

# FACILITY FACT SHEET

## Trailer Mounted AD-25-2015-1 Microdigester

<b>Facility Owner</b>	Greenerzone
<b>Facility Contact</b>	A. Jansen
<b>Facility Address</b>	Langley, British Columbia (exported)
<b>Telephone Number</b>	604-783-1221
<b>Digester Size</b>	Trailer mounted 8' x 18', double axle, 10,000 lbs. payload
<b>Annual Feedstock</b>	Foodwaste; preconsumer and postconsumer
<b>Annual Tons Recycled</b>	25 tons per year with gas storage and electric generator
<b>Site History</b>	Commercial machine no. 1; delivered December, 2015

Greenerzone provides curbside organics recycling services to residential and commercial customer in the Fraser Valley east of Vancouver BC, Canada. This is a fee-for-service business model that includes digestion, composting, vermicomposting, and associated agriculture to make a sustainable circular economy. Greenerzone was Impact Bioenergy's first customer for a microdigester. Trailer was owner-supplied and modified at Impact Bioenergy's fabrication plant.

### Processing Equipment

Feedstock receiving and preparation tank that doses feedstock into the digester. Digester is heated and manually mixed using a handwheel and gearbox arrangement. Digester chambers are annular, two-stage CSTR with top and bottom mixing. Heating is automatic using a hydronic heating system. Gas is conditioned for moisture and sulfur removal and then stored in an unpressurized (0.15 psi) storage vessel. Gas is measured, pressure-regulated, and backflow prevented. A 5 KW generator, gas lamp, and auxiliary valves for other devices are installed on the machine. Surplus gas burner with flame arrester and auto-igniter are integrated into the system.

### Process and Residence Time

Design is intended to optimize space efficiency and affordability, and to minimize moving parts (complexity and cost). Feedstock is blended, homogenized, and emulsified in a first stage metering tank. Light and heavy contaminants are removable. Dosing cycle and volume are adjustable. Digester hydraulic residence time is 30 days. Digestate discharge is automatic based on displacement method. There are two separate manifolds for gas and liquid. Sampling and condensate valves are provided in a number of locations. Maximum energy output is 15,000 BTU per hour. Maximum digestate production is 130 lbs. per day (16 gallons per day).

