



Biogas Working Group

North Carolina needs a collaborative dialogue regarding ways to improve the state's emerging bioenergy sector. The time has come to elevate the policy discussion on how the biogas industry can both meet the state's energy needs and create jobs. Previous efforts -- such as (1) the Biogas Opportunities Roadmap, jointly authored in 2014 by the U.S. Environmental Protection Agency, the U.S. Department of Agriculture, and the U.S. Department of Energy; (2) the Biomass Roadmap created by N.C. State University; and, (3) the American Jobs Project, which outlined opportunities for jobs in North Carolina's biogas sector -- note the State's abundant biogas resources. Indeed, North Carolina is third in the United States for biogas resources, behind only California and Texas, and currently has approximately 75 operational biogas projects.

Bioenergy fuel products, such as renewable natural gas, stem from the biological decomposition of organic materials or the chemical conversion of organic materials into a syngas through pyrolysis or gasification. Biogas is formed by the anaerobic digestion of organic materials such as sewage and waste products, and thus is a renewable resource. Until recently, biogas has typically been used as a distributed energy resource, fueling combustion engines used to power electric generators. It can be used as a transportation fuel, to displace petrochemicals, and, with proper refinement, to displace natural gas at existing electricity generation facilities. Beyond displacing natural gas for on-site use or sale to the electric grid, upon proper refinement, biogas can be injected into existing natural gas pipelines for delivery to any customer. This renewable and sustainable supply of energy can reduce North Carolina's dependence on supplies from outside of the State and using biogas to generate electricity helps North Carolina's utilities comply with our State's Renewable Energy and Energy Efficiency Portfolio Standard.

According to Navigant Research, because of wider use of the resource the global biogas market may double from \$16 billion in 2011 to \$33 billion by 2022. The American Jobs Project noted that construction of the biogas projects identified by the American Biogas Council and improving the biogas supply chain could support 2,200 jobs per year in North Carolina. Clearly, if North Carolina creates a strong market for the resource, biogas will provide economic development benefits while meeting North Carolina's energy needs. Considering agriculture's \$84 billion annual contribution to North Carolina's economy and the reliance of many rural communities on agriculture to support their economy, new agricultural markets such as biogas are a financial lifeline for counties such as Duplin, Sampson, Bladen, Lenoir, and Johnston.

Despite the tremendous promise it brings to North Carolina, a variety of opportunities exist to expand biogas in North Carolina. Three challenges identified to date include the following:

- There is no clear guidance on who should pay for the expansion of gas pipelines or for interconnecting biogas projects to pipeline systems (and more broadly there is no plan for expanding natural gas service territories to unserved areas which greatly impacts the potential biogas customer base);
- There is no gas standard that clearly defines the constituent concentrations allowed for pipeline injections and dismisses the need for constituents that are not associated with biogas; and,
- Natural gas distribution companies and pipeline owners are not required to interconnect biogas projects to pipeline systems.

A convening to explore overcoming these challenges can create economic benefits for North Carolina and assist with the state's energy needs.



Goals and Outputs

The goals of NCSEA's Bioenergy Working Group include the following:

1. Increase access of North Carolina's corporate customers to new clean energy options sourced locally;
2. Identify policy initiatives that will remove obstacles and impediments to biogas development in North Carolina;
3. Promote biogas development such that it is available in sufficient quantities to create a thriving biogas market in North Carolina; and,
4. Provide future market visibility to attract sufficient investment and minimize cost uncertainties.

The expected outcomes from NCSEA's Biogas Working Group are expanded markets for biogas and new economic benefits to North Carolina.

Timeframe & Working Group Participants:

- NCSEA's Bioenergy Working Group is anticipated to hold three meetings of 3-4 hours each between December 2016 through March 2017. The first meeting will be held on December 14th from 9:00 a.m. to 1:00 p.m.
- Invitations to participate in NCSEA's Bioenergy Working Group will be sent to the agricultural community, the finance community, the NC Utilities Commission and their public staff, energy providers including the investor owned utilities and natural gas companies and economic development stakeholders.

Locations:

- Meetings will be at the NC Sustainable Energy Association, 4800 Six Forks Road, Suite 300, Raleigh, NC 27609

Process

- *Meeting 1:*
 - Learn what other states have done to address regulatory barriers to biogas.
 - Review the regulatory environment for biogas in North Carolina.
 - Gain an understanding of the regulatory gaps facing biogas in North Carolina through hearing from other states and learning about North Carolina's challenges.
 - Produce a list of regulatory gaps and delivery mechanisms for addressing the gaps that must be addressed for biogas producers and consumers in North Carolina.
- *Meeting 2:*
 - Develop policy and regulatory recommendations for North Carolina that are necessary for biogas deployment in the State.
 - Prioritize these policy and regulatory recommendations.
- *Meeting 3:*
 - Finalize a consensus document and consider the steps necessary to implement the identified policy and regulatory recommendations.