

SWANA Legislative Task Force

WHITE PAPER

75% Diversion: Building on Success



California's Diversion Success

Local governments and solid waste management companies have made enormous financial investments to create:

- Recycling infrastructure
- Diversion programs
- Public awareness

This partnership has helped California achieve 65% diversion



75% Recycling Goal

CALRECYCLE'S PLAN

- **Redefines recycling to exclude:**
 - ✓ Alternative daily cover (ADC)
 - ✓ Alternative intermediate cover (AIC)
 - ✓ Other beneficial reuses at landfills
- **Transformation would be considered disposal**
- **Per capita generation baseline changed**
 - ✓ 12.6 to 10.7 lbs/resident/day **[15% CHANGE]**
- **Increase state fees to fund new programs**
- **Move away from local government discretion in selecting the most suitable infrastructure for jurisdictions**
- **Phase out all organics disposal at landfills**

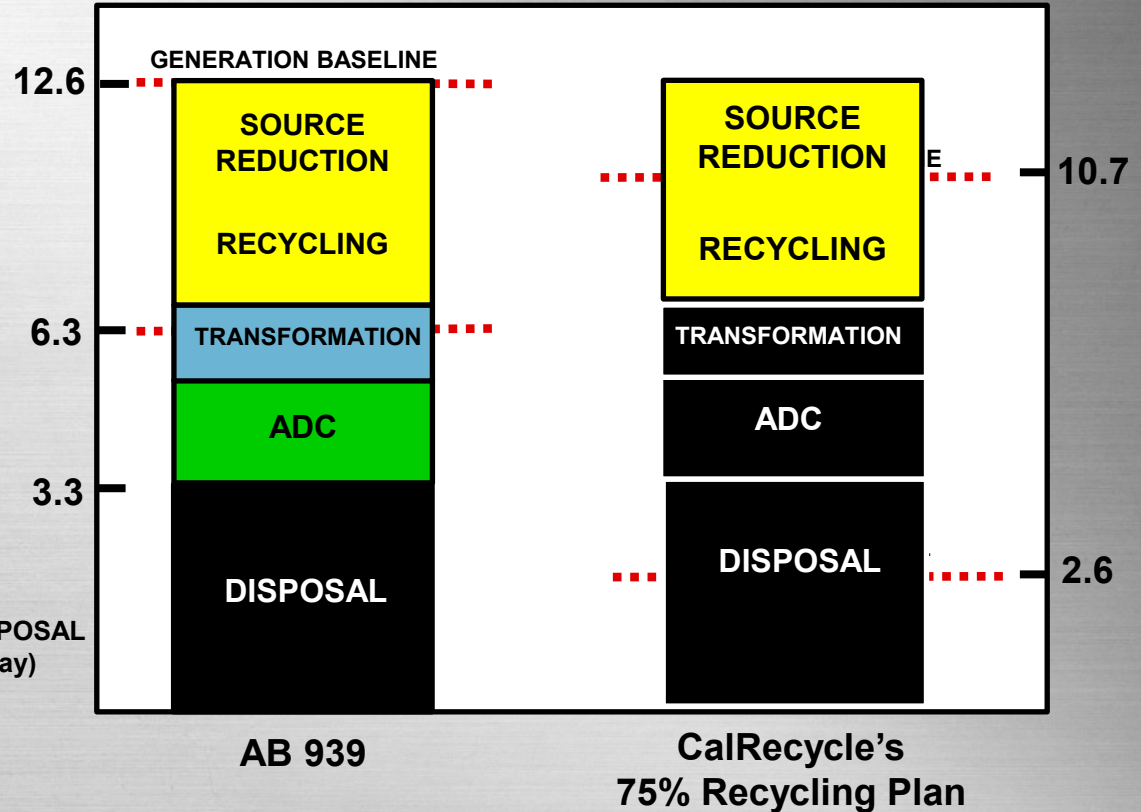


Financial Impacts on Cities



Population: 100,000
Disposal: 60,000 tons
Per Capita: 3.3 lbs/person/day

PER CAPITA DISPOSAL
(lbs/person/day)



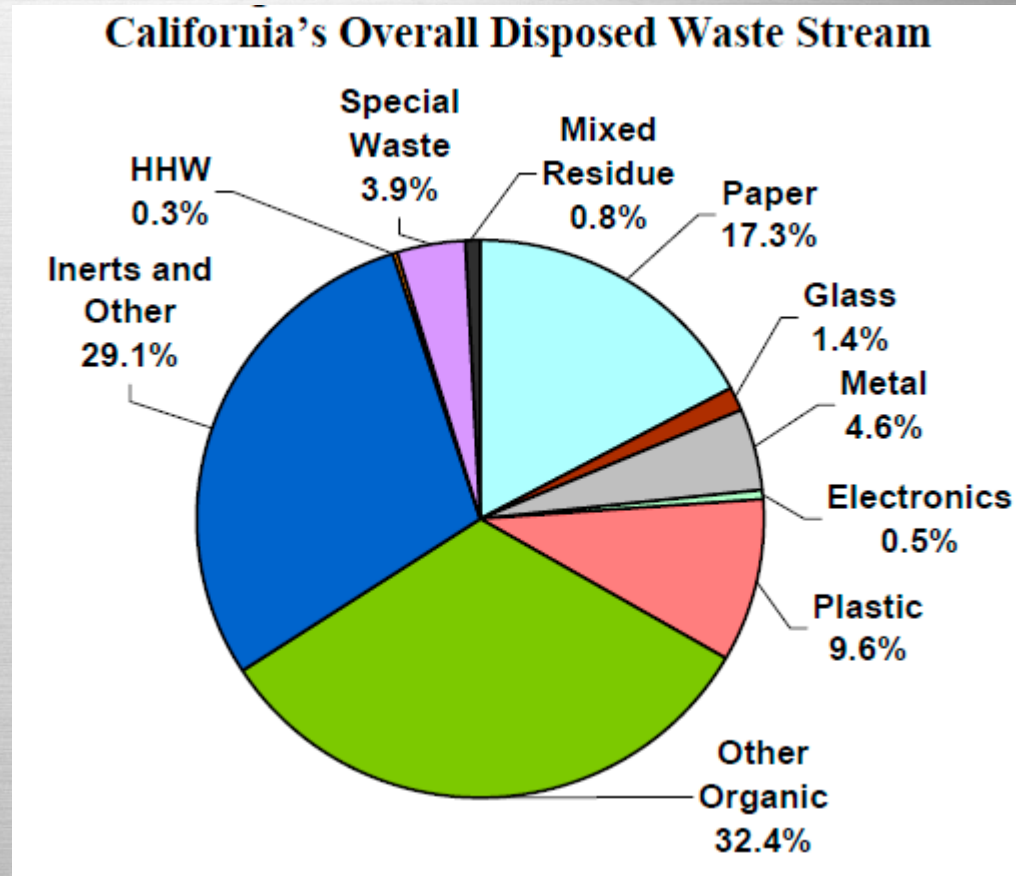
Composting Capacity

COUNTY	2010 ADC/AIC (tons)	AVAILABLE COMPOSTING CAPACITY (tons) ¹
Los Angeles	789,801	253,035
Orange	680,067	178,797
San Diego	443,220	231,937
Ventura	63,970	63,200
Kern	7,132	1,245,720
Riverside	6,948	504,191
San Bernardino	96,333	601,050

Footnote:

1 – Assuming available capacity is half of permitted capacity

2008 Statewide Waste Characterization



Nearly 1/3 of the Waste are Inert

SWANA'S PROPOSED 75% PLAN

PROPOSED STRATEGY	ESTIMATED STATEWIDE DIVERSION AFTER IMPLEMENTATION
ACHIEVING 75% DIVERSION (Currently 65%)	
Strategy 1: Allow Full Implementation of Mandatory Commercial Recycling Regulations	69%
Strategy 2: Facilitate the Development of Diversion Infrastructure for Food Waste	75 %
Strategy 3: Expand Product Stewardship and Extended Producer Responsibility Programs	-
75% DIVERSION AND BEYOND	
Strategy 4: Utilize Lifecycle Analysis to Select Sustainable Diversion Options and Technologies	75% and beyond
Strategy 5: Support Continued Operations of Environmentally-Protective, Well-Designed Landfills and Diversion Programs at Landfills	-

Strategy 1: Allow Implementation of MCR

- MCR intended to divert upwards of 3.5 MM tons of commercial waste
- Estimated to reduce 5 MM metric tons of CO_{2e} of GHG
- Took effect on July 1, 2012



Strategy 2: Facilitate Food Waste Diversion



Public Awareness and Education

Source: San Francisco's Zero Waste by 2020 (<http://www.ypdfjcalifornia.org>)



Source Separation and Collection

Source: link.ucop.edu



Processing Technology – Composting or Anaerobic Digestion

Sources: Iowa State University (www.public.iastate.edu) and Biocycle (www.biocycle.net)

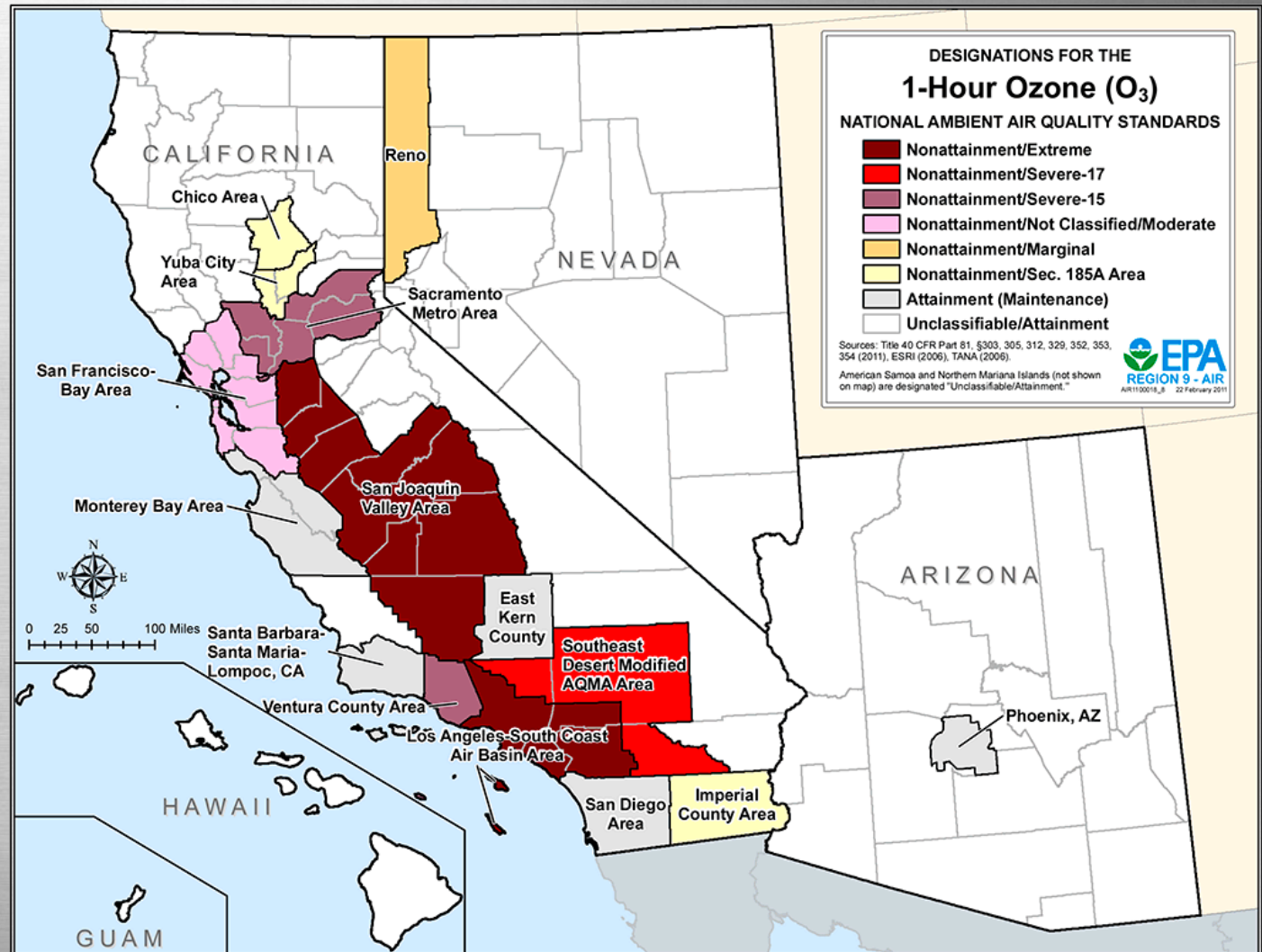
Challenges with Composting

- **Permitting**
- **Environmental Impacts**
- **Public Opposition**
- **Remote Locations**



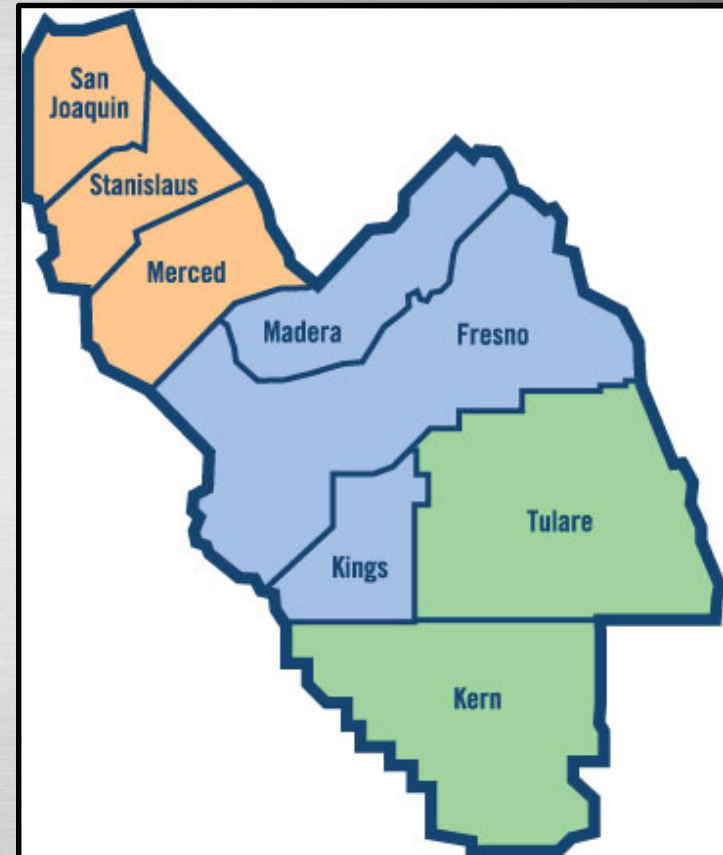
Challenges with Composting

- Strict air quality regulations



Challenges with Composting

- In SJV air basin, composting operations emit an estimated 5,110 tons¹ of VOCs annually, which are precursors to ozone.
- SJV air district required to attain ozone standard by 2013.
- New composting facilities are now required to:
 - ✓ Reduce VOC emissions
 - ✓ Offset emissions according to New Source Review rule
- Modest sized open-air compost facilities (11,250 tons per year) would have to pay for pollution offsets.



San Joaquin Valley Unified APCD

Footnote:

1 – According to SVAPCD's 2007 Ozone Plan, composting VOCs equate to about 3.5% of the basin's VOCs

Challenges with Composting

- SCAQMD adopted rules to reduce VOC and ammonia emissions from composting operations.

- **CO-COMPOSTING:**
New co-composting facilities over 1,000 tons per year capacity would require:

- ✓ Enclosure
- ✓ Emissions control

- **GREENWASTE COMPOSTING:**
If processing > 5,000 tpy food waste,
 - ✓ 80% control efficiency of VOCs and ammonia

- Expensive to build and operate.



Challenges with Composting

- Nuisance odors

KMIR NEWS 6
KMIR-TV Palm Springs, CA

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Smelly Recycling Facility in Thermal Forced to Move

By Adrianna Weingold
CREATED SEP. 19, 2012

TWEET SHARE EMAIL PRINT



LA QUINTA--After months of fighting to stop a foul odor emanating from a nearby composting facility, many living at Trilogy in La Quinta finally got the news they've been waiting for.

The conditional use permit issued by Riverside County will not be renewed. California Bio Mass has to move but they will be allowed to stay in the Coachella Valley.

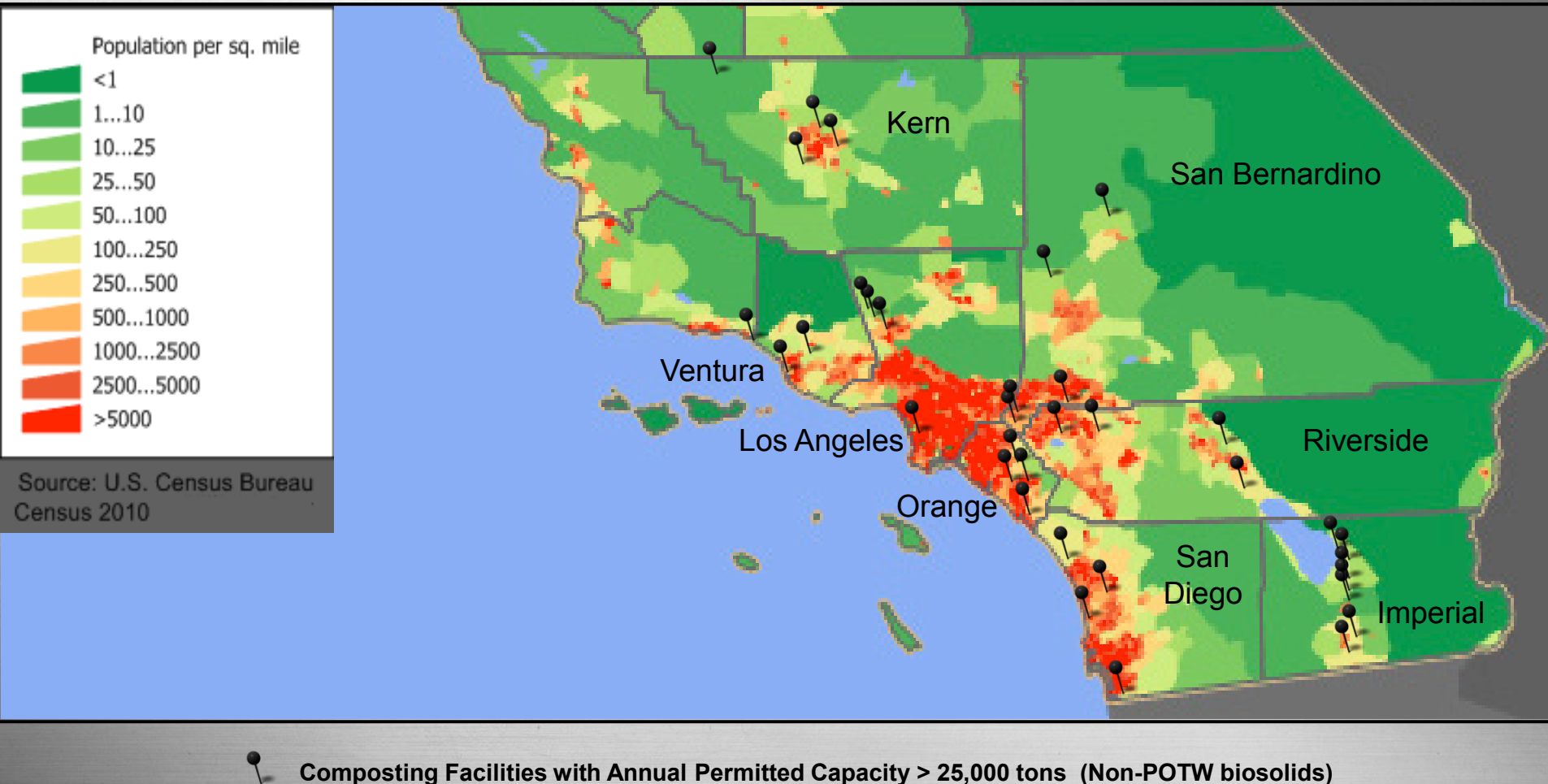
"When you're outside with your family and the pool smells and the kids are saying grandma why does it stink? You get to the point where you get a little upset," said Trilogy resident Deb Ehrich.

Deb and her husband Ed have been working tirelessly to try and stop a noxious smell they say is coming from California Bio Mass, a composting facility about a mile away.

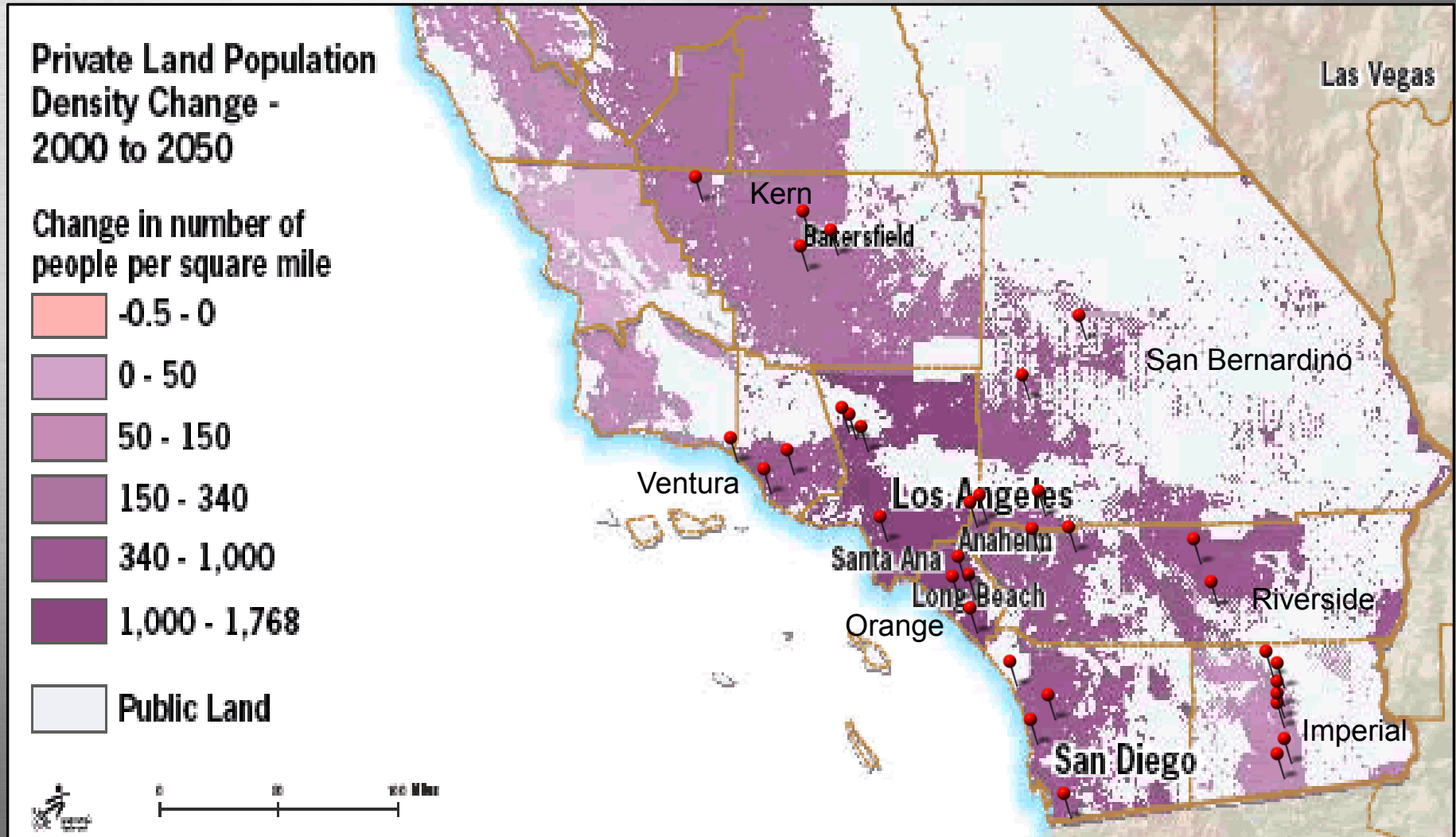
"It's very important for California Bio Mass to remain open however they can't be around residents because of the odor," Trilogy resident Ed Ehrich said.

Now with the help of Supervisor John Benoit the county has decided not to renew Cal Bio

So. California Composting Facilities



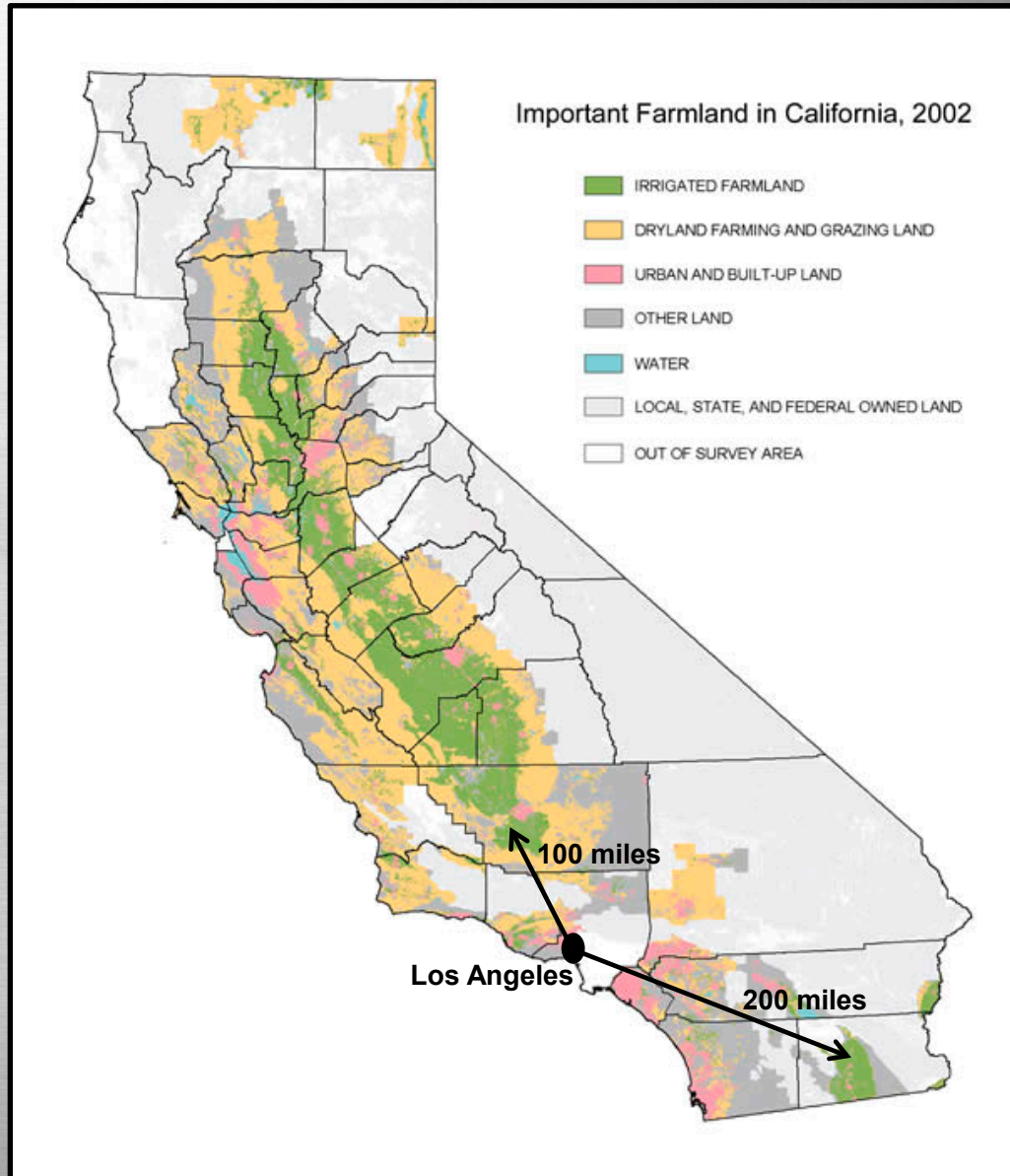
Southern California Population Growth



Projected increase in population densities on private land, 2000-2050

Farmlands Far from So Cal Urban Areas

- Need for local markets



Anaerobic Digestion

- Residuals still need to be composted before use
- Greenwaste difficult to digest
- Air regulations may impact bioenergy production
- Expensive to implement
- Potential for utilization of excess digester capacity that exists, at least to get food waste program started



Clean World Partners'
10 tpd AD Facility
Near Sacramento, CA

Source: www.cleanworld.com

Anaerobic Digestion

VENDORS CONTACTED



Anaerobic Digestion

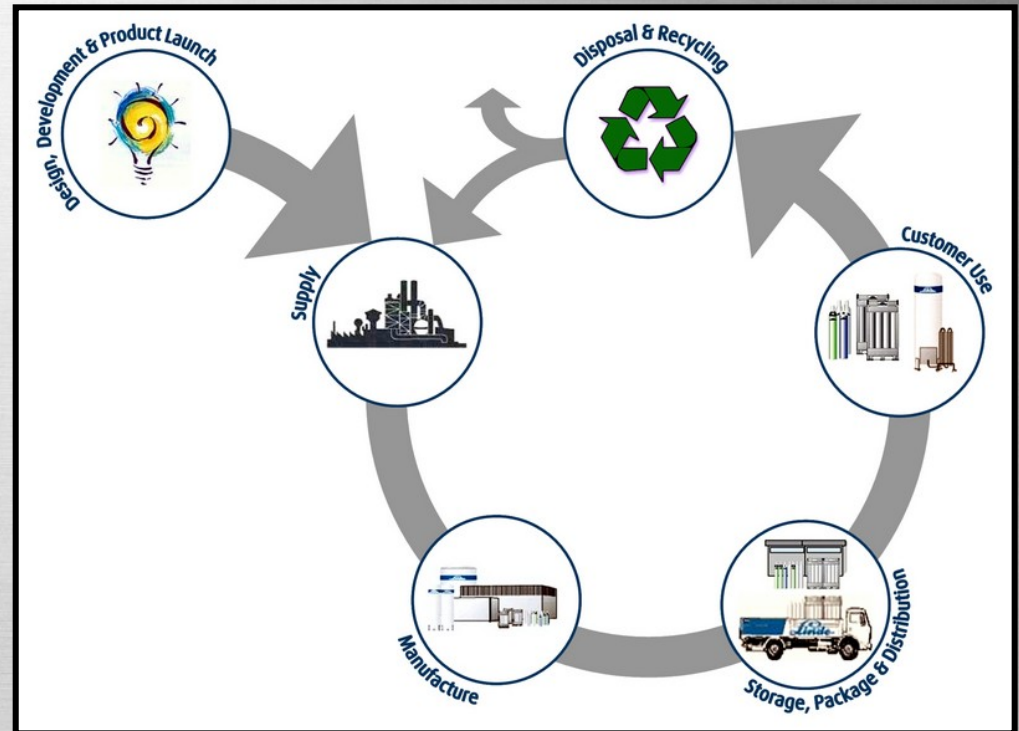
COST ESTIMATES	
COMPONENT	COST, \$/TON
Separate Collection	\$75 - \$90
Pre-Processing	\$50 - \$60
Anaerobic Digestion	\$30 - \$60
Digestate (Residuals) Management	\$55 - \$80
TOTAL	\$210 - \$290

} \$135 - \$200

DIGESTATE GENERATION		
	DRY AD	WET AD
Feedstock	50% food waste 50% green waste	100% food waste
Digestate (solids)	80 tons solids per 100 tons feedstock	43 tons solids per 100 tons feedstock
Digestate (liquid)	N/A	12,000 gallons per 100 tons feedstock

Strategy 3: Expand Product Stewardship

- Collaborate with manufacturers to design products and packages that are recyclable
- Get producers, distributors and retailers involved in establishing end-of-life systems to manage difficult-to-recycle products
- Establish convenient return methods for consumer
- Legislative incentives



Explore Recognition-Based Programs

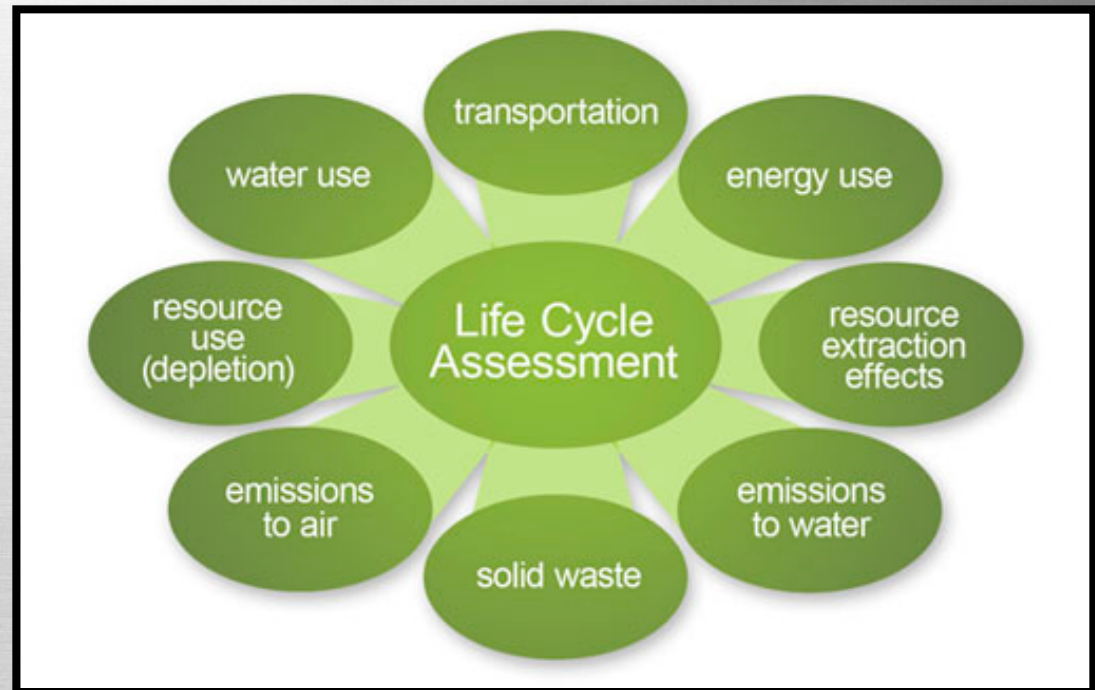
- **Example: Wine Industry**

State could recognize wine companies with green awards for implementing a bottle return program



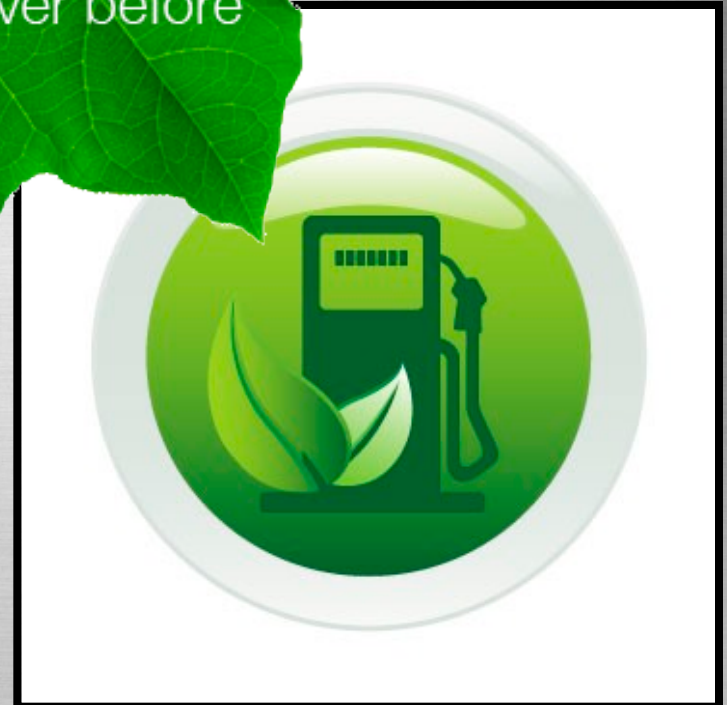
Strategy 4: Use Life Cycle Analysis to Select Sustainable Technologies

- Life cycle assessment should be global so that all impacts and benefits are captured.
- As President Kennedy once said, “We all breathe the same air.” Less stringent air standards overseas impacts us here.
- Accurate assessment of costs and environmental benefits lead to informed decisions on recycling choices



New Technologies

- Beneficially reuse end-of-line wastes to produce power, alternative fuels, and offer reusable products
- Remove the zero emissions criteria in statute. Make technology subject to same air quality requirements as all other technologies.
- Grant diversion and renewable energy credits
- Needed to achieve 2020 goal of 33% renewable energy



Strategy 5: Support Landfills for Beneficial Reuses, Managing Residuals, Post-MRF Wastes

- Landfills needed until infrastructure, markets, funds, public and political support in place to divert all wastes.
- Today's landfills are integrated facilities – recycling outlet for beneficial reuse of waste materials, renewable energy facilities, and produces clean fuels.
- Designed and operated to protect the environment and public health.
- Beneficial reuse occurs at landfills – asphalt, C&D, green waste as ADC



Retain Local Government Discretion

- Local government is best able to select alternatives suited for its community, increasing the chance of success and long-term sustainability



Thank You



<http://www.swanacal-leg.org/>