Maryland Energy Administration

Powering Maryland’s Future

Kyle Haas
Clean Energy Program Manager
MD Clean Wood Burning Stove Grant

- $700/pellet $500/wood stoves.
- Targets rural homeowners:
  - Replace heating oil, propane, old woodstoves only. No natural gas.
- Must meet EPA/Washington State emissions standards (see MEA website).
- Professional install doesn’t need additional inspection.
Incentives for commercial wood heating

• $$$ set aside for effective way to deploy commercial wood heating systems

• Goal: Deploy efficient commercial wood systems

• Partnering with DNR, WEC, UM Extens.

• Challenges:
  • How to ensure projects are actually deployed?
  • How to maximize # of grants?
  • How to leverage funds with other sources of $  
    • USFS
Thermal Renewable Energy Task Force

Finding ways to incent renewable thermal energy like electric energy
Renewable Portfolio Standard

- Requires electric suppliers to use renewable resources to use renewables
- If goals are not met, suppliers pay Alternative Compliance Payment
- Compliance: Award/retirement of Renewable Energy Credits (RECs)
- Qualified tech. (solar PV, wind, etc.) earn 1 REC for each MWH
- As enacted in 2004, only for electricity
• Each bill was proposed or enacted in separate years to incorporate geothermal heating and cooling, solar hot water or thermal biomass into RPS
• Structure of RPS was never modified to address this incorporation
• Each technology has different qualifications, regulations and processes
• Out of state biomass facilities had potential to flood REC market, devaluing RECs
Thermal Renewable Energy Task Force:

- Discussions centered around a new, separate tier to the RPS that qualifies thermal tech.
- Efficiency requirements
- Applications: useful thermal applications
- How to create a valuable incentive, limiting ratepayer impact
- How to manage existing facilities and tech.
Last Year’s Presentation

- Project at Catoctin Mountain Growers
- Financing issues at CMG killed the project
- No funds awarded
- Connected with MD Hawk, UMES and CET to replicate project
Wood Gamechanger Project

- $350,000 MEA grant
- 1MMBTU system
- Circulates hot water for year round production
- Partners dedicated to replication (UMES, MD Hawk, CET)
Maryland Energy Administration

Powering Maryland’s Future

Kyle Haas
Clean Energy Program Manager
kyle.haas@maryland.gov
240-480-5443
Cambridge Environmental Technologies was created to capitalize on the company’s systems technology expertise and engineering experience.

Cambridge Environmental Technologies Quick Facts:

- Emphasizes finding creative ways to improve the performance of proven environmental technologies such as patented automated emissions control system- the Kinetic Electrostatic Precipitator (ESP) and our patent pending mechanical filter- the Reeltration System

- Strategic partnership with BETH Filters GmbH (100+ year old gas filtration company located in Lübeck, Germany to supply traditional dry, wet, and tar ESPs and bag houses to the North American market

- Provides engineering, design and manufacturing for material handling and combustion/gasification grate systems

- Developing multiple waste-to-energy projects throughout the state of Maryland
½-5 Acre Greenhouse- Biomass Boiler System – Project Review

• Maryland Hawk plans to use biomass to generate hot water for thermal energy required to heat the greenhouse which will eliminate the need for propane or oil as a heating source.

• Develop an education component involving horticulture, the greenhouse will be used as an active teaching and learning facility for biomass-to-energy technology.

• Demonstrate the value of biomass generated renewable energy through capital cost justification, demonstrating the abundant availability of biomass feedstocks, state-of-the-art pollution controls, and the ease of system operation.

• Provide site access to our local communities, stakeholders and state visitors to come see and learn about the advantages of generating renewable energy with biomass.

• Insure that this project is a catalyst in providing repeatable, affordable, and successful biomass projects throughout Maryland and in the mid-Atlantic region for hundreds of small to medium sized greenhouses and sharing relative data with the poultry industry.

• Our collective goal is to demonstrate the economic value of biomass technologies in Maryland, e.g. through increased clean energy production from innovative technologies that demonstrate sustainable energy practices in agriculture.
Woody Biomass- MD

Approx. quantity available in MD: 7 MM tons

Total energy potential of woody biomass in MD: 10,425,710 MWh

Equivalent # of MD households’ annual electricity consumption: 840,783

CET’s Current Greenhouse project- Eastern Shore of Maryland

- Global objective: Prove that renewable energy from wood and possibly poultry litter are cost effective alternatives for poultry growers and greenhouses on Delmarva
- Main objective: Heat ½ acre greenhouse using hot water from a woody biomass combustor
- Secondary objective: Determine if poultry litter is a feasible feedstock for the combustor
- Final objective: Create electricity with surplus energy from the combustion system
- Small scale (300 kWh) combustion system
- Hot water boiler and high efficiency heat exchanger
- Reeltration System for pollution control
- 10 kWe Organic Rankine Cycle (ORC) for electrical output
- Installation slated for late October 2013
### Current Projects - Woody Biomass

#### Sample of existing CHIPTEC & CET customers:

- **Universities**
  - Middlebury College
  - Colby College
  - Eastern Illinois University
  - Santa Fe Community College
  - University of Western Montana

- **Public Schools & Government**
  - Arizona Public Service
  - Rice Lake School District
  - Hartford High School
  - Ausable Chasms Schools
  - Craig Town School
  - City of Battle Creek

- **Industry**
  - ConEdison Solutions
  - J. Gibson McIlvain Co.
  - Columbia Forest Products
  - Marion Plywood
  - Johnson Lumber
  - Arnot Ogden Medical Center

#### Sample of current projects:

- **Airports**
- **Prisons**
- **Government Districts**
Dion D. Banks

Director of Governmental Affairs

Office: 410-228-3007 ext1043

Cell: 443-521-4498

Dbanks@cambridge-intl.com

105 Goodwill RD

Cambridge, MD 21613

www.cambridge-intl.com

www.cambridgearchitectural.com

www.cambridgeenvirotech.com