

# TUESDAY OPENING PLENARY THINK TANK

CRABTREE BALLROOM

9:00 AM - 10:15 AM

## Welcome

**Sushma Masemore**  
North Carolina  
Department of  
Environmental Quality

## Catalyzing The Biogas Economy

Moderator: Nora Goldstein, BioCycle

**Tanja Vujic**  
Duke University

**Charles Love**  
Trillium

Coffee • Glenwood Ballroom • 10:15 AM - 11:00 AM

## TRACK 1

## TRACK 2

11:00 AM - 12:15 PM

CITY OF OAKS BALLROOM

CRABTREE SALON E

### Feedstock Sourcing

Moderator: Nora Goldstein, BioCycle

**Distributed Feedstock Sourcing Through Public/Private Partnership**  
**David McNeil**, BlueBridgE Cooperative

**U.S. National Standards For Biomass Supply Chain Risk**  
**Jordan Solomon**, Ecostrat  
**Shyam Nair**, Idaho National Laboratory

### State Permitting Of Anaerobic Digestion Infrastructure

Moderator: Bruce Fulford, North Carolina Dept. of Environmental Quality

Panelists:

**Christine Lawson** and **Donna Wilson**, North Carolina Dept. of Environmental Quality

**Kathryn Perszyk**, Virginia Dept. of Environmental Quality

**Robert Wadley**, Tennessee Dept. of Environmental Conservation

Buffet Lunch • Glenwood Ballroom • 12:15 PM - 1:45 PM

1:45 PM - 3:30 PM

CITY OF OAKS BALLROOM

CRABTREE SALON E

### Water Resource Recovery Facilities (WRRFs) — Codigestion, Energy Recovery

Moderator: Craig Coker, Coker Composting & Consulting/BioCycle

**Food Waste Codigestion At WRRFs: Building A Business Case**  
**Carol A. Jones**, Environmental Law Institute

**Codigestion Of Biosolids To Energy Enhancement: Project Update**  
**Jim Meehan**, Rahway Valley Sewerage Authority  
**Rick Sapir**, Hawkins Delafield & Wood

**Anaerobic Digester Gas Utilization At North Carolina WRRF**  
**Kurtis Proffit**, Black & Veatch

**Energy Recovery Using Microbial Electrolysis Coupled With AD**  
**Abhijeet Borole**, The University of Tennessee, Knoxville

### Farm Digester Economics

Moderator: Allison Costa, U.S. EPA

**National Trends In Livestock Manure Digestion**  
**Chris Voell**, U.S. EPA AgSTAR

**Aggregation Of Farms Provides Optimization Of Biogas**  
**Gus Simmons**, Cavanaugh & Associates, P.A.

**Multifarm AD Economics For Dairy Production**  
**Mahmoud Sharara**, North Carolina State University

**Evaluating Opportunities For Dairy Digesters: Codigestion Or RNG?**  
**Dana Kirk**, Michigan State University

Refreshments • Glenwood Ballroom • 3:30 PM - 4:15 PM

4:15 PM - 6:00 PM

CRABTREE SALON F,G,H

CRABTREE SALON E

### Anaerobic Digester Research Updates

Moderator: Chris Voell, U.S. EPA AgSTAR

**Incorporating Biochar To Manage Hydrogen Sulfide**  
**Rebecca A. Larson**, University of Wisconsin-Madison

**Evaluating Feedstocks For Lignocellulosic Content, Tracking Conversion During AD**  
**Dana Kirk**, Michigan State University

**Biomethane Potential Testing — Understanding The Results, Utilizing The Data**  
**Brian Langolf**, University Of Wisconsin-Oshkosh

**Impact of Hydrolytic Enzymes On Anaerobic Digestion**  
**Rebecca Hobden**, Novozymes Biologicals

### Anaerobic Digestion, Composting Infrastructure Assessment

Moderator: Nora Goldstein, BioCycle

**Anaerobic Digestion Facilities Processing Food Waste In The U.S.**

**Melissa Pennington**, EPA Region III, Philadelphia

**U.S. EPA Excess Food Opportunities Map**  
**Claudia Fabiano**, U.S. EPA

**North Carolina's Organics Processing Capacity Assessment**  
**Bruce Fulford**, North Carolina Department of Environmental Quality

Biogas Industry Awards & Dinner\* • City Of Oaks Ballroom • 6:30 PM - 9:30 PM

\*Ticketed event, hosted by ABC — tickets can be purchased at ABC desk

# TUESDAY OPENING PLENARY

CRABTREE BALLROOM

9:00 AM - 10:15 AM

## Catalyzing The Biogas Economy

Moderator: Nora Goldstein, BioCycle

**Brian Paganini**  
Quantum Biopower

**Robert Bonnie**  
Duke University



NOTE: All speaker biographies are available on website: [bit.ly/refor18speak](http://bit.ly/refor18speak)

Coffee • Glenwood Ballroom • 10:15 AM - 11:00 AM

## TRACK 3



## TRACK 4

11:00 AM - 12:15 PM

CRABTREE SALON D

### Federal Biogas Policies

Moderator: Patrick Serfass, American Biogas Council

Panelists:

**Maureen Walsh**, American Biogas Council  
**Cheryl Coleman**, Director, Resource Conservation & Sustainability Division, ORCR/OLEM/EPA  
**Robert Bonnie**, Duke University and former Under Secretary for Natural Resources and Environment, U.S. Dept. of Agriculture

CRABTREE SALON A,B,C

### Microgrids And Battery Storage

Moderator: Craig Coker, Coker Composting & Consulting/BioCycle

**Farm-Based Microgrid**  
**Supplements Rural Electricity Demand**  
**Tom Butler**, Butler Farms  
**Debbie Britt**, North Carolina's Electric Cooperatives  
**Teaming For Profits: Utility Scale Battery Projects Powered By Renewables**  
**Kelly Sarber**, Strategic Management Group

Buffet Lunch • Glenwood Ballroom • 12:15 PM - 1:45 PM

1:45 PM - 3:30 PM

CRABTREE SALON D

### Financing: Lessons Of Success And Failure, 2017-2018

Moderator: William Jorgenson, Vanguard Renewables

Panelists:

**Thomas Emmons**, Pegasus Capital Advisors  
**Lex Heslin**, GPB Capital  
**Dave Kirkpatrick**, SJF Ventures  
**Rob Van Es**, Vision Ridge Partners, LLC

CRABTREE SALON A,B,C

### The Global Picture

Moderator: Rhonda Sherman, North Carolina State University

**New Perspectives On Biowaste Treatment In Italy**  
**Massimo Centemero** and  
**Michele Giavini**, Italian Composting and Biogas Association  
**AD Policy In U.S. And Germany: Trends And Opportunities**  
**Stephanie Lansing**, University of Maryland  
**Lessons Learned From The French Biogas Market**  
**Rex Parappilly**, Xebec  
**Dutch Transition: Biomass And Food Moving Towards Circular Economy**  
**Martin van Nieuwenhoven**, Ministry of Environment / Netherlands

Refreshments • Glenwood Ballroom • 3:30 PM - 4:15 PM

4:15 PM - 6:00 PM

CRABTREE SALON D

### "Show Me The Money" ... Tapping Lucrative RIN And LCFS Credits

Moderator: Paul Greene, CDM Smith

- Status and future trends in the RFS RIN market
- Status and future trends in the California Low Carbon Fuel Standard market
- Content of a good offtake agreement
- Using RIN and LCFS credits as secure revenue to finance a project

Panelists:

**Craig Murphy**, Brightmark Energy  
**Paul Niznik**, Argus Consulting Services  
**John Haeckel**, Clean Fuel Partners  
**Brad Pleima**, EcoEngineers

CRABTREE SALON A,B,C

### Mortality, Poultry Litter Composting

Moderator: Mark Rice, North Carolina State University

**Mortality Composting Trends And Insights**  
**Bob Peer**, Virginia Dept. of Environmental Quality  
**Standard And Catastrophic Animal Mortality Management In North Carolina**  
**Henrietta Holbrooks**, NCDA&CS Veterinary Division  
**Joseph Hudyncia**, NCDA&CS  
**Joseph Stuckey**, NCSU Animal Poultry Waste Management Center  
**Using Southern Yellow Pine Biochar And Wood Vinegar To Remediate Poultry Litter Compost**  
**Maryam Mohammadi-Aragh**, Mississippi State University

Biogas Industry Awards & Dinner\* • City Of Oaks Ballroom • 6:30 PM - 9:30 PM

\*Ticketed event, hosted by ABC — tickets can be purchased at ABC desk

## TRACK 1

## TRACK 2

8:30 AM - 9:45 AM

CITY OF OAKS BALLROOM

### Food Waste Management: Technology Options

Moderator: Chris Carusiello, U.S. EPA

**Preprocessing For AD And Composting**  
**Corey Rossen**, Ecoverse

**On-Site Food Waste Pretreatment Systems Guidance**  
**Charlotte Dreizen**, GreenBlue

**Vermicomposting: Food Scraps To High Value Compost**  
**Rhonda Sherman**, North Carolina State University

CRABTREE SALON E

### Optimizing AD, Composting, And End Markets

Moderator: Craig Coker, Coker Composting & Consulting/BioCycle

**Biochemical Benefits Of Cocomposting Alkaline Digestate With Acidic SSO**  
**Geoff Hill**, Engineered Compost Systems

**Improving Infrastructure For Compost And Digestate Market Development**  
**Ron Alexander**, R Alexander Associates, Inc.

**Odor Mitigation Planning**  
**Chad Ferguson**, Ohio Environmental Protection Agency  
**Mel Kurtz**, quasar energy group

Coffee • Glenwood Ballroom • 9:45 AM - 10:30 AM

10:30 AM - 12:15 PM

CITY OF OAKS BALLROOM

### Best Bets For Biogas

Moderator: Ward Lenz, North Carolina Sustainable Energy Association

**Power To Play - Biogas And Electricity**  
**John Dannan**, Generate Capital

**Why A Utility Is "All In" On RNG**  
**Hans Andersen**, NGF Nature Energy

**On The RFS RINS Qualification Pathway**  
**Dave Baran**, quasar energy group

**Biomethane, Food Grade CO<sub>2</sub> Capture**  
**Jeff Tocio**, Pentair

CRABTREE SALON E

### Organics Recycling Drivers, Toolkit

Moderator: Melissa Pennington, U.S. EPA

**Disposal Bans, Mandates And Related Strategies For Food Waste Management**

**Lorenzo Macaluso**, Center for EcoTechnology  
**Katie Sandson**, Harvard Law School Food Law and Policy Clinic

**Plan Before The Ban - And Evaluate To Get It Straight**  
**Holly Stirnkorb**, Metro

**Accelerating Organics Recycling Without A Ban, Mandate**  
**Wendy Worley**, North Carolina Dept. of Environmental Quality  
**Robert Wadley**, Tennessee Dept. of Environmental Conservation

Buffet Lunch\* • Glenwood Ballroom • 12:15 PM - 1:45 PM

1:45 PM - 3:30 PM

CITY OF OAKS BALLROOM

### Business Of Biogas And Compost

Moderator: Nora Goldstein, BioCycle

**Risky Business: AD Developer, Local Government And The Investor**  
**Constance Hornig**, Law Offices

**Cost-Estimating Tool For Managing Source Separated Organic Waste**  
**Craig Coker**, Coker Composting & Consulting/BioCycle

**Role of Product Branding In Market Development**  
**Ron Alexander**, R Alexander Associates, Inc.

**Science Of Composting And Compost Quality: Why It Matters**  
**Carla Castagnero**, AgRecycle

CRABTREE SALON E

### Municipal Organics Management: Integrated Strategies

Moderator: Charlotte Dreizen, GreenBlue

**Investigating AD In County's Organics Diversion Strategy**  
**Brian Langolf**, University of Wisconsin-Oshkosh and **John Jaimez**, Hennepin County, MN

**Testing Certified Compostable Plastic Bags In German AD Plants Treating Municipal Biowaste**  
**Christian Garaffa**, Novamont S.p.A.

**Surrey Biofuel Facility Integrates AD And Composting**  
**Michael Leopold** and **Jamie Jongsma**, Renewi Canada

**Sustainability of Waste Disposal: Assessing Mix Of Technologies**  
**Peter Veiga**, The Regional Municipality of Durham, Ontario

Refreshments • Glenwood Ballroom • 3:30 PM - 4:00 PM

4:00 PM - 5:30 PM

CRABTREE SALON D,E

### Closing Roundtable: Moving The Biogas Needle In North Carolina

Moderator: Tanja Vujic, Duke University

Panelists:

**Noel Lyons**, McGill Compost

**Angie Maier**, North Carolina Pork Council

**Mark Maloney**, OptimaBio, LLC

**Sushma Masemore**, North Carolina Department of Environmental Quality

**Mark Rice**, North Carolina State University

**8 : 3 0 A M - 9 : 4 5 A M**

CRABTREE SALON D

**Natural Gas Utilities And RNG  
— State Of Play**

Moderator: Sean Mezei, Dekany Consulting Inc.

**Renewable Natural Gas (RNG) Quality**  
**Karen Crippen**, Gas Technology Institute

**Utility RNG Program, State RNG Interconnect Guide**  
**McKenzie Schwartz**, National Grid

**Requirements To Connect RNG To Natural Gas  
Distribution Systems**  
**David Nestor**, Piedmont Natural Gas

CRABTREE SALON A,B,C

**Manure Management And Markets**

Moderator: Nora Goldstein, BioCycle

**What's In Toolbox For North Carolina Livestock Growers**  
**Mark Rice**, North Carolina State University

**Optimization Model For Manure Solids  
Granulation Facilities**  
**Mahmoud Sharara**, North Carolina State University

**Bioenergy Crop Production On Manure Lagoon  
Spray Fields**  
**Sam Brake**, NC DACS Bioenergy Research Initiative

Coffee • Glenwood Ballroom • 9:45 AM - 10:30 AM

**1 0 : 3 0 A M - 1 2 : 1 5 P M**

CRABTREE SALON D

**Valuation And Markets For Digestate**

Moderator: Craig Frear, Regenix

**Can Recovered Nutrients Have An Impact? A Case Study**  
**Alison Deviney**, North Carolina State University  
**John Classen**, North Carolina State University

**Nutrient Recovery Technologies:  
Performance On Key Environmental Indicators**  
**Mark Stoermann**, Newtrient LLC

**Digestate And Value-Added Nutrient-Rich Solids  
At NC Swine/Poultry AD Facility**  
**Bill Storms**, Storms Farm

**Digested Hog Waste Organics Improve Soil Health,  
Farming Sustainability**  
**Jeffrey C. Burnham**, Anuvia Plant Nutrients Corp. and  
**Kraig Westerbeek**, Smithfield Foods, Inc.

CRABTREE SALON A,B,C

**Food-Water-Energy-Compost Nexus**

Moderator: Craig Coker, Coker Composting & Consulting/BioCycle

**Compost Aeration And Heat Recovery At Dairy Farm**  
**Brian Jerose**, Agrilab Technologies Inc.

**Integrating Biofuels And Bioenergy Process  
Into Biorefineries**  
**Link Shumaker**, BioSystems Engineering, PLLC

**Case Study: CR&R Anaerobic Digestion Facility, Perris, CA**  
**Bill Kosco**, Eisenmann Corporation

Buffet Lunch\* • Glenwood Ballroom • 12:15 PM - 1:45 PM

**1 : 4 5 P M - 3 : 3 0 P M**

CRABTREE SALON D

**Who Are Your Biogas Offtakers?**

Moderator: Bernard Sheff, Montrose Environmental

**Biogas Powers Medical Cannabis Cultivation Operation**  
**Caroline Henry**, Grow Ohio Pharmaceuticals

**Dairy Manure Digester's RNG Conversion**  
**Paul Greene**, CDM Smith

**Making Big Biogas Out Of Small Biogas**  
**David Church**, Guild Associates

**Fueling The Advanced Clean Transportation Industry**  
**Grant Zimmerman**, Amp Americas

CRABTREE SALON A,B,C

**Lessons Learned:  
From Project Development To Grid, Pipeline**

Moderator: Janice Tran, Generate Capital

**Lessons Learned: Investor Perspectives**  
**Janice Tran**, Generate Capital

**Winning AD Project Teams**  
**John Winckler**, Symbiont

**Bringing "Stranded" Biogas To Market**  
**John Barker**, ANGI Energy Systems

**Best Practices — Gas To The Power Grid**  
**H. Tom Drake**, MTU Onsite Energy

Refreshments • Glenwood Ballroom • 3:30 PM - 4:00 PM

**\*ABC All-Member Meeting**

12:15 - 1:45 PM

Crabtree Salon F,G,H

Lunch available for attendees in meeting room.

**Wednesday October 17, 2018**