



# **AD (Anerobic Digestion) MOU**

Prepared by Kevin Miller, Materials Diversion Administrator

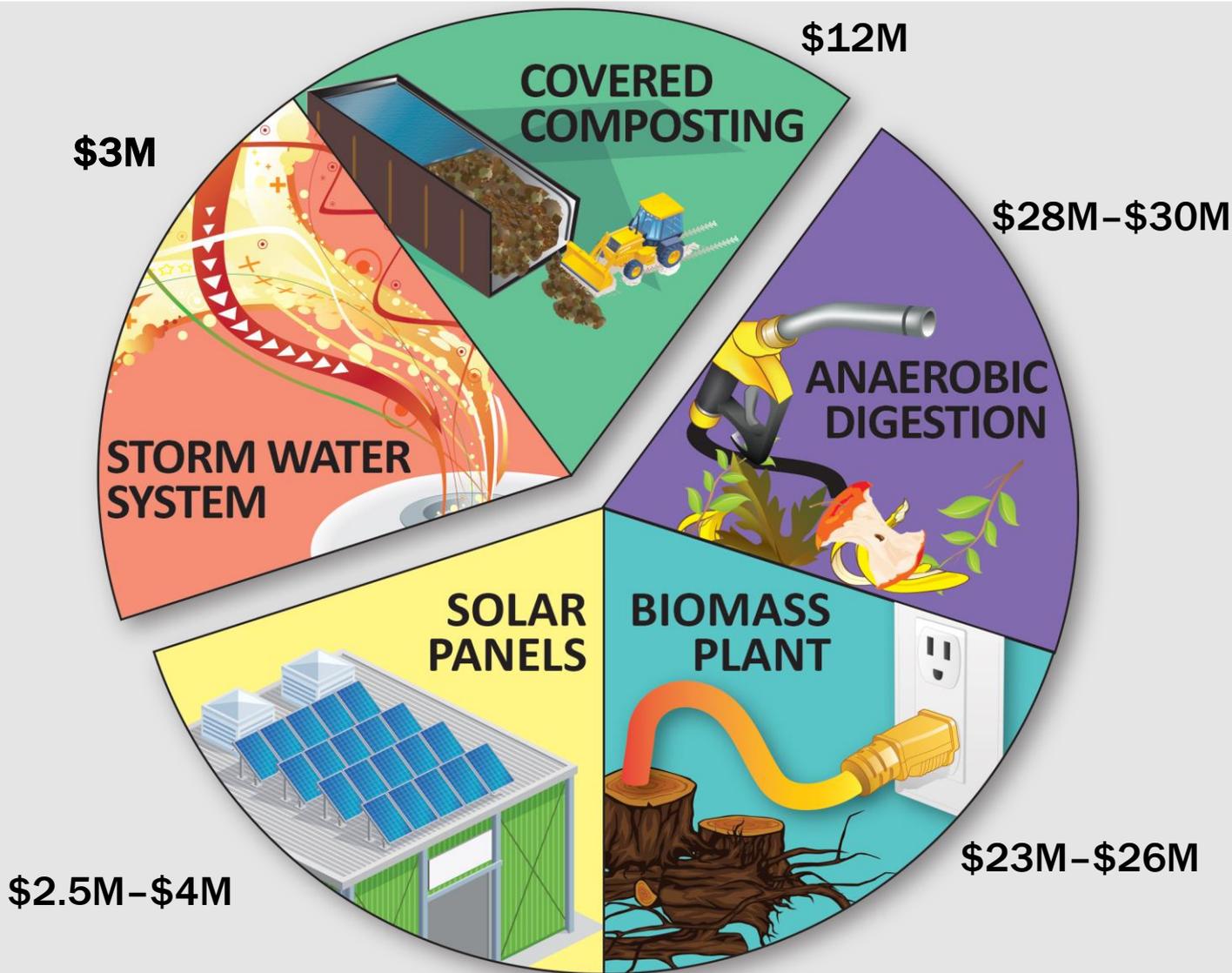
February 3, 2026



# BACKGROUND

- Materials Diversion Facility (MDF) master planning & feasibility study (2010-11)
- Napa Renewable Resources Project (NRRP) Initial Study/Mitigated Negative Declaration – 2012-2013
- 2022 Contract Amendment with NRWS explicitly contemplated the construction and operation of an anaerobic digestion (AD) facility at the City's MDF





### Regulatory Requirements

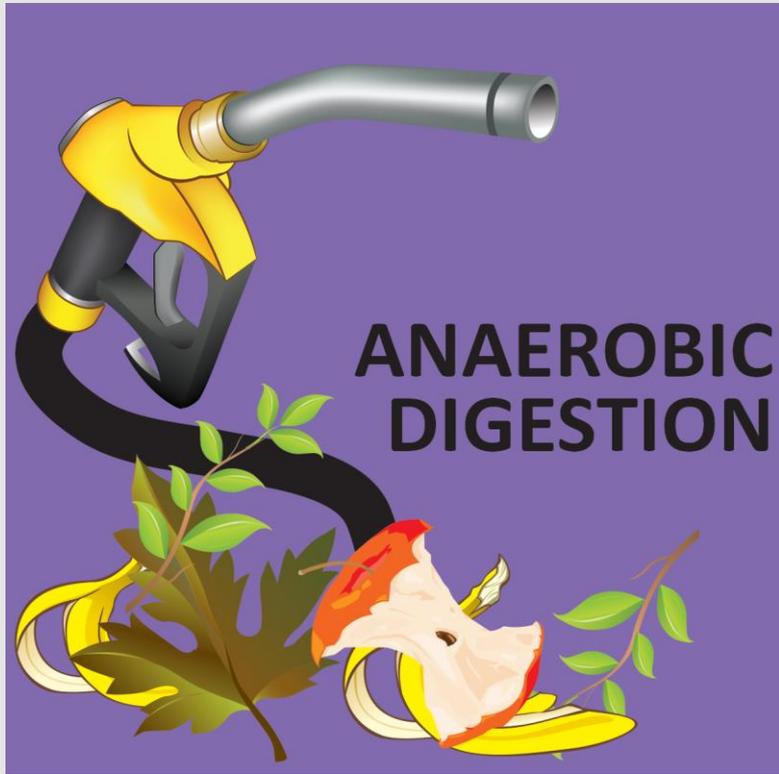
- ✓ Stormwater System Improvements
- ✓ Covered Composting System

### Business Opportunities in Sustainable Renewable Energy

- ❖ Anaerobic Digestion
- ❖ Biomass Plant
- ❖ Solar Panels

Overview of Napa Renewable Resources Project (NRRP) Elements

# Anaerobic Digestion (AD) Overview



- This “air-less” technology ferments a mix of wet & dry plant/food matter to create and capture biomethane or “biogas”
- The organic by-product (digestate) goes through MDF’s CASP covered compost system to become a finished compost product

# CALRECYCLE GRANT

- April 2023 - City applied for a competitive from the state
- Dec 2023 - City was awarded a \$10M grant for an AD to Renewable Natural Gas (RNG) system
- May 2024 - City accepted grant and signed agreement with CalRecycle
- In December 2025, the City's grant agreement was amended and extended through April 2028



# CALRECYCLE GRANT

- \$10M funding towards:
  - \$8.1M Slow & Fast Fill RNG Fueling Infrastructure
  - \$1.9M Organics **Pre-Processing** Equipment:
    - \* State-of-the-Art Organics “De-packager”
    - \* Finishing Trommel Screen
    - \* Two Glass Crushers
    - \* 6000 Gallon Storage Tank



# AD to RNG System Video



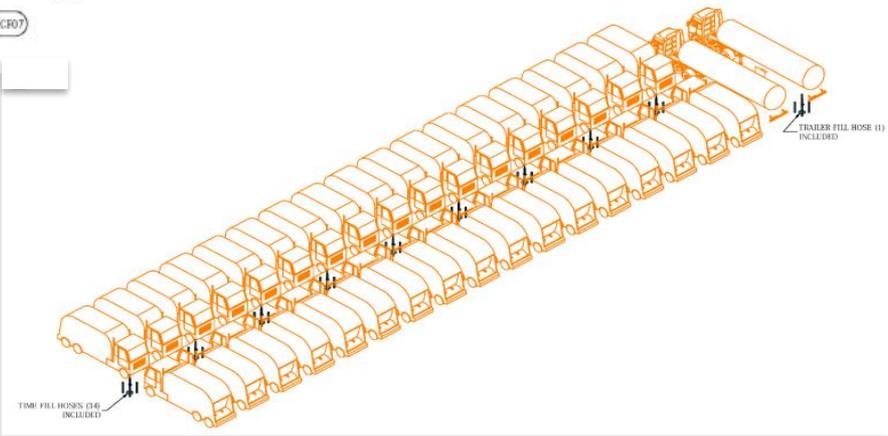
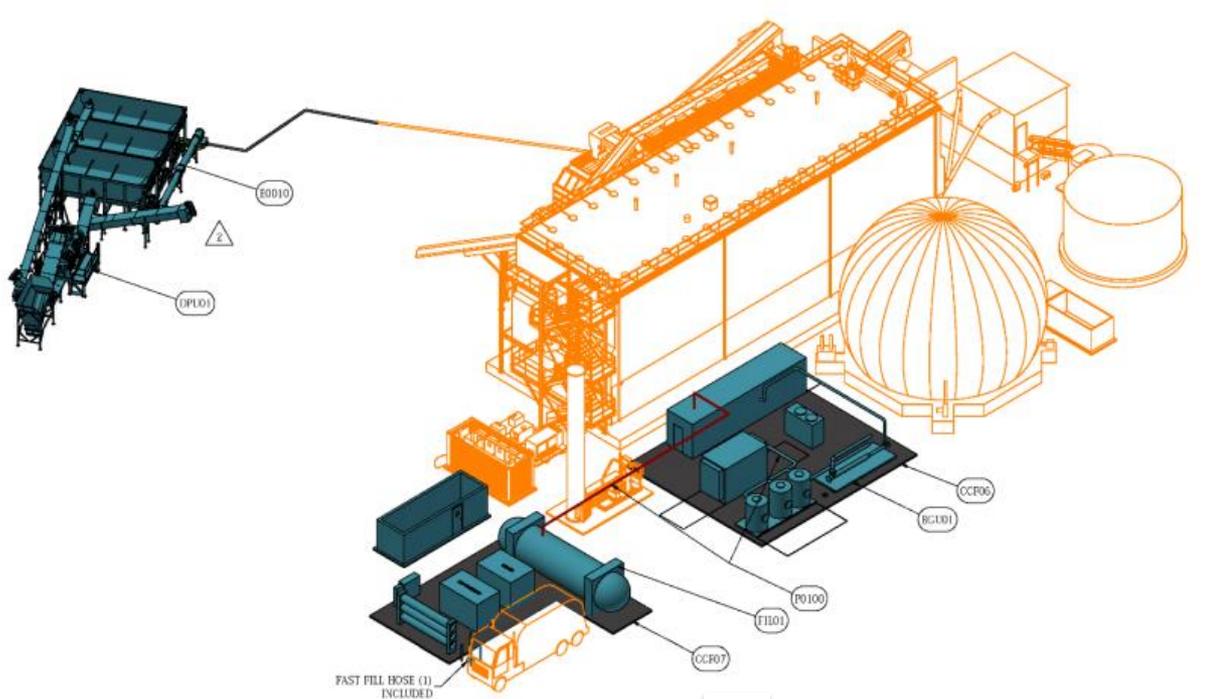
# AD to RNG System (Cont.)



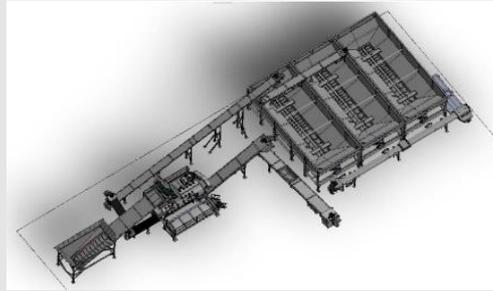
Special designed agitator prevents sedimentation

- \$10M (grant-funded) owned by City
- \$18-20M (privately financed) owned by Bulk Handling Systems (dba Zero Waste Energy)

# AD to RNG System (Cont.)



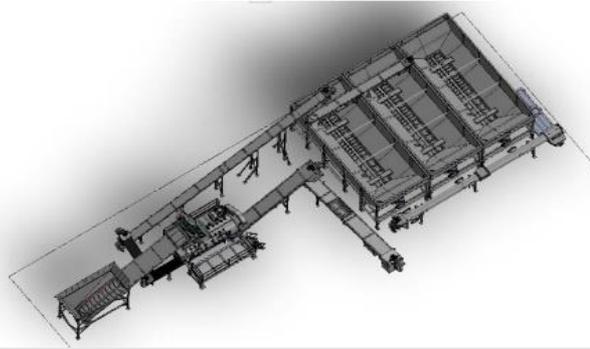
# PROPOSED AD MOU HIGHLIGHTS:



## 1. AD to RNG Project at City MDF:

- NRWS to Construct, Install, Maintain and Operate AD to RNG system for 20 years (with 5-year extension option)
- City to pay \$5.75/gallon (diesel gallon equivalent) for first 3 years for NRWS fleet and then 90% of local CNG retail cost starting year 4
- Maximum 20,000 tons per year (TPY) of AD Digestate to be accepted in MDF's CASP system
- 6,000 TPY in added CASP capacity = \$270K/year in avoided cost savings for City

# PROPOSED AD MOU HIGHLIGHTS:

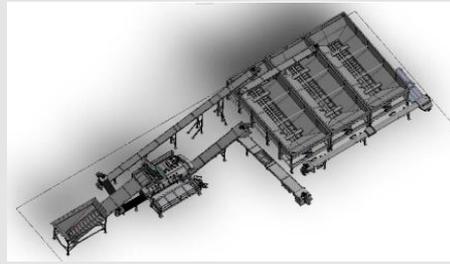


## 2. Supplemental Payment for NRWS Labor:

- City to pay to provide additional fixed payments to NRWS in recognition of increased labor costs:
  - CY2026 = \$1.1M
  - CY2027 = \$1.3M
  - CY2028 = \$1.3M
  - CY2029 = \$1.4M\*
  - CY2030 = \$1.4M\*

\* *Maximum payment; tied to actual additional labor cost for CY29 & CY30*

# PROPOSED AD MOU HIGHLIGHTS:



## 3. Adjust Material Sales Revenue Sharing:

Base Contract is Up to \$10.6M = 70% City/30% NRWS

- City retains greater share of material sales revenue (per calendar/contract year) as follows:
  - \$10.6M to \$13M = 95% City/5% NRWS (+\$600K to City)
  - \$13M to \$15M = 90% City/10% NRWS (+\$1M to City)
  - \$15M to \$17M = 80% City/20% NRWS (+\$1.2M to City)
  - \$17M & Above = 70% City/30% NRWS
- No additional cost to City for commercial glass route driver and equipment beyond grant funding (+\$187K-\$193K/year to City)

# Non-financial benefits of AD

- **Clean Air** = 100% clean air “carbon-negative” vehicle fuel (certified by CARB at -165.05 gCO<sub>2</sub>/MJ) for refuse & recycling fleet not vulnerable to market price fluctuations.
- **Sustainable** = “Fork to Fuel” where a closed loop sustainable infrastructure (with collected organics serves as the feedstock to provide fuel for vehicles.
- **Best Available Technology** = Deployment of the best available technology for air emission control, odor reduction, and stormwater management (City avoids need to “reinvest” in 10-15 years due to more stringent regulations).



# Non-financial benefits of AD (Cont.)

- **Sustainability Fulfillment** = Significant fulfillment of both City facility and community-wide sustainability & Climate Action/GHG reduction plans.
- **Local Renewable** = Provides a locally available and renewable source of biofuel not dependent on “fracking” extraction for the natural gas.
  - Future conversion to produce electricity if refuse & recycling fleet transitions to an electric fleet.
- **Community Scale** = Use of a commercially proven, community scale technology to serve as a model for other communities.



# ...and the Bonus!

At full capacity, over 10 years the Napa AD to RNG system would prevent...

**100,806 metric tons of CO<sub>2</sub>** from being released.



Equivalent:

**Removes 21,222 passenger vehicles**  
off the road (per EPA & CARB metrics).

# RECOMMENDED ACTION

- Adopt a resolution approving and authorizing
  - (1) the Utilities Director to sign an Anaerobic Digestion MOU with NRWS and execute all necessary documents to implement a CalRecycle Organics Grant (CalRecycle No. ORG7-21-0259); and
  - (2) Amending the 2025/26 Solid Waste and Recycling Capital Improvement Project Budget to add project (No. 61MD26UT08 – Anerobic Digestion to Renewable Natural Gas System); and
  - (3) Determining that the actions authorized by this resolution were adequately analyzed by a previous CEQA action.

