



Waste to Fuels
Senate Environmental Resources and Energy Committee
Comments by John Cook, UGI Energy Services
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Good morning, Chairman Yaw, Chairwoman Comitta and the members of the Senate Environmental Resources and Energy Committee. My name is John Cook and I am Sr. Manager of Business Development at UGI Energy Services. Thank you for the opportunity to talk with you about the potential for Pennsylvania to beneficially re-use various waste materials, help the environment, increase electricity generation and bring diversity of supply to our transportation and heating sectors.

Before I begin to describe UGI Energy Services role in the broad discussion on the beneficial reuse of waste material, I would like to take a minute to describe what our company does. UGI Energy Services is a midstream natural gas company. We supply and market natural gas, liquid fuels, renewable natural gas, and electricity to 42,000 customer locations across the Mid-Atlantic and Northeastern US. We are a supplier and a marketer, providing midstream services including buying and selling energy commodities at the wholesale level.

One of the business areas I mentioned above and in which we have recently become engaged is Renewable Natural Gas or RNG. Manure, landfill waste, wastewater effluent, food waste, and other organic materials naturally create methane as they breakdown. As you heard from the previous panel, waste material that if left unused or under-utilized can create undesirable environmental concerns for farmers, landfill operators, wastewater treatment operators, restaurants, and others.

Companies like UGI Energy Services are actively looking for opportunities to take this organic material and convert it into RNG, which in turn can be used for any application where regular natural gas is used. Sources such as heating, electricity generation or as a transportation fuel. RNG is referred to as a “drop-in” fuel, it neither requires modification to equipment nor additional investment by consumers to be used; it is used in all existing natural gas infrastructure

How does RNG production work? I have included a diagram that demonstrates the process from organic material, in this case dairy manure, collection to RNG production.

We work with a farmer or a group of farmers to receive their manure. We collect and transfer the manure to an anaerobic digester, where with the help of added heat used to accelerate its decomposition, the manure breaks down to produce what is referred to as Biogas. There are byproducts that are also produced at this point, namely liquids and fiber originally embedded in the manure. These byproducts are returned to the farmer where they will be used as fertilizer or bedding for the cows. The Biogas will pass through to a gas conditioning system which will upgrade, or clean, the Biogas to produce RNG. This RNG is created to the same natural gas quality standard required by the interconnecting pipeline, it is completely interchangeable with regular natural gas consumed throughout the Commonwealth and United States.

It is important to note, that in this example, manure when not used for RNG creation is typically stored in an open-air pit. This baseline storage process results in unmitigated greenhouse gas emission through the manure's natural decomposition process and when land applied, the potential for negative wastewater or runoff considerations in the local watershed. By collecting manure and placing it into a closed system that captures these otherwise free greenhouse gasses we transform these liabilities into not only a win for the environment but an economic opportunity for the farmer, who receives cow bedding and fertilizer.

To make Pennsylvania a leader in the beneficial reuse of organic waste material and for the potential economic opportunities that could come, it is important that the rules and regulations around its development are created in a manner that is well-thought out and suits the needs of Pennsylvania. To that end, UGI Energy Services looks forward to working with you, other members of the legislature and partners here today on what that should look like.