# *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:** Diversion of Non-Recyclable Plastic using Pyrolysis Process to Produce Fuels for Campus

**Date of Report Submission:** 09/03/2021

**Project Purpose:**

The overarching goal of work that will be initiated under this project is to end landfilled plastic waste forever, by collecting, processing, and converting the plastic waste from the U of I waste transfer station MRF to a usable fuel that can be used in University vehicles. This will be achieved by demonstrating the continuous pilot-scale catalytic pyrolysis system for distributed production of the most desirable fuel for use in University trucks and generating data including mass/energy balance to make a business case for a commercial-scale system capable of using all plastic waste produced on campus. It also involves the introduction of this technology to students and involves them in conducting detailed process characterization to improve process yields and product quality and develop a student-led/run initiative like the Illini Biodiesel Initiative.

**Detailed Accounting of Expenditures to Date:**

Please detail your expenses to date. Feel free to attach an additional spreadsheet as needed. These expenses are from the project start date to September 30, 2020.

|  |  |
| --- | --- |
| Student wages | $0 (waiting for equipment electrical to be completed and operational) |
| Equipment/supplies  | $15,000 (spent) + 16,000 (Remaining PO encumbered) |
| Total spent and obligated | $31,000 |

**Project Progress to Date:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Timeframe (# of weeks to completion)** | **Estimated Completion Date** | **Actual Completion Date**  |
| Demonstrate the feasibility of converting waste plastic to fuels | 26 weeks | 5/31/2022 | TBD (Delayed because of COVID) |
| Engage students to identify the parameters | 13 weeks | 2/27/2022 | TBD (Delayed because of COVID) |
| Support the education and training of students from various disciplines to study the effect of continuous operation on catalyst life | 13 weeks | 3/31/2022 | TBD (Delayed because of COVID) |
| Involve students to study the impact of feedstock composition and quality | 22 weeks | 4/30/2022 | TBD (Delayed because of COVID) |
| Evaluate and compare various fuels thus produced | 17 weeks | 3/31/2022 | TBD (Delayed because of COVID) |
| Generate mass/energy balance data for the entire process | 13 weeks | 2/27/2022 | TBD (Delayed because of COVID) |
| Create awareness in the larger community by participating in various outreach opportunities | 104 weeks | 12/31/2022 | TBD (Delayed because of COVID) |

**Student Involvement and Outreach to Date:**

The equipment has arrived, and the parts have been assembled (photos attached). The equipment requires specialized electrical connection that need evaluation and approval. We have received the approval and a service request have been placed to get the required electrical connection in our lab. One of the part ordered for electrical connections, transformer, was found received damaged, so it was returned for the replacement. We will receive the replacement transformer in the next few weeks. We hope that f&S will soon complete the installation of electrical connection for the equipment. Once that is done, we will schedule a visit from the equipment supplier to install the equipment and the project work will proceed as per plan.

**Marketing and Promotion Efforts to Date:**

N/A

**Additional Comments:**

\* Majority of the planned work was postponed after 03/11/2020 due to the COVID-19 pandemic preventing work in the laboratory. There were delays from getting appropriate transformer for electrical connects and F&S services.

