

Vanderbilt Biodiesel Initiative

Student Team Members The Vanderbilt Biodiesel Initiative
Nuclear Science and Technology Division Brown Bag Seminar
11:00 am, Building 4500-N, Weinberg Auditorium
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Abstract:

Vanderbilt Biodiesel Initiative is a self-sufficient, sustainable, student-run biodiesel production system at Vanderbilt University. The production system is used to convert Vanderbilt Dining Services waste vegetable oil into environmentally responsible biodiesel fuel that can be used in any of the university's diesel-fueled engines. These include vehicles such as student activity vans, medical center buses, and landscaping machinery. The goal is to curb the consumption of petroleum-based fuel by the Vanderbilt community with a system that is economically and environmentally sustainable. Also, the initiative aims to educate others about the viability of biodiesel as an effective alternative fuel.

The group includes students from WilSkills, a student-run outdoor class which takes weekly trips to explore nature through camping, hiking, canoeing, and caving, and the student environmental organization Students Promoting Environmental Awareness and Recycling (SPEAR). The biodiesel will be used to fuel the WilSkills vehicle as well as Plant Operations Equipment. WilSkills' plan is to collect used vegetable oil from Vandy Dining Services' kitchens, filter it, and combine it with potassium hydroxide and methanol to produce biodiesel fuel. Biodiesel can be blended with diesel fuel, and it is actually superior to diesel in that it burns cleaner, lubricates better, and smells like fried food. The team hopes to eventually produce 1,000 gallons of biodiesel fuel per month, potentially eliminating 20,000 pounds of carbon dioxide emissions each month.

The Vanderbilt Biodiesel Initiative student team was one of ten finalists in the 2007 national MTV-U Ecomagination Challenge, rising to the top from among more than 100 applicants. Although the team was not named the top finalist for the Ecomagination grant, the student team is still moving ahead with the design and construction of the biodiesel system in cooperation with Vanderbilt Plant Operations and Vanderbilt Environmental Health and Safety.