May 19, 2017

STARS Steering Committee
Association for the Advancement of Sustainability in Higher Education
2401 Walnut Street, Suite 102
Philadelphia, PA 19103

To Whom It May Concern:

I am pleased to submit this letter of affirmation that the information presented for Lehigh University's STARS Innovation Credit is complete and accurate to the best of my knowledge. This letter affirms that in the summer of 2015 an affordable plant-based air purification system, known as the Phytopurifier system, was created by one of Lehigh's Environmental Initiative-STEPS Summer Research Internship teams to improve indoor air quality in Bethlehem.

Lehigh's Environmental Initiative-STEPS Summer Research Internship Program is a summer fellowship that engages students in creative, independent research under faculty supervision in the areas of energy, environment, policy, economics, and sustainability. The Phytopurifier team created and tested a plant-based air purification system to learn that the prototype was able to reduce target pollutants at a more rapid rate than the control environment where no Phytopurifier was utilized.

The project was developed using residents of the City of Bethlehem as potential consumers, due to the area's high ground level ozone in the area. Bethlehem's topography as a valley and its moist climate causes the trapping of air pollutants. The Phytopurifier is capable of removing a significant amount of pollutants from the air - 852 µg/m3 per hour of carbon black (CB) and 0.9 ppm of carbon monoxide (CO) per hour. Air pollution causes several health problems, which can be attenuated by removing CO and CB from homes. Additionally, keeping in mind air pollution affects people of lower socioeconomic status at higher rates, the team created the system to be low cost and accessible to everyone.

The creation of the affordable plant-based air purification system, as part of the Environmental Initiative-STEPS Summer Research Internship Program, emphasizes Lehigh's commitment to engage students in sustainable development that goes above and beyond the campus community. As a result of this project, the team created the company Air Releaf, which provides expert information about health and wellness, and the natural air purifier system. This project not only involved students in environmental research and its benefits within campus, it also covered aspects of affordability, social equity, well-being, and air and climate.

Please let me know if you have any questions.

Sincerely,

Dr. Mark Orrs
Director of Sustainable Development
Department of Political Science