The San Francisco Public Utilities Commission

FOG

Biofuel Program

Wastewater Opportunities in Sustainable Biofuel Feedstocks

January 31, 2009

*Fats, Oil and Grease
The cost of the sewer system

• Sewer Main
  780 miles = 4,118,400 feet
  4,738,370 LF * 200 $/LF = 8.2 billion

• Sewer Lateral
  2,200 miles = 11,616,000 feet
  11,616,000 LF * 115 $/LF = 1.3 billion

That is 9.5 billion for a new sewer system
And impacting it 5% = 475 million
  4% = 380 million
  3% = 285 million
  .5% = 47 million
Other reasons to protect the linear asset, the sewer system

• Public perception of bioenergy and alternative infrastructure is valuable
• Rising energy costs are expected
• Non-compliance with AB 32 will cost much more than that not according to a recent Air Quality Control Board study
FOG to Biogas benefits
- Increase methane production
- Increases energy savings for the SFPUC
- Renewable energy source
- Expand renewable energy portfolio
- Appropriate green house gas emissions reduction action
- Use of methane recognized as cleaner burning technology
- Alternative energy credits
- Sustainable plan for energy saving in a more environmental way
- Revenue source from grease hauler “Tipping fees”

FOG to Biodiesel benefits
- Congress allow B20 as only alternative fuel to complete EPA’s Health Effects testing
- Biodiesel produces less carbon monoxide, fewer hydrocarbons, less particulate matter, and fewer air toxins than regular diesel
- Biodiesel can be used for vehicle credits under the Energy Policy Act.
- B20 requires no engine modifications
- Biodiesel is biodegradable
NO WATER.
SECURE LID
WITH RING.

NO AGUA.
CIERRE TAPA CON
JALADOR DE ANILLA.

勿放入水。
用環箍緊瓶蓋。
START SAVING YOUR USED COOKING OIL NOW. Drop it off at the SFGreasecycle Booth during the Chinatown Community Street Fair.

DROP-OFF DATES:
Saturday, February 7: 10am – 4:30pm
Sunday, February 8: 9am – 5pm

Kitchen Collection Easy How-to:
1. Cool down used cooking oil in the pan.
2. Pour used oil into a clean, non-breakable, leak-proof container with a tight lid. Consider reusing old ones, such as mayonnaise jars.
3. Please make sure there’s no water, soapsuds, or food scraps in your used oil.

Look for the SFGREASECYCLE Booth on Grant Street and get a free strainer when you drop off your used cooking oil. Help us support the City's efforts. Instead of clogging drains and sewer pipes with your used cooking oil—a $3.5 million problem for San Franciscans—recycle it for biofuel.

Thank you for your participation and Happy New Year! For more information, visit sfgreasecycle.org.

EVERY DROP COUNTS
Put USED COOKING OIL in its place.

在這個
年末節日期間，
給市政府送一件大禮：
您用過的
烹調油。

在三藩市公用事業委員會的「三藩市油脂回收計劃」(SFGreasecycle) 之下，我們將把它
轉變為生物柴油。

THIS THANKSGIVING, GIVE THE CITY A GIFT: YOUR USED COOKING OIL.

With the New SFGreasecycle Program, we’re converting your used cooking oil into biodiesel to power the City’s fleet.

EASY KITCHEN COLLECTION

Recycle your used cooking oil at one of the following locations:

- For drop-off info, visit SFGreasecycle.org
- For more info, call 415-206-6000
- For more information about SFGreasecycle, visit sfgreasecycle.org

Soy Based Inks. 100% Recycled. 50% PCW. Process Chlorine-Free Paper.
SFPUC  SFGreasecycle
Current and Future Job Opportunities

- Global Exchange 3-month internships (seasonal)
- SE Community Workforce Development 8-month positions (Currently 3)
- 9910 Public Service Trainees (1)
- 9920 Public Service Aids–Special Programs (2)
- 7375 Stationary Engineer Apprentices (1)
- 7515 General Laborers
- 7355 Licensed Truck Drivers (3)
- 7373 Stationary Engineer (1)
Technology developments and enterprising water agencies are solving environmental and energy issues by using the scrapings at the bottom of the grease trap barrel. Here’s how:

1. COLLECTION
Most, if not all, grease and food scrapings from dirty dishes and pots from commercial kitchens are captured in a grease trap. Instead of flowing straight from a restaurant’s sink drain down into the sewer pipes, brown grease is collected (restaurants pay $ for this service) and hauled to a wastewater treatment plant (haulers then pay $ for disposal).

2. CONVERSION
At the plant, the patent-pending conversion process occurs, refining brown grease and creating three kinds of biofuel:

1. High-grade, road-worthy certified biodiesel for vehicles;
2. Lower grade boiler fuel for running sewage treatment plant equipment; and
3. Electricity converted from methane to run the treatment plant.
3. DIVERSION

Unlike cooking oil from deep fryers, which can easily be processed and recycled, trap grease is so rancid that it is considered a pollutant. It has typically been sent to an incinerator or landfill. Today's technology enables this waste to be converted into alternative energy.

4. CONSERVATION & MARKET CREATION

Sewer maintenance, including repairs when brown grease clogs sewer pipes, costs municipalities millions of dollars annually. By being the raw material for biofuel, “brown grease” becomes a commodity. It assumes market value and less gets dumped down the drain, minimizing costs for sewer maintenance and repair.

In the end, every drop, every scrap is used to produce energy, leaving nothing wasted.

SFGREASECYCLE: SFPUC
(415) 695-7366  sfgreasecycle.org
FOG Recovery Facility

Recovery Facility

Brown Grease Product

feedstock

Rail/Ship Grade Diesel

Fuel Additive

External Combustion

Biodiesel

Co-digestion Feedstock

Screenings & grit to landfill

High COD WW

Biogas Production

BENEFIT: Municipal WWTP's Convert FOG to Energy and Fuel, Reduce Fossil Fuel Use, Greenhouse Gases, and Waste Hauling Costs, and Extend Life of Landfills
GREASECYCLE

RECYCLE YOUR COOKING OIL FOR BIOFUEL. SAVE OUR SEWERS