



HB 2449 – Benefits to Oregon Using Fats, Oils, and Grease for energy production

The Biomass Producer or Collector tax credit provides incentives for a number of biomass feedstocks, including an incentive to use waste fats, oils, and grease to produce energy or biofuel. Fats, oils, and grease - or FOG – are either flushed down the drain or are captured in a grease trap and disposed of in landfills. These disposal techniques impact the water treatment system or result in greenhouse gas emissions, increased landfill utilization and disposal costs. FOG can be diverted from these disposal techniques and used as a feedstock for energy and biofuel production.

While FOG is still an immature biomass feedstock market, using these wastes for energy production provides energy, economic and ecological benefits to Oregon and can help the state meet its greenhouse gas reduction goals.

Energy Benefits

FOG processed in an anaerobic digester creates approximately 21,000 cubic feet of biogas per wet ton. In 2013, ODOE certified 1,935 tons of FOG for anaerobic digestion, which created approximately 40.6 million cubic feet of biogas, which could generate 2.9 million kWh of electricity or replace 34,500 gallons of diesel fuel. The 1998 Urban Waste Grease Resource Assessment study (the most recent study available) estimated that there are at least 26,000 tons of FOG available in Oregon. The allocation in the pilot program of credits for 650 million cubic feet of biogas would incentivize the collection of additional feedstocks (e.g. FOG, food waste, manure) which, when converted to biogas in a digester, could generate 47.3 million kWh of electricity or replace 553,000 gallons of diesel.

Greenhouse Gas Benefits

Diverting FOG from landfills helps to reduce greenhouse gas emissions. In a landfill, FOG is broken down by bacteria into methane, which has a global warming potential 25 times that of carbon dioxide. While FOG is also broken down into methane in the controlled environment of anaerobic digestion, methane produced in a digester is captured and used to generate electricity and can offset fossil fuel based energy production.

Economic Benefits

FOG can create a significant expense for sewer rate payers if it is sent into the sewer collection pipes. This material increases maintenance costs and the grease can clog pipes causing sewage to overflow into streets and basements.

The Association of Clean Water Agencies recently reported that excess FOG costs Clean Water Services Washington County ratepayers \$4.2 million annually in diminished treatment capacity, increased energy costs and additional sewer line and pump station cleaning and maintenance. The City of Portland spends about \$100,000 per year cleaning and repairing sewer lines clogged by grease and about \$12 million a year to treat wastewater containing high concentrations of food wastes and FOG (Association of Clean Water Agencies, 2015).

This incentive helps to convert the expense of managing this waste stream into an energy source that generates renewable energy and revenue for sewer ratepayers.

Ecological Benefits

FOG can contribute to sewer overflows as it clogs the sewer pipes. These overflows can impact water quality by releasing untreated sewage into rivers and other waterways. The chemicals that are used to clean grease from the sewer pipes may not be able to be treated by the treatment facility or can destroy the beneficial bacteria used in the treatment process. These chemicals may pass into the environment or otherwise impact fish, wildlife, and vegetation (City of Portland Environmental Services, 2015)

References

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U.S. EPA. (September 2009). *Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices*. Washington DC: U.S. EPA Office of Solid Waste and Emergency Response.