

# Northeast Ohio company safeguards the environment, one digester at a time

Increased demand for renewable resources — coupled with rising energy costs and a global movement to reduce greenhouse gases — is fueling growth in the anaerobic digestion market. An Independence company is at the forefront of this potentially transformative technology, offering alternative waste treatment methods across high-profile industry sectors.

Quasar Energy Group designs and builds anaerobic digesters, essentially industry-scale machines that convert solid waste such as manure and food processing scraps into methane gas and carbon dioxide. Simply keeping organic waste out of landfills is beneficial for the environment, proponents note, as decaying materials release methane into the air and contribute to climate change.

Anaerobically digested waste creates biogas, a renewable energy source used to power engines and generators. Biogas can also be harnessed for vehicle fuel and has similar applications as natural gas, said Quasar president and co-founder Mel Kurtz.

Quasar is currently constructing nine, 3 million-gallon digester plants in four states, with hundreds of millions of dollars already on the books for 2022. The company, which garners about \$60 million in revenue annually, handles everything from manure generated by feedlots to biosolids produced by municipal waste-water treatment plants.

“Last year was our best year ever, and 2022 will be even better,” said Kurtz, who has 50 employees across the company’s Ohio footprint. “People are interested in carbon capture as a way to offset the petroleum industry.”

Quasar works with corporate behemoths such as Exxon and BP in managing their Carbon Intensity Score, a greenhouse gas measurement gaining traction globally as sustainable processes dominate corporate activities.

“Global warming is an issue whether you believe it or not,” Kurtz said. “The market is demanding resources to protect



One of Quasar Energy Group’s anaerobic digesters in Cleveland’s Collinwood neighborhood.

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the environment, and anaerobic digestion is a big way to do that. Captured methane is an alternative to petroleum products — let’s say natural gas has 70% cleaner emissions than gasoline. You have these giant petroleum companies, the federal government and research entities measuring the impact. We’re the ones who provide the supply chain and lab services to make it work.”

## A technology to change the world

Quasar, launched in 2006, views waste reduction as a natural biological development, akin to the processes taking place within the human body. Anaerobic digestion has the potential to reduce global greenhouse gas emissions by upward of 13%, according to a 2019 report from the World Biogas Association.

"You put energy in, you get energy out, and we are capturing that energy before it goes into the pipeline," Kurtz said.

The company focuses mostly on the agricultural and waste-water treatment sectors. Per the EPA, there are over 16,000 municipal waste-water treatment facilities in operation nationwide, many of them needing immediate help in treating the massive amounts of domestic sewage produced.

In anaerobic digestion, complex bacteria breaks down organic matter to produce biogas or a left-over "digestate" used for fertilizer or animal bedding. Multiple organic materials can be combined in a practice known as co-digestion, ideally increasing biogas production from low-yielding or hard-to-digest waste.

Quasar recently retrofitted existing digesters at the East Ohio Regional Wastewater Authority plant in Bellaire. The plant now can capture methane gas, which is then converted into electricity through an on-site microturbine. The electricity runs the plant, while unused power is put back into the electrical grid system.

The Bellaire plant also creates Class A biosolids used to fertilize food-growing farmland. Previously, the plant only produced the type of biosolids utilized for animal feed.

Quasar partnered years ago with Ohio State University's Wooster agricultural campus for various laboratory services, among them the study of the biomethane potential of feedstock. Compact on-site digesters "stress test" larger systems to determine changes needed for optimal digester potential.

Kurtz pointed to evolving technology as one of the reasons for Quasar's ongoing success. Over the years, the firm adopted complex fluid dynamics to improve digester efficiency, while automation allows engineers to predict maintenance cycles for a tank's internal pumps and blowers.

Although Quasar has encountered challenges within its supply chain — particularly as the pandemic slowed down deliveries — longtime relationships with a half-dozen vendors have eased what could have been a more painful transition.

Kurtz said, "That's when character counts most. We've been through these battles together (with our suppliers), and decided we would make each other important. We have a great supply chain, good technology, a fabulous lab and lots of operational experience."

Low carbon fuel standards set by California continue to keep Quasar busy, a boon further bolstered by an anaerobic digestion market that's forecast to reach \$15.3 billion by 2025, according to a Medgadget industry report. In a world where "climate change" is now a household term, Kurtz expects his services to be leading the way for decades to come.

"We've gotten millions of research dollars from the federal government to do this work," Kurtz said. "These are competitive proposals to win contracts, which you get because what you're offering is a good solution for the government's objectives. Our guys have done a great job, and shown this is not some dirty or unnecessary industry. I'm proud of what we're doing."



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