

ORGANICS RECYCLING IN SOUTHERN CALIFORNIA: Challenges and Successes

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SANITATION DISTRICTS OF LOS ANGELES COUNTY



Districts' Solid Waste Facilities

- **Materials Recovery Facilities And Transfer Station**

- Puente Hills MRF
- Downey Area Recycling & Transfer
- South Gate Transfer Station

- **Refuse-to-Energy Facilities**

- Commerce REF (closed 4/18)
- SERRF

- **Landfills**

- OPEN: Calabasas, Scholl Canyon
- CLOSED: Puente Hills, Spadra, Palos Verdes, Mission Canyon



Districts' Wastewater Facilities

- 10 water reclamation plants
- Approximately 1,445 miles of main trunk sewer lines
- 49 active pumping plants
- JWPCP
 - 280 mgd treated
 - 24 active digesters



STARTED: FEBRUARY 1928

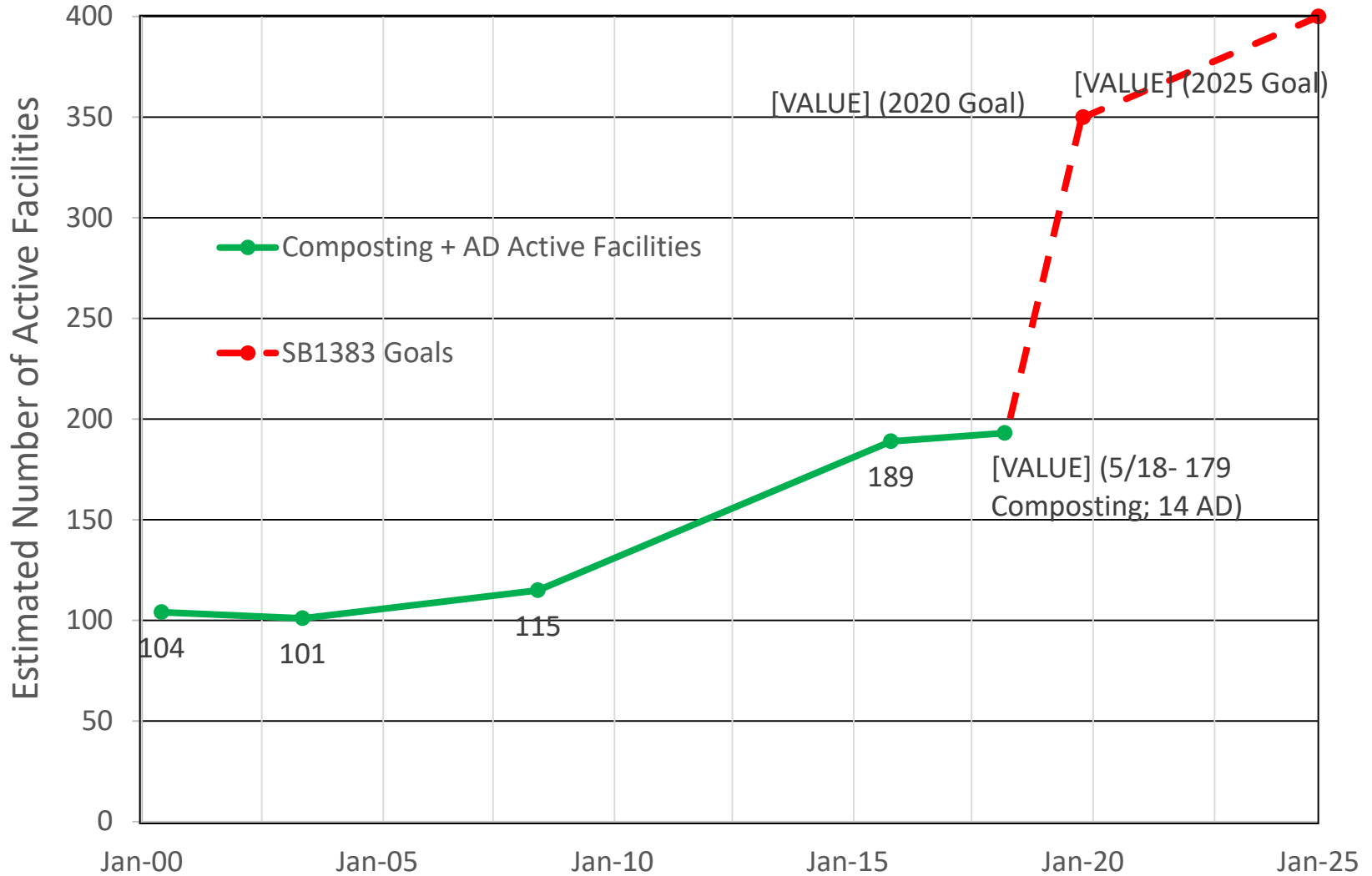
CAPACITY: 400 MGD

THE OVERALL CHALLENGE

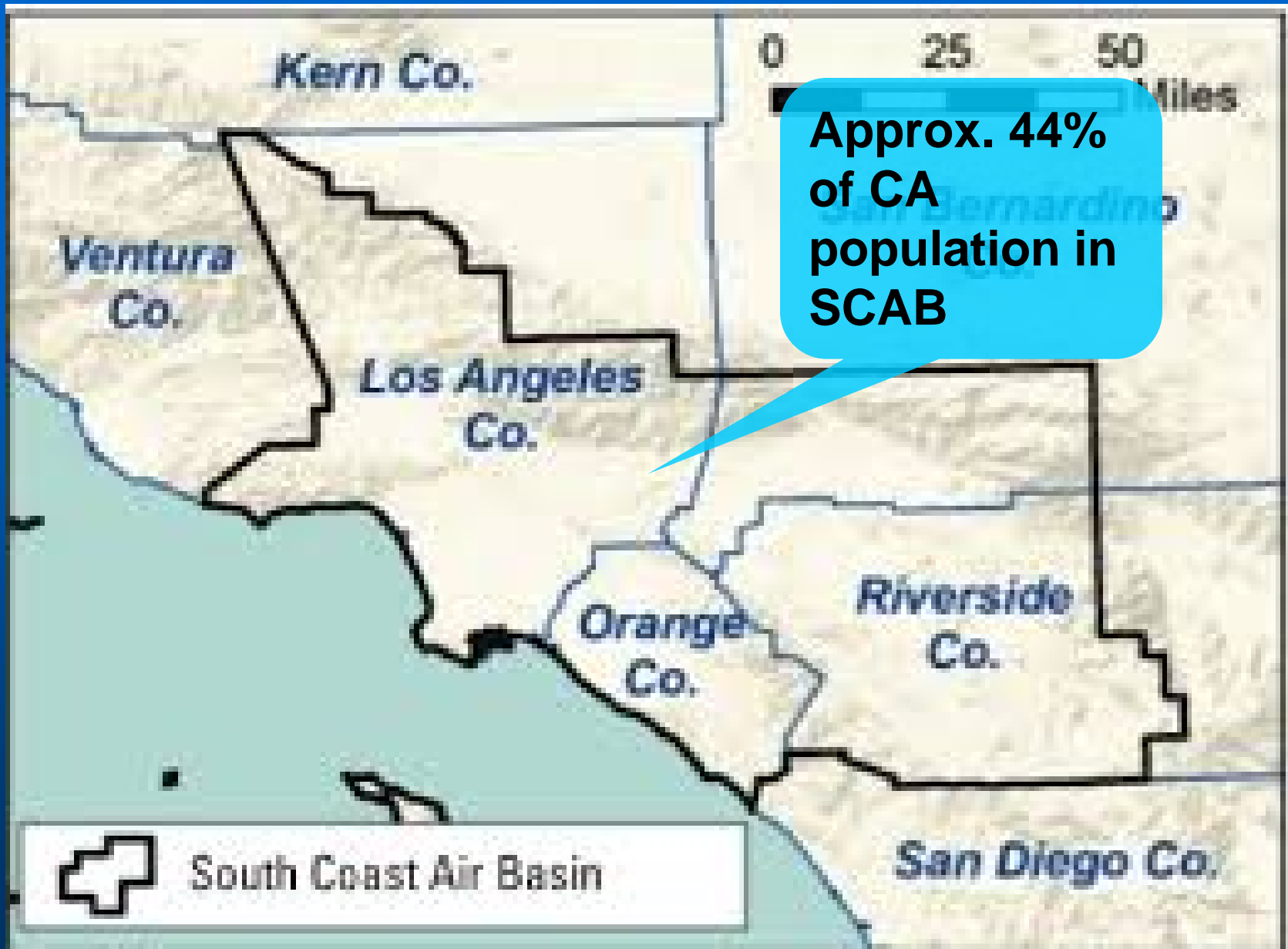


**Approx. 15 MTY
of organics
diverted by 2025**

Composting/AD Infrastructure and SB1383 Organics Goals



- Notes:
1. Baseline for SB 1383 2020 goal is estimated at approximately 150 additional facilities from May 2016 (Solid Waste Industry comments on draft Short Lived Climate Pollutant Reduction Strategy). Assuming an increase in tons diverted of 1/3 from SB 1383 2020 to 2025 goal, an additional 50 facilities would be required By 2025.
 2. Number of active facilities from: 2014 (CalRecycle Waste Charact. Study); 12/15 to present (CalRecycle FacIT Database; 2015-16 "State Of Recycling Reports"); and 2000-08 (CalRecycle 3rd Assess. Composting/Mulch Infrastructure www.calrecycle.ca.gov/publications/). Annual estimates plotted in June. Research composting (#15) not included.



Approx. 44%
of CA
population in
SCAB

 South Coast Air Basin

**State-of-the-art Compost
Facilities in Extreme
Non-Attainment Areas**



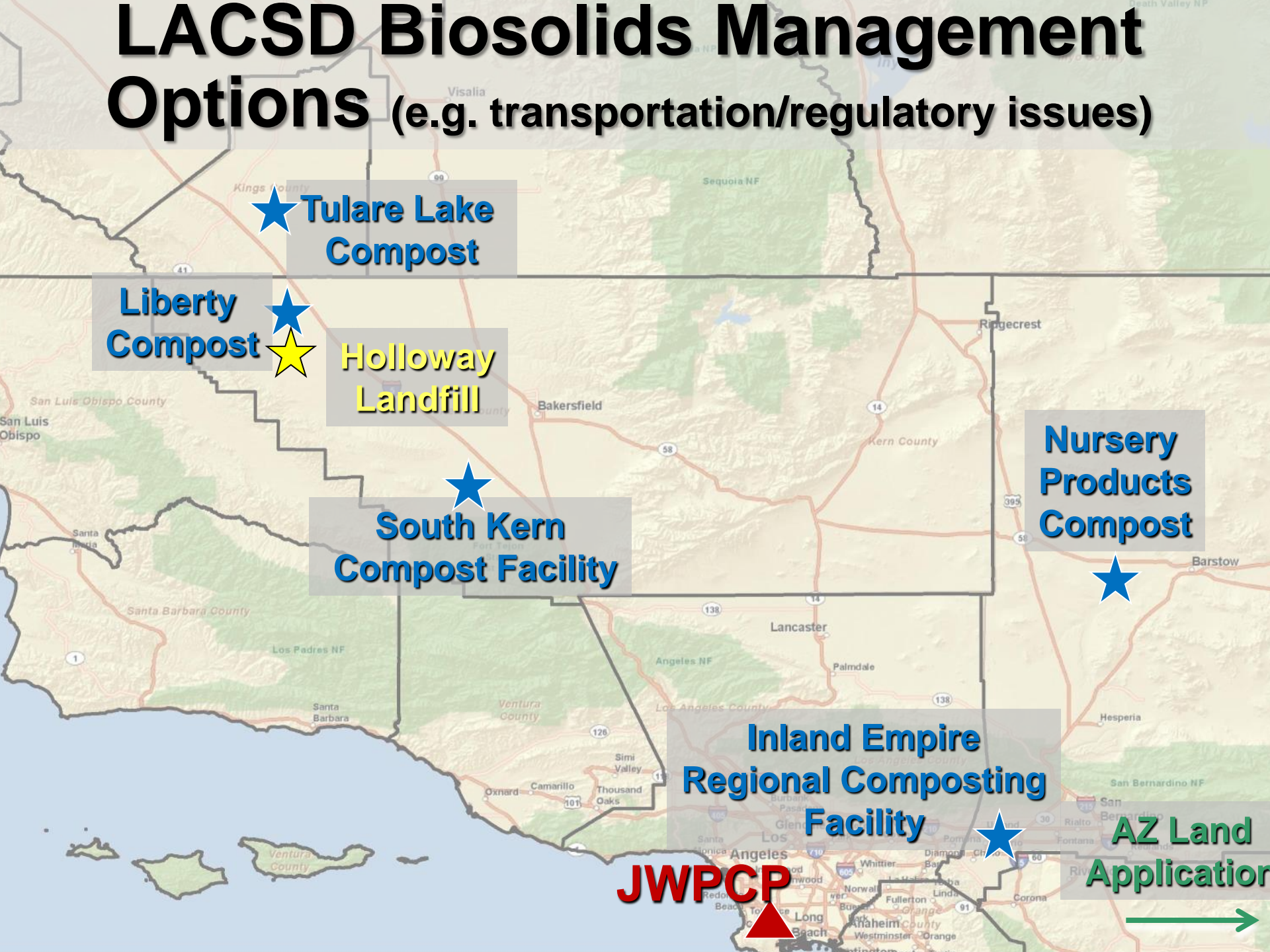
DISTRICTS' ROAD TO ORGANICS MANAGEMENT

- **Recognize our changing solid waste management role in L.A. County and fully support our member cities in a changing regulatory environment**
- **Recognize our wastewater facilities will play an important role**

DISTRICTS' ROAD TO ORGANICS MANAGEMENT

- **Remain sensitive to significant regional air quality issues (AD vs. Composting vs. Landfilling)**
- **Build public/private partnerships**
- **Look for regional/local solutions**
 - **Avoids transportation issues**

LACSD Biosolids Management Options (e.g. transportation/regulatory issues)



CASA ANALYSIS

- Existing POTWs have enough excess digestion capacity to handle up to 75% of the food waste diverted from landfills!
- Digester infrastructure already built
- Need pre-processing and biogas management infrastructure

Implication of Organics Diversion Requirements on Biogas Development

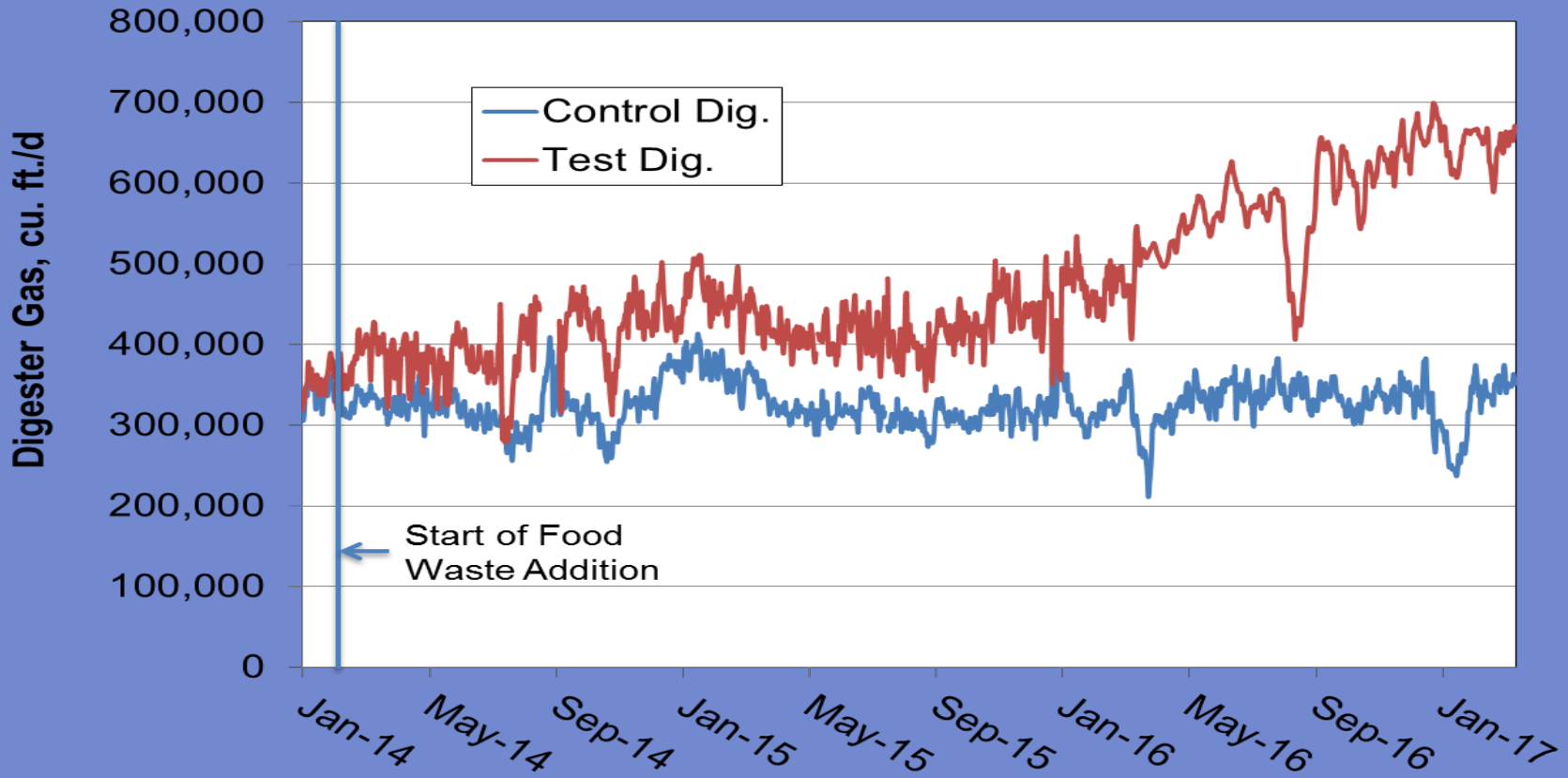
Digesters have significant excess capacity!!

JWPCP (24) Digesters

- 3.7 million gallons capacity each
- 4.4 million gallons of biosolids are added to digesters each day



Digester Gas Production



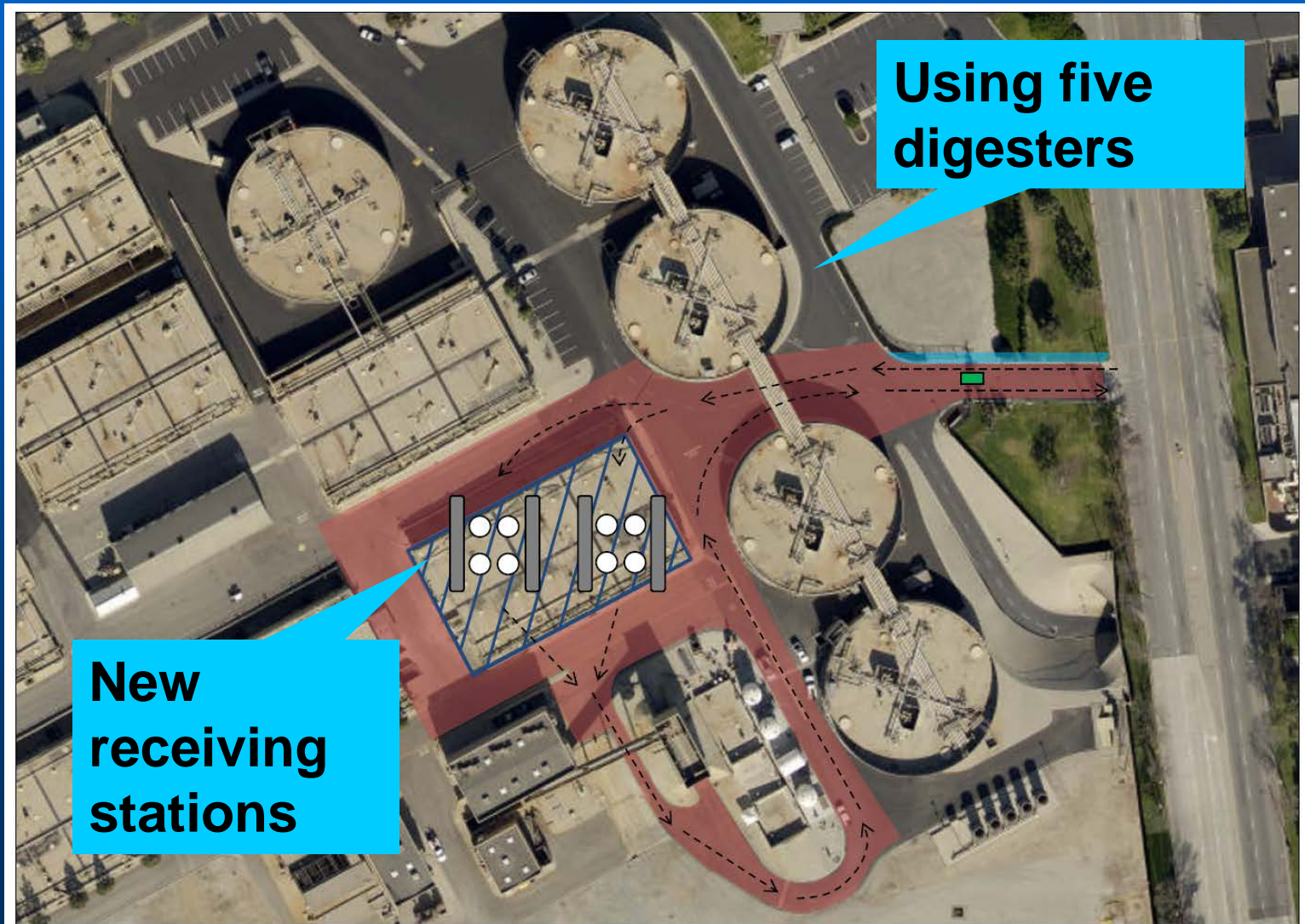
Plan: Food Waste Co-Digestion Program at JWPCP

- **Phase I – To approx. 140 tpd food waste – Biogas to transportation fuel**

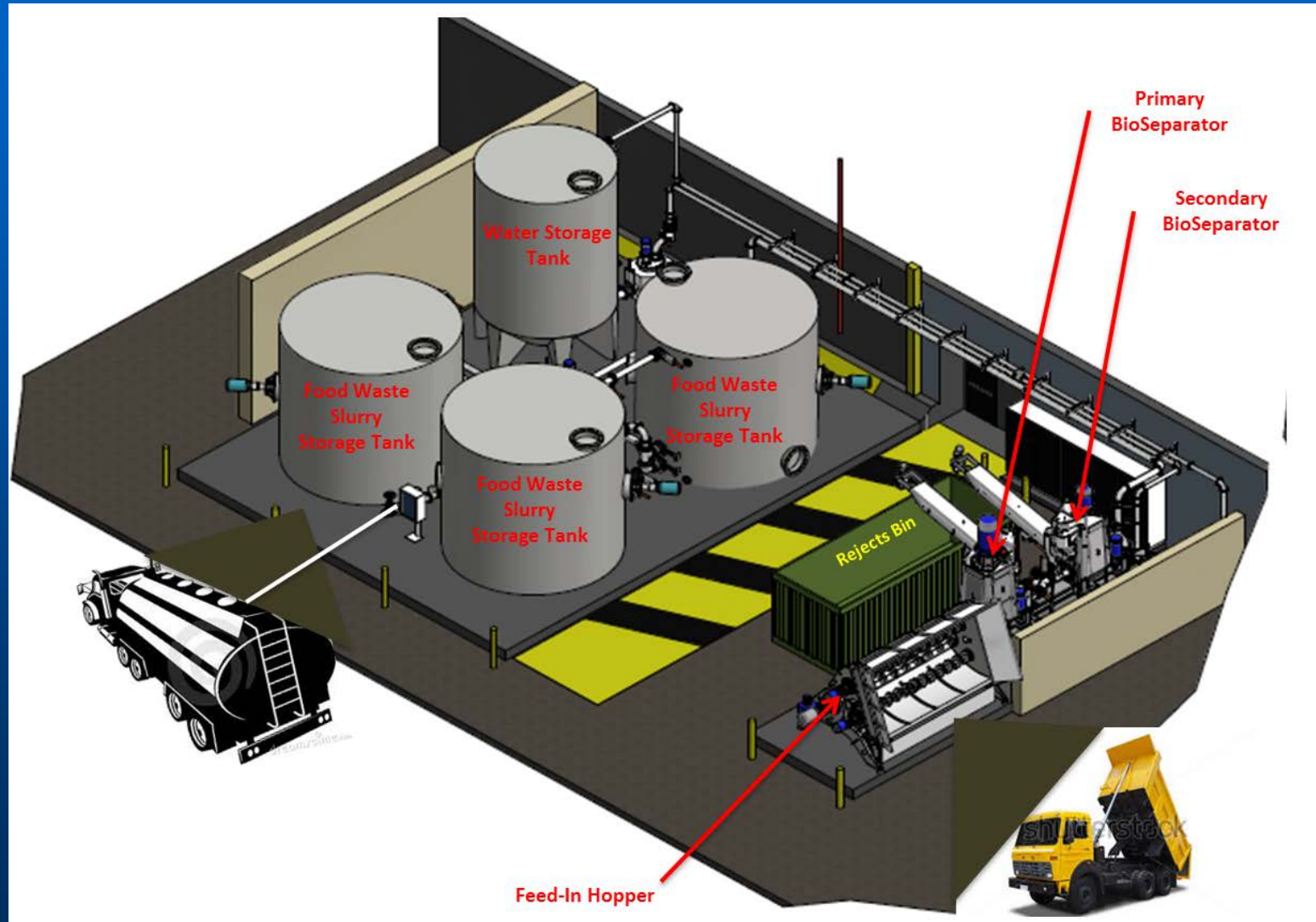
Pilot JWPCP Food Waste Receiving/Feeding Station



New Plan: Expand Food Waste Receiving and Co-Digestion at JWPCP



New Plan: Food Waste Processing at Puente Hills MRF



New Plan: Food Waste Processing at Puente Hills MRF



Plan: RNG Vehicle Fuel Production System



CNG Station



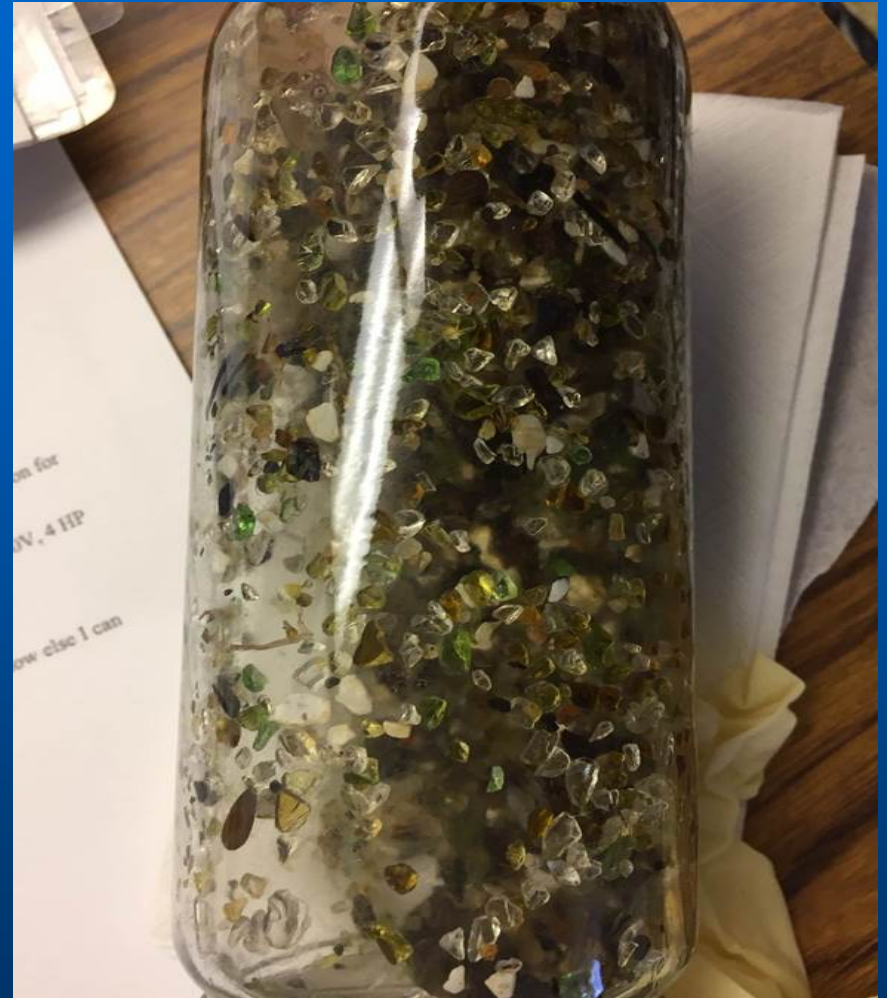
Biogas
Conditioning
System

Plan: Food Waste Co-Digestion Program at JWPCP

- **Phase II – Additional 360 tpd food waste – Biogas to ?? pipeline injection ??**
- **Expand food waste sources:**
 - **Current WM**
 - **New: Republic, Insinkerator AND Puente Hills Material Recovery Facility**
 - **others?**

Major issue: Contaminants

- Glass and grit are not caught in pre-processing
- Technology has improved capture and removal of inerts
- Grit and glass are biologically inert materials that cannot improve gas production



Major issue: Contaminants

- Cleaning cost roughly 2x that of control digester
- Glass may damage key infrastructure like pumps, valves and piping
- Cleaning frequency could double
- Grit and glass accumulation may adversely affect digester performance









Other Major Issues

- **Cost (just received \$2.5 M CEC grant)**
 - future of funding opportunities
- **Stability of transportation credit market (LCFS and RIN credits)**
- **Pipeline injection barriers/issues**
 - interconnection cost
 - gas quality (AB 1900)
 - procurement (SB 1440)

**Please contact me with any
questions**



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