

Competitive Edge: City of Muscatine Organics Recycling Center & Biogas Conversion

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The City of Muscatine in Iowa is leading by example. The city had municipal anaerobic digesters having capacity but not creating enough biogas for a conversion project, so they added food waste to increase biogas production. There are no other municipal operations of this kind in the Midwest and only a handful of them nationally and what they did could start a trend for other municipalities to follow transforming how organic waste is handled throughout the country.

In today's Digest, how they became the Midwest's regional hub for food waste depackaging for beneficial reuse in anaerobic digestion, what we can learn from them, plans for future biogas projects, and more.

Q: What was the reason for founding your organization – what was the open niche you saw that could be addressed with a new product or service? What was the problem, or gap, or opportunity?

There was a need for depackaging food waste for beneficial reuse in the Midwest. With the City of Muscatine municipal anaerobic digesters having capacity but not creating enough biogas for a conversion project, it was decided that food waste could be added to increase biogas production. With multiple large food manufacturers in the region, the City of Muscatine has become the Midwest's regional hub for food waste depackaging for beneficial reuse in anaerobic digestion.

Q: Tell us about your organization. What do you do?

The City of Muscatine operates the Muscatine Organics Recycling Center (MORC) located next to the City Transfer Station. It also operates the Water and Resource Recovery Facility (WRRF), a 5 MGD wastewater treatment plant, located a block away. Packaged and loose food waste is brought to the MORC via trucks, offloaded at the truck docks or on the tip floor then run through a Scott Turbo Separator at 20 tons per hour (max). The organic portion is pumped to a tanker then delivered to the WRRF for blending into the anaerobic digesters. The digestate is land applied as a natural fertilizer and the biogas fires boilers to heat the digesters. Conversion of excess biogas is currently being studied for electricity generation or direct gas line injection.

Q: What stage of development are you? Choose one:

Commercial stage – have mature products or services on the market.

Q: What do your technologies, products or services do and accomplish – how does it (they) work, who is it (they) aimed for?

We service large and small generators of organic waste. We receive liquid high strength waste by tanker truck, packaged food waste and loose food waste for beneficial reuse. We can often recycle the packaging as well.

Q: Competitively, what gives your technology, product or service set an edge in cost or performance, sustainability, or any other aspect, that makes it stand out from the crowd, in short, what makes it transformative?

We help commercial businesses meet sustainability goals by giving access to previously limited service for depackaging organic waste. Reasonably price competitive with landfilling, the depackaging process reduces organic components of business's trash from going to landfills. There are no other municipal operations of this kind in the Midwest and only a handful of them nationally. This should start a trend for other municipalities to follow transforming how organic waste is handled throughout the country.

Q: What are the 3 top milestones you have accomplished in the past 3 years?

1. Completion of liquid high strength waste receiving station.
2. Completion of packaged and loose food waste receiving station.
3. Securing a vendor for anaerobic digester expansion at the WRRF.

Q: What are the 3 top milestones you will accomplish in the next 3 years?

1. Completion of anaerobic digester capacity expansion at the WRRF.
2. Completion of the Biogas Beneficial Reuse Study.
3. Completion of Biogas Reuse Project.

Q: Where can I learn more about the City of Muscatine's Organics Recycling Center?

Click [here](#) to visit the City of Muscatine's website and check out their Resource Recovery flyer [here](#).