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Foundations of Municipal Biodiesel Production

Dear Reader:

The following document was created from the MTAS website (mtas.tennessee.edu). This website is maintained daily by MTAS staff and seeks to represent the most current information regarding issues relative to Tennessee municipal government.

We hope this information will be useful to you; reference to it will assist you with many of the questions that will arise in your tenure with municipal government. However, the *Tennessee Code Annotated* and other relevant laws or regulations should always be consulted before any action is taken based upon the contents of this document.

Please feel free to contact us if you have questions or comments regarding this information or any other MTAS website material.

Sincerely,

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Small-scale production of biodiesel is possible when an appropriate source of oil is secured, appropriate storage and processing equipment and labor are available, and an acceptable off-take of the glycerin by-product is developed. Interest in small-scale production of biodiesel by municipalities has grown considerably in recent years due to high costs of fuel and a desire to implement programs that prevent improper disposal of used cooking oils to municipal wastewater systems. Biodiesel serves a dual role in reducing fleet transportation costs and wastewater line clogs generated from household and restaurant grease (not to mention all it does for America). Another advantage in producing biodiesel is that it serves as good insurance during natural disasters, when fuel terminals are shut down, by ensuring that fleets have adequate supplies. In 2005, Hurricane Katrina caused many communities to be stranded without diesel.

Today, several municipalities in Alabama and Tennessee have developed and implemented recycling programs for both residential and commercial-used cooking oils. These progressive, proactive communities obtain the waste vegetable oil (WVO), and process it into biodiesel that is subsequently used in municipal vehicle fleets. Gadsden and Hoover, Ala. have become national models of municipal biodiesel recycling production systems. The Southern Alliance for Clean Energy (SACE) in partnership with the University of Tennessee Institute of Agriculture and the Tennessee Department of Environment and Conservation (TDEC) recently opened a Knoxville community-based biodiesel production facility. Built with an Alternative Fuels Innovations Grant from TDEC, the biodiesel production unit aims to convert waste fryer oil from local restaurants and other sources into useable fuel. Full production, doubleshift capacity for the mobile unit is approximately 380,000 gallons of biodiesel per year. SACE will collect waste fryer oil from participating restaurants and the new facility will convert the waste oil into biodiesel. The environmentally friendly fuel replaces volumes of petroleum-based diesel fuel.

The city of Clarksville recently received a Congestion Mitigation Air Quality grant to begin a municipal biodiesel recycling program. The cities of Crossville, East Ridge and Sweetwater also are making plans to produce their own biodiesel for city vehicles and equipment. This technical publication will examine some of the issues to be evaluated when municipalities consider initiating their own recycling and biodiesel production programs.
