

Agenda: Gasification Technology Status and Pathways for Net-Zero Carbon Workshop

U.S. Department of Energy (DOE), Bioenergy Technologies Office (BETO), Office of Fossil Energy and Carbon Management (FECM), National Energy Technology Laboratory (NETL)
November 30, 2022

(Agenda subject to change, all times in ET)

Opening Session: Introductions/Opening Remarks (9:00-9:30 am)		
Time (EDT)	Agenda Item	Speaker
9:00-9:05 am	Welcome and Workshop Objectives	David Lyons (FECM/NETL) and Kevin Craig (BETO)
9:05-9:15 am	Overview of Biomass to Biofuels and Sustainable Aviation Fuel (SAF) Production through Syngas	Valerie Sarisky-Reed, Director of BETO
9:15-9:25 am	FECM's Hydrogen Activities including Flexible Feedstock (solid wastes) Gasification Using Biomass to Produce Clean Hydrogen Combined with CCUS for Achieving Net Zero Carbon or Net-Negative Carbon Energy Systems	Mark Ackiewicz, Director of FECM
9:25-9:30 am	Workshop Format and Tools	Stacey Young (BETO) and Melissa Ladd (BETO)
Session 1 – Gasification Overview & Experience (9:30-11:20 am)		
Moderator: Massood Ramezan (FECM/NETL); co-moderator: Sonia Hammache (BETO)		
Time (EDT)	Agenda Item	Speaker
9:30-10:00 am	Biomass Gasification to Fuels and Chemicals	Zach El Zahab (GTI)
10:00-10:20 am	Goal and Combined Feedstock Gasification to Fuels, Chemicals, and H ₂	Santosh Gangwal (KeyLogic)
10:20-10:45 am	TEA and LCA on Coal, Coal/Biomass, and Biomass Gasification with CCs	Eric Lewis (NETL)
10:45-11:20 am	LCA Methods and Challenges for Biomass, Plastics, and Combined Feedstocks	Michael Wang (Argonne National Laboratory)
11:10-11:20 am	Moderated Discussion	
Break – 11:20-11:30 am		
Session 2 – Part 1: Gasification Technology Barriers (11:30 am-12:45 pm)		
Moderator: Reyhaneh Shenassa (BETO); co-moderator: Diane Revay Madden (FECM/NETL) Desired outcome: Identification of key R&D needs/gaps, risks, timelines		
Time (EDT)	Agenda Item	Speaker
11:30am-12:00 pm	Challenges and Lessons Learned in Commercial Biomass Gasification and Co-Gasification of Waste	Kevin Whitty (University of Utah)
12:00pm-12:30 pm	GoBiGas Lessons Learned	Henrik Thuman (Chalmers University)
12:30-12:45 pm	Moderated Discussion	

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Lunch – 12:45-1:15 pm

Session 2 – Part 2: Gasification Technology Barriers (continued) (1:15 pm-2:45 pm)

Moderator: Diane Revay Madden (FECM/NETL); co-moderator: Reyhaneh Shenassa (BETO)

Desired outcome: Identification of key R&D needs/gaps, risks, timelines

Time (EDT)	Agenda Item	Speaker
1:15-1:45 pm	Overcoming the Biomass Barriers: The Taylor Gasification Process	Mark Paisley (Taylor Biomass Energy)
1:45-2:15 pm	Meeting Syngas Quality Requirements/Feeding Challenges	Joshua Stanislawski (EERC)
2:15-2:35 pm	Commercial Scale Coal Gasification – Lessons Learned and R&D Needs	David Denton (KeyLogic)
2:35-2:45 pm	Moderated Discussion	

Break – 2:45-3:00 pm

Session 3: Discussion Session (3:00-4:00 pm)

Melissa Ladd: Webinar tool XLeap facilitated discussion

Time (EDT)	Agenda Item	Speaker
3:00-4:00 pm	Gasification Barriers: <ul style="list-style-type: none"> • Mixed Feedstock Challenges • Operations: Type of Reactor, Scale-Down or Scale-Up (Feedstock Dependent) Post Gasification Clean-Up: Variable Feedstock Results in Different Impurities Syngas Use: Syngas to Precursors of Chemicals and Fuel or Other Uses	Melissa Ladd (BETO)

Closing Session (4:00-4:15 pm)

Time (EDT)	Agenda Item	Speaker
4:00-4:15 pm	Wrap-Up and Next Steps	Kevin Craig (BETO)
4:15 pm	Adjourn	