EAST BAY MUNICIPAL UTILITY DISTRICT

EBMUD Resource Recovery (R2) Program

R2 Program History
Excess Digestion Capacity

- 20 MG of Digester capacity - 11
- food processors leave area
- market for waste treatment
- trucked waste open since 2002
- three waste receiving stations

R2 Program History
Trucked Waste

- Began accepting trucked waste in 2002
- 4,000 trucks/month
- 20 million gallons/month non-hazardous liquids
- Trucked wastes received 24-7, 365 days/year

2002 **Septage Receiving**

2004 **Solid-Liquid Receiving**

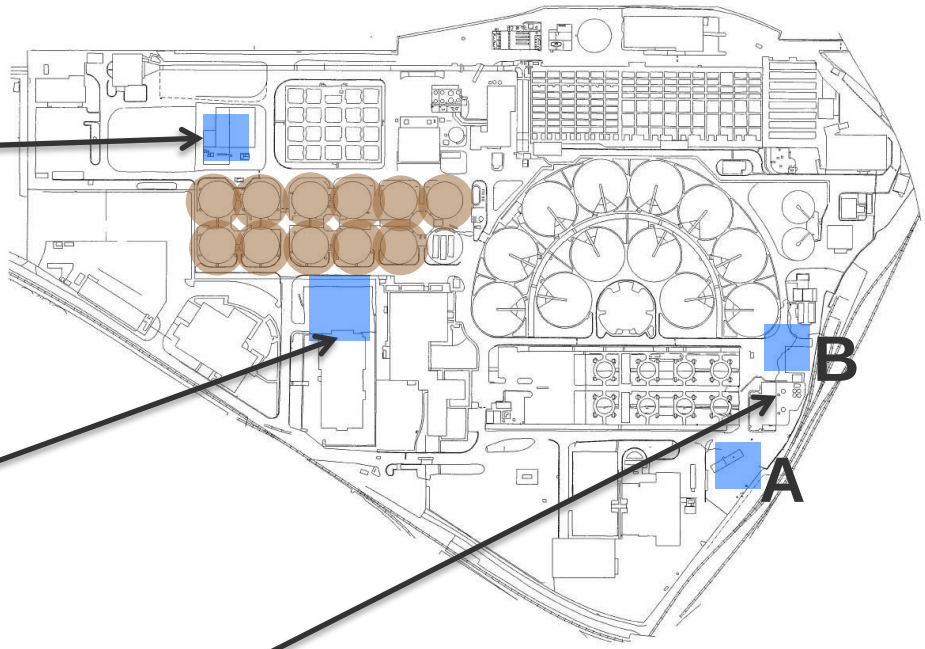
2014 **Blend Tank Receiving**

R2 Program Overview
Receiving Station Infrastructure

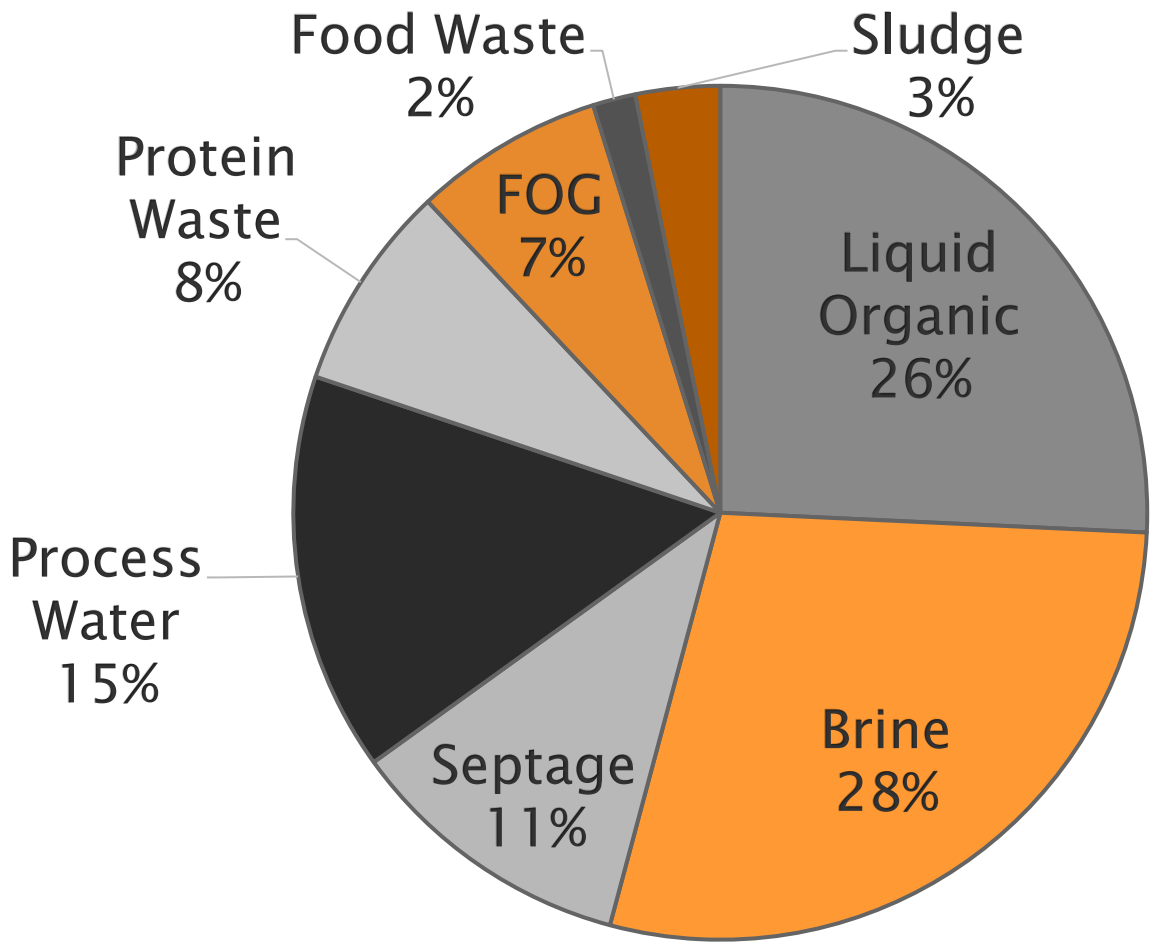
High-Strength Solid Waste Receiving (few % by volume)

High-Strength Liquid Waste Receiving (~1/3 of R2 Volume)

Low-Strength Liquid Waste Receiving (~2/3 of R2 Volume)



Waste Types by % Liquid Volume Received (FY23)



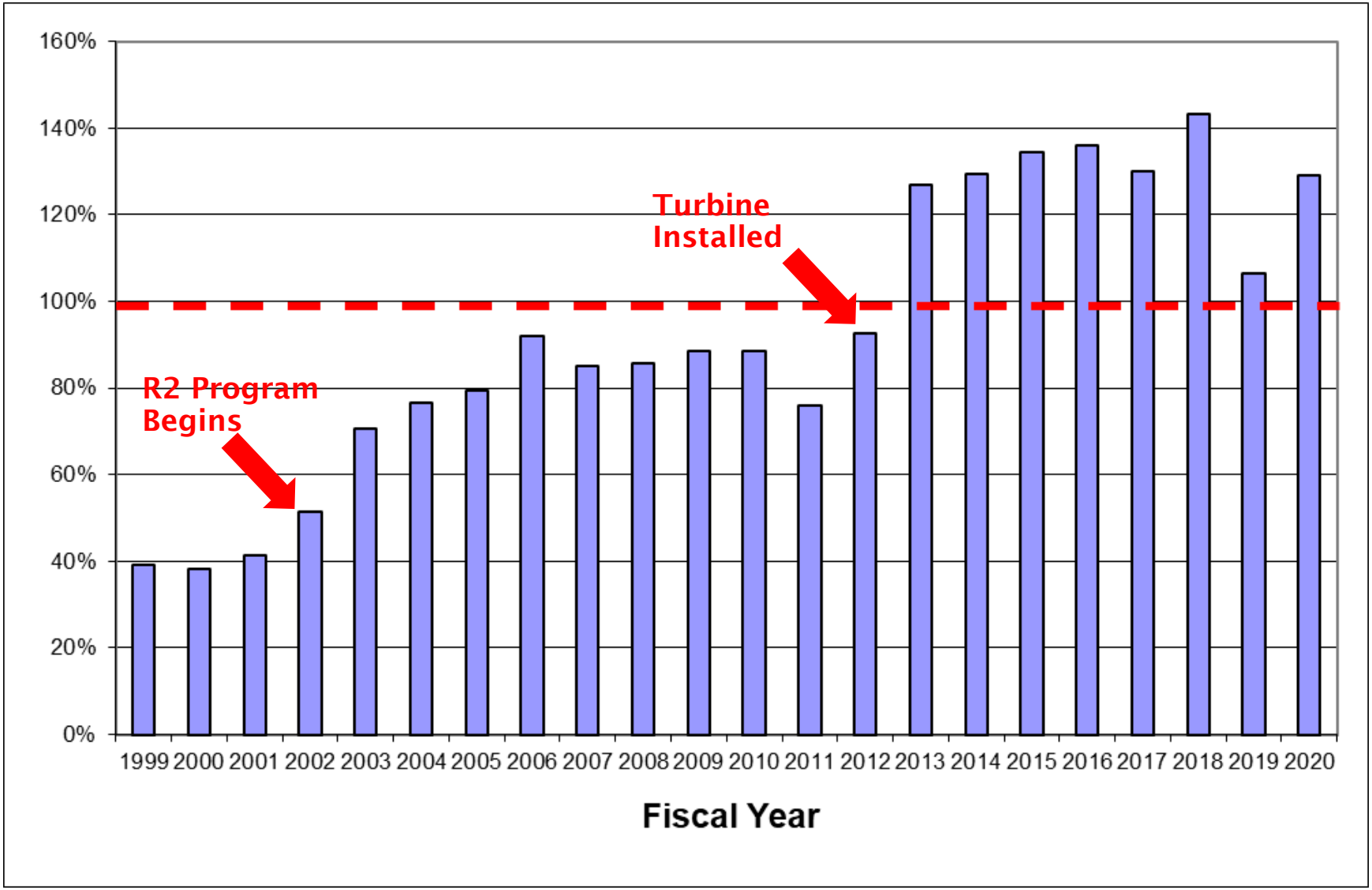
Renewable Energy Generation

- Savings of ~$2M on plant power costs
- Electricity export revenue of ~$1M/year
- One of the first wastewater treatment plants in N. America to produce more electricity than plant demand

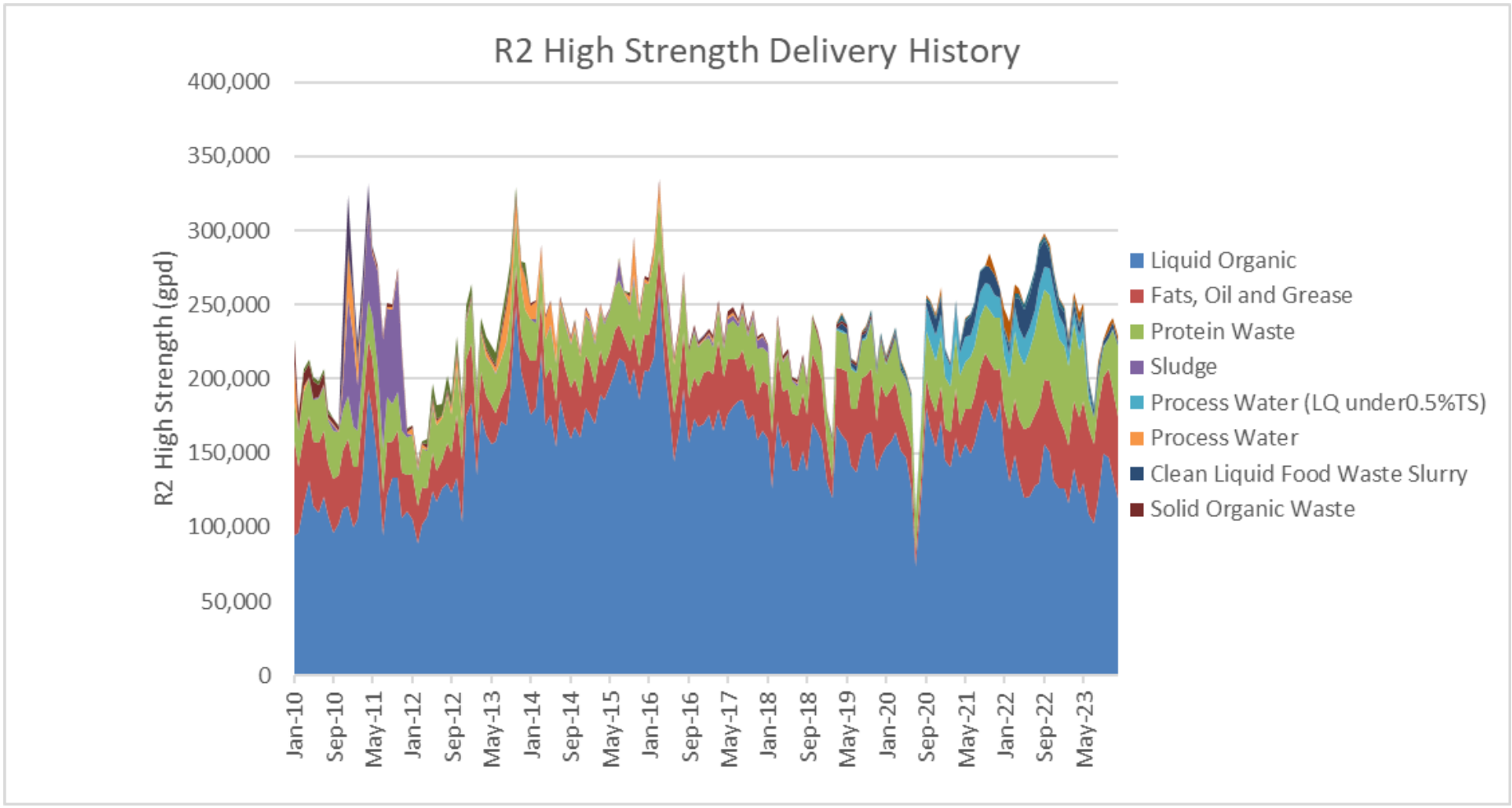
1985 — **Three 2.2 MW engines**

2013 — **4.5 MW Turbine**

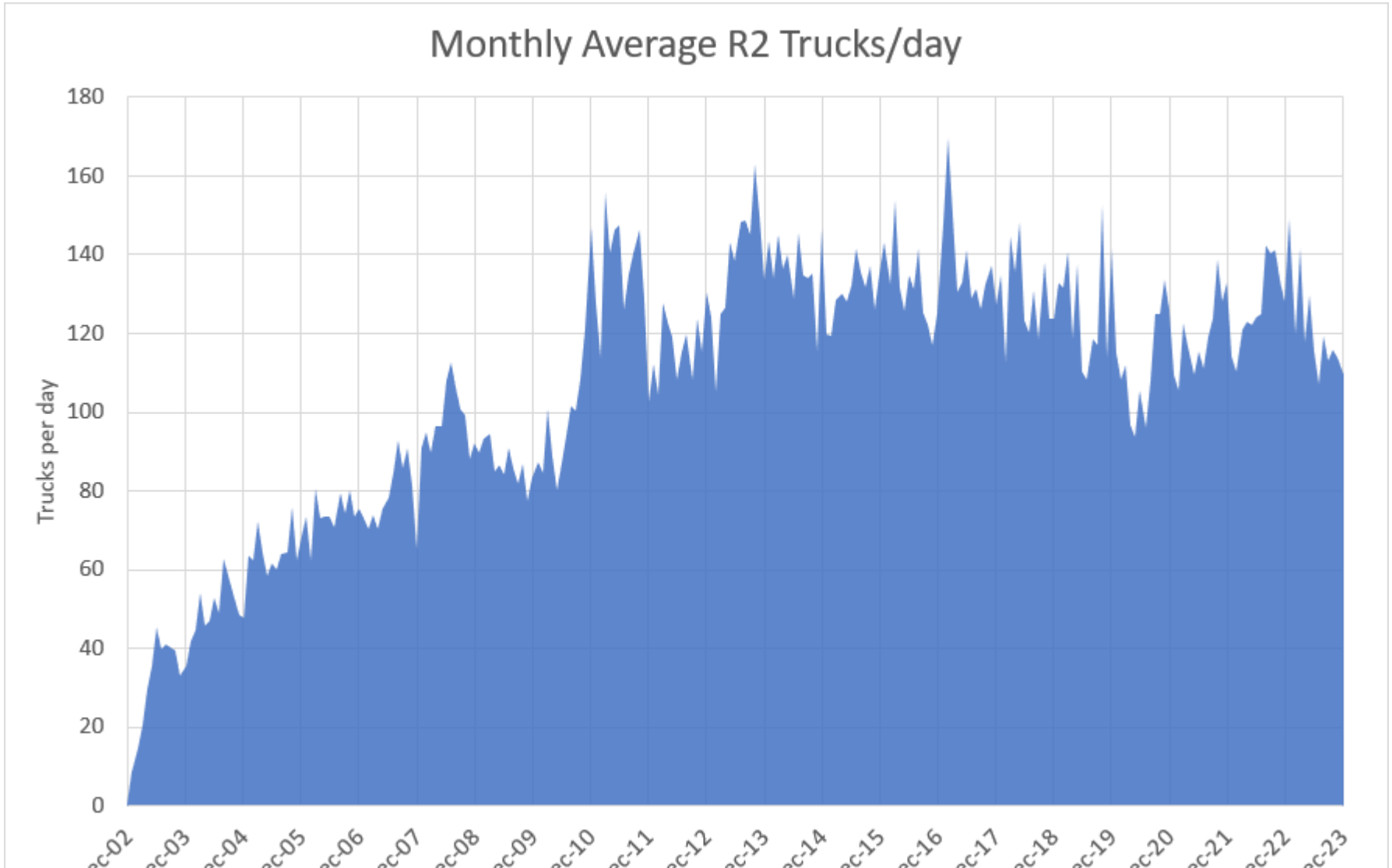
Energy Production



EBMUD Trucked Waste Material



EBMUD Trucked Waste Volume



Program Features

- Account set-up: generator or approved hauler
- Permit application forms: process information incl PFDs
- Waste evaluation: character/variability
- Waste profiling: analysis of representative sample(s) by generator
- Recorded tanker capacity/unique transaction ID and receipt
- Driver orientation

Program Controls

- First load and audit sampling
- More process information and analysis of samples by generator
- On-site inspections
- Pre-authorization for certain wastes
- Driver information
- Enforcement
- Collaboration with other agencies!

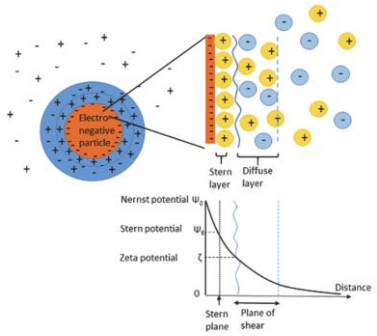
Program challenges

- Waste being delivered under unrelated permit, waste not corresponding to permitted material
- Incomplete/incorrect/outdated permit information
- Following rules: no decals, unoriented drivers, dumping to plant drain
- Little to no control over generator processes

Stories & Investigations

- Jet Fuel Incident
- Attempted delivery of hazardous waste
- Infiltration of contaminated groundwater
- Reaction from mixing materials

R2 Challenges
PACL/Polymer - Challenges



- These wastes share the same gravity line as all the other low strength wastes
- Can cause certain wastes to precipitate out and clog the discharge line
- Photo - result of mixing a different coagulant with a brine waste we received at the same time

Questions?

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