Sustainable Energy
With Biosolids

CASA & CWEA
May 12-13, 2015

AN EFFICIENT SOLUTION TO
CONVERT BIOSOLIDS & ORGANIC WASTES
INTO A CLEAN, CARBON NEUTRAL
RENEWABLE ENERGY

Wright Tech
Solutions for Cleaner
More Sustainable Communities
TODAY’S AGENDA

- Introduce the Biodryer Technology
- Operating experience
- Performance data
- Renewable energy & utilization
- Not for SALE?? (participation without spending any capital $$)
HISTORY

- **1993**: Patented In-Vessel Biodryer Tunnel by Wright for making compost
- **1993 – Present**: Over 50 installations, 8 countries & 10 US states
- **2007**: air handling modifications – **further drying to biofuel**
  - Test Burn of biofuel at coal-fired power plant with excellent results
  - Contracts with World Bank for installation of 50 & 100 MW Biodryer® fueled power plants in Africa
  - Current North American focus
Operating Experience

Since 1993:

United States: OH, NY, PA, MI, CA, NC, IN, MA, FL & TX

Canada: BC, ON, AB, QC & NS

Overseas: Ireland, England, Scotland, Bahamas, Ethiopia & Uganda, Kenya, Burundi

Never experienced an emergency shutdown
Introducing

❖ Biodryer® Technology
Feed Stock

Biosolids; Food waste; F.O.G.; Agri-waste; Landscaping & Yard
(Raw, undigested sewage sludge preferred)
Biodryer® Biological Drying

Continuous process (not batch)

Heating Zone 180 F

Drying Zone

After tunnel is primed, 100-tons of feedstock material will yield 40-50 tons of Biofuel
Typical 3-Tunnel Site
Tipping Floor Enclosure
Biodryer® Interior

Insulated Stainless Steel construction provides long life
Tunnel Discharge with Augers
Finished Product – From Biosolids to Biofuel
WrightTech Biodryer®

- Simple Process in both design and use
- No auxiliary fuel, few moving parts
- Modular design - easy expansion to >2000++ TPD
- Full agency approval for “Beneficial Use”
- 7-Day operation for final product
REGULATORY ISSUES

- Meets EPA 241 non-hazardous secondary materials criteria
- Exceeds EPA 503 temp for pathogen control

As fuel for thermal energy production:

- Complete thermal destruction
Performance Data

- Treating 1,000 TPD (wet) Biosolids

  Generate about 400 TPD of biofuel

  Replace over 150,000 TPY coal

  Net Energy Recovery - 30 MW/hr
Carbon Emission Reductions

Results of 1000 tons/day of Biofuel replacing fossil fuel:

Coal:
• Reduction of >400,000 TPY

Natural gas:
• Reduction of >200,000 TPY

plus,
reduced trucking, no land application, and landfills …
Business Models - Biodryer Opportunities

- Third Party Operation…
  (DTE Energy)
  - Build, Own & Operate
  - Manage biofuel production & sale
  - Long term, cost-effective contracts

DTE Energy—over 100 years in power production, including biomass plants in California
THANK YOU!

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