



ROADMAP TO A SUSTAINABLE SOLID WASTE MANAGEMENT FUTURE

County Inter-Departmental Working Group

Roadmap Subcommittee Meeting Agenda

Thursday, April 14, 2016
9:00 A.M. – 11:00 A.M.

1. Welcome and Introductions (10 min)
2. Anaergia Test Press Presentation (30 min)
3. State of Disposal and Recycling in CA Presentation (15 min)
4. Breakout Sessions (45 min)
 - County Unincorporated
 - Regional/Countywide Subcommittee
 - County Operations Subcommittee
 - Outreach and Education Subcommittee
5. Open Discussion and Next Steps (10 min)

OREX Mini Press Pilot Testing Puente Hill MRF

Habib Kharrat, Supervising Engineer

April 14, 2016





Processing Technologies

Wet Commercial MSW
(Food Waste mixed in)



Step 1: Bag Opener



Step 2: Screens



"UNDERS"
or
"FINES"



Step 3: OREX Press



Step 4: Polisher @ WWTP

Anaergia OREX Organics Press
(works like a garlic press)



Processing Technologies

Source Separated Food Waste

Food Waste Receiving Hopper



Food Waste Tanker
to Receiving Station @ WWTP



Food Waste Storage Tanks



Polisher @ WWTP



DODA BioSeparator Screening Drum



Food Waste Slurry Mixing Section



Comparing Technologies

Food Waste Processing Technologies

(for a nominal 100 tons per 8-hour shift)

	DODA	Anaergia OREX Press
Feedstock	Source Separated Food Waste	Wet Commercial MSW & Source Separated Food Waste
Parts Availability	Italy	USA
Equipment Cost	\$900,000	\$2,000,000



Mini Press Pilot Test @ PHMRF

- Completed 10-day pilot program on February 1
- 45 samples tested from routes including:
 - Restaurants, school cafeterias, single and multi-family residential, & random misc. wet commercial loads from PHMRF floor.

OREX Mini Press - manually operated



(1/4 scale of full size press)



Mini Press in Operation



Video





Mini Press Pilot Test @ PHMRF



Preliminary Mini Press Test Results

Samples	Average Dry Fraction, (% by wt.)	Average Wet Fraction, (% by wt.)	Average Wet Fraction TS, (% by wt.)	Average Wet Fraction VS, (% by wt.)
45	24	76	26	93



Questions?



STATE OF DISPOSAL AND RECYCLING IN CALIFORNIA

2016 UPDATE

PRESENTED BY ARMANDO C. AGUILAR
APRIL 14, 2016



BACKGROUND

- CalRecycle's *State of Recycling in California* and companion report *State of Disposal in California*
- A brief history of recycling in California as follows:
 - **AB 2020** (1986) – Beverage Container Recycling
 - **AB 939** (1989) – 50% diversion by 2000
 - **AB 341** (2011) – 75% recycling goal by 2020
 - **AB 1826** (2014) – Mandatory organic waste recycling
 - **AB 901** (2015) – Reporting requirements to CalRecycle

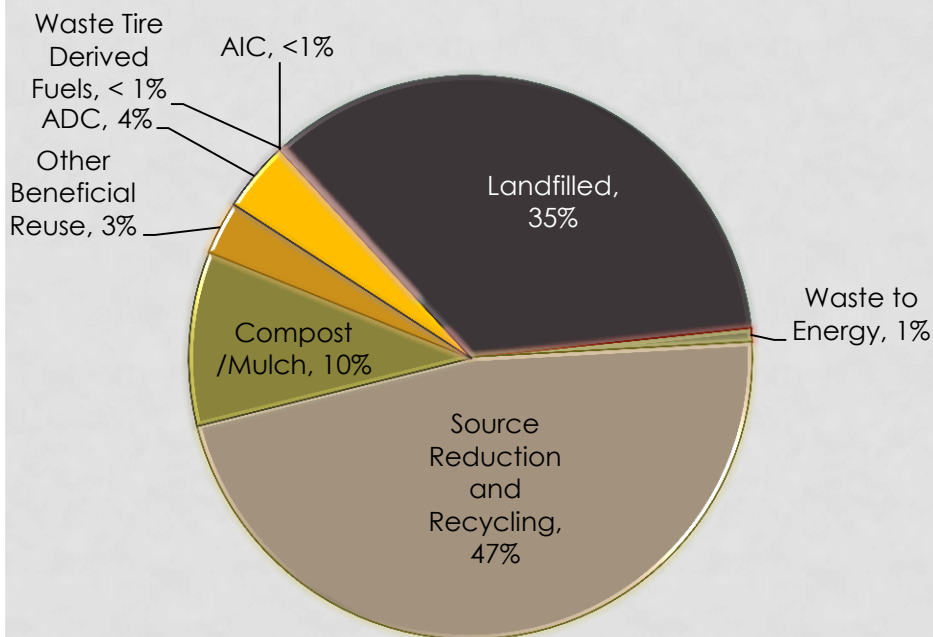
STATEWIDE DISPOSAL DIVERSION AND RECYCLING DATA

	AB 939	AB 341
Baseline Generation	12.6 ppd (2003-2006)	10.7 ppd (1990-2010)
Goal	50% Diversion Mandate (Jurisdictional)	75% Recycling Goal (Statewide)
Disposal Target	6.3 ppd	2.7 ppd
Disposal Rate	4.5 ppd	

HOW IS “DISPOSAL” DEFINED?

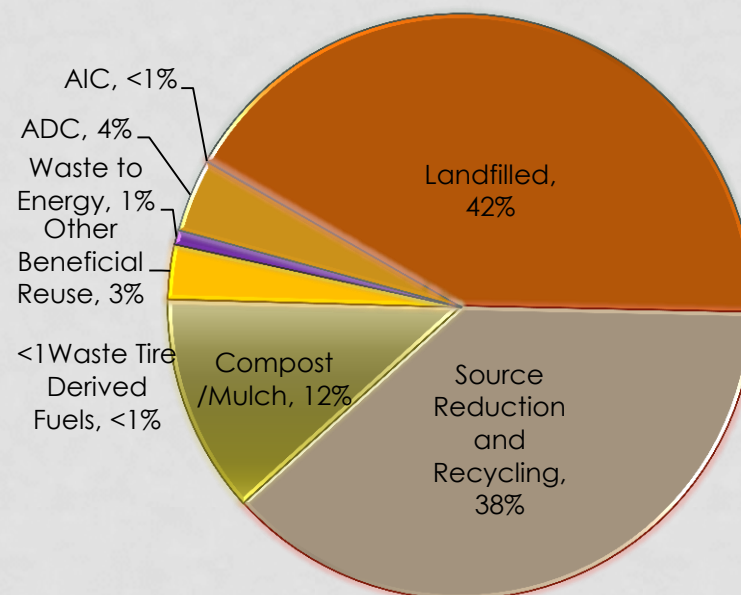
	AB 939	AB 341
Activities that Count Toward Goal	<u>Diversion:</u> Source Reduction Composting Recycling ADC (Alternative Daily Cover) AIC (Alternative Intermediate Cover) Other Beneficial Reuse Transformation Credit	<u>Recycling:</u> Source Reduction Composting Recycling
Activities that <u>Do Not</u> Count Toward Goal	<u>Disposal:</u> Landfill (Including Exports) Some Transformation Engineered Municipal Solid Waste (EMSW) Green Waste ADC (Beginning in 2020)	<u>Disposal:</u> Landfill (Including Exports) Engineered Municipal Solid Waste <u>Disposal-Related:</u> ADC AIC Other Beneficial Reuse All Transformation Waste Tire-Derived Fuel

Disposal and **Diversion** (AB 939)



Solid waste Generation = 88 Million Tons (12.6 ppd)
 Solid waste Disposal (Landfilled) = 31.2 Million Tons
 Approximately **64% Diversion**

Disposal and **Recycling** (AB 341)



Solid waste Generation = 74.9 Million Tons (10.7 ppd)
 Solid waste Disposal (Landfilled) = 31.2 Million Tons
50% Recycling

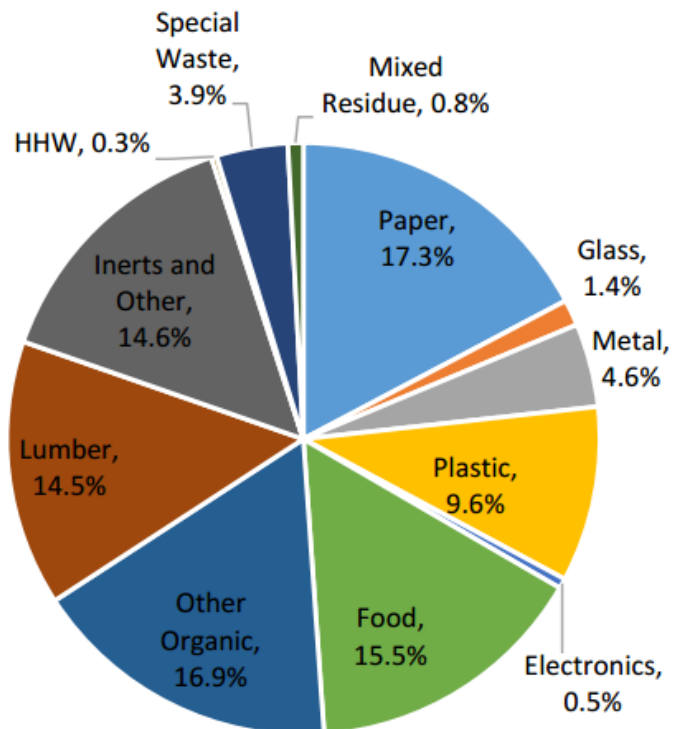
NEW FOCUS AREAS FOR 2016

- Composition of recyclables collected at municipal solid waste operations as based on CalRecycle's 2014 waste characterization study
- Implementation of mandatory commercial recycling
- Movement of post-consumer recyclable commodities in and out of California
- The handling of organic waste

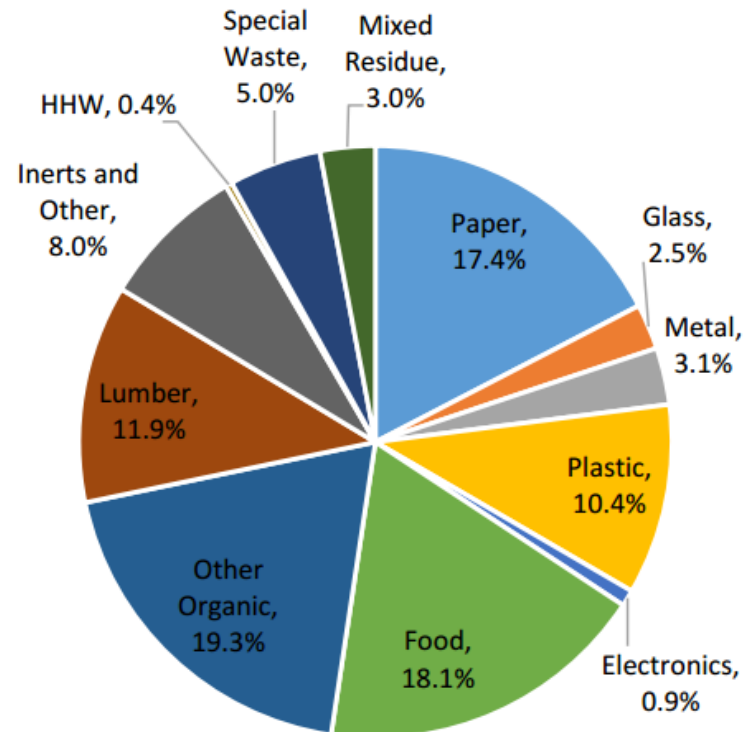
CALRECYCLE'S 2014 WASTE CHARACTERIZATION STUDY

- CalRecycle has conducted waste characterization studies in 1999, 2004, 2006, 2008 and 2014.
- 2014 study released in November 2015
- Facility-based and generator-based

2008 AND 2014 WASTE CHARACTERIZATION STUDIES



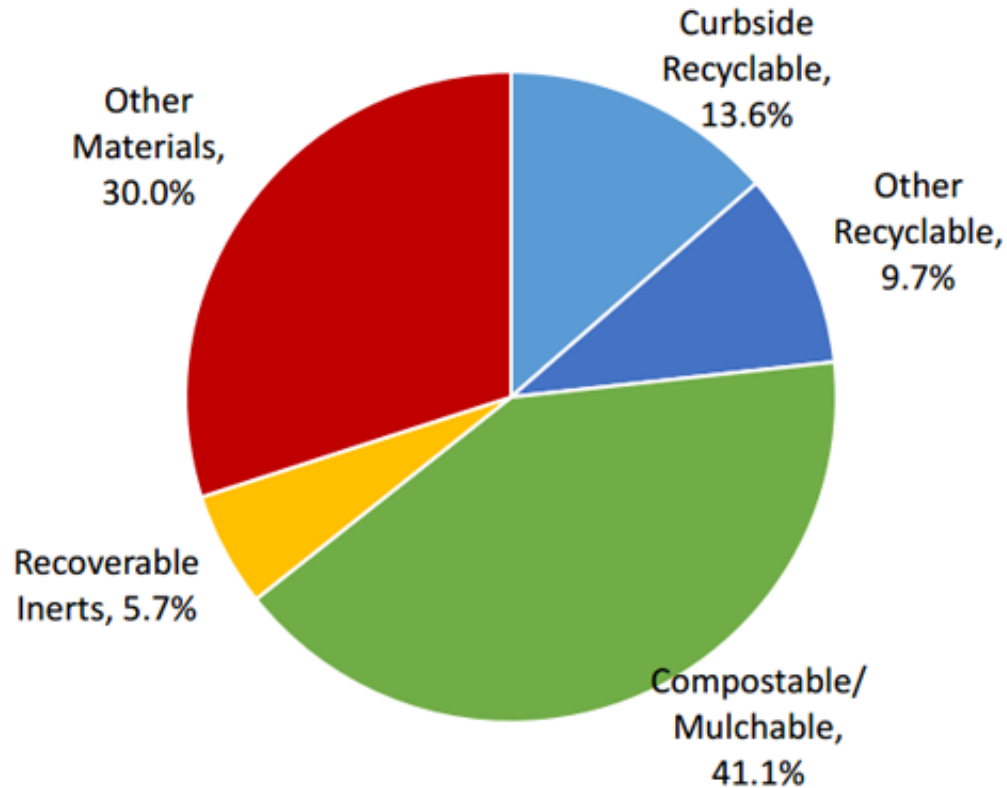
a) 2008



b) 2014

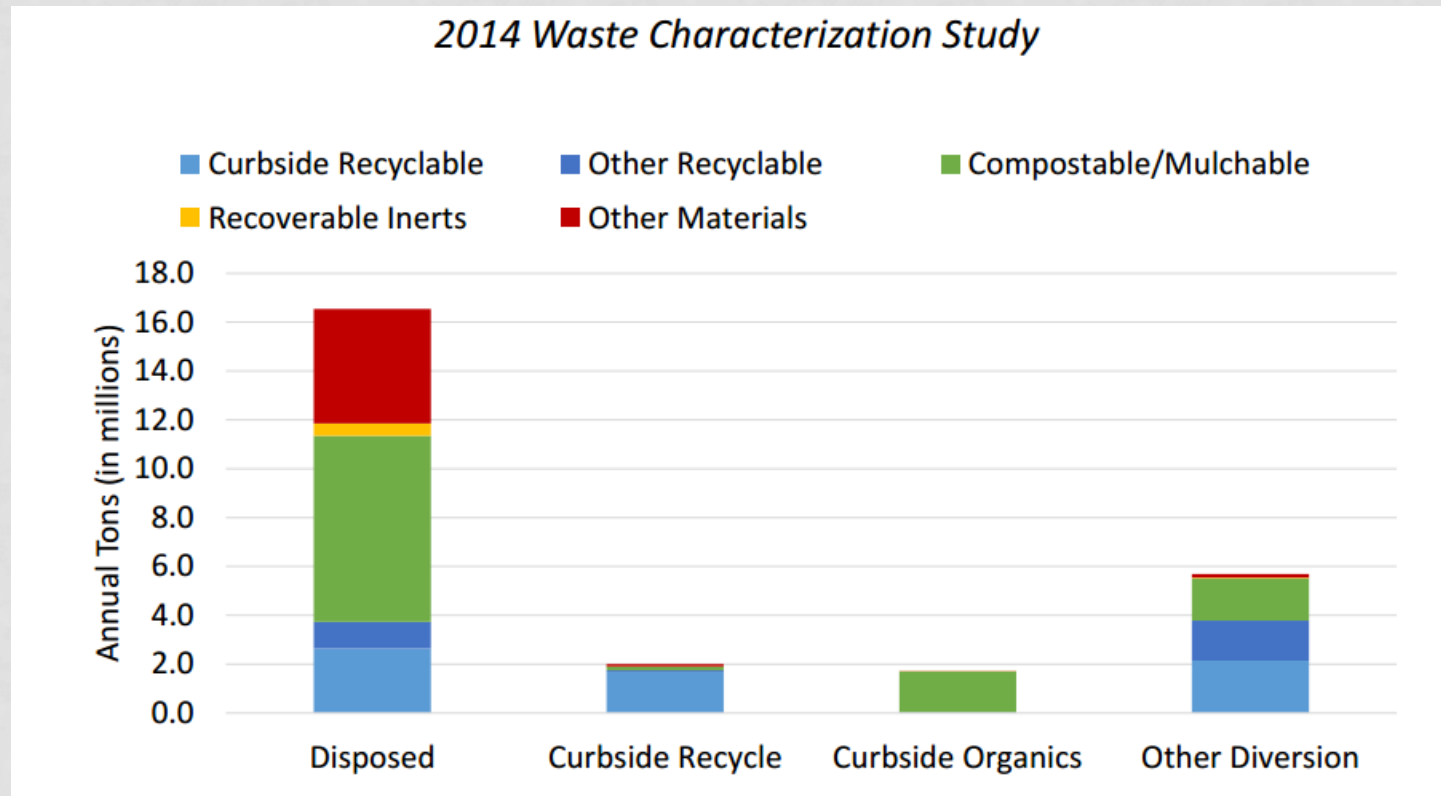
HOW MUCH OF THE DISPOSAL STREAM IS RECYCLABLE?

2014 Waste Characterization Study



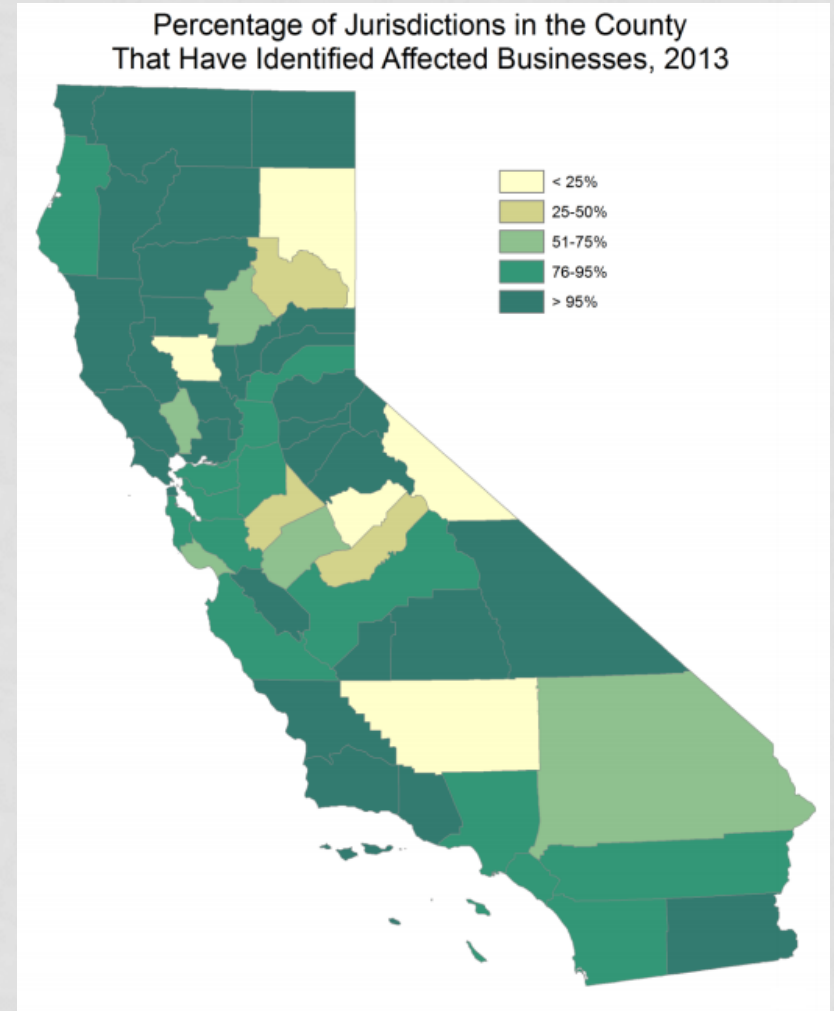
2014 GENERATOR-BASED WASTE CHARACTERIZATION STUDY

- Waste generated by California businesses and multi-family residences

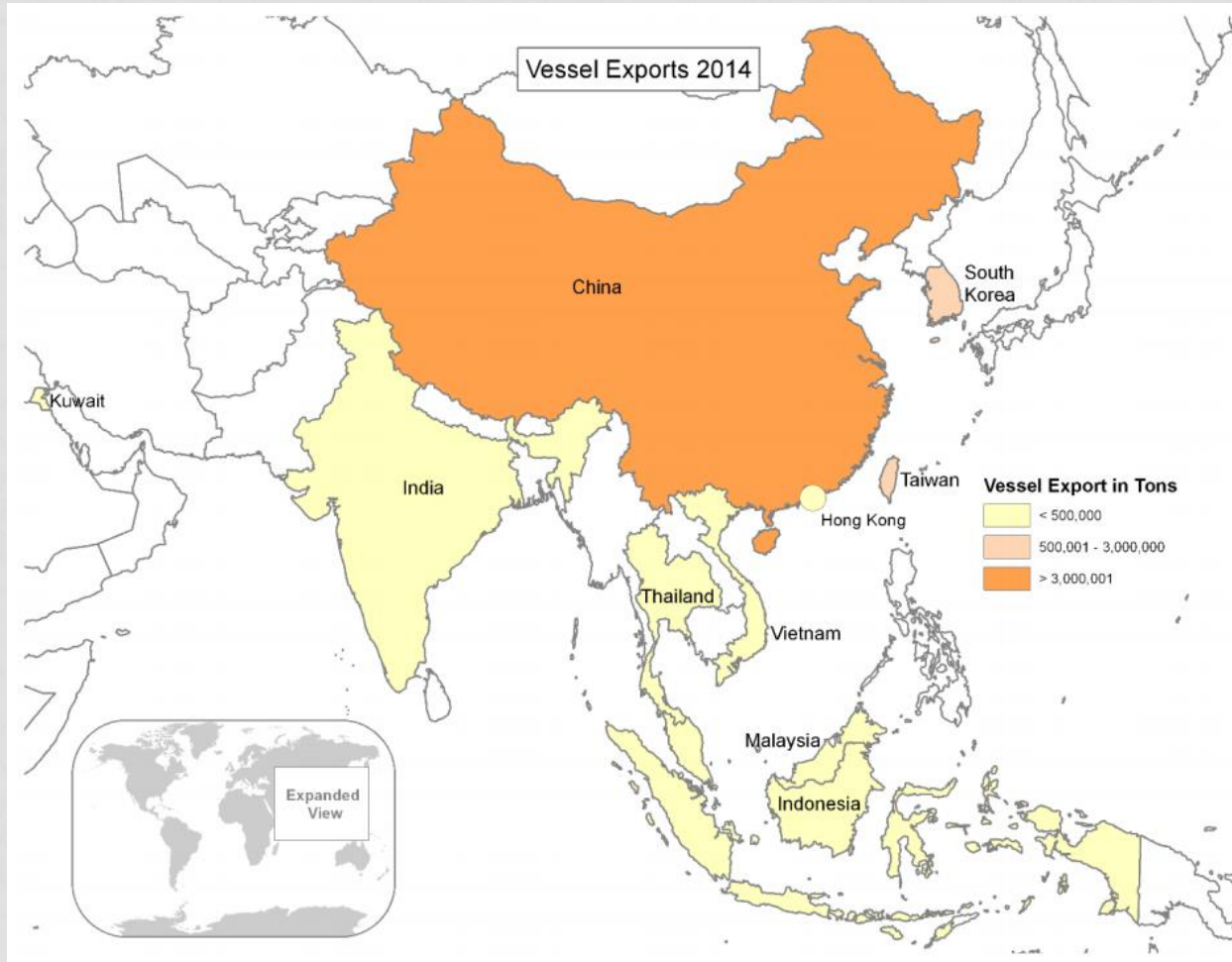


MANDATORY COMMERCIAL RECYCLING

- MCR went into effect on July 1, 2012
- 2013 data shows stages of implementation
- Jurisdictions are improving identification and reporting
- Mandatory commercial organics recycling



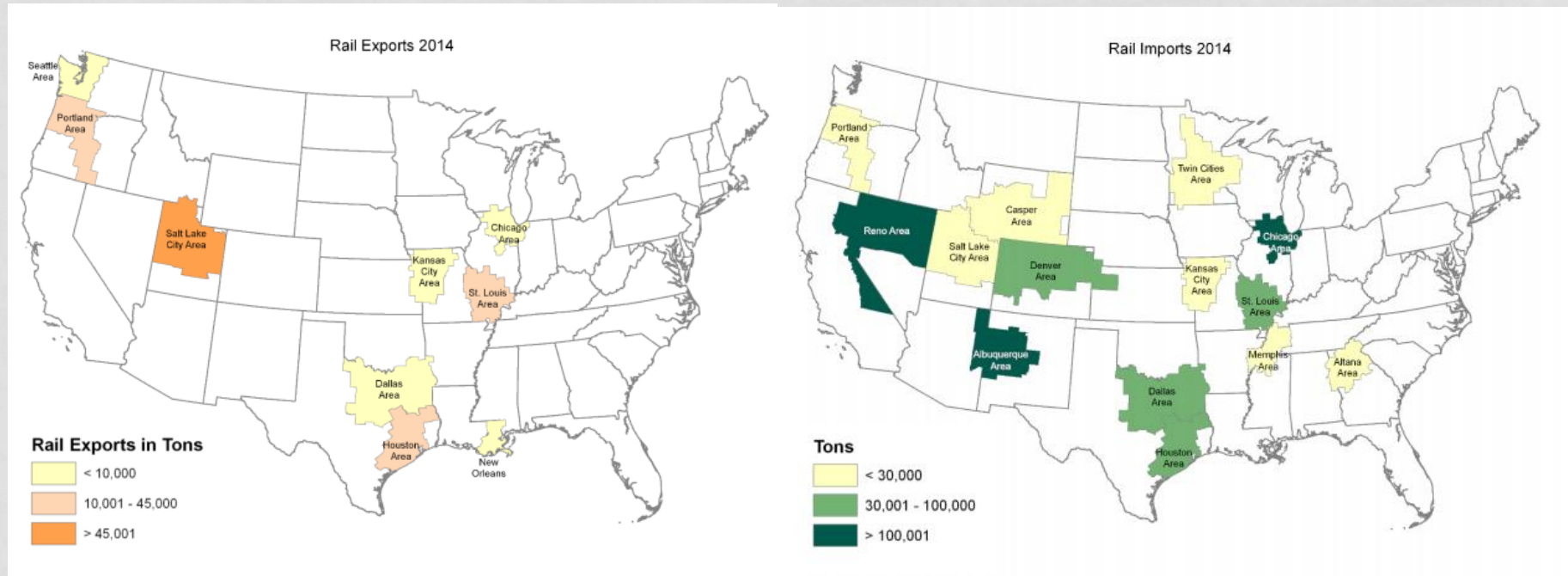
RECYCLABLE MATERIAL FLOW WITHIN AND ACROSS CALIFORNIA



- 18 million tons of waste and scrap material exported by vessel
- 12.6 million tons of exported recyclables originate in CA

RECYCLABLES BY RAIL

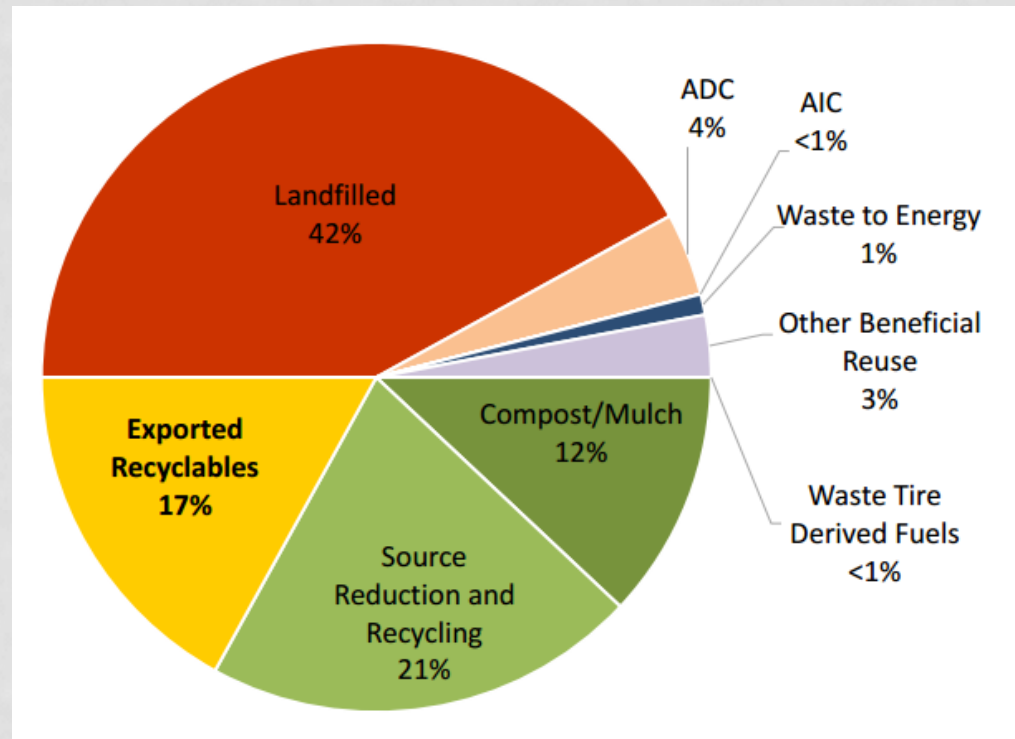
- 340,000 tons of recyclables exported from CA by rail in 2014



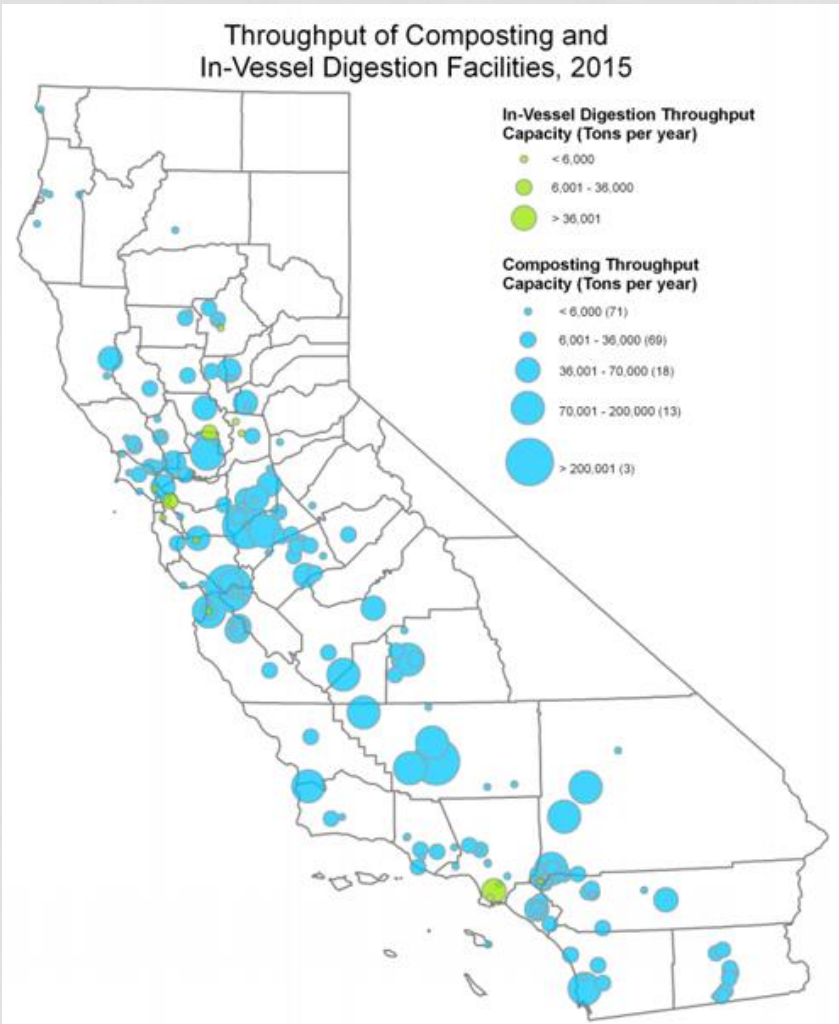
- 1.5 million tons of recyclables imported into CA by rail in 2014

IMPACTS OF EXPORTING RECYCLABLES

- At least 17% of waste generated in CA is exported
- Benefits of in-state recycling



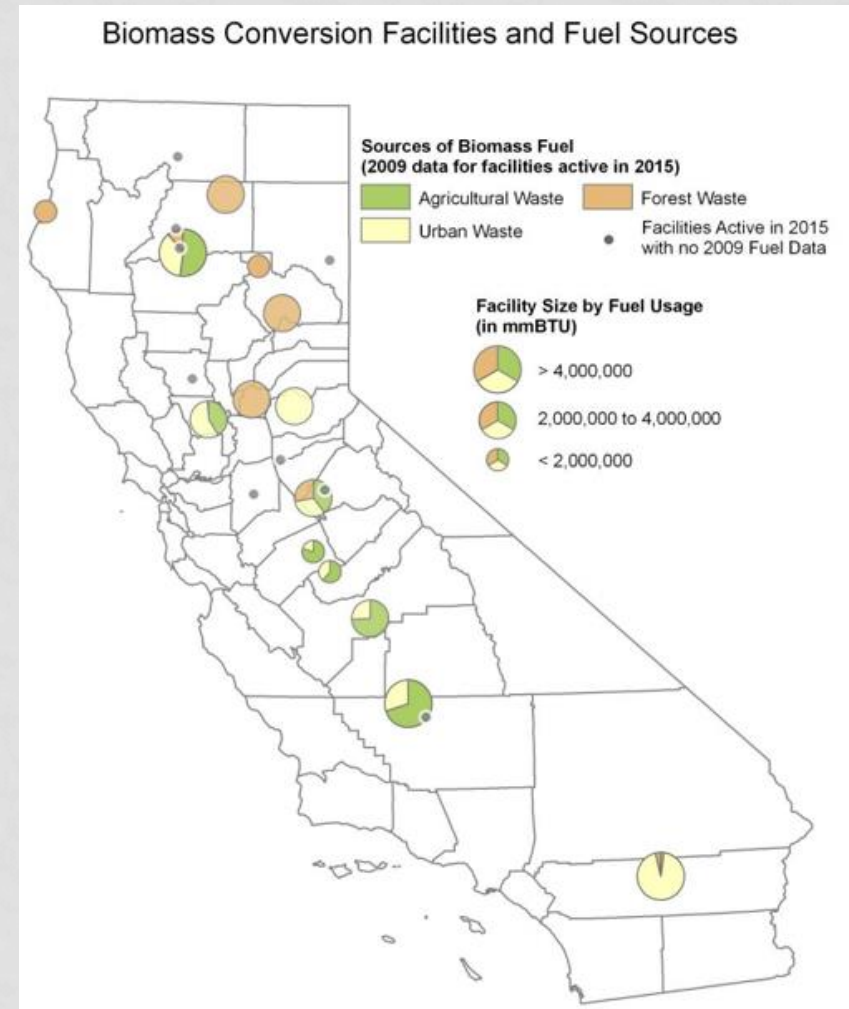
ORGANIC WASTE



- 12.7 million tons of compostable material was disposed in 2014
- CalRecycle is implementing AB 1826, AB 1594 and AB 876 aimed at reducing disposal of organics

ORGANIC WASTE

- CA infrastructure can only accommodate at most 1.1 million additional tons a year
- Publicly owned treatment works could handle large portion of the 5.6 million tons of food waste landfilled each year



Questions?

A full copy of this report is available at CalRecycle's website at:

<http://www.calrecycle.ca.gov/Publications/Documents/1554/201601554.pdf>

Open Discussion – Recycling Infrastructure

Breakout Sessions

- County Operations
- County Unincorporated Communities
- Regional/Countywide
- Outreach and Education



Next Steps

Thank you for
participating.



Upcoming Meetings

- Subcommittee Meeting – May 12, 2016
- Working Group Meeting – June 8, 2016