8:20-8:25 a.m.

**Moderator Remarks and Introductions**

Jessica Johnson, Conference Promotions Director; Senior Associate Editor, Wood Bioenergy

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**BIOENERGY SESSIONS**

**TUESDAY, MARCH 10, LEADING OFF SESSION (ROOMS B-C)**

**KEEPING THE ENVIRONMENTALISTS AT BAY**

8:30-8:50 a.m.

**Combating Misinformation Against Renewable Biomass Energy**

Brian Rogers, National Spokesperson, Future Forest + Jobs

The world’s leading climate science authorities agree that renewable wood energy is a key component of any strategy to reduce carbon emissions and mitigate global climate change. Unfortunately, a small, well-funded and organized group of anti-forestry activists have launched a misinformation campaign attacking the biomass industry with distorted statistics and misleading claims. Future Forests + Jobs (FFJ), an initiative supported by the US Industrial Pellet Assn. (USIPA), uses facts and research to hold accountable those who spread misinformation about the industry.

8:55-9:15 a.m.

**Health of the Logging Ranks and Staying Ahead of Environmental Encroachment**

Danny Dructor, Executive Vice President, American Loggers Council

Danny addresses loggers getting out in front of the environmentalists and presents findings from ALC’s most recent survey, based on 580 responses, pertaining to the outlook for the near future for loggers across the United States as well as the need of markets to handle the small diameter timber that they are harvesting.

9:20-9:40 a.m.

**Community, Environmental, Economic, and Social Perceptions about Pellet Producers in the U.S. South**

Dr. Richard Vlosky, Director, Louisiana Forest Products Development Center, School of Natural Resources, Louisiana State University

Rich provides insight into the wood pellet manufacturing industry from the perspective of residents in the U.S. South, focusing on environmental, social and economic issues. The region is the largest producer and exporter of wood pellets in the world. This study, based on a survey sent to randomly selected residents, rural and urban, who live near selected pellet mills, is the first of its kind to expand the research to investigate in-depth socio-economic dynamics and fill a general gap in knowledge of the relationship between the wood pellet industry and public supply-side issues in the region from the perspective of communities influenced by the pellet sector.

9:45-10:05 a.m.

**Wood is the Most Carbon Friendly and the Least Expensive Feedstock for Electricity Generation**

Dr. Puneet Dwivedi, Associate Professor Forest Sustainability, Warnell School of Forestry and Natural Resources, University of Georgia

In Georgia the coal-based electricity generation emitted 26% of the total greenhouse gas (GHG) emissions in 2016. Considering the availability of biomass resources in the state and advent of emerging technologies like torrefaction, biomass-based feedstocks could be directly used in existing coal-based power plants. Puneet examines economic and environmental analyses of electricity derived from nine feedstocks over 25 years relative to coal-based electricity in Georgia. Pine chips were the least expensive and the least GHG intensive option for generating electricity, with the lowest abatement cost. A carbon tax could make bioenergy feedstocks found in Georgia competitive against coal for reducing carbon emissions from the electricity sector.

10:40-10:45 a.m.

**Welcoming Remarks and Introductions**

Rich Donnell, Conference Co-Chairman; Editor-in-Chief, Wood Bioenergy

10:50-11:15 a.m.

**How Renewable Wood Energy Can Help Solve the Climate Crisis**

John Keppler, Chairman & CEO, Enviva

There is no question that the greatest challenge facing us today is the growing climate crisis. As we turn to all the tools in our arsenal, the science is clear on the need for renewable energy to help meet our shared climate goals. In his remarks, John provides an overview of the role that Enviva and the renewable wood bioenergy industry play as a part of a broader, modern solution that addresses many of the country’s most pressing environmental and economic concerns.

11:20-11:45 a.m.

**Partnering for Growth**

Scott Bax, Chief Operating Officer, Pinnacle Renewable Energy

People, safety and culture are at the heart of Pinnacle’s growing wood pellet business. Over the past two decades, Pinnacle has partnered with some of the world’s leading forestry companies to build safe, reliable and productive wood pellet plants. As of 2020, Pinnacle has partnered with five different forestry companies—Wester-velt, Tolko, Canfor, West Fraser and Two Rivers Lumber—at six different pellet plants in both Canada and the United States. Two of these facilities are currently under construction, one in High Level, Alberta, Canada and the other in Demopolis, Alabama. These partnerships have allowed Pinnacle to focus on using sawmill residuals in its pellet production, providing our partners with a reliable home for their residuals and providing our customers with quality pellets safely and on time.
The industrial wood pellet market grew from 5 million metric tons in 2010 to more than 22 million metric tons in 2019. Among the major producing and exporting nations, the U.S. is the largest exporter of wood pellets. Bill discusses the expected evolution of carbon emissions reduction policies around the world that will support current demand and will support future demand growth. He also talks about where that demand for pellets will grow, by how much it could grow, and how, where and why new pellet factories will be built to match demand. The talk includes a discussion of sustainability and how that is necessary for the industry to credibly supply a low-carbon solid fuel alternative to coal.

The founder and CEO elaborates on the differences the way biomass is sourced, processed and delivered on either side of the Atlantic Ocean. He also looks at what are the implications of these differences in the future and how they affect the business now and in the future.

Graanul Invest, with the acquisition of pellet production assets in Texas, is producing pellets now on both sides of the Atlantic Ocean. The founder and CEO elaborates on the differences the way biomass is sourced, processed and delivered on either side of the Atlantic Ocean. He also looks at what are the implications of these differences in the future and how they affect the business now and in the future.

Steam explosion is a long existing technology used in the pulping process. Due to its high cost, high energy consumption and low throughput and batch production mode, the technology has not been widely used commercially. Members of Trinity Green Derivative Products have developed a breakthrough technology to overcome all the above mentioned shortcomings of traditional steam explosion. The process is called Chemo-Mechanical Cellulose Explosion (CMCE), which is a continuous, high efficient and low cost process to convert green wood chips and other lignocellulosic materials to a dried, entangled fiber that is ready for the next steps of producing value-added products. The technology behind this process is presented and discussed in detail. A demonstration plant will be built based on this technology and it will be presented as well.

Dr. William Strauss, President, FutureMetrics


Steam exploded or torrefied pellets produced by thermal treatment have been promised for years as a better option to white pellets. They have higher energy per cubic meter, some exhibit hydrophobic characteristics, and in general they require less modifications to pulverized coal power plants that want to co-fire or fully switch from coal to pellet fuel. However, the promises have consistently failed to come true due to technological shortcomings, their inability to compete with white pellets on a dollars per delivered energy cost basis, and to some degree, market inertia in a sector where more than 25 million tonnes of white pellets will be used in power stations in 2020. The panel members discuss the latest in technology advances and how their product can break-through and compete in the global industrial pellet sector.
The presentation overview catalysts in regenerative thermal oxidizers removing VOCs and HAPs emissions after hammermills, pellet presses and coolers. Using the catalyst reduces RTO operating temperatures and enables substantial savings in natural gas consumption. Additional benefits include reduction in NOx and CO2 emissions. Matros focuses mostly on application of base-metal catalysts composed of manganese and other transient metal oxides. The presentation covers case studies of base-metal catalyst in composite board and wood pellet industries, and describes catalyst performance monitoring and maintenance including laboratory testing of catalyst samples collected from RCOs and catalyst regeneration via bakeout.

Rodney Pennington, Senior Director, NESTEC

The Quest for the BEST in Pellet Mill Air Emission Control

More than seven WESP and/or RTO/RCO systems have been installed and/or purchased in the pellet industry in the past year. The systems included upgrades and conversions to existing WESP and RTOs as well as a unique new total system approach with an $800,000 plus savings in capital equipment. Rodney provides details and photos for conversion to a simple poppet valve assembly; conversion to an upflow WESP eliminating high maintenance and reducing energy consumption; and installation of a total air emission control system approach, reducing capital and operating costs while providing a more simplified installation.

Greg Bierie, Sales & Technical Specialist, Benetech USA

Total Dust Management – Production Done Safely

Benetech is recognized globally as a Total Dust Management (TDM) solutions provider. Its emphasis is dust, spillage, material flow, and safety. This presentation focuses on problems and solutions in the wood biomass industry with safety as the first priority. Biomass production includes the handling of wood chips, wood pellets and similar renewable wood product resources. The result of product degradation is increased combustible dust. The conveyors handling this product require special attention to the design of chutes and dust extraction systems. Benetech is a provider of engineered chutes throughout North America with more than 500 successful installations. Another part of the Benetech TDM tool box includes dust extraction systems, flow aids, pile management, protection and surface dust control.
The digital age is having a transformational impact enabling industrial operations with a competitive advantage. This presentation shows how deployment of digital platforms is significantly improving the management of projects and how these platforms are transitioned from project to operations to manage and improve operational performance. Bijan shares the complexity and challenges of delivering a project and managing post-project operational performance issues and how digital platforms can significantly improve the outcome of both as well as provide a platform for Industry 4.0 initiatives.

Sustainable, closed-loop bioenergy crops can supplement or replace wood in a variety of bioenergy applications. One such crop is giant reed. It is perennial and fast growing, with high yields year-over-year. It is highly pest-resistant, grows in different climates and soil types, tolerates drought, is an EPA-approved bioenergy crop, and has low ecological demand. In direct combustion, testing has shown giant reed burns at about 8,000 BTU/lb. and, when torrefied, giant reed burns at around 10,400 BTU/lb., a significantly higher energy density than other bioenergy crops. This presentation discusses the benefits of supplementing wood bioenergy material with a sustainable bioenergy crop to achieve equal energy production levels and potentially lower cost. Past initiatives to replace coal with torrefied giant reed for long-term energy production are discussed. An overview of raw material supply, logistics, and production that can support long-term contracts and ease wood bioenergy supply demands while having a carbon negative environmental impact are presented.

Predictive analytics, data mining and the use of big data are paramount to success for business endeavors of today. Data mining and big data are fundamental to the fourth industrial revolution known as Industry 4.0., i.e., where computers and automation come together in a new way, with remote connectivity to computer systems equipped with machine learning algorithms that are predictive. The bioenergy and sustainable biomaterials industries exist in highly competitive commodity markets, where competitive advantage is sought by lowering the final costs of manufactured product. This presentation outlines the use of advanced data mining analytics using big data that are fused from a multitude of geospatial, climatology, demographic, and geophysical data sources to assess “cost-risk” in the biomass supply chain. Advanced data mining analytics is used to predict optimal locations for bioenergy plants in the Eastern United States.

CONCURRENT SESSIONS
WORKING FORESTS
(ROOM B)

10:40-11:05 a.m.
North American Timberland and Forest Industry Capital Investment Trends
Andrew Copley, Project Manager/Senior Analyst, Forisk Consulting
This session explores both ownership and capital investment trends. It delves into the largest timberland owners and highlights how acres have shifted across ownership types and geographic regions over time. It also examines the changes to wood demand in specific forest product and bioenergy manufacturing sectors and how these actual and expected changes relate to fiber prices.

11:10-11:35 a.m.
Hurricane Michael’s Impact on Timber Supplies
Devon Dartnell, Director, Market Analysis & Research, Georgia Forestry Commission
Devon discusses the devastating effects of Category 5 Hurricane Michael on the timber and biomass supply systems in the path of the storm. He provides an assessment of damage caused by Hurricane Michael to timber resources in northwest Florida and southwest Georgia and reviews salvage and reforestation operations in the aftermath. He addresses what effect the storm will have on future biomass and timber supplies for area mills.

11:40-12:05 p.m.
Forest Utilization Within a Circular Bioeconomy
Dick Baldwin, Managing Partner, Oak Creek Investment
The growing capability to use young small-diameter logs from a wide variety of species as raw material for wood products, pellets and fuel is expanding the environmental virtues of the working forest. These benefits are optimized by finding the highest and best applications for all biomass fiber. An analysis of the economic and environmental benefits is readily understood through the “Circular Bioeconomy” framework. This conceptual framework establishes the key role that wood products play in the forest lifecycle and provides suggestions on improving forest and forest product management. The model itemizes and advocates sustainable and balanced forest management through eliminating waste, adding economic value (or minimizing lower value products), and recycling/repurposing throughout the entire forest and wood fiber lifecycles. Researchers continue to refine this increasingly effective model with the purpose of better identifying and maximizing environmental and economic value from working forests.

10:40-10:45 a.m.
Moderator Remarks and Introductions
Harold Arnold, President, Fram Renewable Fuels

10:50-11:10 a.m.
Using Knowledge Management Initiatives to Achieve Successful Project Implementation
Justin Price, Principal, Evergreen Engineering
This presentation aims to analyze different influencing factors to knowledge management initiatives in the project companies choose to execute. It presents a model of critical factors, which have deep impacts for failure or success of projects. Based on literature and the survey-based research results, it presents the most significant barrier for successful initiatives in projects. It highlights key metrics for developing successful projects and how these metrics can be tracked through the lifecycle of the project.
11:15-11:35 a.m.
Project Execution – Modern Tools and Classic Principles
Scott Stamey, Vice President/Sr. Project Manager, Mid-South Engineering

Good project execution principles are rarely new, but the tools we use to plan and execute difficult projects have improved drastically over the years. This presentation gives a brief overview of some of the new technology being used to reduce risk, improve quality, and speed up project delivery. Scott looks at examples of how these modern tools and classic principles have been put to use on complex projects.

11:40-Noon
We Know a Thing or Two Because We’ve Seen a Thing or Two
Tom Lepak, VP Business Development, Casey Industrial

Ever wonder why some industrial projects flounder while others succeed? Lessons learned during Casey Industrial’s 82-year history of industrial plant construction have identified project execution attributes which should be avoided and those which should be mandatory. Yes, it’s good to be lucky, but implementing the right elements should help lessen and even eliminate speed bumps as you begin your next capital project.

10:40-11:05 a.m.
Smart Material Handling – Good designs Are NOT More Expensive
Tim Brown, Business Development Manager, Biomass Engineering & Equipment

This presentation educates you about the latest improvements and how to apply them to your biomass material handling challenges. It looks at smart vs. dumb designs; shows that good designs are flexible, reliable, redundant and therefore more reliable; shows that when the total installed cost is considered, good designs are cheaper; shows why material handling “must” be a part of the integrated plant design rather than an afterthought; and looks at the long-term operational cost savings of good designs.

11:10-11:35 a.m.
The Lifeblood of Your Plant
Peter Smyth, Industry Sales Manager, C.C. Jensen

As much as 80% of all machine failures are caused by contamination in the oil. Pro-active methods for dealing with this can save considerable costs over time. Peter discusses the damage that can be done by oil contamination and ways to prevent it and how to remove it. Through several industry specific case studies Peter covers best practices in oil handling, storage and sampling as well as how to use oil analysis to your advantage. The most effective methods to keep contaminants out of your oil in the first place are explained. He also looks at the biggest contaminants and how to identify if you have problems and the latest techniques for dealing with issues if they arise, via the latest technology available in oil filtration. Oil is an asset, not a consumable. You should leave this presentation with the knowledge of how to best take care of that asset and save your company money.