



Scope of Program

The Southern Alliance for Clean Energy at cleanenergy.org, in partnership with the University of Tennessee Institute of Agriculture, is currently engaging in a community-based biodiesel initiative made possible by a grant from the Tennessee Department of Environment and Conservation (TDEC). Known as Clean Energy Biofuels, the pilot program has been running successfully in Atlanta, Georgia in partnership with Emory University. The Knoxville program is of similar scale, and aims to supply biodiesel to the University of Tennessee, the City of Knoxville, community businesses, and others. The Knoxville program will also provide students with an educational opportunity to have a hands-on learning experience through the operation, maintenance, evaluation, and distribution of the biodiesel fuel process.

Production Capabilities

Clean Energy Biofuels has developed and deployed a turn-key biodiesel production platform with the capability of producing 1000 gallons of ASTM Specification B100 Biodiesel from waste fryer oil per 8 hour shift. Full production, double-shift capacity is 380,000 gallons of biodiesel per year. This solution fills a gap in the market for "middle-tier" production levels (250K-1M gal/yr), utilizing two core skids. Skid 1 is a pre-processing unit which prepares incoming feedstock for processing and provides support/peripheral equipment, including compressed air supply and process chiller. Skid 2 is the processing skid which converts the prepared feedstock into ASTM spec biodiesel. The Clean Energy Biofuels production site in Knoxville is located at the Johnson Animal Research Teaching Unit (JARTU), 1750 Alcoa Highway. The facility is a medium-scale mobile biodiesel production unit, utilizing pre-processing and processing equipment within (2) forty foot intermodal shipping containers and chassis, one 9,000 gallon tanker trailer, and one 1,500 gallon oil collection truck.

Source of Feedstock

The Clean Energy Biofuels program is currently partnering with local restaurants and food service establishments to collect their used fryer oil as the primary feedstock for the project. There are approximately 30 collection sites in Knoxville, Tennessee and 150 in Atlanta, Georgia, where the program was piloted. All locations are within close proximity of the production site, which reduces transportation emissions and increases the total energy efficiency per gallon of biodiesel produced at the site. By utilizing only food waste products from local restaurants, our fuel source remains domestic and the food vs. fuel debate is removed from our biodiesel equation. Using local waste-fryer-oils for our feedstock is the most environmentally and economically sustainable way to produce biodiesel fuel.

For More Information Contact

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