



# Biomass Summit

Feedstock • Co-Firing • Finance & Investment

October 19-21, 2009 | Almas Temple Club | Washington, DC

## BIOMASS CO-FIRING SYMPOSIUM

October 19, 2009

### Agenda

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9:00 – 9:15 Welcome & Introduction by the Symposium Leader

**Chris J. Zygarlicke**, *Deputy Associate Director for Research,*  
ENERGY & ENVIRONMENTAL RESEARCH CENTER

9:15 – 10:00 **BIOMASS CO-FIRING: THE TRACK RECORD**

- The history of biomass co-firing in the U.S. and Europe
- The track record of biomass co-firing and how it can inform future planning and investment decisions
- The opportunities for further expansion of co-firing

**Chris Lindsey**, *Project Manager,* THE ANTARES GROUP, INC.

10:00 – 11:00 **BIOMASS CO-FIRING: THE BUSINESS CASE**

- Fuel costs
- Fuel handling and storage
- Capital cost of co-firing installation
- Operations and maintenance
- Carbon costs
- Environmental taxes and credits
- Financial incentives

**Ronald Meijer**, *Managing Director Clean Fossil Power,*  
KEMA NEDERLAND B.V.

**Kevin Sullivan**, *Senior Vice President,* KEMA

11:00 – 11:30 *Networking Break*

11:30 – 12:30 **BIOMASS CO-FIRING STRATEGIES**

- Alternative co-firing strategies
- Plant retrofits to accommodate biomass
- Boiler proper issues: fouling, slagging, ash handling
- Boiler emissions control impacts: NO<sub>x</sub>, SO<sub>x</sub>, PM, Fly ash use/reuse

**Jim Easterly**, *Project Manager, Biomass Energy,* BLACK & VEATCH

12:30 – 1:30 *Group Luncheon*

1:30 – 2:30 **BIOMASS FUEL SUPPLY CHALLENGES**

- Long-term supply agreements
- Storage
- Sizing
- Torrefaction
- Handling

**Kirk Martin**, *Partner*, ASCENDANT PARTNERS, INC.

2:30 – 3:00 **INDIRECT CO-FIRING USING BIOMASS GASIFICATION**

- Biomass selection, acquisition and processing
- Gasification systems to form synthetic combustible producer gas
- Co-firing syngas in coal boilers
- Impacts such as slagging, fouling, fly ash utilization and emissions
- Costs, carbon and renewable energy credits and carbon footprint

**William A. Lee**, *CEO/General Manager*, FRONTLINE BIOENERGY, LLC/  
CHIPPEWA VALLEY ETHANOL COMPANY

3:00 – 3:30 *Networking Break*

3:30 – 4:15 **CO-FIRING CASE STUDY #1**

- Fuel type
- Co-firing strategy
- Project management
- Operating track record

**Fredrick Wass**, *Manager, Development*, NRG ENERGY, INC.

4:15 – 5:00 **CO-FIRING CASE STUDY #2**

- Fuel type
- Co-firing strategy
- Project management
- Operating track record

**Terry Meikle**, *Biomass Project Manager*,  
COLORADO SPRINGS UTILITIES

5:00 *Symposium Adjourns*