



# **ECONWARD**

## **Thermal Hydrolysis**

Los Angeles County Integrated Waste Management Task Force  
Alternative Technology Advisory Subcommittee (ATAS)

February 19<sup>th</sup>, 2026

# The Problem Ulster County Needed to Solve, What the Agency Needed, and How BIOMAK Fit the Need

## The Problem Ulster County Needed to Solve

-  Rising Transportation & Disposal Costs – OUT OF CONTROL
-  Incineration Not Acceptable
-  Limited Landfill Airspace

## WHY BIOMAK

-  Proven Technology
-  Thermal Hydrolysis at Scale
-  Clean Organic and Non-Organic Recovery
-  60–70% Realistic Diversion

## What the Agency Needed

-  Agency-Led Control
-  Uses Existing Infrastructure
-  Non-Incineration Diversion
-  Measurable Performance

## THE RESULT

-  Less Landfilled Waste
-  Reduced Long-Haul Transport
-  Lifecycle GHG Reduction
-  Transferable Public-Agency Framework
-  Gained Control Over The Future

# A New Model for Public-Sector Organics Recovery



## Project Overview

- **Advanced organic recovery** & renewable energy facility
- **Location:** 120-acre UCRRA, site Kingston, NY
- **Integrates:** Mechanical Preprocessing → Thermal Hydrolysis (BIOMAK) → Anaerobic Digestion
- **Converts organics** into Renewable natural gas (RNG) & marketable products



## Environmental Outcomes

- **Landfill diversion:** 60-70% total; 90% of treatable organics
- **Climate benefits:** Captures methane for energy, reduces GHGs
- **Air quality:** Enclosed processing, odor controls, reduced trucking Emissions
- **Infrastructure Efficiency & Cost Stability:** Breaks the upward cost curve of transportation and disposal through on-site processing. Co-Location



## ATAS Relevance

- **Agency-led** deployment at Full infrastructure scale
- **Measurable** diversion Without incineration
- **Thermal hydrolysis** is **foundational** preprocessing
- Replicable public-sector model



UCRRA signals the transition of thermal hydrolysis from emerging technology to deployable public-sector infrastructure.

# Circular Economy in Action: Ulster County Resource Recovery Agency (UCRRA)



**Maximize  
Recovery &  
Diversion**

The project specifically integrates **Thermal Hydrolysis** to efficiently process mixed municipal solid waste, enabling higher organics capture, faster throughput, and consistent feedstock for the digester; key factors in achieving maximum landfill diversion and optimizing RNG production.



**Empower Local  
Communities**

The system also includes **upgrading and injection infrastructure** to deliver RNG directly into the local pipeline, while producing **nutrient-rich digestate** and recovering **high-value recyclables** such as metals and plastics. This integrated approach achieves **60–70% landfill diversion**, significantly reduces **greenhouse gas emissions and odors**, supports **local job creation**, and generates long-term economic value through **RNG sales and commodity recovery**, positioning Ulster County as a **leader in circular economy and sustainable waste management**.



**Turn Waste  
Into Valuable  
Resources**



# Material Flow Diagram

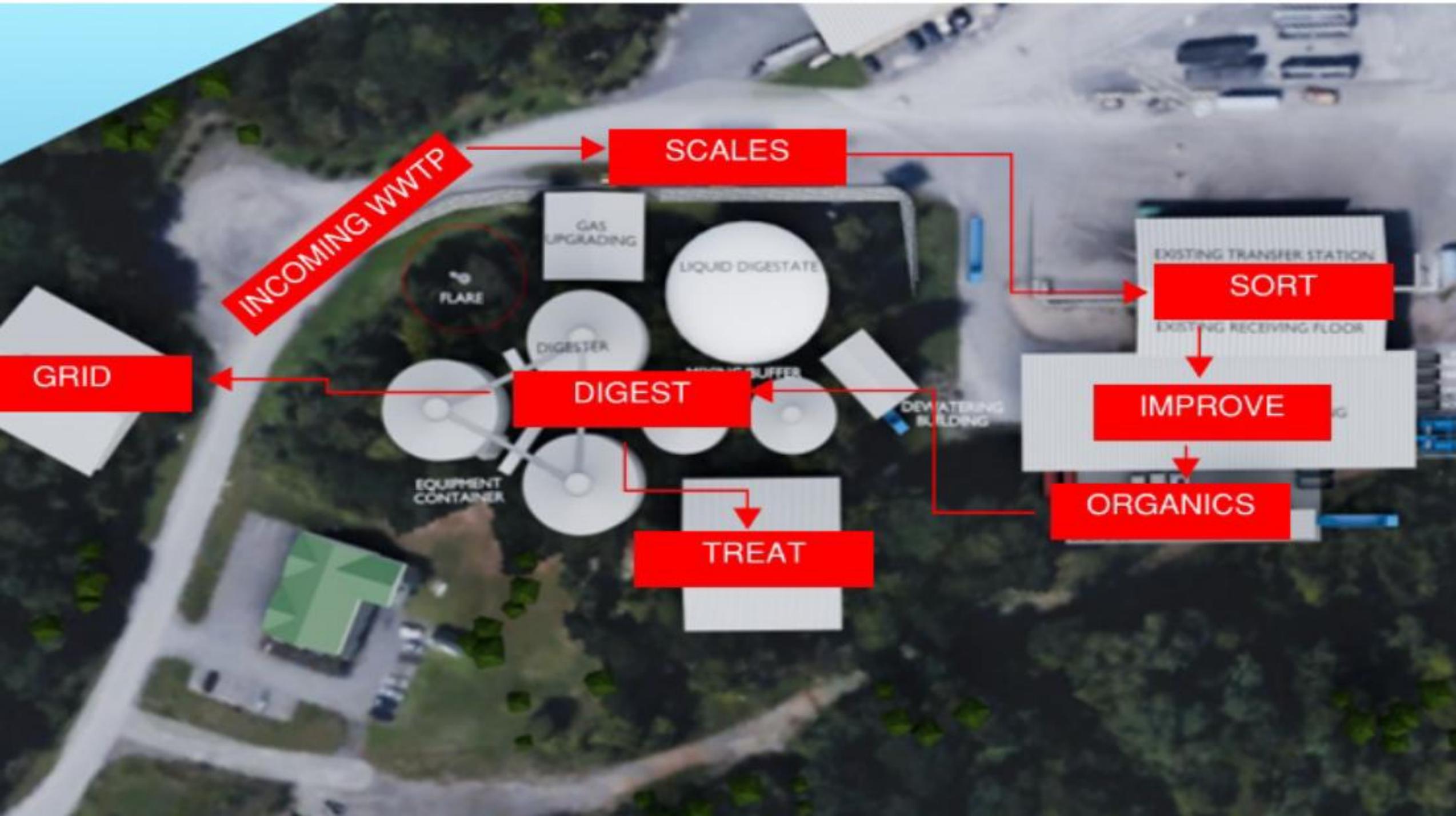
## Total Diversion Summary

Stream	Approx. Diversion %
Organics to AD (via BIOMAK)	90–96%
Soiled Paper/Cardboard	90-95%
Aluminum Recovered	90–95%
Ferrous Metals	90-95%
Target Plastics	90-95%
<b>Total Diversion</b>	<b>60–70%</b>
Residual Disposal	30–40%

\* Acceptable Waste is municipal solid waste (MSW) smaller than 300mm in diameter. The oversized bulk material is considered unacceptable waste.

\* Marketable outputs include, municipal organics including soiled paper/cardboard, aluminum, and target plastics. Other materials include metals, plastics, bricks, glass, fibers, etc. will be properly disposed of.





INCOMING WWTP

SCALES

EXISTING TRANSFER STATION  
SORT  
EXISTING RECEIVING FLOOR

GRID

DIGEST

IMPROVE

TREAT

ORGANICS

FLARE

GAS UPGRADE

LIQUID DIGESTATE

DIGESTER

EQUIPMENT CONTAINER

DEWATERING BUILDING



# BIOMAK™

- ▼ High Capacity
- ▼ Compact
- ▼ Reliable



## System Specifications

8.8 short tons per hour/70,000 tons per year  
Treats high solid organic fraction of MSW (20% - 70% TS)  
Full facility footprint: 3,000 sq. ft.

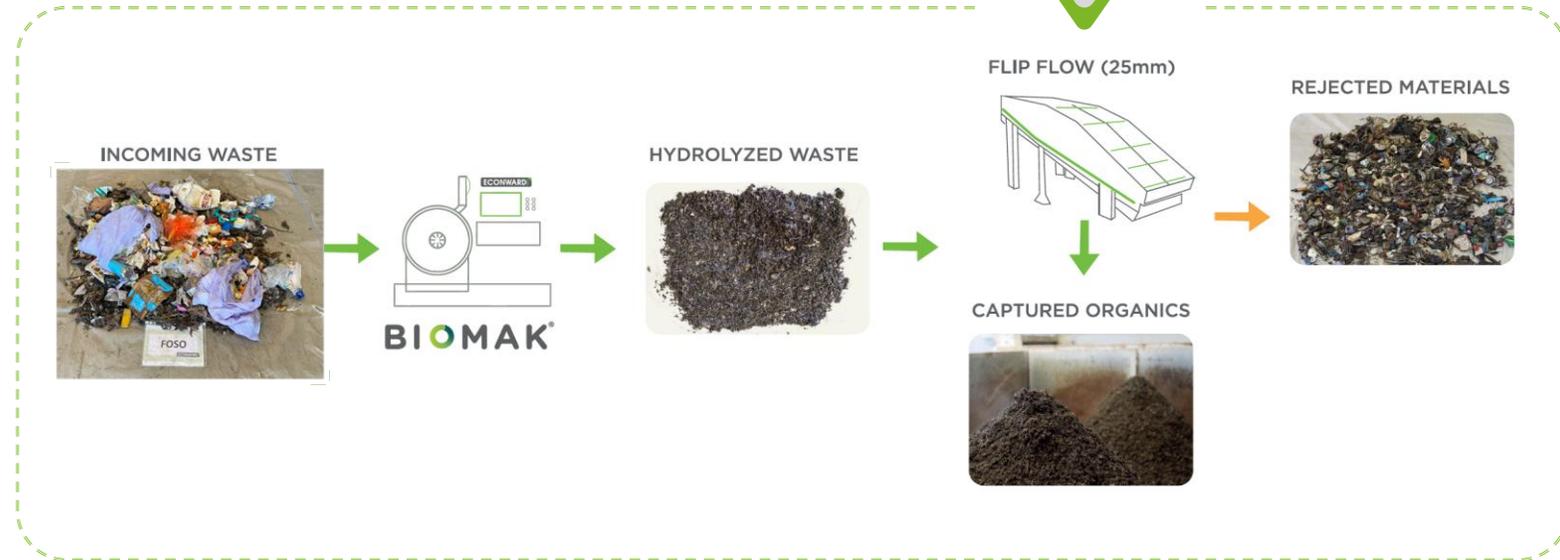


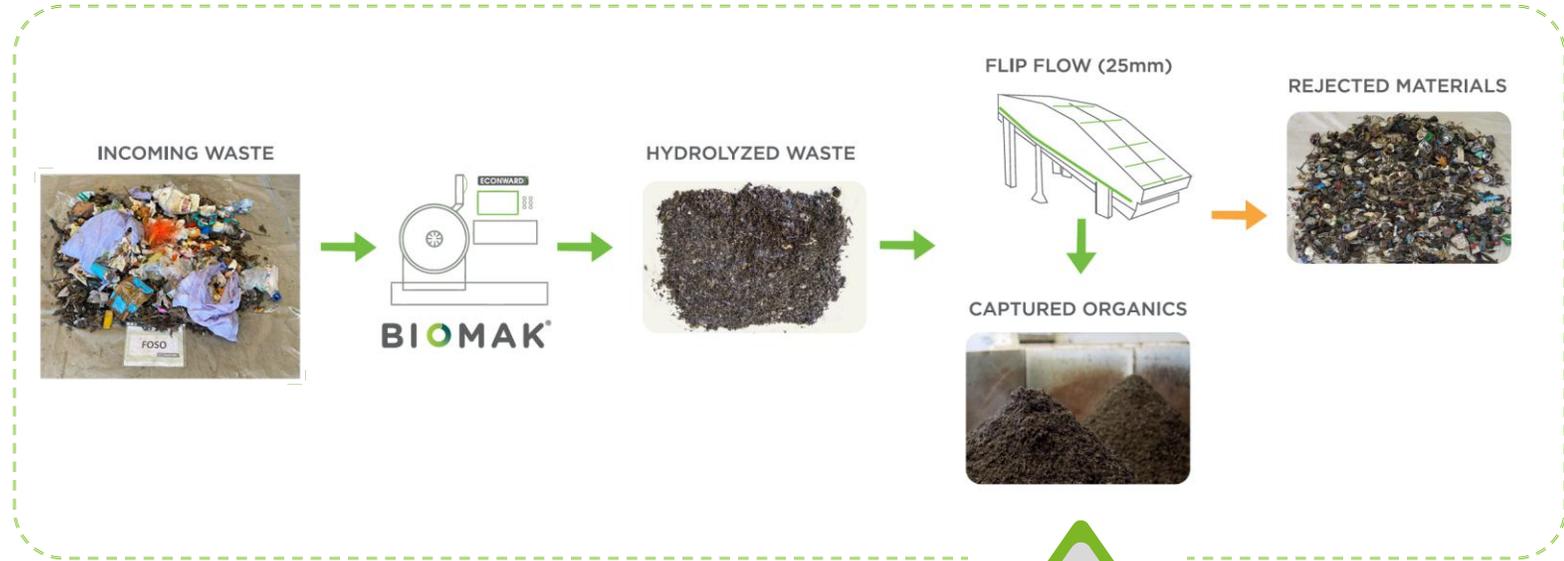
## Operating Parameters

150 °C / 305 °F  
4 bar / 58 psi / 400 kPa  
4 autoclaves, total of 20 minutes residence time



Hydrolyzed waste goes through vibrating screen

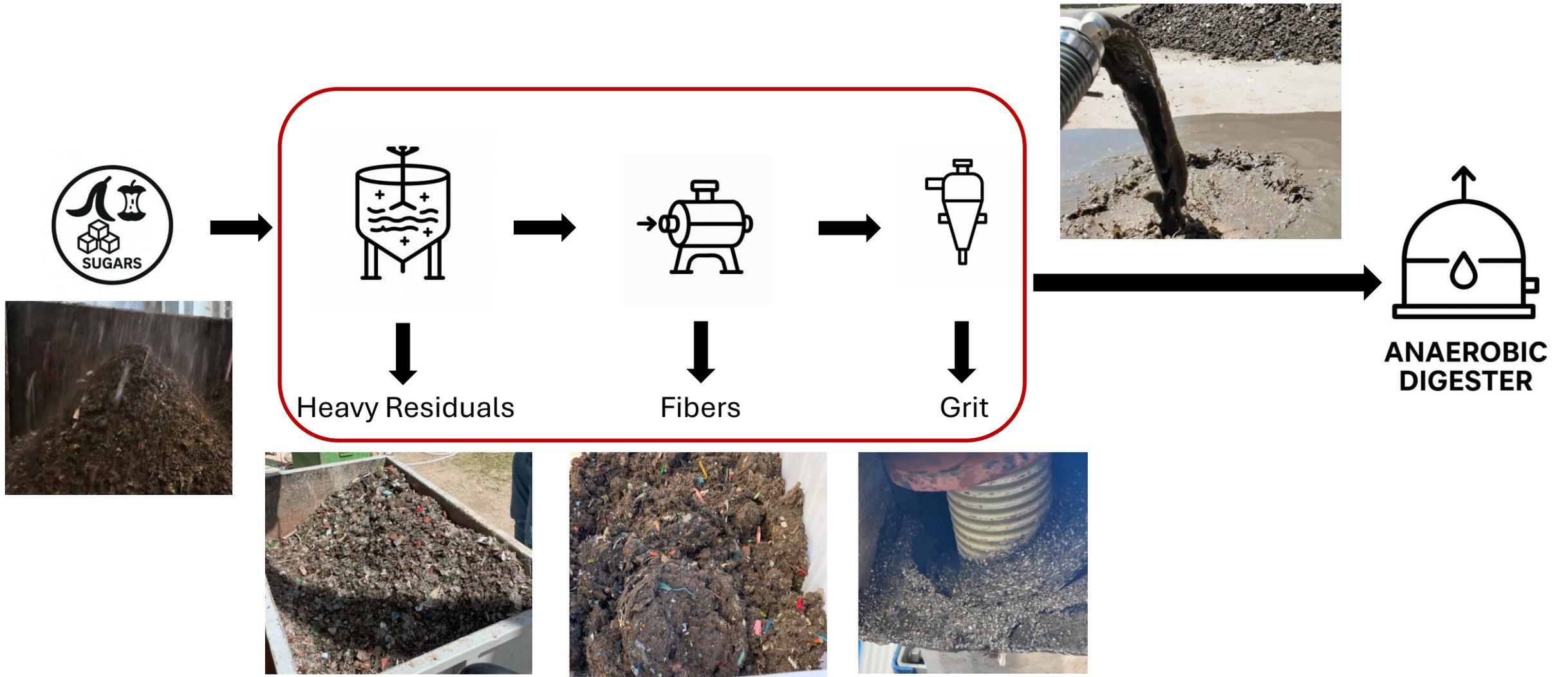




From waste to pathogen free,  
hydrolyzed organics in less than 40  
minutes



Polishing the captured organic fraction for **anaerobic digestion** at WWTP AD



# Exploring a Shared Opportunity

## BIOMAK at a Glance

- Commercially proven
- Fully turnkey plant plug-and-play
- Extracts high-value organics from unsorted MSW
- Send organics for AD at WWTP
- No CAPEX – low fee per ton
- Save organics T&D cost

## Where We Are Now

- Engaged with forward-thinking counties & municipalities
- BIOMAK technology has prompted new RFI/RFP processes

## Why We're Here

- Enhance your current WWTP operation with our know-how
- Looking to collaborate early with experienced operators
- Interested in exploring how your team's capabilities align with BIOMAK's roll-out

# Let's lead the change!

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