have elected to build our own. Collaborating with students and staff at the Krannert Center for Performing Arts, our team has begun design and fabrication of a modified version of the sheet press system developed by the precious plastic community.

We have completed the frame and moving parts for the heat press and are now shifting focus to work on the electronics to control and read the heat of the upper and lower press plates.

While waiting on the completion of the equipment we have been working on small scale tests to learn more about the process. Led by our community volunteer, Matthew De Venecia, we have used a repurposed t-shirt heat press to test different pressure, time, and heat settings to reform acrylic sheets. Our tests have indicated that higher pressure is required, so we have incorporated that design requirement into the machine we are developing.

**Student Involvement and Outreach to Date:**

Our direct student outreach has been limited by our reduced covid capacity, but we have been able to build connections with students and student groups in the following ways.

* KCPA Technical Theater students helped fabricate material storage shelving, and met with Neil Pearse to discuss the impact of plastic waste on our world
* Signage in lab classroom and discussions with students on the impact of plastic waste during in person courses at the Fab Lab
* Working with the funded Cetacean project led by Deke Weaver as part of the Unreliable Bestiary project. We hope to facilitate most of the plastic recycling needed for this project.
* Working with the Enactus student group to encourage incorporating recycled and sustainable materials in their projects.

**Marketing and Promotion Efforts to Date:**

In the lab we have created and hung posters to promote the new project and inform patrons about the lifecycle of plastic used in the lab. We have also used our monthly newsletter to highlight the new equipment and capabilities to our patrons on campus and in the community. Our team member, Jess Hogan, has also led an effort to get our space listed as a verified member in the precious plastic community. This will allow us to offer recycled products to anyone who finds us through the community website.

We also had the opportunity to present our project to a group of 50 students from Uni High as part of a facility tour of the CU Community Fab Lab.

**Additional Comments:**

Our team has faced several changes in staffing over the past months.

Jess Hogan is no longer with the University, so has stepped away from the team. Matthew De Venecia has gone from a community volunteer to a University Staff member (working at Uni High). Neil Pearse has changed positions and is now the Lab and Equipment Operations Manager at the Siebel Center for Design. During this transition, progress on the project has been slowed. It is our goal to leverage the new positions to create more interdepartmental collaboration for the overall project. The Siebel Center for Design has expressed interest in hosting elements of the project development which would expand resources for fabrication, marketing, and promotion.