



## Mechanical/Environmental Sustainability Project

### Oil from Plastics

#### Mission Statement

To research and develop a method of converting plastic to its oil form, to promote a cleaner environment and source of energy.

#### Synopsis

Today, plastic waste is a growing problem for our environment. Oil is one of the major compounds in plastics. When plastics are heated the oil vaporizes while other products remain in liquid form. This oil vapor can then be condensed and may then be burnt as-is or further processed to be used in other applications, rather than not be used and have this plastic waste remain in the environment.

The team did much research on the feasibility of this project. They determined that this project is a possibility. They came up with many different potential sources for plastics to be used in the process, but have not yet decided on which would be the best. This will come when the model is built and the team begins to collect data on the different operating conditions required for the recovery of hydrocarbons from each of the different plastics. The team also developed an electronic model with team specific design features.

The team has come up with a description of the apparatus required to carry out hydrocarbon recovery. They have a general design and some design features they would like to implement in the model to experiment with efficiencies. This project has a potential to have a model built for a LSSL team next year. The building of the model would allow the team to prove the theory we have stated. Also, by analyzing data for a variety of operating conditions and plastics, we could begin to come up with a more exact use for this idea depending on the results. A model is definitely the next step in the advancement of this project.



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