



# **Joint Public Workshop – Composting Waiver Concepts**

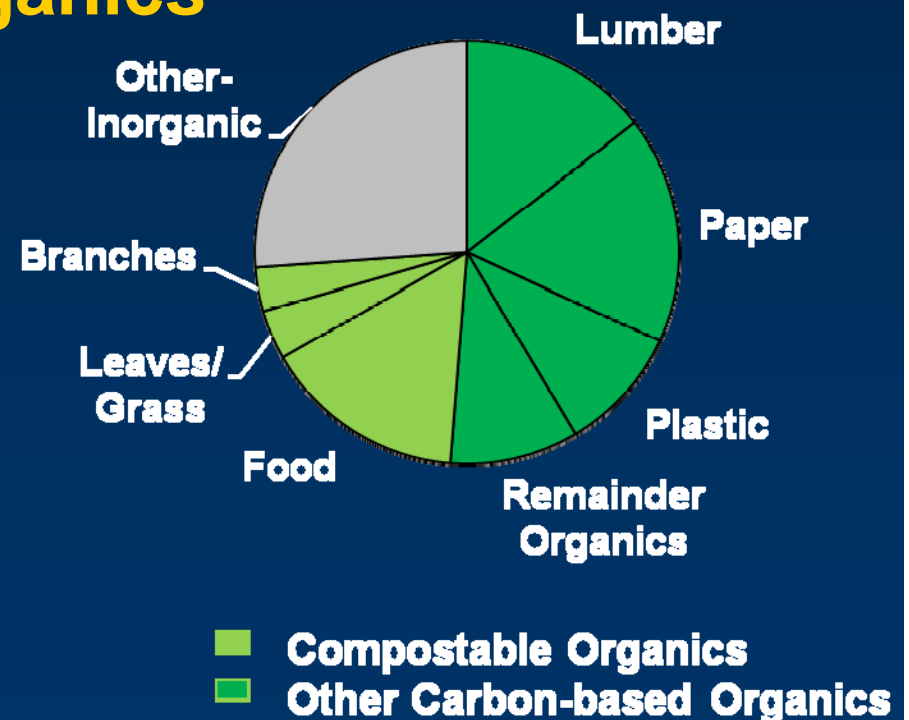
**State Water Resources Control Board  
California Integrated Waste Management Board**

Brenda Smyth  
[www.ciwmb.ca.gov](http://www.ciwmb.ca.gov)



# Current State of California Landfills

- 36 Million tons disposed annually
  - 70% Carbon-based organics
    - 15% is food
  - 25% is compostable organics
  - 17% is paper





# **CIWMB Strategic Directive**

## **50% reduction of organics by 2020**

**Need additional capacity ~15 million tpy**  
**Organics Policy Roadmap**

**ADC policy**

**Siting & capacity**

**Research**

**Economic incentives**

**Regulatory & permitting**

**Education**



# Organics Roadmap

(Updated annually at December Board Meeting)

## ADC Policy

- Organics Toolbox

## Economic Incentives & Disincentives

- Workshop

## Siting and Capacity Development

- Survey of Composting Industry BMPs & Market Conditions
- Cross Media Efforts – Air Quality, Water Quality
- Disaster Debris Team
- Infrastructure Inventory and Information Management Project

## Regulatory & Permitting Constraints

- CIWMB Strategic Directive - Regulation Review
- Potential Joint CIWMB/ARB/SWRCB Meeting



# Organics Roadmap – Cont'd

## Research, Product Standards & Tech. Evaluation

- Compost BMPs and Benefits Contract
- Compost Cover Methane Reduction Contract
- Biofuels and Bioenergy Demonstration Project
- Collaborate on N<sub>2</sub>O Emissions Research
- LCA Organic Materials Management Options Contract
- Compost Specifications for Agriculture Use
- Landfill-Based Anaerobic Digestion Pilot Project
- Programmatic EIR for Anaerobic Digestion

## Education & Procurement

- Complete Organics Web Enhancement Project
- Complete organics information packets
- Caltrans/Local Government Workshops
- Further Development of Organics Research Clearinghouse
- K12 curriculum development



## **Climate Change & Organics**

### **CIWMB Strategies in AB 32 Scoping Plan**

- **Increase Production & Markets for Compost – 2 MMTCO<sub>2</sub>e\***
- **Anaerobic Digestion – 2 MMTCO<sub>2</sub>e\***



# Increase Organics Production & Markets

- **Lead Agency – CIWMB**
- **Expect annual reduction of ~2 MMTCO<sub>2</sub>e (lower bound)**
- **Implementation Activities**
  - **Organics Roadmap**
  - **Lifecycle Analysis (LCA) of organics management options**
  - **Need to develop financial incentives**
  - **Need to resolve cross-media issues on air & water quality**

**Slide 7**

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**CW1**

Change heading to "Increase Production and Markets for Organic Products?"

CLARKW, 4/21/2009





# Anaerobic Digestion

- **Lead Agency – CIWMB**
- **Expect annual reduction of ~2 MMTCO<sub>2</sub>e**
- **Implementation Activities**
  - **Target - 90 facilities by 2020**
  - **Divert high methane-producing waste types such as food waste & green waste**
  - **Produce renewable energy from biomass & contribute to 33% RPS goal (1.2 million mWh)**
  - **Produces biofuels and helps meet Low-Carbon Fuel Standard**



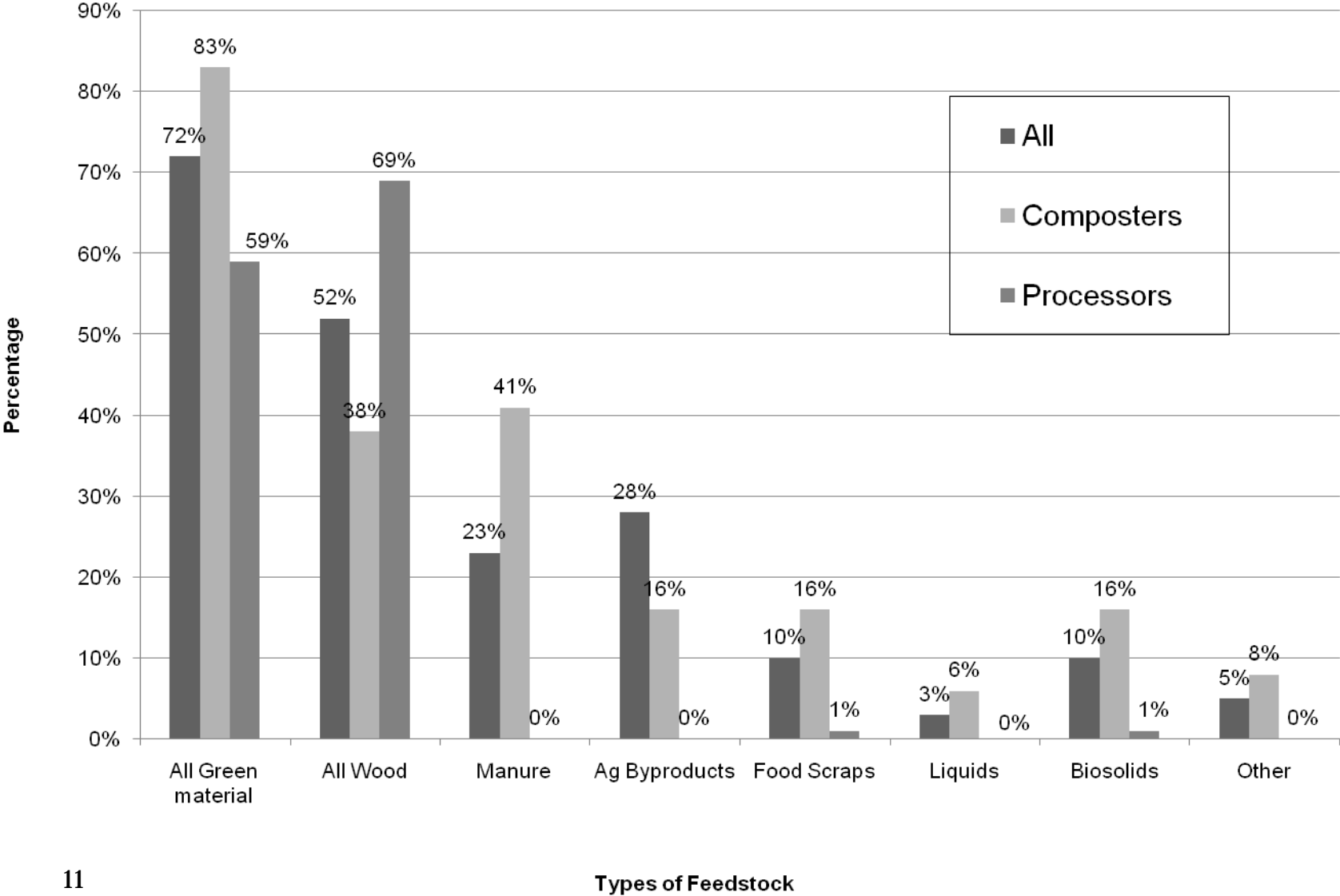
# Compost Industry

Compost Infrastructure Surveys completed 2000, 2003, 2008

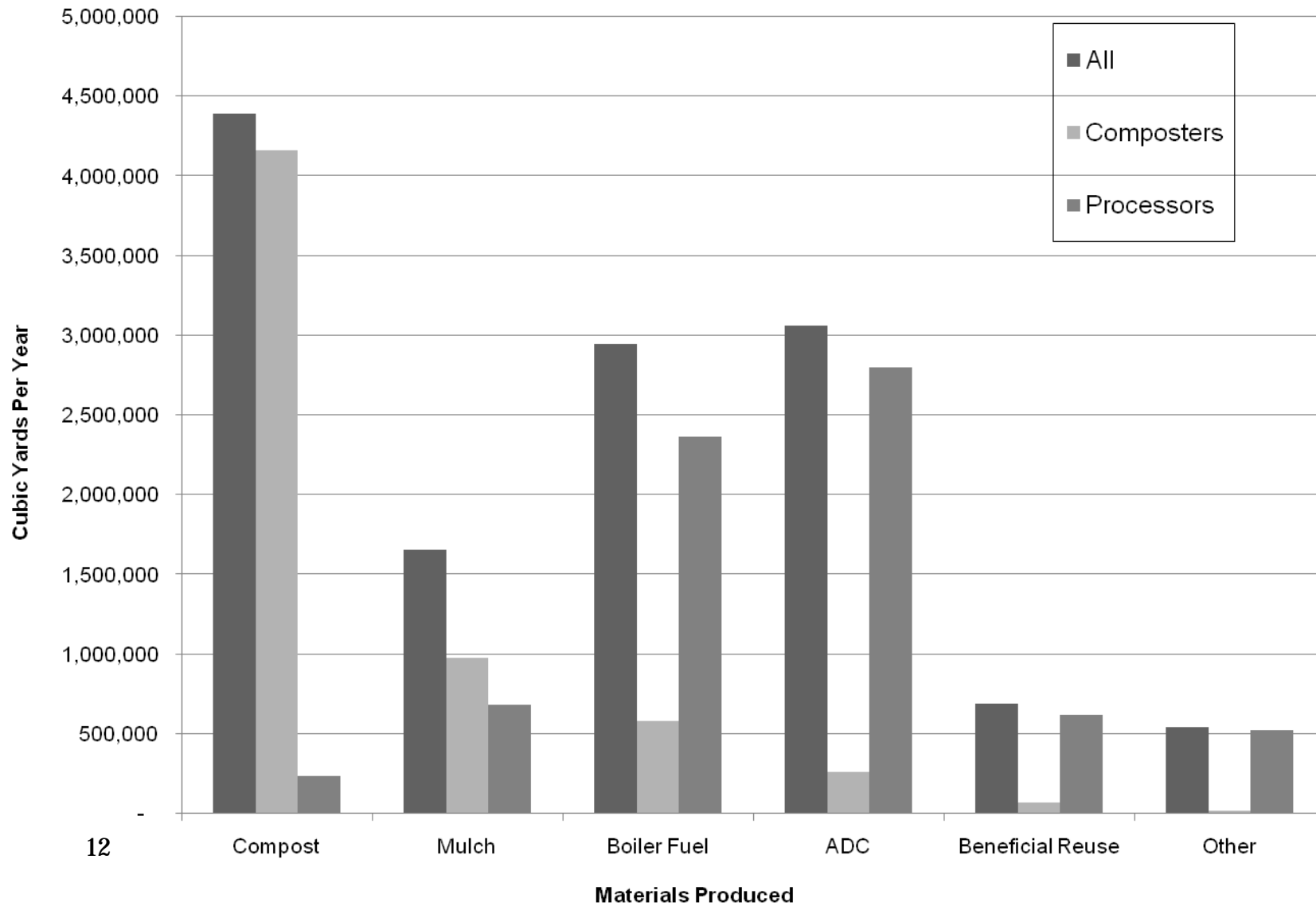
	Composters	Processors
Total number of facilities	143	160
Feedstock Processed (million tpy)	5.8	3.5



# Percentage of Composters and Processors Using Specific Feedstock in 2008



# Volume of Product by Type (cubic yards) in 2008





# Compost & Water Quality

- **Increases infiltration & permeability of heavy soils which decreases stormwater runoff**
- **Provides nutrients in stable & safe soil amendment**
- **Reduces sediment loss**
- **Improves soil structure, porosity, & bulk density**
- **Improves water holding capacity in sandy soils**
- **Reduces water loss and leaching**
- **Binds specific pollutants**
- **Creates more neutral pH balance in the soil**
- **Provides sustainable growing environment for germination, vegetation, & deep root systems**



# Environmental Safeguards

- **CIWMB Permits for Compostable Material Handling Activities**
  - **Tiered Structure**
- **Design and Operation Requirements (CCR Title 14)**
  - **§ 17866. General Design Requirements**
  - **§ 17867. General Operating Standards**
  - **§ 17868.2. Maximum Metal Concentrations**
  - **§ 17868.3. Pathogen Reduction**



# CIWMB Tiered Permit Structure

Subject to state minimum standards	<b>FULL STANDARDIZED REGISTRATION</b>	Facility/ Permit
	<b>EA NOTIFICATION</b>	Operation/ Non-permit
Not subject to state minimum standards	<b>EXCLUDED</b>	





# Tiered Permit Structure

- **Tier Placement**
  - **Material Type**
  - **Handling Method**
  - **Location**
  - **Volume/Site Capacity**



# Material Type

**Agricultural Material**

**Green Material**

**Biosolids**

**Food Material**

**Mixed Solid Waste**



# Handling Method

**Chipping and Grinding**

**Composting (windrow, static pile)**

**Within Vessel (anaerobic digestion)**



# Location

**Farm and ranch**

**Public Operated Treatment Works**

**Co-located at a permitted solid waste  
facility**

**Biomass conversion site**



# Volume/Site Capacity

## Compost

- Excluded 500 yd<sup>3</sup> or less material generated on site
- Notification 12,500 yd<sup>3</sup> or less green material
- Full Permit >12,500 yd<sup>3</sup> green material &/or other material

## Chip and Grind

- Notification < 200 tons per day
- Registration 200 to 500 tons per day
- Full Permit > 500 tons per day



# Tier Placement

[www.ciwmb.ca.gov/LEACentral/Regs/  
Tiered/TierChart.htm](http://www.ciwmb.ca.gov/LEACentral/Regs/Tiered/TierChart.htm)



# CIWMB Regulations

Protect public health, safety, & the environment

- **Pathogen reduction and maximum acceptable metal concentrations**
  - Similar to Federal 503 requirements for biosolids
- **Prevent or remove physical contaminants**
- **Sampling, testing, and reporting**
  - Samples taken and test results received before materials leave the site
- **Regular load checks for unacceptable materials**



# CIWMB Regulations

- **Conduct operations to minimize...**

**Vectors**

**Litter**

**Nuisance**

**Dust**

**Site access**

**Fire**

**Odor**

**Hazards**

**Noise**

**Contact with leachate**

**Level of contaminants**





# CIWMB Regulations

## Maximum time on site

- **Chip and Grind - 48 hrs (7 days with approval)**
- **Agriculture Composting – 12 months**
- **All other Composting – 6 months**

## Site restoration required for all sites

- **Grounds, ponds and drainage areas cleaned of residues**
- **Machinery removed**
- **Structures cleaned of residues**



# Thank you

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