Shawn Kreloff, Bioenergy DevCo

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Over the past year, the US has continued to face extraordinary challenges around municipal waste management. In turn, cities and towns across the country — from New York to San Francisco, Seattle to Miami — have announced ambitious new zero-waste goals, demonstrating the nation's growing appetite to reduce its mounting rubbish load. No longer able to rely on pollutant-heavy incinerators and overstuffed landfills, large-scale waste generators and collectors are finally turning towards environmentally-sound solutions like anaerobic digestion (AD) to meet long-term waste objectives.

Breaking down biodegradable material naturally using microorganisms in the absence of oxygen, AD technology simultaneously processes discarded organic material while generating truly renewable natural gas — a non-fossil fuel source of utility-grade energy that can be used to create industrial-scale heating solutions, fuel for vehicles, and electricity for homes and business. Despite their longstanding presence across the European Union, most AD facilities in the US are either agriculturally-centred or are still in the early stages of development. For example, Bioenergy DevCo's recently announced AD projects in Maryland and Delaware, once complete, will serve as two of the nation's first processing plants capable of yielding a consistent source of 'behind-the-meter' carbon-negative renewable energy from organic waste, as well as protect the local watershed and Chesapeake Bay from industry-related runoff.

With that said, overburdened waste producers are beginning to catch on. Just as our company has grown rapidly, so too has the challenge of organic waste disposal — a challenge that can only be resolved through land use best practices and effective reuse, recycling and repurposing of resources. Now, the latest advancements in agricultural technology can be brought to bear on an age-old process to not only protect the family farm, but manage wastewater to limit pollution, and provide the food processing industry with an alternative that is healthy for the planet.

In 2019, the US Environmental Protection Agency (EPA) estimated that anaerobic digesters operational in the US are capable of supplying enough energy to power nearly 80,000 homes for a full year. In addition, countless businesses across agriculture and food production — as well as convention centres, cruise lines, athletic stadiums, and more — have already begun exploring (and, in some cases, utilising) AD technology and its resulting fuel products. As such, interest in this technology will only continue to expand in the next year. The EPA recently noted that an additional 8,100 US dairy and swine farms, for instance, could support biogas recovery systems and deliver heat to an additional 2.7 million homes.

In 2020, AD is poised to become a double-barrelled solution for cities and corporations seeking to tackle the climate crisis and achieve zero-waste targets. Reprocessing discarded organic materials alongside composters and other waste diversion programmes, Bioenergy DevCo's facilities transform these unusable scraps (e.g. foods, fats, grease and litter) into digestate — an odourless topsoil amendment that can (1) help naturally replenish nutrients for growing crops by creating healthy soils, and (2) prevent storm water erosion on highways, landscapes, schools, and much more. In tandem, AD serves as a meaningful alternative to solar and wind generation, resulting in a renewable fuel product that can be injected directly into existing gas pipelines that serve the electrical grid. Together, wind, solar and renewable natural gas from AD represent the triumvirate of natural solutions capable of combating climate change and driving the economy forward.

And don't forget, AD strongly supports private sector development. At scale, the creation of renewable natural gas through repurposed waste is incredibly valuable to how businesses and communities operate, allowing everyone to steadily transition away from fossil fuels through energy self-reliance. The technology's digestate bi-product even sequesters carbon into soil, rendering the entire process carbon negative. Beyond Bioenergy DevCo's work to advance AD throughout the US, truly renewable natural gas will inevitably have a strong impact on the nation's energy future in the coming years, paving the way for resilient, zero-waste businesses, campuses and communities to accomplish shared goals around environmental protection.