



ESW
BIOFUELS

Newsletter
Fall 2019



Engineers for a Sustainable World



Develop Promote Innovate Cooperate

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ESW Biofuels

Engineers for a Sustainable World welcomed 19 new members this Fall, with 7 joining the Biofuels sub-team. Monona Khare, Sophia Openshaw, and Atsu Kludze will be joining Research & Development, Chris Sola and Naomi Schulberg are joining Business & Outreach, and Maddie Keiser and Lawrence Li will be working on Bioenergy Implementation.

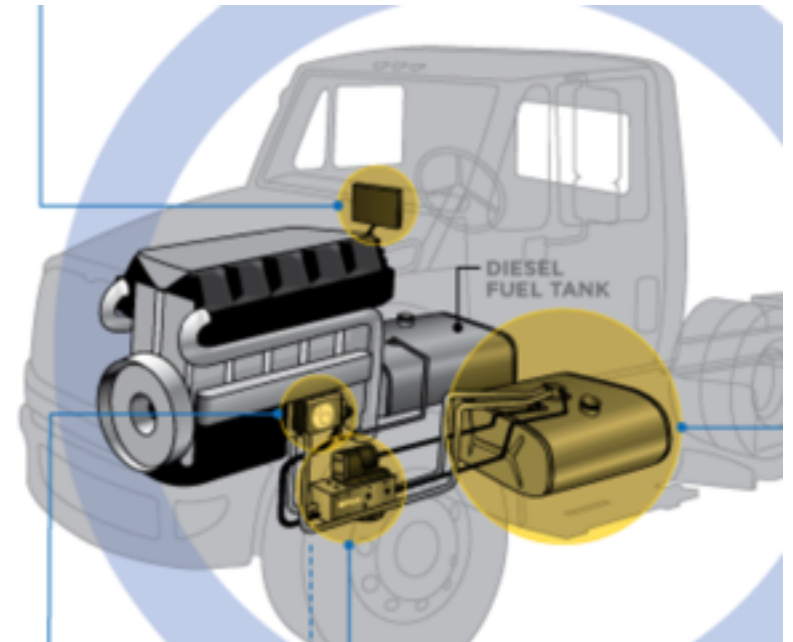




ESW Biofuels

Biodiesel Engine Project (BEP)

BEP is a three-way collaboration between ESW Biofuels, Cornell, and Pittsburgh based, Optimus technologies, to convert the Cornell tractor fleet to run off of biodiesel. This semester the team is installing a prototype system on one tractor and will be monitoring its performance.





Research & Development

Microbial Fuel Cells are bio-electrochemical devices that use bacteria to convert organic substrate into electrical energy. This semester, they hope to prototype a MFC reactor and begin testing using wastewater from the Ithaca Area Wastewater Treatment Facility. R&D is also working with the Tester group to explore how different Hydrothermal Liquefaction reaction conditions affect biodegradability of post digestate waste. They have begun preliminary testing in their new laboratory in Snee Hall.






Bioenergy Implementation

BioImp is currently working on a host of exciting projects! This includes the second annual L.I.V.E.S Challenge, in which high schoolers' imaginations are tested to come up with solutions to current environmental issues.

Another developing project is a collaboration to make a local brewery more sustainable. This project is in collaboration with Cornell Sustainability Consultants.

This year's challenge is **Off-grid Energy Solutions**, to develop a design for an energy system that takes advantage of renewable resources to power a community with limited access to electricity.



1.1b
PEOPLE WHO DO NOT HAVE
RELIABLE ACCESS TO ELECTRICITY

The graphic features a teal background with white and yellow text. Below the text are four icons: an orange wind turbine, a yellow electrical plug with a lightning bolt, a light blue water drop, and the number '1.1b' in large white font. Below the number is the text 'PEOPLE WHO DO NOT HAVE RELIABLE ACCESS TO ELECTRICITY' in smaller white font.



Business & Outreach



B&O is continuing their partnership with the Energy Warriors project from Cornell Cooperative Extension, which aims to provide sustainability education to students in the juvenile justice system.

The team will present the energy-efficiency lesson plan that was developed last semester in November. B&O is also taking part in the LIVES Challenge with BioImp. The team is designing promotional material and coordinating with high schools.

