



Innovation:

How can wholesale markets help in the production of fertilizers? We share the case of a company operating in Maryland wholesale market.

“Bioenergy Devco” is name of this innovative company that shows again the important role that wholesale markets can play in reducing food waste and by doing so creating an important added value such as organic fertilizers! Using an anaerobic digester facility, this global leading company drives sustainable organic waste recycling and reduces greenhouse gas emissions by transforming organic material into energy and sustainable fertilizers.

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This innovative solution allows wholesale structures to decrease costs of organics disposal, create their own source of renewable energy, improve operating expenses and streamline organics management processes, addressing the food waste challenges of producers and wholesalers. We had the pleasure to talk with the Bioenergy Devco team and found out interesting insights about the values and commitment behind this technology.

Could you introduce to our readers your company and the work you are carrying out?

Bioenergy Devco, in partnership with our EU-based sister company BTS Biogas, is a global leader in the design, engineering, construction, financing, and operation of advanced anaerobic digester systems. Anaerobic digestion is the natural process of breaking down organic material inside enclosed tanks into renewable energy and healthy soil products. Our proven technology uses a naturally occurring biological process and provides a scalable option to help communities and businesses transform their organic waste and energy sectors.

In our over 24 years of experience, we have built more than 250 anaerobic digestion systems worldwide, operating over 140 of them. This summer, we will open our first facility in the United States, adjacent to the Maryland Wholesale market. Once fully operational, it will be the largest food waste digester in the United States, with an annual capacity of 110,000 tons of food residuals. At our new facility outside of Baltimore, we are sustainably processing food waste from numerous wholesalers in the region, offering customized solutions to their waste disposal issues and diverting their scraps and spoiled products from landfills and incinerators.

Your innovative and sustainable offer could make a significant impact both for the food systems transition and for the health of our planet: could you talk about the main benefits of using renewable natural gas?

The gas produced from anaerobic digestion is referred to as “biogas.” Instead of fossil fuels such as fracked gas, we create renewable power sourced from food waste that can function in our existing energy infrastructure. We are versatile and can create additional energy outputs beyond renewable natural gas (RNG). Many of our facilities in Europe upgrade the biogas to electricity, and we can also generate hydrogen from the anaerobic digestion process. At our new facility in Maryland, we will be upgrading the biogas to RNG and inputting directly into the local utilities’ gas infrastructure. The gas we create can help power the equivalent of over 7,700 US homes.

Most importantly, we can decrease the carbon impact of food waste by diverting it from landfills and incinerators. Our new facility will divert 64,000 tons of carbon dioxide from going into the atmosphere each year, with the same environmental impact as a forest area of 69,000 acres or roughly 82 times the size of Central Park.

In addition to renewable energy, your Anaerobic Digestion facilities generate another useful byproduct: “digestate”, a biofertilizer. Could you share more in detail about this interesting creation?

Often our agricultural sector uses chemical fertilizers, while anaerobic digestion creates natural soil products that help to increase yields and return valuable nutrients to the soil. We refer to this product as «digestate» -- the physical remnants that remain after the anaerobic digestors have digested the food waste. Digestate is very similar in chemical composition to compost, and we often mix digestate in compost piles. A significant difference between anaerobic digestion and large-scale composting operations is that we can create our soil products on a much smaller physical footprint than a composting operation.

The current crisis provoked by the Ukrainian war is heavily affecting the global food system, not only in terms of food shortages - but also agricultural inputs, such as fertilisers supply. How would you connect this to the work of Bioenergy Devco? What is your perspective on this emergency framework?

One thing we strongly believe in is energy and agricultural independence. Following the Biden Administration’s ban on Russian oil imports, we issued a statement applauding that decision. When it comes to agricultural inputs, we should always prioritize soil amendments that return sought-after nutrients to the earth while addressing local soil-health issues. With AD, we can process agricultural residue near farms, creating valuable energy and fertilizer for farmers while minimizing transport costs of this material.

Do you think that your work could be scaled up to another wholesale markets and become a valid alternative for other types of fertilizers?

Absolutely! Our small plant footprint enables us to locate our plant inside or near wholesale markets. We can also help reduce waste disposal and energy costs of wholesale markets by shortening truck trips and generating energy for heating or cooling of the market. The beauty of our anaerobic digestion technology is that we can take in several different waste forms at once. We are microbial scientists, figuring out the best mix possible of food wastes for anaerobic digestion tanks. Over our 24 years of experience, we have perfected countless digester tank recipes to address the food waste challenges of producers, distributors and wholesalers across the globe.

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