



## HB 2449 – Benefits to Oregon Using Food Waste for energy production

The Biomass Producer or Collector tax credit provides incentives for a number of biomass feedstocks, including an incentive to use various types of food waste to produce energy or biofuel. Food processing residues and post-consumer food waste are routinely disposed of in landfills, resulting in greenhouse gas emissions, increased landfill utilization, and disposal costs. Food wastes can be diverted from the waste stream and used as a feedstock for energy and biofuel production.

Using these food 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**

Food wastes are a diverse feedstock with a wide range of energy potentials. There is currently no incentive provided to collect food wastes for conversion into biogas through anaerobic digestion. The addition of the specific credit in HB 2449 would encourage diversion of a portion of the food waste stream to energy conversion by anaerobic digestion. 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 food waste from landfills helps to reduce greenhouse gas emissions. Food waste is broken down into methane by bacteria in a landfill. Methane has a global warming potential 25 times that of carbon dioxide.

Food waste is the second largest category of waste that is sent to landfills (U.S. EPA, 2015).

A study prepared for the Oregon Department of Environmental Quality reported that treating food waste through anaerobic digestion and generating electricity with the resulting biogas resulted in less greenhouse gas emissions than landfilling that material (Morris J., October 2014).

If 100,000 tons of food wastes were diverted to anaerobic digestion from landfilling it would reduce greenhouse gas emissions by more than 62,000 metric tons of carbon dioxide equivalents.

### **Economic Benefits**

Anaerobic digestion of food waste can provide economic benefits to local communities and industries. Treating food waste through anaerobic digestion reduces the amount of material that is sent to a landfill and may reduce waste disposal costs for businesses and municipalities. Basic tipping fees for disposal of waste into landfills varies across the state. Tipping fees can be between \$60 and \$120 per ton. Water treatment facilities and other facilities that are able to incorporate anaerobic digestion can benefit from on-site energy generation and reduced utility costs.

The two main products of anaerobic digestion are biogas and the residual solids and liquids. The biogas can be used as a valuable energy product to generate electricity or heat or can be upgraded to a vehicle fuel or injected into the natural gas pipeline.

The co-products are rich in nutrients and can be used as a soil amendment and may be able to reduce the need for chemical fertilizers made from fossil fuels. By creating a valuable fertilizer substitute, nutrients that would otherwise be entombed in a landfill are returned to the soil.

### **Ecological Benefits**

Using food wastes to produce energy in an anaerobic digester saves space in landfills, reduces the risk of contaminants entering water systems and enables the nutrients that would otherwise be buried in a landfill to be re-used. This nutrient recycling enriches soils without chemical additives and reduces the amount of resources and costs needed to grow food (U.S. EPA, September 2009).

### References

Morris J., B. S. (October 2014). *Evaluation of Climate, Energy, and Soils Impacts of Selected Food Discards Management Systems*. Portland, OR: Oregon Department of Environmental Quality.

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U.S. EPA. (2015, March 17). *Turning Food waste into Energy at the East Bay Municipal Utility District*. Retrieved from <http://www.epa.gov/region9/waste/features/foodtoenergy/food-waste.html>

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.