



Recycling Food Waste by Codigestion at Wastewater Treatment Plants

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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

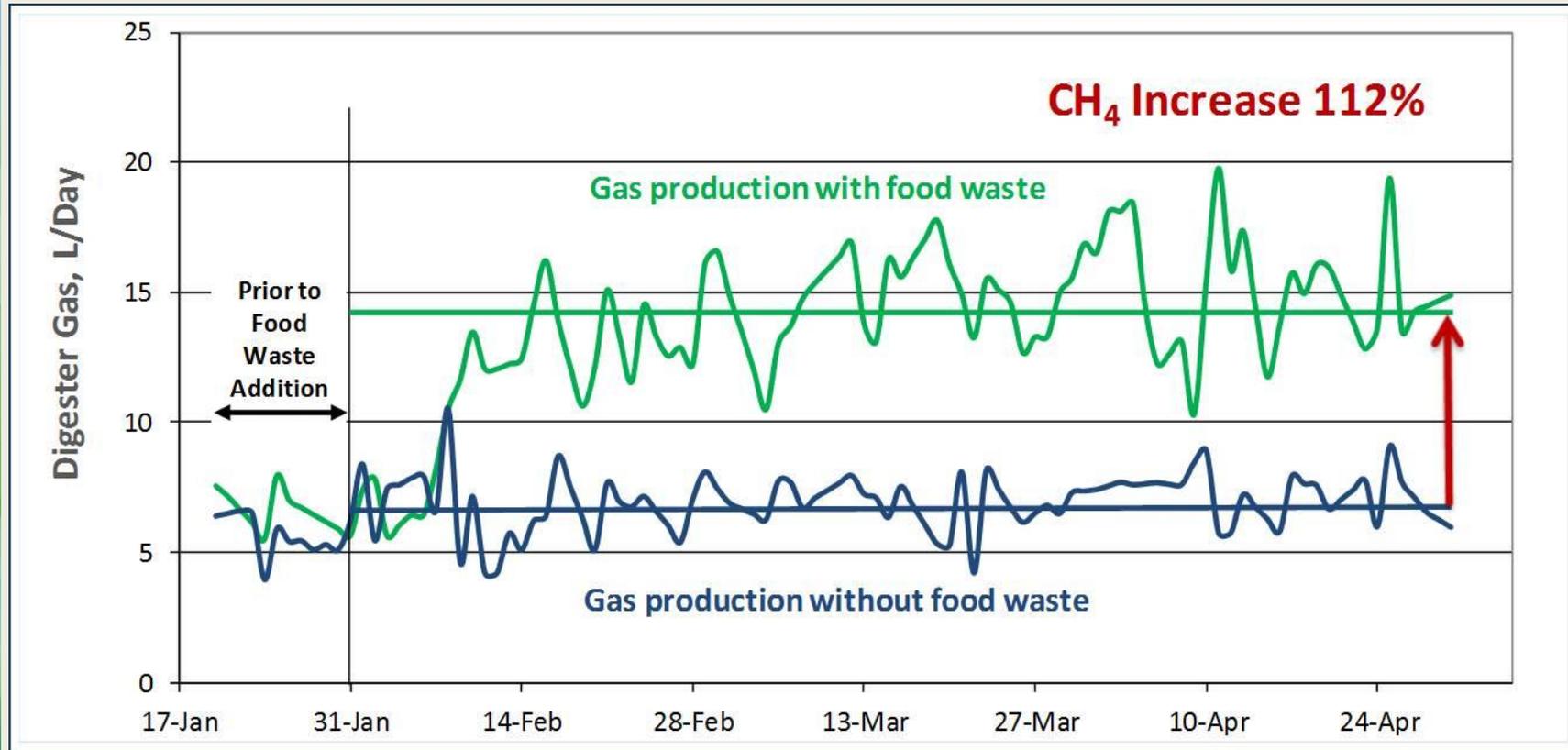


- Concerns and challenges:

- 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[®] 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[®] process.
- The processed food waste is blended and tested to manufacture a high quality, consistent Engineered BioSlurry (EBS[™]) product.
- Manufactured EBS[™] is loaded into tanker trucks for delivery to JWPCP.





Food Waste Receiving

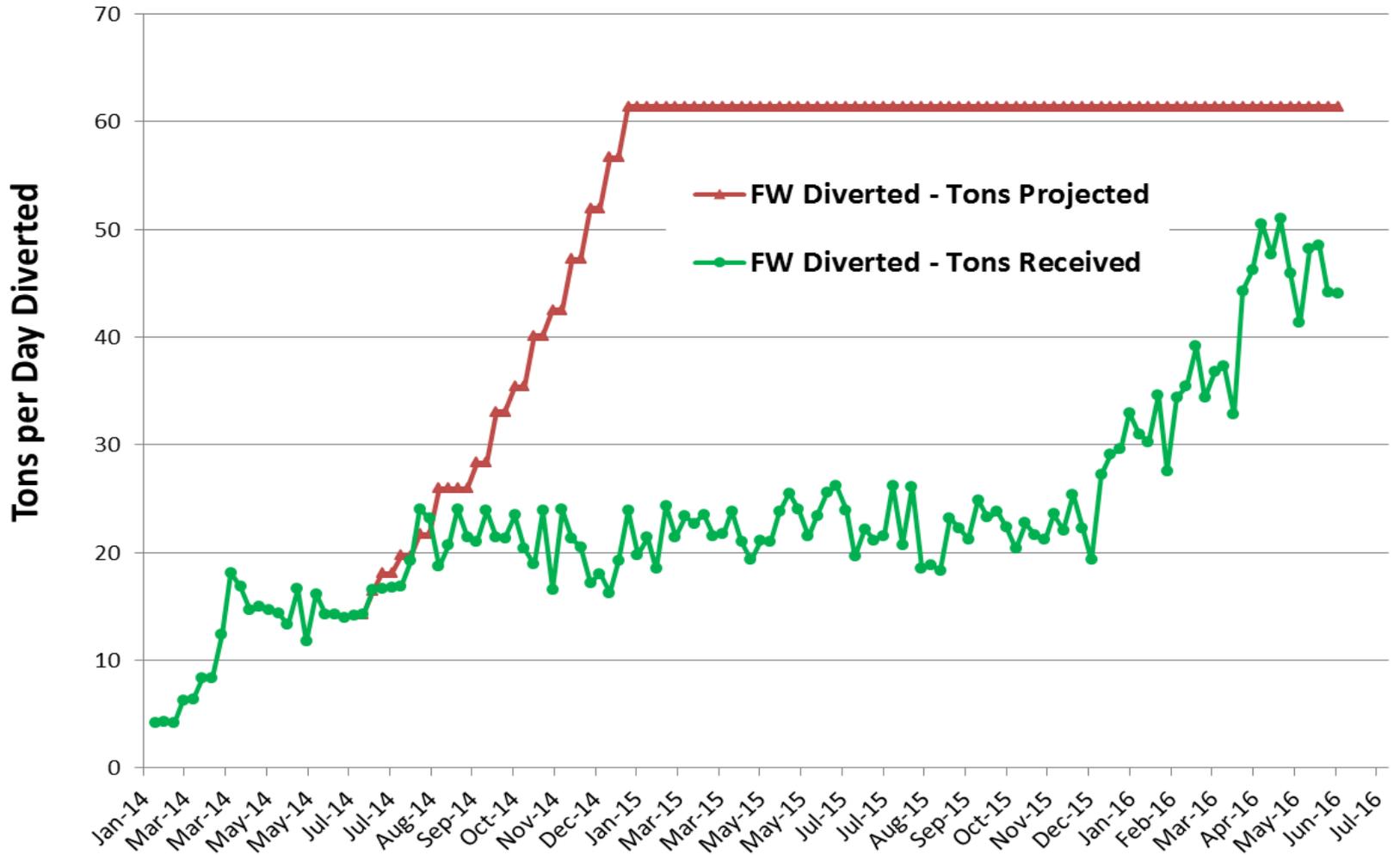
Food waste is pumped from WM tanker trucks into closed, sealed storage tanks, controlling odors.





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.

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“So, this Humpty Dumpty guy falls off the wall and I think, Dang, ain’t lettin’ this go to the food waste bin.”