



In today's green conscious world, government entities have been receiving increased pressure to implement alternative fuels in their fleets that minimize environmental impact. Additionally, these entities desire solutions to avoid persistent volatility in the price of petroleum-based fuels. Biodiesel has emerged as a popular alternative source of fuel for vehicles. Most biodiesel is produced using oils derived from crops, but critics of this process argue that the production of the fuel has inflated food-supply crops' prices. Alternatively, biodiesel can be produced using waste cooking oil, which can be collected from restaurants. This option creates a buffer from the volatility of crop prices, while establishing a viable, reliable source of raw material.

Municipal Energy Frontiers (MEF) was created to explore biodiesel system possibilities for towns or cities, with a focus on utilizing waste cooking oil from restaurants in proximity. The group's consulting functions include determining economic and logistical feasibility for such programs and developing an implementation plan custom designed for each municipal client. MEF developed a generic after-tax analysis economic model and a basic supply chain model with which a municipality's fuel requirements, amount of available waste grease, the market prices of yellow grease, biodiesel, and petroleum-based diesel, and proximity to interested biodiesel producers can be input to determine the feasibility of implementation.

MEF tested the models by working with the City of Hoboken to determine what type of program would be the best fit for the city of 45,000. Additional requirements dictated by the city included minimizing startup capital due to the current Hoboken budget crisis. MEF determined the optimal system is one in which collection and purification of waste grease, production of biodiesel, and delivery of biodiesel is done by an independent biodiesel producing company. Such a relationship would require a partnership that guarantees the biodiesel producer would be able to collect an amount of waste grease greater than Hoboken's demand for biodiesel. The benefits of such a program are reduced emissions, which improves air quality, and improved sewer systems due to fewer instances of illegal grease dumping.