

San Francisco Public Utilities Commission

SFGreasecycle



8" VCP

8178 BELVEDERE AV
061003004 -> 061003003

326' 05"



28' 05"



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

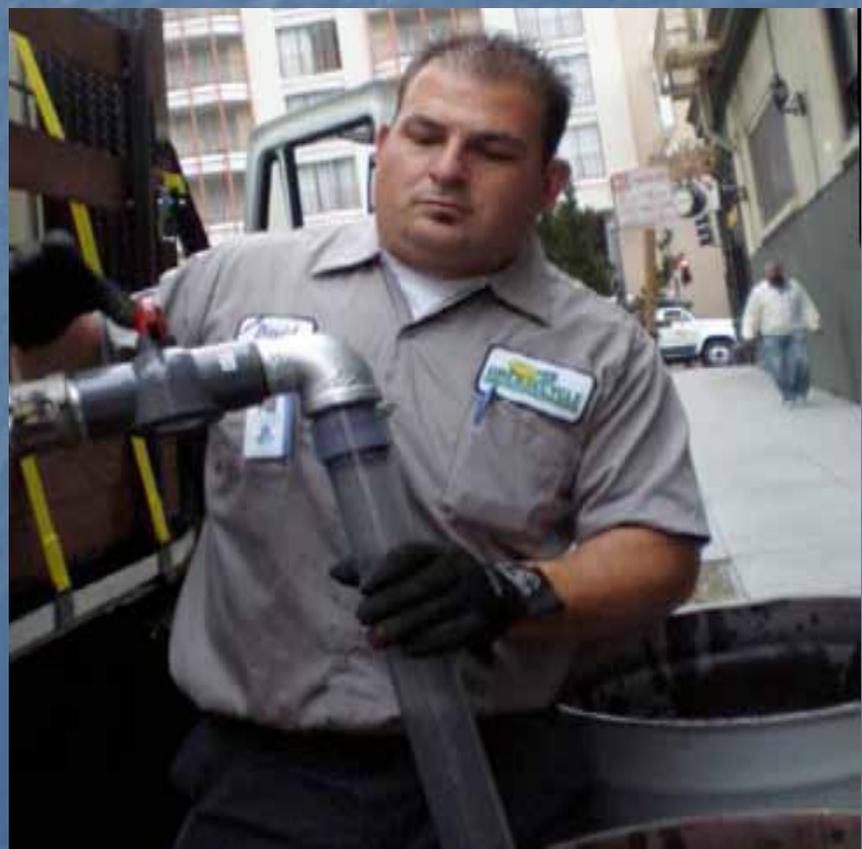
4% = 380 million

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









AVERAGE BIODIESEL EMISSIONS COMPARED TO CONVENTIONAL DIESEL, ACCORDING TO EPA

Emission Type	B100	B20
<u>Regulated</u>		
Total Unburned Hydrocarbons	-67%	-20%
Carbon Monoxide	-48%	-12%
Particulate Matter	-47%	-12%
Nox	+10%	+2% to -2%
<u>Non-Regulated</u>		
Sulfates	-100%	-20%*
PAH (Polycyclic Aromatic Hydrocarbons)**	-80%	-13%
nPAH (nitrated PAH's)**	-90%	-50%***
Ozone potential of speciated HC	-50%	-10%

* Estimated from B100 result

** Average reduction across all compounds measured

*** 2-nitroflourine results were within test method variability



San Francisco Task Forces

- ⌘ SF Biodiesel Access Task Force
 - ⌘ Established in February, 2006
 - ⌘ 7 voting members (SF residents)
 - ⌘ 11 non-voting members representing each SF City agency
- ⌘ SF Biodiesel Access Task Force Marine Subcommittee
 - ⌘ 5 voting members
- ⌘ SF Peak Oil Preparedness Task Force
 - ⌘ Established in May, 2007
 - ⌘ 7 voting members

San Francisco Biodiesel Community

SF Biofuels Cooperative

PeoplesFuel

Red & White Fleets

Biofuel Recycling Cooperative

CytoCulture

Rainbow Grocery

Green Depot

BioSolar

Dog Patch Biofuels

SF Environment



SAN FRANCISCO CRUISES

CRUISES
POWERED
BY
BIODIESEL



All debris box trucks operated by Norcal Waste Systems of San Mateo County run on alternative fuel (either liquefied natural gas or biodiesel).

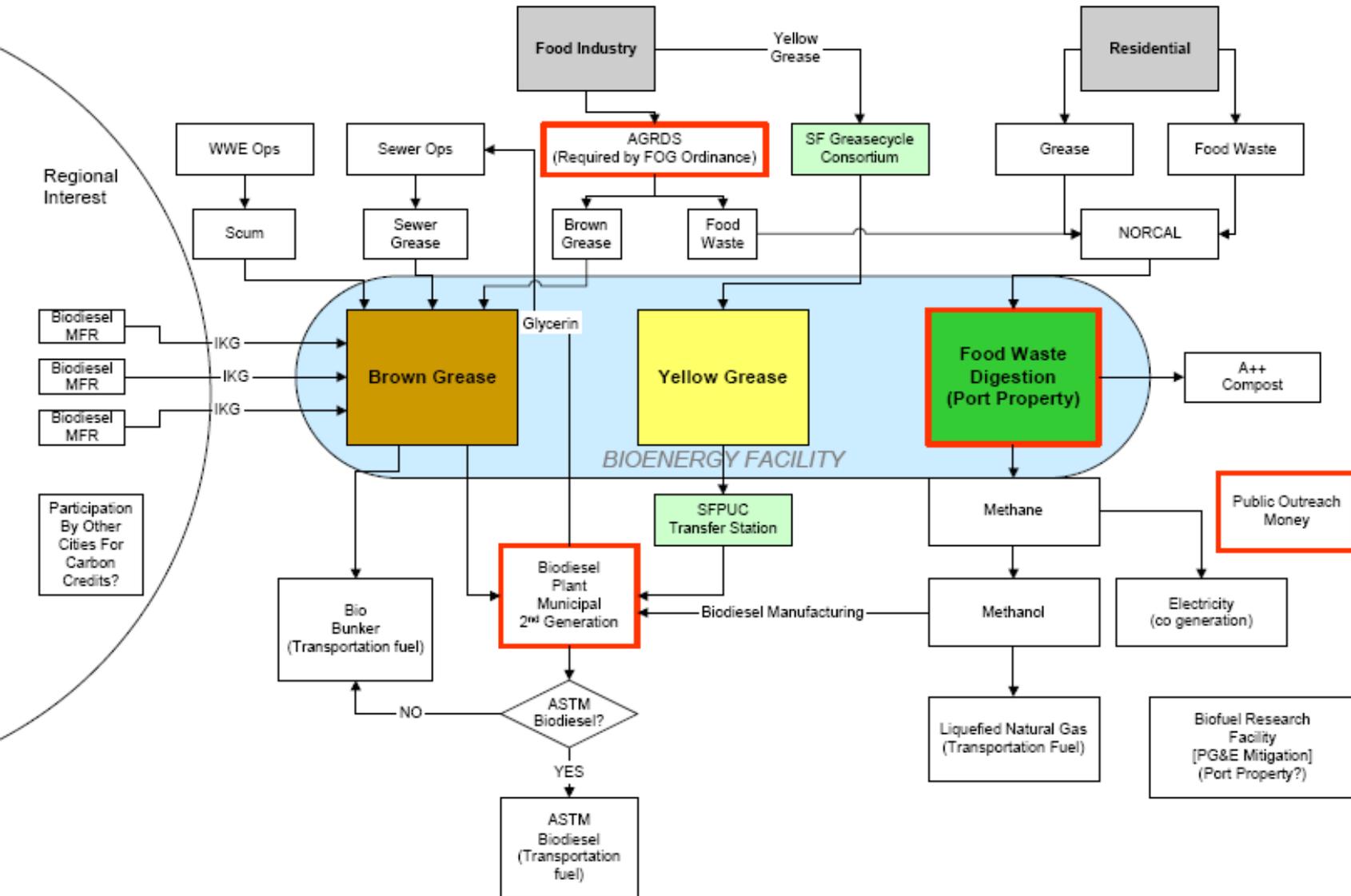
The biodiesel is B-20, a blended fuel including 20 percent biodiesel made from vegetable oil and 80 percent low-sulfur diesel.

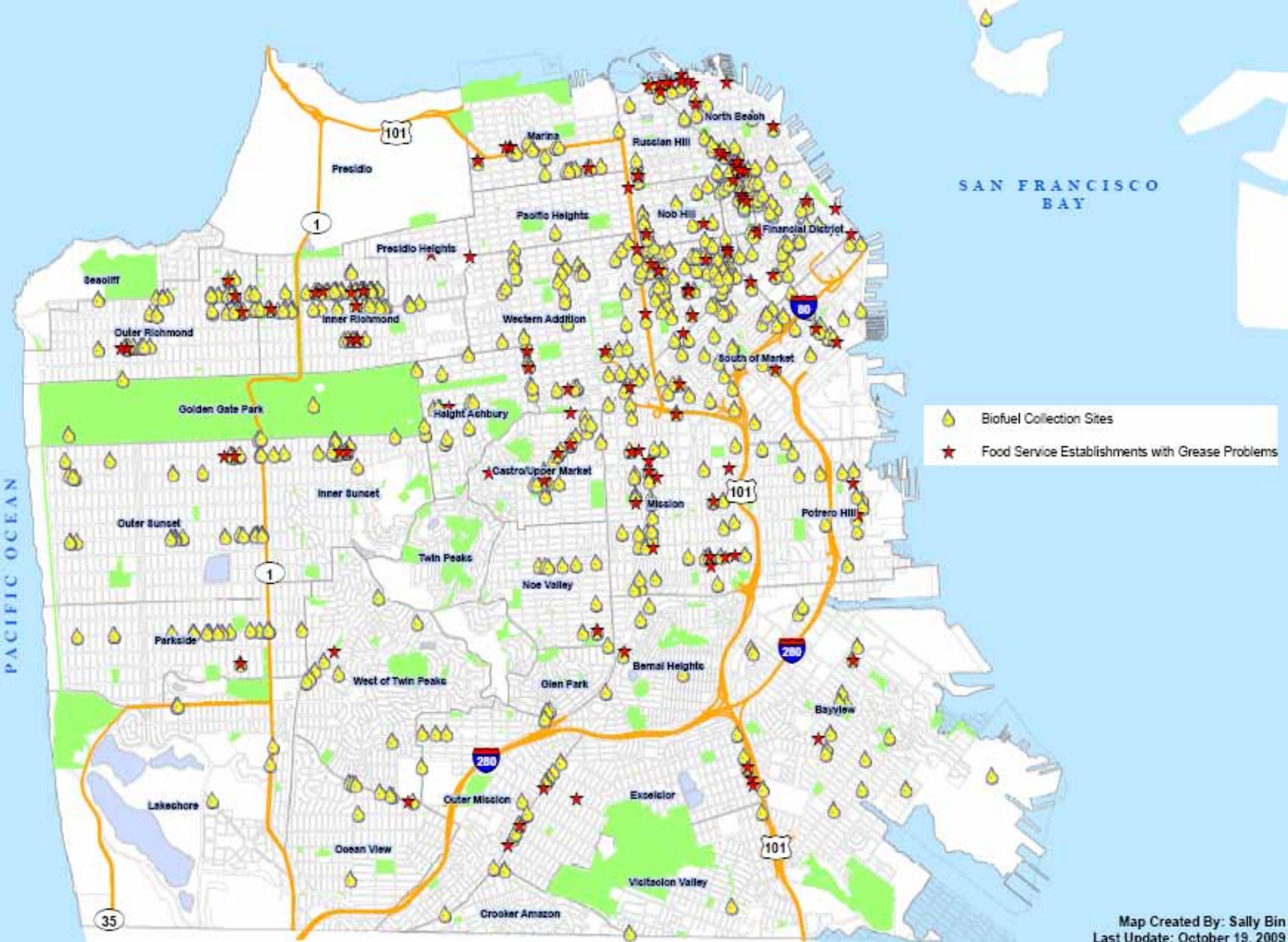
Stricter environmental standards for diesel fuels, improved engine technologies, catalytic converters and using alternative fuels all combine to reduce truck emissions. Because we use alternative fuels, equip our trucks with superior catalytic converters, and maintain our fleet in good condition the overall emissions will measure well below legal limits.



CITY OF SAN FRANCISCO, PUBLIC UTILITIES COMMISSION BIOENERGY FACILITY

May 19, 2008





SAN FRANCISCO BAY

-  Biofuel Collection Sites
-  Food Service Establishments with Grease Problems



OLD
OIL

Nutrition Facts



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)

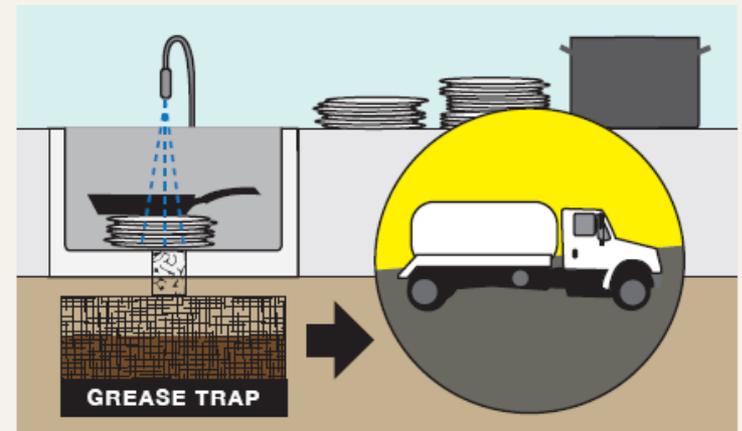


GREASE TRAP GUNK (AKA “BROWN GREASE”) IS PROCESSED INTO CLEAN-BURNING BIOFUEL

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

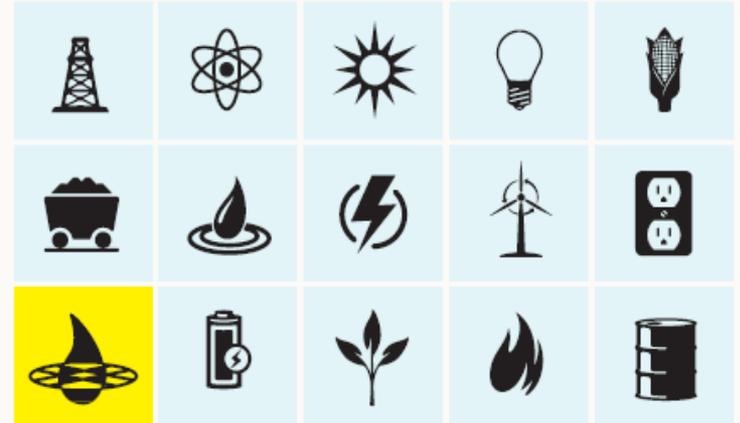
Unlike cooking oil from deep fryers, which can easily be processed and recycled, trap grease is so rancid that it is considered a pollutant. It has typically been sent to an incinerator or landfill. Today's technology enables this waste to be converted into alternative energy.



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.

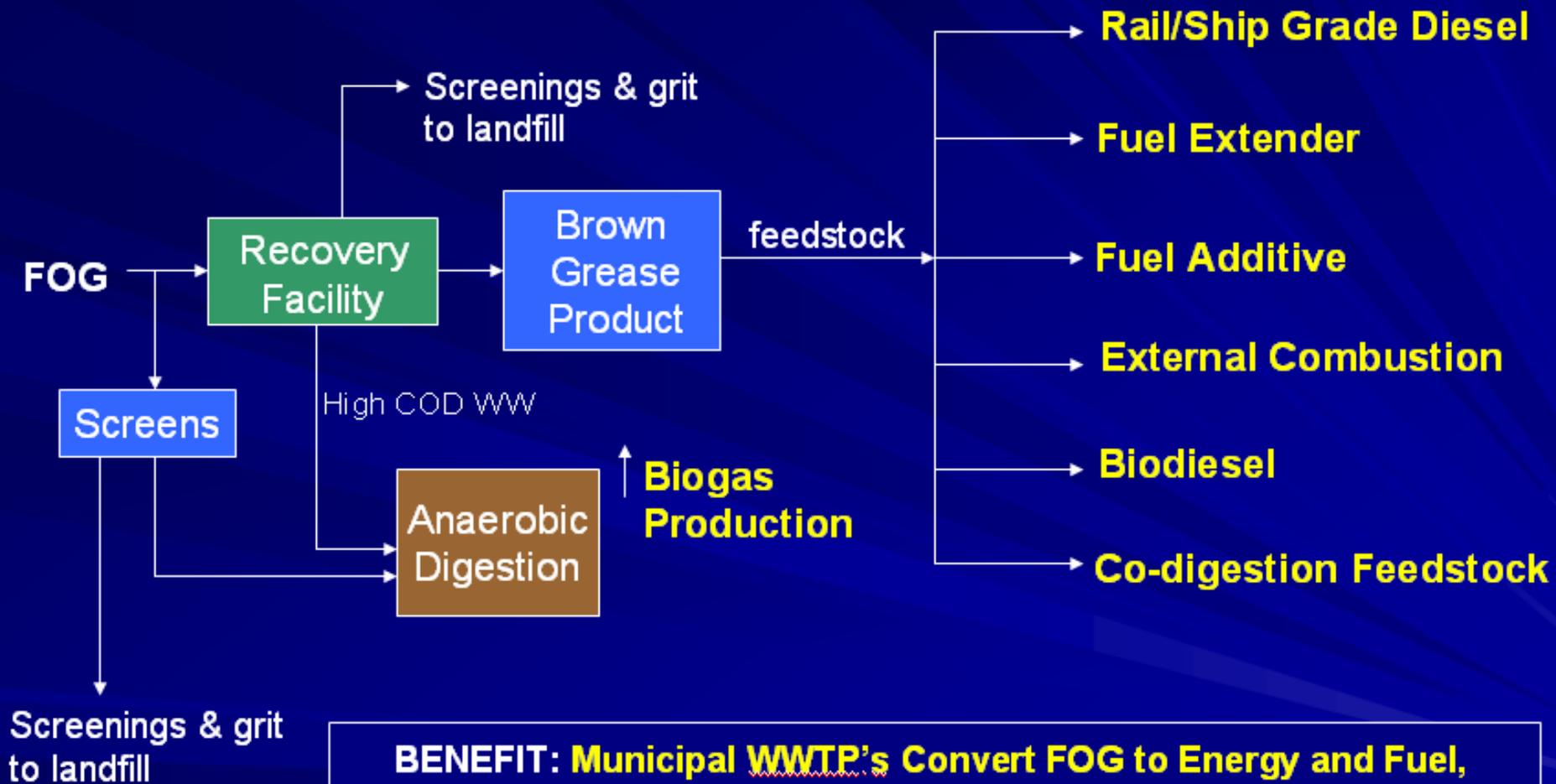
In the end, every drop, every scrap is used to produce energy, leaving nothing wasted.



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



FOG Recovery Facility



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



GREASE RECYCLE

RECYCLE YOUR COOKING OIL FOR BIOFUEL. **SAVE OUR SEWERS**