

# Maximizing Greenhouse Gas Emissions Reductions Through Food Waste Diversion

April 27, 2011

EPA Climate Showcase Communities Grant



# Purpose:

Divert food waste away from landfills to reduce the cost and environmental impacts of waste management in Humboldt County

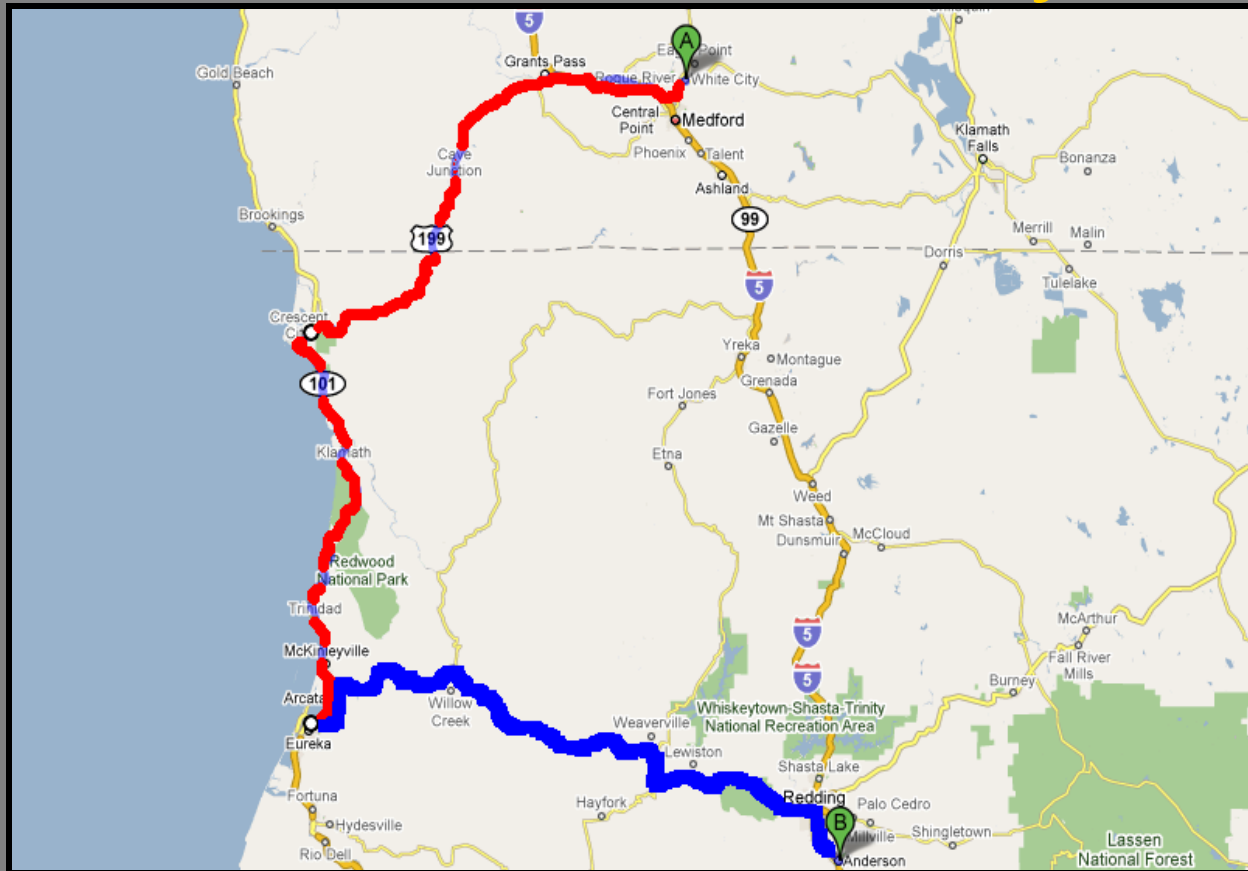




Humboldt County: 130,000 residents  
~35 persons / square mile



# Waste Management in Humboldt County



**Solid Waste tipping fee: \$129/ton**

**Average distance to landfills: 385 miles round trip**



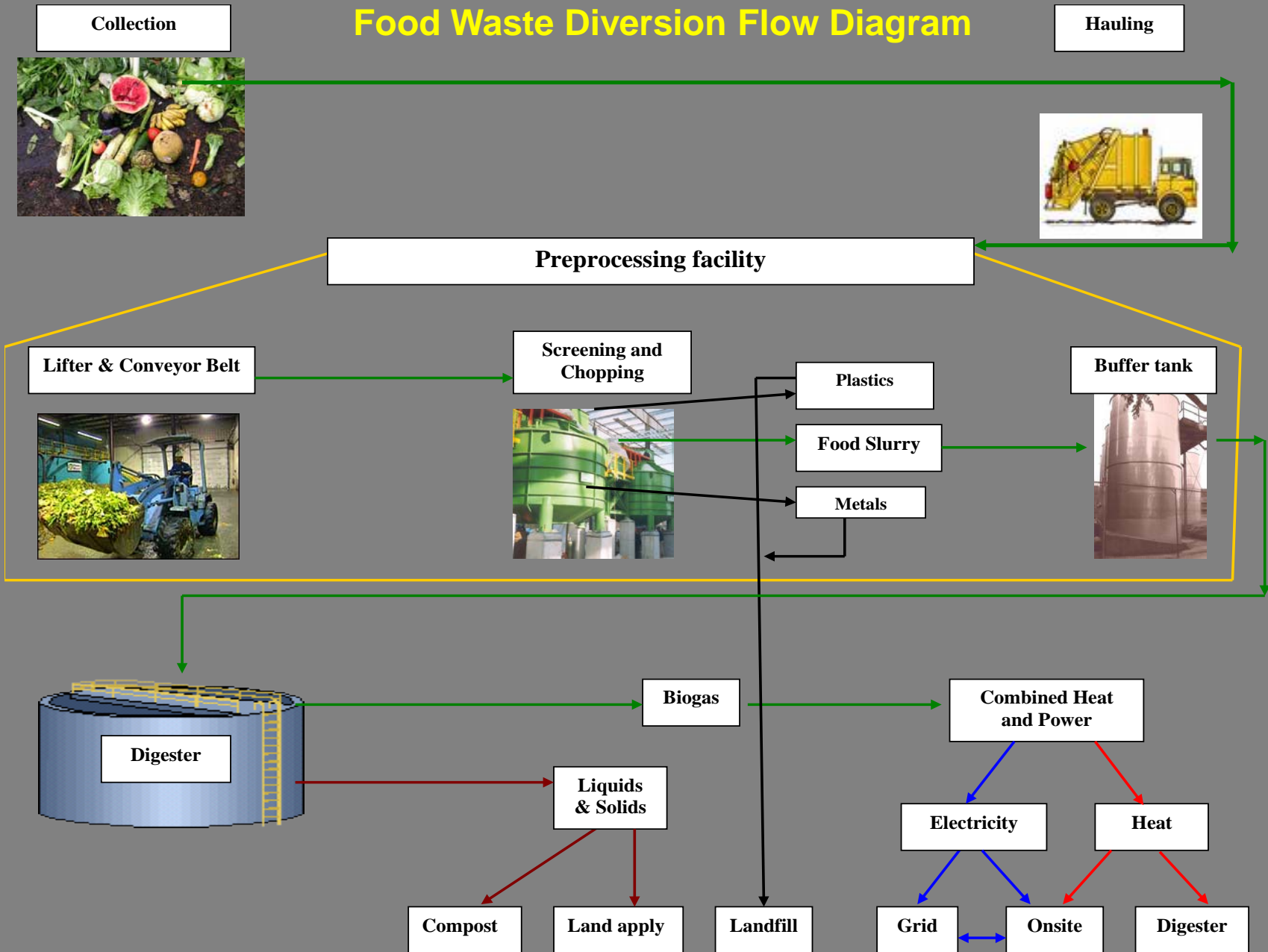
# Policy Drivers

- CA AB 939 (1989):
  - State mandates 50% waste diversion for all jurisdictions
- CalRecycle SD 6.1
  - 50% organics diverted from landfill by 2020
- CA AB 32 (2006):
  - Reduce Greenhouse gas emissions to 1990 levels by 2020
    - Waste sector expected to achieve GHG reductions of 10 MMTCO<sub>2</sub>e
- CA Renewables Portfolio Standard

New strategies are required to meet these goals!



# Food Waste Diversion Flow Diagram



# Organic Waste Streams





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40°45'36.80" N 124°12'01.69" W

Sep 25, 2006

Eye alt 6.33 km

Project Site →



Elk River WWTP →



Image © 2009 DigitalGlobe  
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40°46'03.48" N 124°11'41.84" W

elev 2 m

Sep 25, 2006

Eye alt 823 m

Google

101

Sunset Dr

Cemetery Rd

Broadway St

N

# EPA CSC Grant Work

Develop an efficient food waste collection program that minimizes GHG emissions from local waste hauling routes to maximize overall GHG reductions from food waste diversion from landfills.



# GHG Reductions (per 10 years)

- Offset Landfilling
  - 52,000 MTCO<sub>2</sub>e
- Offset Long-haul Trucking
  - 3,260 MTCO<sub>2</sub>e
- Offset Grid Electricity
  - 5,390 MTCO<sub>2</sub>e

- Assumes 0.692 MTCO<sub>2</sub>e / ton food waste / 10 years (CAR)
- Assumes 22.38 lbs CO<sub>2</sub> / gal diesel
- Assumes 0.636 lbs CO<sub>2</sub> / kWh PG&E grid



# Work Plan

- Establish 50 “Early Adopters”
- Work with ESA to develop food waste diversion program
- Measure program magnitude
- Develop GIS mapping tool
- Implement Pilot Organic Waste Collection Program
- Divert and process food waste



# Sharing Results

- Waste resource assessment “tool kit”
  - Share data collected on food waste characteristics
- GIS mapping tool
- Webinar presenting of efficacy of food waste collection strategies
  - GHG reductions achieved / future potential
- Recommendations for starting food waste diversion programs



Thank you!



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