



# **Recycling Food Waste by Codigestion at Wastewater Treatment Plants**

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**Mark McDannel**

Solid Waste Management Department  
Energy Recovery Section  
Sanitation Districts of Los Angeles County

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# Do you know...

How much of the pie goes in the trash  
at your favorite restaurant?



Pie Chart



# Organics in LA County Waste

- LA County generated 21 million tons of solid waste in 2012...
- 32% of solid waste is organic
- 50% of organics is food waste
  - 3.5 million tons/year of food waste
  - 9,000 tons/day of food waste





# Digesting Organic Waste Streams at Wastewater Treatment Plants (WWTPs)

- Advantages:

- Digester already exists
- Energy recovery equipment already exist
- California WWTPs have capacity for up to 75% of California's food waste stream

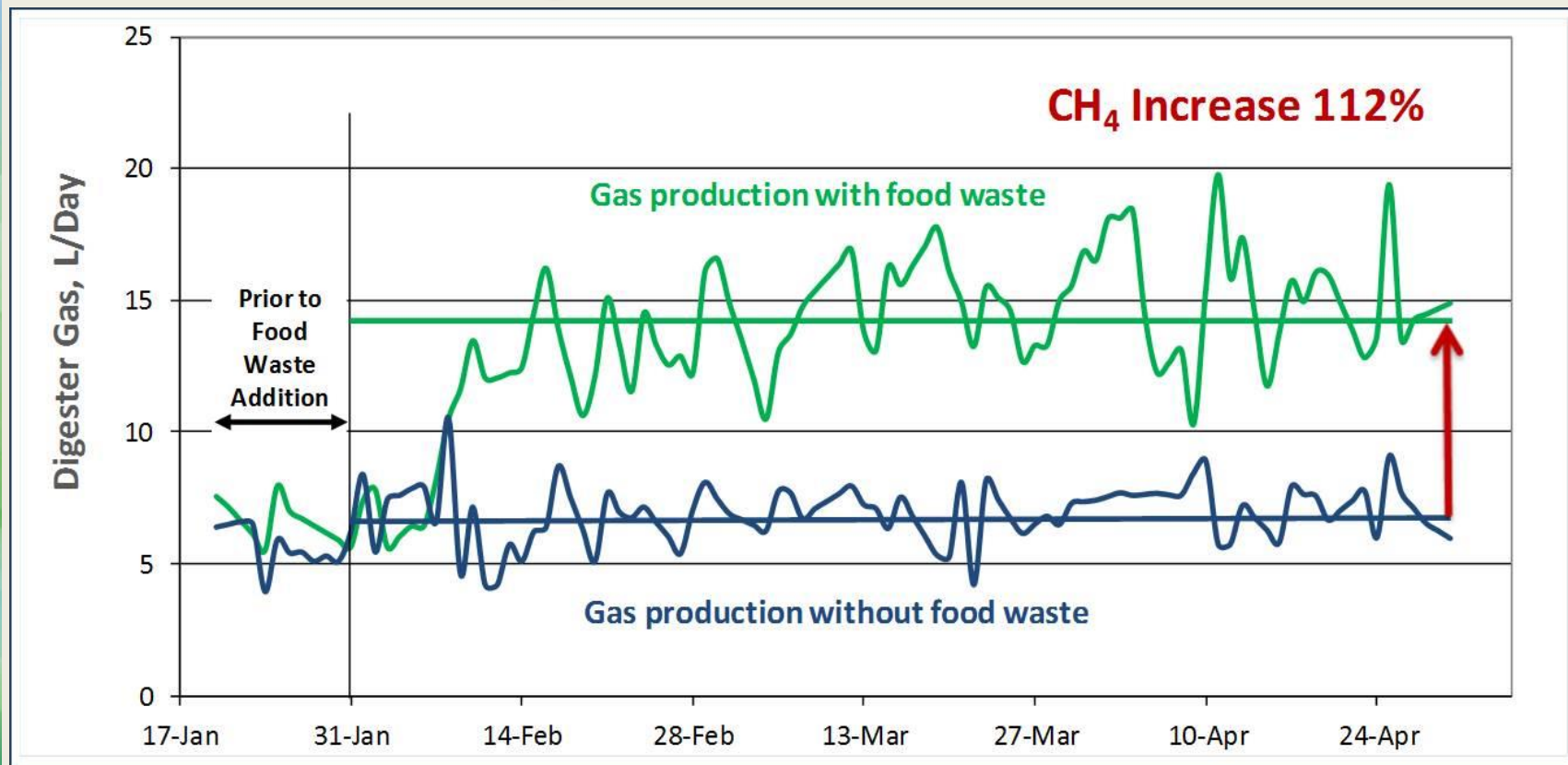


- Concerns and challenges:

- Can accept only relatively clean feedstock
- Impact of additional residuals on biosolids
- WWTPs have an important public health mission



# Food Waste Bench Scale Testing Biogas Production



Adding 10-12% (v/v) food waste slurry to sludge could double biogas production



# Program Summary

- The Districts and Waste Management entered into a program agreement, with food waste specifications being a key development
- WM processes food waste slurry at off-site location and delivers to JWPCP, with target feed rate of 61 diverted tons (or 20,000 gallons-slurry) per day
- AT JWPCP, the slurry is injected into one digester for co-digestion at 9% food waste slurry on a liquids basis and 30% food waste on a solids basis
- WM and JWPCP's testing team are monitoring the program to evaluate the impacts and performance of food waste when co-digested at a WWTP



# WM's CORE<sup>®</sup> Solution in Orange

- WM collects food waste from sources such as restaurants, food processing plants, cafeterias and grocery stores. Tipped material is inspected prior to processing.
- Food waste is processed to remove physical contamination (e.g., utensils, cans, packaging, and heavies) using WM's patented CORE<sup>®</sup> process.
- The processed food waste is blended and tested to manufacture a high quality, consistent Engineered BioSlurry (EBS<sup>™</sup>) product.
- Manufactured EBS<sup>™</sup> is loaded into tanker trucks for delivery to JWPCP.





# Food Waste Receiving

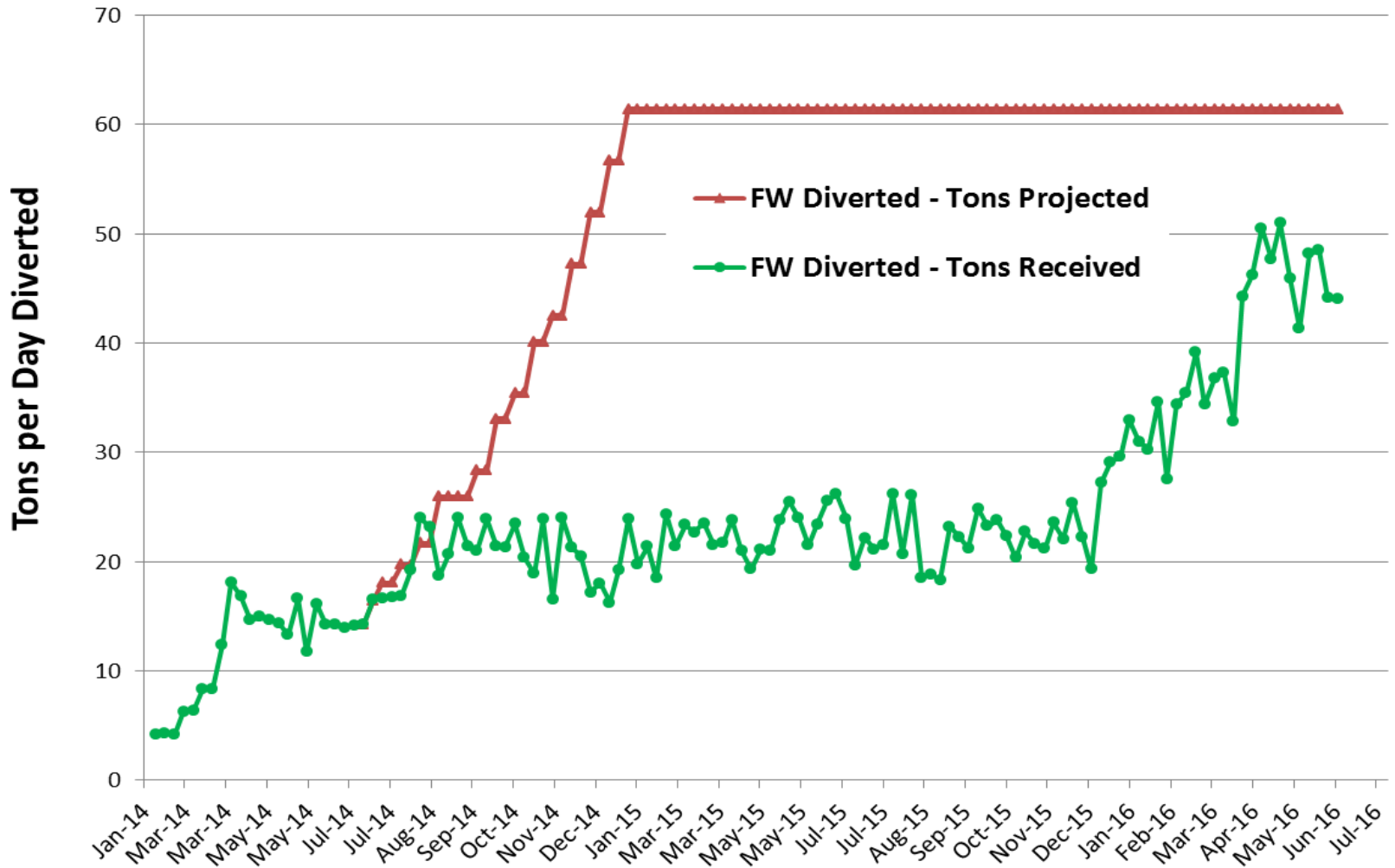
Food waste is pumped from WM tanker trucks into closed, sealed storage tanks, controlling odors.





# JWPCP Demonstration Update

## Food Waste Tonnage





# Use of Digester Gas from Food Waste

- Current usage of digester gas
  - Treatment plant is currently using some of the additional biogas for electricity generation
  - As food waste receipts increase, we will need to add more energy recovery capacity
- Future options...

Electricity



Vehicle Fuel



Biomethane



Biosolids Drying





# Key Results to Date

- Food waste handling and storage systems have worked as designed
- No major impacts on treatment plant operation seen to date
- Biogas production has increased as expected
- Districts developing plans for expansion to accept up to 500 tpd diverted food waste



# Thank you.

**Mark McDannel**

562-908-4288 2442

[mmcdannel@lacs.d.org](mailto:mmcdannel@lacs.d.org)



***"So, this Humpty Dumpty guy falls off the wall and I think, Dang, ain't lettin' this go to the food waste bin."***