



## Running Trucks on FOG (fats, oils and grease – Part 2

by Roger Guttentag

### Going on the Road with BD

#### **Maryland Energy Administration (MEA)**

The MEA published “*A Practical Guide to Using B20 in Your Fleet*” in April 2007. B20 refers to a diesel fuel mix that is 20 percent BD. The goal of this document is to explain, in a clear and straightforward manner, the process to follow for switching a vehicle fleet from conventional to B20 diesel. Aside from finding a reliable and accredited supply source, probably the biggest issues revolve around the cleaning properties of B20 fuels and communicating effectively the change in fuel sourcing practices with affected stakeholders such as fleet employees or customers. The guide provides recommendations on what changes in fueling practices should be considered such as coordinating the change in fuels with fuel tank cleanouts. It also has examples of various ways the change to B20 fuels can be publicized through press releases, fact sheets or PowerPoint presentations. Finally, a case study is included regarding the experience

of one Maryland school bus fleet operator in converting to B20 fuel.

#### **City of Portland, Oregon (CoP)**

The CoP Bureau of Planning and Sustainability has a section on its site devoted to the use of Biofuels, including BD, by municipal and private fleets operating within Portland. In 2006, the CoP adopted what it claims to be the first renewable fuels standard (RFS) for a municipal jurisdiction. The current RFS requires all diesels sold within the CoP, starting July 2010, to have a minimum of 10 percent BD content while municipal fleets are committed to using B20 fuels. One CoP agency, the Water Bureau, has switched to using B99 (99 percent BD) fuels for its heavy vehicles. There are links to further information on the use of BD by municipal and private haulers operating with the City as well as additional information on CoP biofuels policies and BD utilization.

#### **City of San Francisco, California**

The San Francisco Environment (SFE) site provides a brief overview of the City’s experience with using BD fuels with 20 percent or higher blends by various municipal operations such as the City’s Public Works, the zoo and the San Francisco International Airport.

In my April 2012 column, I reviewed Web resources that provided a broad overview on the use of biodiesel (BD) as a transportation fuel. BD refers to any vehicle diesel fuel where 5 to 100 percent of its composition is derived from non-petroleum sources such as plant oils or animal fats. These organic materials, collectively described as FOG, can be waste by-products of commercial and industrial food operations, like meat packing plants or restaurants. Municipal water system operators, in particular, are very interested in encouraging the recovery of FOG for BD production in order to keep these materials out of sewer and wastewater treatment networks.

The focus of this month’s column will shift toward Web resources that provide some examples of where BD is being used, how the recovery of FOG can be linked to local BD utilization and efforts to capture residentially generated FOG for local BD production.

### Web Address Directory

City of Columbia, SC – Southern Fried Fuel

<http://tinyurl.com/FOGSFF>

City of Portland, OR – BioFuels

<http://tinyurl.com/FOGPDx>

City of Raleigh, NC – Recycling Used

Cooking Oil

<http://tinyurl.com/FOGRaleigh>

Curbsidebiofuel

<http://tinyurl.com/FOGCBF>

Ecology Action - Santa Cruz County (CA)

Fryer to Fuel Program

<http://tinyurl.com/FOGFtoF>

Maryland Energy Administration – A Practical

Guide to Using B20 in Your Fleet

<http://tinyurl.com/FOGMd>

San Francisco Environment (CA) – Biodiesel

<http://tinyurl.com/FOGSFE>

Town of Cary, NC – Residential Waste Cooking

Oil Curbside Collection

<http://tinyurl.com/FOGCary>

Urban BioFuels Initiative – Fryer to Fuels

<http://tinyurl.com/FOGUBF>

### From FOG to fuel

Various communities in the U.S. and Canada are going to the next step by developing programs that link the recovery of FOG to the local production and use of BD. This is certainly one effective way of turning a liability into an asset. Some examples of these programs are described below.

#### **SF Greasecycle (SFGC)**

A link to the SFGC program operated by the San Francisco Public Utilities Commission (SFPUC) can be found on the SFE Biodiesel page. This is a free FOG collection service, started

in 2007, that is available to residents and restaurants within the city. Restaurants can sign up online for onsite collections while residents can take their used cooking oil to eight drop-off locations. According to a 2011 PowerPoint presentation (you can find a link to it on the same SFE Web page referenced earlier), currently over 1,000 restaurants are participating in the SFGC collection program and over 300,000 gallons of used cooking oil were recovered from both commercial and residential sources. The same PowerPoint presentation also provides a brief summary of a project undertaken by the SFPUC with funding from the U.S. Department of Energy for assessing the feasibility of co-locating a FOG recovery and BD conversion system with a city waste water treatment plant.

***Fryer to Fuel (FTF)*** Ecology Action operates a program in Santa Cruz County (California) similar to SFGC called Fryer to Fuel (FTF). Only fryer oil free of solids is accepted for collection. FTF provides closed and lockable outdoor storage containers and collection services. The collected waste oil is then converted into BD (typically B20) for use by local vehicle fleets. The FTF program was developed with funding assistance from the U.S. Environmental Protection Agency and the results from an initial eight-week pilot program was published in 2008. This report can be downloaded from the Environmental Initiatives website. In addition to discussing project results and issues that needed to be addressed, the report

also provides recommendations on how this type of program can be replicated by other communities.

***Southern Fried Fuel (SFF)*** SFF is a program established by the City of Columbia (South Carolina) to recover residential FOG for conversion into BD fuel for city vehicles. Collection is done through a drop-off center located at the City's public works facility.

***City of Raleigh, North Carolina (CoR)*** The CoR has a program for collecting residential FOG from the beginning of November through Mid-January. Collection, based on a one gallon minimum, is arranged by appointment with the CoR Solid Waste Services which is paid a quarter per gallon by a local company for conversion into BD. According to the City's web site, about 700 gallons were collected in its first year (fiscal year 2009-10) and nearly 2,000 gallons were recovered in the second program year.

***Town of Cary, North Carolina (ToC)*** The ToC residential FOG collection program was started in July 2009 and is available all year. Collections are scheduled by residents with the ToC public works department based on a minimum of half gallon of FOG (equivalent to a two-liter soda bottle). The ToC also received a quarter per gallon for each collected gallon from a local BD producer and then purchases a B20 fuel for use by city vehicles.

***Curbsidebiofuel (CBF)*** CBF is a new FOG collection service that was started in

2010 that is available on a subscription basis to residents and multi-family properties in DeKalb and Fulton County (Georgia). All participating residents in single and multi-family units are provided a 1.25 gallon sealable container for holding FOG materials. Single-family residences are assigned a monthly collection date for setout but also have the option to arrange for a special collection date if needed. Multi-family residences empty their containers into a larger outdoor storage unit, which is also collected on a monthly fixed schedule or through on-call arrangements as needed. There is a one-time registration fee for this service and the collected FOG is then converted into BD.

## Final thoughts

The collection of FOG from commercial and residential sources for BD production represents another step in the evolution of municipal organic waste recycling that started with yard waste and has progressed through food waste recovery. These programs show that we have an opportunity to create another domestic fuel product that also contributes to keeping our water supplies cleaner and reduce our generation of greenhouse gases.

---

Roger M. Guttentag is a recycling and solid waste consultant located in Harleysville, Pennsylvania. He can be contacted at (610) 584-8836 or rguttentag@comcast.net.