SB 1383 – Organics Diversion from Landfills and Methane Emissions

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CBA Conference

Fall 2017

CalRecycle

CalRecycle's SB 1383 diversion of organic materials from landfills directive

- *50% reduction* in the level of the statewide disposal of organic waste from the *2014 level by 2020.*
- *75% reduction* in the level of the statewide disposal of organic waste from the *2014 level by 2025.*
- *20 percent improvement in edible food recovery by 2025.*

Key components & major impacts of proposed regulation

- http://www.calrecycle.ca.gov/Climate/SLCP/ - 48 page draft
- Key components and affected stakeholders
  - Collection
  - Education/outreach
  - Generators
  - Haulers/organic materials management facilities
  - Enforcement
- Major impacts
  - *Expansion of organics management infrastructure*
  - Expansion of collection/processing of organic materials
  - Expansion of edible food collection and infrastructure
  - Requirements for reporting, enforcement, planning, procurement

SB 1383 proposed regulation draft definition for organic waste

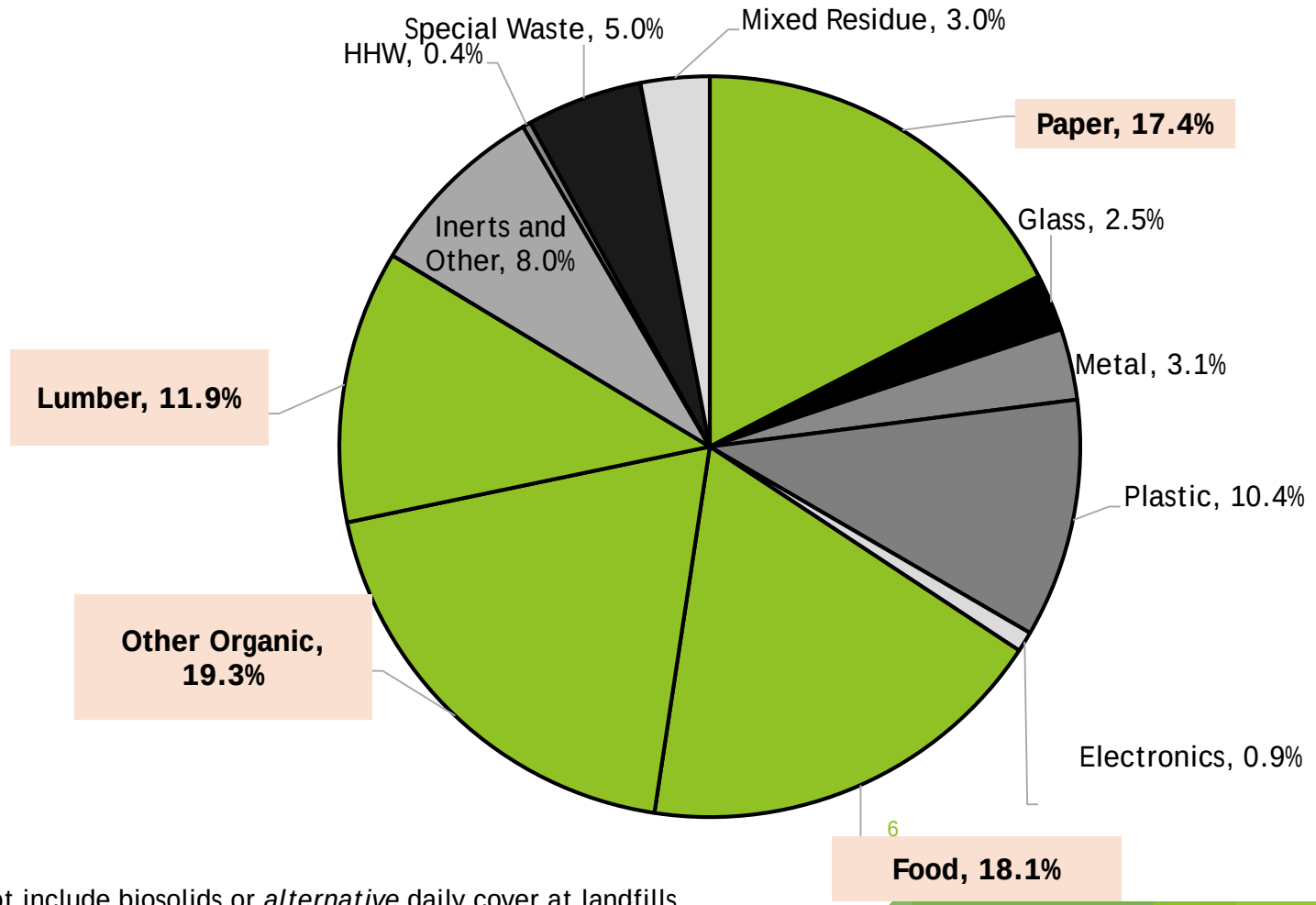
"Organic Waste" means solid wastes containing material originated from living organisms and their metabolic waste products, including but not limited to food, green waste, landscape and pruning waste, applicable textiles and carpets, wood, lumber, fiber, manure, biosolids, digestate and sludges.

Expansion of organics management infrastructure

- How many tons of organic material
- What are the alternative management options
  - Food waste prevention/rescue
  - AD
  - Compost
  - WWTP
  - Biomass
- How many new facilities will be needed?

2014 disposal stream

- Organic waste >20 million tons disposed of at landfills
  - 2/3rds of the total 2014 waste stream



*From CalRecycle's Waste Characterization Study (2015). Does not include biosolids or *alternative* daily cover at landfills.

Where will this material go?

- Number of advanced technology facilities to permit?
  - 90 – 100 new covered aerated static pile compost facilities
  - Roughly 50 in-vessel digestion (anaerobic digestion/WWTPs) for biogas recovery
  - Maximize throughput at chip and grind facilities for mulch

Potential compost facilities needed by air district

Number of additional compost facilities needed keeping organic waste within air district boundaries

Air District	Potential number of facilities range	
	Compostable organic material diverted (tpy)	Number of additional facilities needed
Bay Area	700k – 900k	12-15
Imperial	40k – 200k	1-3
Mojave Desert	35k – 140k	1-2
Sacramento Metro	225k	4
San Diego	390k - 600k	6 - 10
San Joaquin Valley	280k – 700k	5 - 12
South Coast	2,300k - 2,600k	38 - 44
Ventura	145k	3
All other air districts	470k – 490k	8
Grand total	5,300,000	~90

Greenhouse gas grant and loan program

- Round one funding cycle 2014-2015 CalRecycle organics grants
  - 5 facilities funded total (2 compost; 3 AD)
- Round two funding cycle 2016-2017 CalRecycle organics grants
  - 10 facilities funded total (7 compost facilities; 3 AD)
- Round three funding cycle 2017-2018
  - Workshop in December 2017
- Food rescue component
- Need to site about ten times more facilities by 2025

Achieving SB 1383's landfill diversion goal can improve air quality and reduce GHGs

- Compost and mulch application as a part of a systems approach to natural working lands management can reduce criteria air pollutant emissions
  - PM_{10} ($PM_{2.5}$) emissions from degraded soils
  - VOC emissions by reducing need for pesticide application
  - NOx emissions by reducing need for synthetic fertilizer application
  - Reduce emissions associated with irrigation by decreasing irrigated water (~30%) needs
- Reduce GHG emissions directly and indirectly
  - Reduce methane emissions from landfills
  - Sequester carbon in roots and surrounding soil through increasing soil organic matter and enhancing plant growth from compost addition

Carbon sequestration potential of compost in rangelands

Compost application to 100,000 acres Metrics	HSP Rangelands Scenario	MCP Rangelands Scenario
Compost application rate	0.15”/acre	0.5”/acre
Tons diverted compost feedstock from landfills	3.45 million tons	11.55 million tons
Reduction of GHGs (CH_4) from landfills	1.24 million MT CO_2e	4.2 million MT CO_2e
Carbon storage in soil	897,000 MT CO_2e	3 million MT CO_2e
Percent compost produced from additional diverted materials from SB 1383	Approx. 50%	100% plus portion of existing production
Value of CO_2e at current ARB auction price ($13.80 per ton)	$3.6 million	$12.2 million
Transportation cost to haul compost 50 miles	$7.2 million	$24 million

Proposed timeline

- 2017 informal rulemaking workshops
  - Comments on latest round of draft regulations due November 15, 2017 to CalRecycle
  - Comment form online http://www.calrecycle.ca.gov/Climate/SLCP/Comments/Form1/default.htm
- 2018 formal rulemaking and adoption of regulations
- 2020 50 percent reduction in organics disposal (≤ 10M tons)
- 2020 analysis on waste sector progress
- 2022 regulations take effect
- 2025 75 percent reduction in organics disposal (≤ 5M tons)

Questions?

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http://www.calrecycle.ca.gov/Climate/SLCP/

http://www.calrecycle.ca.gov/Climate/GrantsLoans/default.htm