





Briefing Agenda

Powering Businesses, Homes and Vehicles with Waste:

How to Grow the Economy and Jobs with Biogas and Renewable Natural Gas

Tuesday, May 23, 2017 | 11:30 AM – 1 PM Capitol Visitors Center | Senate 201-00

- Welcome Jessie Stolark, EESI
 - What is biogas? The current and potential biogas market
 - Bernie Sheff, American Biogas Council
 - How Biogas is Made (Feedstocks & how systems work)
 - How Biogas is Used (including digestate)
 - Biogas Market Today & its Potential
 - How is RNG different from biogas? The current and potential RNG market
 - Johannes Escudero, RNG Coalition
 - What is RNG (& how it's different from biogas)
 - Current RNG Production (Feedstock / Utilization)
 - RNG Production Potential

Related industries—rural, urban and suburban

- Agriculture
- Food
- Waste management
- Water utilities
- Energy (fuels and baseload power)
- Shipping (Trucking & Fleets), and Municipal Buses/Fleets
- Fertilizer & Compost
- Value of biogas/RNG through real projects

Short case studies from industry professionals highlighting some of the benefits of developing biogas and RNG systems.

- Grant Zimmerman, ampCNG
 - <u>Fair Oaks Dairy, IN</u> (benefits: manure management, baseload onsite electricity, vehicle fuels and onsite fueling, renewable heat, soil and fertilizer products, watershed protection)
- o Caroline Henry, quasar energy group
 - <u>Central Ohio BioEnergy (COBE), Columbus, OH</u> (benefits: food scrap recycling, onsite baseload electricity, vehicle fuel, renewable heat, soil and fertilizer products, watershed protection)
- Luke Morrow, Morrow Renewables
 - Morrow Renewables Projects, Texas (benefits: use of methane from landfills, pipeline injection, vehicle fuels, renewable heat)
- Brian Meek, Avant Energy
 - Hometown BioEnergy Le Seur, MN (benefits: food scrap recycling, peak power, energy storage, renewable heat, soil products, watershed protection)

Key benefits from biogas and RNG systems:

- Waste management solution
 - Manure management
 - Use of methane from landfills (rather than flaring)
 - Commercial and urban food scrap recycling
- Energy generation and storage
 - Electricity: Onsite, baseload, peak power, small/utility scale
 - Gas: Vehicle fuel, natural gas pipeline injection, energy storage
 - Renewable heat
- Soil and fertilizer products
- Watershed protection
- o Economic benefits (All)
 - Investment dollars
 - Creates jobs
 - Reduces costs to handle waste material

Existing Federal programs supporting biogas & RNG industries

- Patrick Serfass, American Biogas Council
 - o RFS (RNG fulfills large majority of cellulosic biofuels production)
 - Farm Bill (energy title is critical):
 - Energy Title (IX): Rural Energy for America Program, Bioenergy Program for Advanced Biofuel, Biorefinery Assistance Program, Biomass Research and Development Initiative (BRDI).
 - Conservation Title (II): Natural Resources Conservation Service (NRCS), Environmental Quality Incentives Program (EQIP), Conservation Innovation Grants.
 - Research Title (VII): Agricultural Research Service and National Institute of Food and Agriculture
 - Tax policy
 - Agency efforts (appropriations):
 - EPA: AgSTAR, Landfill Methane Outreach Program, Combined Heat and Power Partnership, and Sustainable Materials Management Program
 - DOE: Bioenergy Technologies Office, Vehicle Technology Office, Fuel Cell Technologies Office
 - Cross Agency:
 - USDA/DOE Biomass Research & Development Technical Advisory Committee
 - EPA, USDA, USGS integrated nutrient management strategy

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