Turning Food Waste Into Energy:
A Solution to a National Issue
Our Company at a Glance

• Headquarters in Cleveland, OH
• Over $150M in Executed Projects
• 14 Anaerobic Digesters (OH, NY, MA, and ME)
• Capacity to annually manage 800,000 tons of organic waste
• Municipal, Industrial & Agricultural ADs
• Mature US Supply Chain

Full Suite of Services

Design  Permit  Build  Commission  O&M

Sustainable technology solutions . . .
Anaerobic Digester Applications

INDUSTRIAL

AGRICULTURAL

MUNICIPAL

Sustainable technology solutions . . .

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Sustainable Solutions

Waste Management
- Food Waste
- WWTP Biosolids
- Fats, Oil & Grease
- Manure

Nutrients
- Natural Fertilizer and Animal Bedding

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

Sustainable technology solutions...
Methods for Managing Waste

• **Source Reduction** is an approach that aims to reduce the production of waste through education and the adoption of improved production processes and less wasteful practices.

• **Food Reuse** by collecting unspoiled food and reusing to feed people or animals.

**Waste processing** is treatment and recovery of materials or energy from waste through thermal, chemical, or **biological** means.

• **Composting** by separating certain materials to create products that can improve soils

• **Landfilling** last resort to disposal
40% of food in the U.S. goes uneaten ¹

33.8 million tons of organics end up in landfills or incinerators ²

¹ We are throwing away $165 Billion
The Impact of “Status Quo”

• By putting food waste into a landfill, we are wasting a valuable resource and perpetuating further environmental issues, including:
  - **Air Pollution** – Emissions into Atmosphere
  - **Ground Water Pollution** – Emissions into Water
  - **Land Pollution** – Waste on Future Generations
In September, the United States Department of Agriculture (USDA) announced its first-ever national food waste reduction goal.\(^1\)

The USDA action plan is calling for:
- A **50-percent reduction** of food waste by 2030
- New partnerships to create sustainable development practices
- Improvement of food security and natural resources

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\(^1\) USDA and EPA Join with Private Sector, Charitable Organizations to Set Nation’s First Food Waste Reduction Goals

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Benefits of Anaerobic Digestion

- Utilizing anaerobic digestion technology not only conserves limited landfill space, but also helps to improve the environment.

- When properly processed, digestion can provide a variety of benefits:
  - Renewable energy generation
  - Greenhouse gas reduction
  - Odor reduction & vector reduction
Utilizing the Renewable Energy

• Not only does the digester mitigate food waste, but the renewable energy value can be extracted to create:
  • **Heat** to be distributed throughout the facility
  • **Electricity** to be used to power the facility or sold to the grid
  • **Natural Gas** to be injected directly into the utility pipeline
  • **CNG** to be utilized as a renewable fuel source for vehicles
Digester Ready Waste Streams

- Food manufacturers
- Cafeterias
- Restaurants
- Hospitals
- Hotels
- Supermarkets
- Universities
- Sports venues

The Grind2Energy system by InSinkErator allows us to accept and process contaminate-free AD-ready waste streams.

- Reduces or eliminates organic loss from contamination
- Reduces odor concerns
- Simplifies implementation of organics capture programs.

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From Food Waste to Digester

1. Solids Receiving Hopper:
   - Receiving of high solids regional waste streams

2. Depackaging Equipment
   - Maceration and grinding of material

3. InSinkErator
   - Maceration and grinding of material
The Big Picture – AD Systems

• Anaerobic Digestion systems:
  - Create economic advantages (Renewable Energy)
  - Create agronomic advantages (Soil Amendments)
  - Environmental advantages (Landfill Mitigation)
Thank You and Questions

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