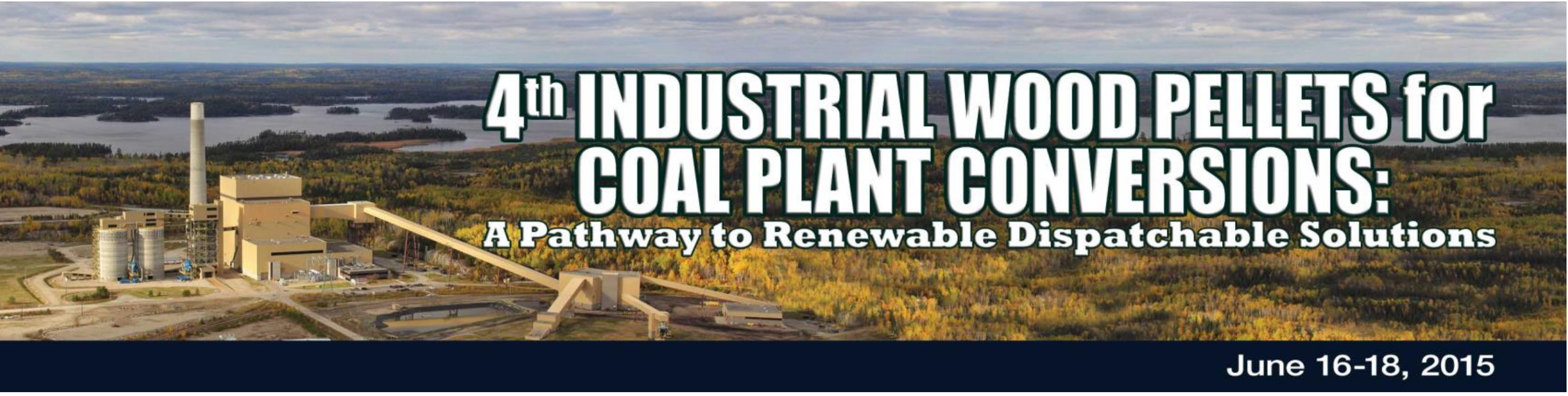

Industrial Wood Pellets for Coal Plant Conversions Summit Agenda

Wednesday, June 17, 2015 – Summit Day One

8:00-8:50 *Registration and Networking Breakfast*

8:50-9:00 *Opening Remarks by Summit Chairs*

Brent Boyko, *Director – Biomass Business Development,* ONTARIO POWER GENERATION (OPG)
William Strauss, MBA, PhD, *President and Founder,* FUTUREMETRICS, LLC

Session I: Policy Drivers

9:00-9:30 *Keynote Presentation:*
EPA Clean Power Plan Overview
In June 2014, the EPA issued the "Clean Power Plan" (CPP) proposed rule under the authority of the Clean Air Act section 111(d), with the goal of reducing CO_2 emissions by 30% from existing U.S. fossil power plants by 2030. The EPA is expected to issue its final rule for the CPP by June 2015, with compliance implications beginning in 2020 at the latest. This presentation will provide:

- Overview of section 111(d) of the Clean Power Plan.
- Possible state plans for reducing carbon emissions from coal power plants.
- How conversions from pulverized coal to pulverized pellets will lower carbon emissions and bring Utilities and Independent Power Producers (IPPs) into compliance.

9:30-10:30 *Keynote Presentations:*
Minnesota (IL, MI, OH, WI) Renewable Portfolio Standard (RPS) and Coal Plant CO2 Emissions Reduction Plans

10:30-11:00 *Networking Break*

11:00-11:30 *Presentation:*
State-by-State RPS and RPS Variants Summary: Implications and Opportunities for Coal Plant Conversions
27 States plus Washington, DC and 11 other States have Renewable Portfolio Standards (RPS) or RPS variants specifying that electric utilities increase the integration of renewable or alternative energy sources. This presentation will provide:

- Overview of states' renewable portfolio standards.
- The role that conversions can play in satisfying RPS requirements with the lowest cost power (other than hydro) that is also dispatchable.

Presenter:
Richard M. Saines, *Principal,* BAKER & MCKENZIE LLP

Session II: Economics and Fuel Supply

11:30-12:00 *Presentation:*
The Business Case for Fueling Converted Coal Plants with Renewable, Dispatchable Industrial Wood Pellets
This presentation will outline the economics of coal plant conversions as a result of EPA CPP regulations and RPS requirements. An overview of the expected costs of conversion and operation of converted plants using industrial wood pellets will also be offered. Additionally:

- How the total cost of generation is lower than wind and solar.
- How converted plants can provide base load or grid balancing power.
- The significant positive job impacts in the fuel supply chain compared to wind and solar which require zero workers.
- Carbon benefits and potential to monetize those benefits.

William Strauss, MBA, PhD, *President and Founder,* FUTUREMETRICS, LLC

12:00-12:30 *Presentation:*
Industrial Wood Pellets Supply, Security, & Pricing
This presentation will take a deep dive into industrial wood pellets supply, security and pricing. What is the ability of the industry to provide reliable supply, pellet/fuel security? Where are the existing production facility locations, what are their capacities, and what logistics are needed? This presentation will also:

- Look at the sustainable capacities of the major wood baskets in the US and Canada.
- Discuss current markets (UK, EU, Korea, Japan, and possibly China) and how that will impact pricing and availability of domestic industrial pellets.
- Examine the redundancy of supply in the white pellet sector and the emerging black pellet sector.
- Typical costs of production and costs per unit of energy for the fuel.

Presentation:
Tony McRae, *Director of Sales,* PINNACLE RENEWABLE ENERGY INC

12:30-1:45 *Networking Luncheon*

1:45-2:30 *Presentations:*
Industrial Wood Pellet Type Analysis

How are the different types of pellets made? What are the characteristics of the fuel? What are the relative benefits (energy density, bulk density, waterproofness, and cost per unit of energy) of each type of pellets versus the others?

- White Pellets
- Steam Exploded Pellets
- Torrefied Pellets
- Lignin Pellets

Presenters:
John Swaan, *Team Partner,* FUTUREMETRICS
Larry Weick, *Senior Vice President,* ZILKHA BIOMASS
Chris Wiberg, *Manager,* BIOMASS ENERGY SERVICES

Session III: Benefits & Challenges of Industrial Wood Pellets

2:30-3:00 *Presentation:*
Benefits & Challenges of Converting from Coal to Wood Pellets
Industrial Wood Pellets, sustainably sourced and supplied from the U.S. and Canada, have proven to be a clean alternative to coal for European and Canadian Utilities. According to the U.K. Environment Agency, switching to biomass from coal reduces carbon emissions between 74 and 90%. This presentation will outline the benefits and challenges associated with making the switch, including:

- Industrial Wood Pellets are the cheapest RPS compliant solution to renewable generation.
- Most challenges have been solved by those utilities that are already using 100% pellets in place of coal.
- Dust control and explosion detection and mitigation is vital for white and torrefied pellets.

3:00-3:30 *Presentation:*
Co-firing versus Conversion
Low co-firing rates require no modifications to pulverizers and burners, making it an attractive option for potential coal plant conversions. This presentation will review plants that are co-firing; their experience, the relative carbon benefits of co-firing versus conversion and whether co-firing could satisfy RPS requirements

3:30-4:00 *Networking Break*

4:00-4:30 *Case Study:*
Ontario Power Generation Conversions

4:30-5:00 *Case Study:*
European Conversion (Drax RWE, Vattenfall, or Dong)

Peter Thomsen, *Vice President, Thermal Power,* DONG ENERGY

5:00-5:30 *Case Study:*
Co-Firing (Korean genco, or Dutch plant that has co-fired.)

5:30-6:30 *Networking Reception*

Thursday, June 18, 2015 – Summit Day Two

8:00-8:50 *Registration and Networking Breakfast*

8:50-9:00 *Opening Remarks by Summit Chairs*

Brent Boyko, *Director – Biomass Business Development,* ONTARIO POWER GENERATION (OPG)
William Strauss, MBA, PhD, *President and Founder,* FUTUREMETRICS, LLC

Session IV: Industry Stakeholders Perspectives

9:00-10:00 *Panel Discussion:*
U.S. & Canadian Utilities Perspectives on Conversion/Co-Firing
This panel comprised of senior utility executives will discuss the merits and challenges of using white, steam exploded, and torrefied pellets for fuel.

Panelists:
Brent Boyko, *Director – Biomass Business Development,* ONTARIO POWER GENERATION (OPG)

10:00-11:00 *Panel Discussion:*
North American Industrial Pellet Producers Perspectives
Some of the major industrial pellet producers for white, steam exploded, and torrefied pellets will discuss their current operations and the impact that a North American industrial pellet demand would have on their businesses.

Panelists:
Harold Arnold, *Chief Executive Officer,* FRAM
Michele Rebiere, *Chief Financial Officer,* VIRIDIS ENERGY
Larry Weick, *Senior Vice President,* ZILKHA BIOMASS
Representative, ARBAFLAME AS

11:00-11:30 *Networking Break*

11:30-12:30 *Panel Discussion:*

U.S. and Canadian Forest Landowners Perspectives on a North American Industrial Pellet Market
Major landowners and forest management companies will discuss the sustainable capacity of the North American working forests, the impact on their sector and on regional economies that the emergence of industrial pellet demand in North American will have.

Panelists:
Alicia Cramer, *Vice President,* THE WESTERFIELD COMPANY
Dennis Hazel, Ph.D, *Extension Specialist and Associate Professor, Department of Forestry and Environmental Resources,* NORTH CAROLINA STATE UNIVERSITY
Mike Jostrom, *Director, Renewable Resources,* PLUM CREEK TIMBER COMPANY

12:30 *Summit Adjourns*