The City of Wooster, Ohio
Water Resource Recovery Facility

Presented by:
Mel Kurtz, President
quasar energy group
quasar at a Glance

- HQ: Cleveland, OH
- Over $150M in Executed Projects
- 13 Operational Digesters (OH, NY, MA)
- Capacity to annually manage 700,000 tons of organic waste
- Municipal, Industrial & Agricultural ADs
- Mature US Supply Chain

Full Suite of Services

- Design
- Permit
- Build
- Commission
- O&M
Sustainable Solutions

Waste Management
- Foodwaste
- WWTP Biosolids
- Fats, Oil & Grease

Nutrients
- Natural fertilizer and animal bedding

Renewable Energy
- Electricity
- Compressed Natural Gas
- Heating & Cooling

© Copyright quasar energy group 2014
Water Resource Recovery

- Treatment plants are facing capital, technical, and regulatory challenges.
- Federal funding to address these challenges has decreased 90% since the 1980’s.¹

Wastewater is rich in natural resources – water, nutrients and energy

- Treatment plants consume 3% of the total US energy demand.
- Biosolids have the potential to produce 12% of the US electric demand!¹

quasar partnered with the City of Wooster to turn their Water Pollution Control Plant into a Water Resource Recovery Facility.

¹ Source: NACWA, WERF, and WEF The Water Resources Utility of the Future pages 25 and 14
The Challenges

**Regulatory Issues:**
- EPA Compliance
- Sewer Capacity Restrictions

**Process Issues:**
- Solids Handling
- Antiquated Digesters
- Insufficient Biogas Production

**Disposal Issues:**
- Land Application Restrictions
- Nutrient Value Verification
- Value Proposition for Farmers
Evaluation of Opportunity

All projects require a Feasibility Study which at a minimum includes:

- Identify additional regional organics
- Evaluate energy potential
- Effluent management
- Location/Logistics
- Engineering package
- Secure all regulatory/permit approvals
quasar Construction

Challenges:
- Old Facility
- Existing Footprint
- Plant Operations Maintained

Scope of Work:
- Retrofit three 1960s Digesters
- Construct Biomass Tank
- Building for Belt Thickener
- Solids Receiving Station
- Install 1100 kW Generator
Public/Private Partnership is the new “buzz” word for municipal projects. **But what does it really mean once the bid process is over?**

In Wooster **PARTNERSHIP** means collaboration;
- Treatment plant continued operating during construction,
- Detailed daily communication between entities
- Integration of management
- Retrofit completed; no change order invoices to City
- Relationship will continue long after the initial project is completed.
Project Results

- Address OEPA Findings & Orders
- Run the WPCP on renewable energy
- Manage the City’s biosolids at a reduced rate
- Reduce overall operating expenses
- Increase WPCP capacity
- Contribute to local economic development
Future Innovation

quasar is listed as an approved Renewable Fuel Producer under the EPA’s Renewable Fuels Standard 2 (RFS2) Program. quasar generates RINs from renewable fuel sold for transportation at the Columbus and Zanesville digesters. The fueling stations are open to the public Monday through Saturday. Wooster is next!
How Quickly did the City benefit?

Monthly Electric Bill

Quasar begins Cogeneration testing in December 2013
What are the other benefits?

Annual NPDES Violations

- CBOD
- NH3
- SS
Next Steps

* Interconnection between WRRF and Water Treatment Plant to take advantage of excess power generation and utilize 2.2 MW backup generator
* Future CNG Fueling Station
* Conversion of Utility vehicle fleet and eventually City vehicles
Private/Public partnership;
* reduced costs by over $300,000 per year,
* attracted new businesses to the region,
* achieved Ohio EPA compliance,
* and expanded the facility’s capacity.

Public/Private partnership is a real solution for municipal treatment plants.
Questions & Contact Information

Contact:  Mel Kurtz
President
quasar energy group
5755 Granger Road
Independence, Ohio 44131