# *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*](mailto:sustainability-committee@illinois.edu)*.*

**Project Name:** E2E Paradigm for Food Waste to Biofuel and Biomaterial

**Date of Report Submission: 8/1/2018**

**Project Purpose:**

Our student research team, under Dr. Yuanhui Zhang, will expand the Environment-Enhancing

Energy (E2E) research program to campus application by augmenting wet food waste produced

through the dining halls. We first surveyed dining services food waste and made our findings available to campus affiliates. Next, we took dining waste and converted it into biofuel and asphalt in lab scale. This process will reduce UIUC’s food waste, advancing the Illinois Climate Action Plan efforts. Likewise, the project will bring awareness to food waste at a local level. The student research team will gain invaluable research skills as well as engineering experience.

**Detailed Accounting of Expenditures to Date:**

To date, the following amounts have been spent on the 3 originally funded categories:

Laboratory Supplies: $1873.92

Marketing and Outreach: $0

Labor: $0

**Project Progress to Date:**

As of now, we have almost completed phases 1 and 2 of the proposed objectives. This includes characterization of the food waste components from the dining hall and their conversion to biocrude oil via HTL. Given the promising results of stage 2 in particular, additional tests were carried out to determine the increased energy yield of mixing different types of preferable feedstocks to reach the best oil yield from food waste sources, as well as the wastewater quality resulting from the process. Looking ahead, we will aggregate these reaction outputs to meet our third project objective, which is a sustainability demonstration. As we have already done some tours and community displays, our intention is to upgrade our product to fuel that can be used in an additional presentation to inform the community about our proposed campus sustainability impact. Later in the fall semester, we will approach objective 4 to perform a complete system analysis when the large reactor model is operated using our optimized small scale results.

**Student Involvement and Outreach to Date:**

Several undergraduate students have participated in training and exhibitions of HTL reactions of food waste to various campus and community members. Through engagement with the project, students have gained experience with respect to research and data analysis, as well as sustainability contexts in general. More select and advanced participants have independently carried out several of these activities independently, demonstrating student involvement in various central objectives to the project. Furthermore, high school students have also been able to learn about this campus initiative in lab tours and brief hands on interactions. As the project moves forward and especially with greater results, similar opportunities will be sought out to involve new groups and students, as well as to divulge key project milestones to the community.

**Marketing and Promotion Efforts to Date:**

As only the preliminary results have been collected for campus food waste and feedstock analysis, no active marketing of the project has yet been pursued. However, several student groups and campus community members have become involved or interested in the project, primarily through lab tours and demonstrations.

In addition, we will go to La Casa Latin with our results on Tuesday August 28, 3-5pm.

**Additional Comments:**

Any additional comments/relevant information for the semesterly report