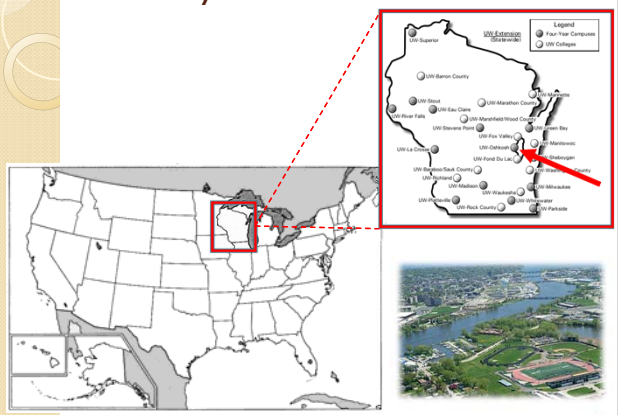
Turning Food Waste from a Burden to a Benefit

Renewable Energy at UW Oshkosh

THE UNIVERSITY OF WISCONSIN OSHKOSH

University of Wisconsin Oshkosh



UW Oshkosh Commitments

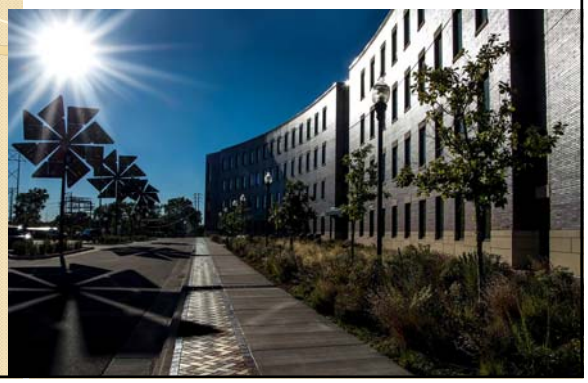
- Earth Charter (signed in 2002)
  - Principles
    - Primary: *Respect and Care for the Community of Life*
  - Supporting
    - (Safeguard) *Ecological Integrity*
    - (Promote) *Social and Economic Justice*
    - (Advance) *Democracy, Nonviolence and Peace*

UW Oshkosh Leading by Example:

- American College & University Presidents Climate Commitment
  - Attain climate neutrality by mid-century or sooner
  - Steps to climate neutrality involve:
    - Use reductions through:
      - Efficiency (performance contracts, green building)
      - Behavior change
    - Renewable energy credits (~20%)
    - Onsite renewable energy (solar = 3% electric)
    - Carbon offsets

Leadership in Energy & Environmental Design (LEED)

(At UWO: 3 certified, 1 in review, several in planning)



UW Oshkosh Biogas Systems

City – Dry Fermentation

Small Farm – Plug Flow

Large Farm – Complete Mix

6

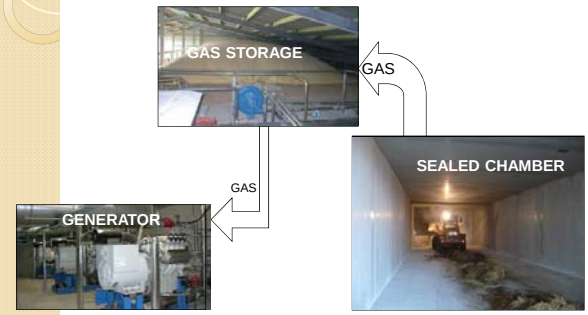
BD1: The First Commercial Scale Dry Fermentation System in the Nation!

University of Wisconsin–Oshkosh Case Study: Biodigester 1

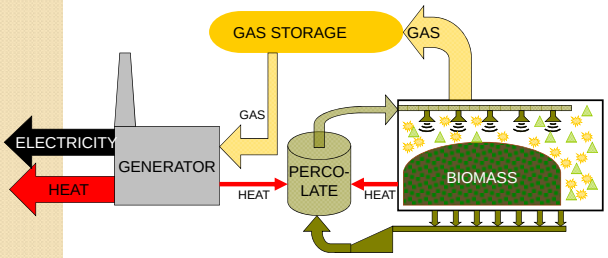
Dry Digester

- Processes 10,000 tons of food waste and yard waste from the community
- Produces 370 kW of continuous electrical power
- Waste water treatment plant collaboration
- Private/public collaboration

Dry System: 3 Basic Components



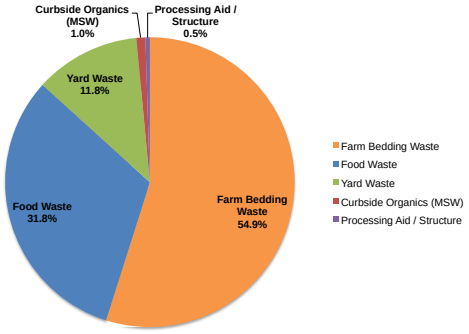
Electricity and Heat are generated…



Solid "digestate" → aerobic composter site
(can be custom batched – e.g. organic)

11

BD1 – Average Feedstock Totals



Annual Organic Material Processed = 10,000 tons per year

12

Why Reduce Waste?

Paying to send food waste to the landfill is……, a waste!

- Environmentally sound practice
  - Methane is 75-100x more potent as a GHG than CO_2 over 20 years
- Cost
  - Potentially cost neutral
- Resource Opportunity
  - Use in generating renewable energy and heat
  - Creates education and PR opportunities
  - Extends landfill life-cycle

FOOD WASTE: WHAT IS USEABLE FOR FEEDSTOCK?

MAY CONTAIN:

- ✓ Leftover food, coffee grounds & tea bags
- ✓ Lightweight paper products (paper napkins, paper straw wrappers, etc.)
- ✓ Pizza boxes & other corrugated cardboard
- ✓ Limited Plastic must be BPI certified to be compostable

MAY NOT CONTAIN:

X – Excessive grease or bone waste

X – Uncooked meat

X – Paper with wax coating

X – Plastic not BPI certified to be compostable

WHAT MAKES SUCCESSFUL FOOD DIVERSION PROJECTS?

Successful projects have:

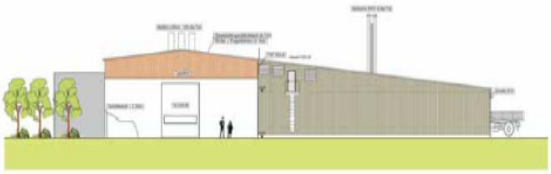
- ✓ Leadership & team buy-in
- ✓ Site specific plan
- ✓ Site champion(s)

- ✓ Training & follow-up review of site collections
- ✓ Simple & consistent collection system to minimize contamination

Organic Containers

Sanimax
Reclaim · Renew · Return

Fossil Fuels or Renewable Energy?

Be part of the transition!

Questions!