

# Valorization of manure using combined Anaerobic Digestion / Algal TAG production

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# Background

- 350,000 dairy cattle in Washington State, producing approximately 17,500 tons manure/day
- New state and federal regulations to control water quality limit the amount of manure that can be applied to fields
- In 2002, the consumer cost of electricity was \$0.0582 per kWhr, at this time power generation from AD technology is not economically feasible in WA due to low electricity rates
- Dairy prices are low, causing small farms to close and increasing the number of CAFOs (concentrated animal feeding operations)
- Fuel and fertilizer prices are rapidly rising

# AD / Algal TAG production process

2 biological processes:

- Nutrients (C,O,N,P ...)
- Energy (Biomass, Solar)

