

MANDATORY COMMERCIAL RECYCLING WORKSHOP

July 19, 2011



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Introduction

- Revisions to the Regulation
- Additional Economic Analysis
- Next steps



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Goals

- **Goal: Reduction of 5 million metric tons CO₂E**
 - 27 million tons disposed by commercial sector
 - Need to recycle about 2 million more tons by 2020
 - Expand the opportunity for additional recycling services and recycling manufacturing in California
- **Flexible for jurisdictions and businesses**
 - Does not specify materials to be diverted
 - Allows jurisdictions to design program
 - Allows businesses various ways to recycle
- **Builds on existing AB 939 processes**



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Draft Regulatory Approach: Business Requirements

- **Businesses and multifamily units of 5 or more units that generate > 4 cubic yards of waste/week must:**
 - **Subscribe to recycling service, and/or**
 - **Send materials to mixed waste processing facility, and/or**
 - **Arrange for the pick-up of recyclables, and/or**
 - **Self-haul recyclables**



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Draft Regulatory Approach: Jurisdiction Requirements

- Jurisdictions must implement program of education, outreach, and monitoring by July 2012



- Flexibility to phase in program components and can use existing programs
- Regardless of meeting 50% per capita disposal target
- Can choose to implement ordinance, policy, or franchise
- Enforcement not mandatory
- Report to CalRecycle in Electronic Annual Report

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Draft Regulatory Approach: CalRecycle Responsibilities

- For jurisdictions on 2-year cycle, CalRecycle evaluation begins 2014 and continues every two years
- For jurisdictions on 4-year cycle, evaluation begins in 2016 and continues every four years.
- Measure emission reductions statewide

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Revisions Since December Draft

- Purpose of Reg:
 - To reduce greenhouse gas emissions by diverting commercial solid waste to recycling efforts
 - To expand the opportunity for additional recycling services and recycling manufacturing facilities in California



- Business definition – added “public entity”

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Revisions Since December Draft

- Threshold – changed to 4 CY of waste instead of 4 CY of waste + recyclables
- Multi-family – changed from 16 units + generate 4 CY/week, to 5 or more units + generate 4 CY/week
 - Tenants required to source separate recyclables
 - Jurisdictions can exempt complexes due to insufficient space to provide additional recycling bins



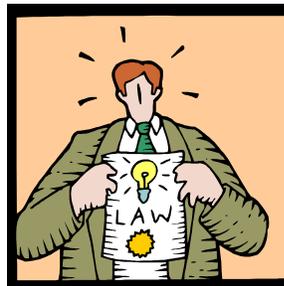
Revisions Since December Draft

- Transformation – clarified no change to statute
- Mixed waste processing – added “yields comparable results to source separation”
- Rural – clarified what constitutes good faith effort



Revised Regulation

Questions



Economic Analysis



January 2011 Workshop

- HF&H Cost Study
- Baseline – Business as Usual without regulation (BAU)
- Evaluated 4 Scenarios
 - Scenario 1 – Traditional Recyclables
 - Scenario 2* – Traditional Recyclables, C&D
 - Scenario 3 – Traditional Recyclables, Organics
 - Scenario 4 – Traditional Recyclables, C&D, Organics

*Scenario 2 – Most Likely Scenario

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Scenario 2: Traditional Recyclables, C&D

- 2020 Cost to Business = \$142 million
- 2020 Cost to Jurisdictions = \$12 million
- 2020 Total Cost = \$154 million

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Alternative Economic Assumptions

- **Stakeholder Feedback** — *“Scenario 2 cost estimates are too high”*
- **Re-examined Economic Assumptions**
 1. Increased recovery rate of high value commodities
 2. Increased self-haul/back-haul
 3. Increase in future landfill disposal costs
 4. Cost savings from other waste reduction programs

Additional Economic Evaluations of Scenario 2

- Additional Economic Evaluations – combined assumptions of increased recovery rate of high-value commodities + increased back-haul/self-haul
 - Scenario 2.1 – Low level increase in back-haul/self-haul of high-value commodities
 - Scenario 2.2 – Moderate level increase in back-haul/self-haul of high-value commodities

ARB Business Survey

- Purpose and Method
 - To gain a better understanding of recycling practices employed by California businesses
 - Conducted phone survey
 - 700 phone calls, 200 responses (supports economic assumptions)



Additional Economic Assumptions: *Commodity Recovery Rate*

- Increased individual recovery rates* of high value commodities:
 - HDPE/PET 
 - Aluminum & Steel Cans  
 - Cardboard 
- Maintained 5 MMTCO₂e - therefore decreased recovery rate of low value commodities
- *Scenario 2 set 40% recovery rate for all recyclables

Material Recovery Rates

Material Type	RRRF/ CERF	Available Tons	Emissions Reduction Potential	Material Recovery Rate	Recovery Tons	Expected Emissions Reduction
		Commercial Waste Stream		Scenario 2.1 & 2.2		
HDPE	0.80	132,448	105,958	64%	84,767	67,813
PET	1.40	99,747	139,646	64%	63,838	89,374
Aluminum Cans & Nonferrous Metals	12.90	76,560	987,621	80%	61,248	790,097
Steel Cans & Ferrous Metals	1.50	863,524	1,295,286	64%	552,656	828,983
Glass Containers	0.20	248,597	49,719	10%	24,860	4,972
Cardboard & Paper Bags	5.00	1,355,399	6,776,996	40%	542,160	2,710,798
Magazines & Catalogs	0.30	143,803	43,141	14%	20,132	6,040
Newsprint	3.40	265,656	903,230	14%	37,192	126,452
Office Paper	4.30	518,331	2,228,821	14%	72,566	312,035
Phone Books	2.70	16,192	43,720	14%	2,267	6,121
Dimensional Lumber	0.21	647,752	136,028	43%	278,533	58,492
Total Tons Available for Recovery		4,368,010	12,710,168	Total Tons Recovered	1,740,218	5,001,178
Total Tons Managed¹		27,882,502		Total Tons Managed	27,882,502	

Rationale for Individual Material Recovery Rates

- High value commodities:
 - Plastics (HDPE, PET)- \$350/ton 
 - Aluminum Cans - \$1200/ton 
 - Cardboard & Steel Cans - \$100/ton 
- CRV Recovery Rates = 82%
- ARB Small Business Survey Results
 - High value commodities are recycled by 55 to 79% of the businesses

Additional Economic Assumptions: *Back-haul/Self-haul*



- Scenario 2.1 and 2.2: Increased back-haul/self-haul of high-value commodities

Scenario 2.1 – Low level Increase

- 23 to 30% back-haul/self-haul

Scenario 2.2 – Moderate level increase

- 29 to 42% back-haul/self-haul

Rationale for Back-haul/Self-haul Assumptions



- BAU: MSW at Landfills = 30% Self-haul
- Typically homogeneous (only cardboard, only metals, only plastics)
- Reduced processing costs compared to single stream mixed recyclables
- ARB Small Business Survey Results
 - 70% Commercial Haul
 - 30% Self-Haul

Scenario 2.1 and 2.2: Back-haul/Self-haul Tons

Scenario	HDPE (Tons)	PET (Tons)	Aluminum Cans (Tons)	Cardboard Tons	% Increase In Total Tons Managed via Self-Haul
S2.1	16,181	12,529	9,667	93,560	1.6%
S2.2	32,362	25,055	19,334	140,340	2.7%

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Scenario 2.1 Results

- Implementation period cost **savings** =
\$408 million (2012 - 2020)
- Cost in 2020 (full implementation) =
\$41.7 million 1.6% **increase** over BAU

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Scenario 2.2 Results

- Implementation period cost **savings** =
\$585 million (2012 - 2020)
- Cost in 2020 (full implementation) =
\$20.2 million 0.8% **increase** over BAU

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Comparison between Scenarios for 2020

(2010\$)

Scenario	Recovered Tons (Million)	Total Cost of Recovered Tons (Millions \$)	Total System Cost (Millions \$)	Total System Cost Over BAU (Millions \$)	% Increase in Total System Cost Over BAU
BAU	N/A	N/A	\$2,661	N/A	N/A
S2	1.68	\$156	\$2,803	\$142	5.3%
S2.1	1.74	\$53	\$2,702	\$42	1.6%
S2.2	1.74	\$31	\$2,681	\$20	0.8%

Numbers are rounded; detailed numbers will be shown in Staff Report.

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Scenario Cost Profile Comparison over 2012-2020

(2010\$)

Year	Baseline Costs (Millions \$)	Changes Over Baseline Costs (Millions \$)		
		Scenario 2	Scenario 2.1	Scenario 2.2
2012	\$ 2,365	\$ (30)	\$ (123)	\$ (141)
2013	\$ 2,402	\$ (12)	\$ (107)	\$ (125)
2014	\$ 2,444	\$ 8	\$ (87)	\$ (106)
2015	\$ 2,468	\$ 28	\$ (69)	\$ (88)
2016	\$ 2,507	\$ 48	\$ (49)	\$ (68)
2017	\$ 2,545	\$ 70	\$ (28)	\$ (48)
2018	\$ 2,584	\$ 94	\$ (5)	\$ (26)
2019	\$ 2,622	\$ 118	\$ 18	\$ (3)
2020	\$ 2,661	\$ 142	\$ 42	\$ 20
Total 2012-2020	\$ 22,598	\$ 465	\$ (408)	\$ (585)

Numbers are rounded; detailed numbers will be shown in Staff Report.

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California Business Impact: Monthly Expected Per-Business Cost Increase (Decrease) (2010\$)

Year	Incremental Cost (in 2010\$) Per Month, Per Business		
	Scenario 2	Scenario 2.1	Scenario 2.2
2012	(\$6.07)	(\$30.40)	(\$35.04)
2013	(\$1.05)	(\$25.62)	(\$30.37)
2014	\$2.79	(\$22.01)	(\$26.88)
2015	\$8.31	(\$16.73)	(\$21.70)
2016	\$14.11	(\$11.16)	(\$16.25)
2017	\$20.07	(\$5.43)	(\$10.64)
2018	\$26.66	\$0.93	(\$4.41)
2019	\$33.25	\$7.29	\$1.83
2020	\$40.05	\$13.87	\$8.28

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Overall Cost Summary – including Cost to Jurisdictions (2010\$)

	Scenario 2.1		Scenario 2.2	
	2020	2012-2020	2020	2012-2020
Total Cost (Million \$)	\$53	(\$343)	\$32	(\$519)
Cost Effectiveness (\$/MTCO₂e)	\$11	(\$14)	\$6	(\$21)
Average Cost to Businesses (\$/Month)	\$14	(\$89)	\$8	(\$135)

Numbers are rounded; detailed numbers will be shown in Staff Report.

Economic Analysis Questions



MANDATORY COMMERCIAL RECYCLING

Open Discussion and Questions



MCR Timeline & Next Steps



- Initial Informal Stakeholder Feedback & Draft Regulation Development: July – September 2009
 - Workshops/Public Meetings: July, August, September, December 2009
- Additional Informal Stakeholder Workshops: June 2010 – July 2011
 - Workshops/Public Meetings: June & September 2010; January & July 2011
- Formal rulemaking begins – September 2011
- Formal comment period 9/5 – 10/20
- Air Resources Board Hearing – October 20 and 21, 2011

Contact

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