

Public Workshop To Initiate Rulemaking To Further Reduce Consumer Product Emissions

April 12, 2019



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Outline

Program Overview and Summary of Survey Results

- Program Background
- Discussion of final survey data
- Review of consumer products emissions contributions

Rulemaking Schedule

- Major Rulemaking Topics
- Work Groups Description and Schedule

Category Screening Process and Discussion

- Discussion of Considerations
- Potential Categories

Discussion and Questions

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Program Overview and Summary of Survey Results

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Consumer Products Program Background

- California Clean Air Act requires CARB to regulate consumer products
 - Achieve the maximum feasible reduction in volatile organic compounds from consumer products
 - Regulations must be technologically and commercially feasible
 - Must not eliminate a product form
- 2016 State Strategy requires additional consumer product VOC reductions
 - By 2023: 1-2 tpd in the South Coast
 - By 2031: 4-5 tpd in South Coast, 8-10 tpd Statewide
- Consumer Products Survey provides technical foundation to identify effective new strategies

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Consumer & Commercial Product Survey: Data Summary

- CARB's most comprehensive consumer products survey
- 491 Survey Categories
- 1400 companies
- Approximately 1.05 million products

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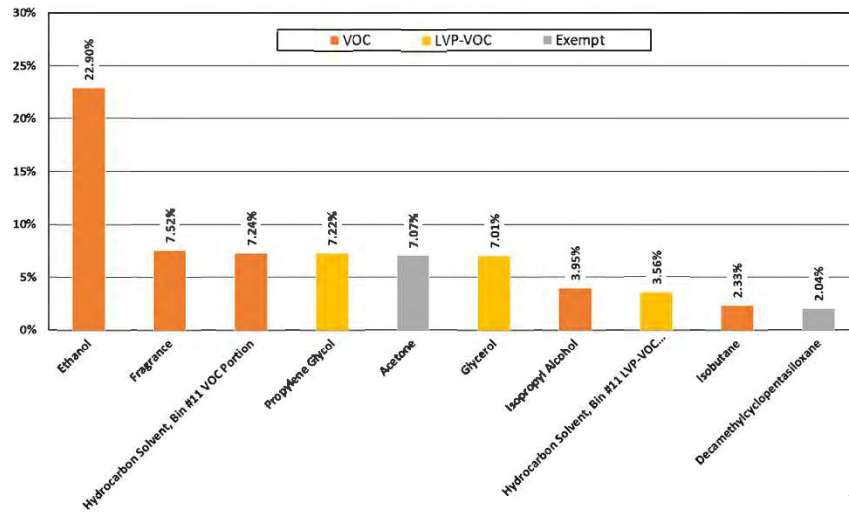
Data Summary for 2015

2015 CARB Consumer and Commercial Product Survey																
Category Code	Category Name	Product Data								Emissions Data (Fate and Transport Adjusted)						
		Reporting Companies	Reported Products	Sales (tpd)	Sales Weighted Average VOC Content	Speciation					VOC (tpd)	ROG (tpd)	TOG (tpd)	PWMIR (gO ₃ /g)	Ozone Forming Potential (tpd)	
						VOC	LVP-VOC	Exempt	Water	Other						
30601	Bleach and Lightener*	46	502	8.36	0.25%						0.02	0.04	0.04	0.02	0.13	
30602	Conditioner without styling claims	237	6673	134.62	0.87%						1.18	2.43	3.81	0.07	9.13	
30603	Dye, permanent	53	7918	23.11	4.31%						1.00	2.58	2.58	0.32	7.33	
30604	Dye, semi-permanent	33	1457	1.55	3.27%						0.05	0.14	0.14	0.31	0.48	
30605	Dye, temporary*	26	364	1.29	9.79%						0.13	0.14	0.14	0.22	0.29	
30606	Hair Finishing Spray	109	1165	19.50	53.24%						10.38	10.39	13.26	0.78	15.20	
30607	Hair Mousse	86	459	5.82	5.63%						0.33	0.37	0.44	0.09	0.55	
30608	Hair Shine	81	492	1.25	7.96%						0.10	0.12	0.57	0.16	0.20	
30609	Hair Shine (aerosol)	29	111	0.14	40.75%						0.06	0.09	0.10	0.63	0.09	
30610	Hair Styling Product (aerosol and pump spray)	122	992	4.52	6.35%						0.29	0.34	1.92	0.12	0.55	
30611	Hair Styling Product (all other forms)	162	3093	17.39	1.22%						0.21	0.74	1.16	0.15	2.57	
30612	Hair tonic/hair restorer	70	394	0.89	17.55%						0.16	0.22	0.25	0.45	0.41	
30613	No Rinse Shampoo (Dry Shampoo and Conditioner)	75	325	1.16	81.21%						0.94	0.94	0.94	0.96	1.11	
30614	Permanent Wave Treatment*	24	503	1.18	0.64%						0.01	0.02	0.02	0.07	0.09	
30615	Shampoo	288	6611	197.97	0.66%						0.97	1.04	1.30	0.03	6.33	
30616	Temporary Hair Color (aerosol)	12	170	0.37	50.37%						0.19	0.19	0.32	0.72	0.26	
30617	Thermal Protectant	67	245	1.16	9.37%						0.11	0.12	0.29	0.19	0.22	
30699	Other hair care products	148	2946	13.53	0.31%						0.04	0.16	0.40	0.03	0.43	
	All Hair Care Products	359	34420	433.79	3.80%						16.14	20.08	27.70	0.10	45.35	

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Speciation Summary Reports

2015 Survey Year Top 10 TOG Ingredients



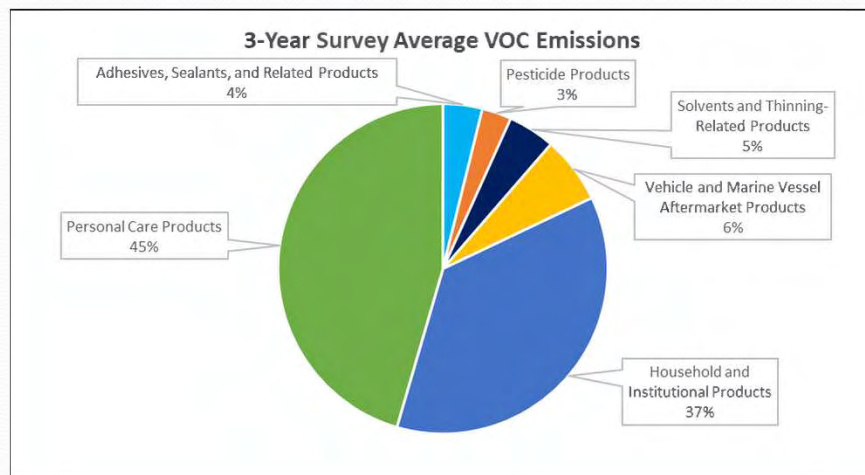
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Survey Emissions Comparison

	2013	2014	2015
VOC (tpd)	155.2	152.6	152.7
LVP-VOC (tpd)	43.7	49.7	50.6
ROG (tpd)	198.9	202.3	203.4
Exempt (tpd)	47.0	46.9	50.8
TOG (tpd)	245.9	249.2	254.2
Ozone Forming Potential (tpd)	467.74	465.15	463.24

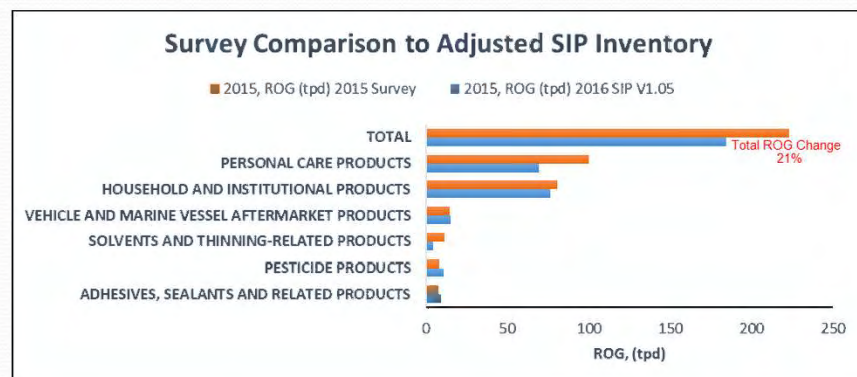
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VOC Emissions Contributions: Of the Six Major Sectors Surveyed



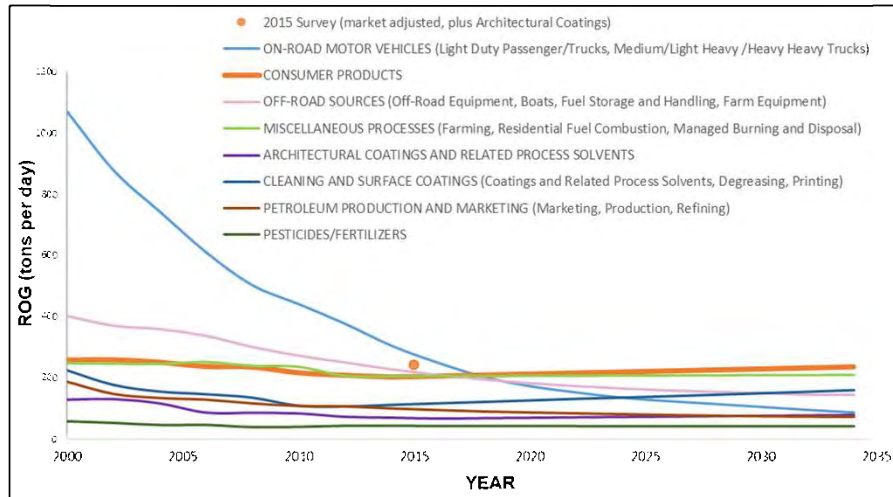
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Comparison of Survey Data to SIP Inventory



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Consumer Products Survey Emissions and SIP Trends



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Rulemaking Schedule

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Proposed Rulemaking Process and Timeline

- April 2019: Kickoff Public Workshop
- Spring-Summer 2019: Topic-specific Workgroups
 - Regulatory Strategies
 - Regulatory Definition/Language Updates
- Fall 2019: Public workshop to identify and quantify emissions benefits of regulatory options
- Late 2019/Early 2020: Additional public workshop(s) as needed
- Ongoing: Meet with interested stakeholders
- Late 2020: Proposed regulatory amendments for Board consideration

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Proposed Public Workgroup Plan

- Listen to ideas on how best to achieve reductions and improve program effectiveness
- One- to two-hour, topic-specific teleconferences open to all interested stakeholders
- Focused effort for CARB and interested stakeholders

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Regulatory Strategies Workgroup Prioritization of Product Categories

- Based on survey data
- Screening process to narrow our focus to identify survey categories that might yield reductions significant enough to proceed into rulemaking
 - Begin with highest VOC/OFP categories (> 0.5 tpd VOC)
 - Currently Unregulated Categories
 - Average product VOC content
 - Category not subject to recent rulemaking processes
 - Potential for toxic disbenefits
 - Others

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Category Screening Process and Discussion

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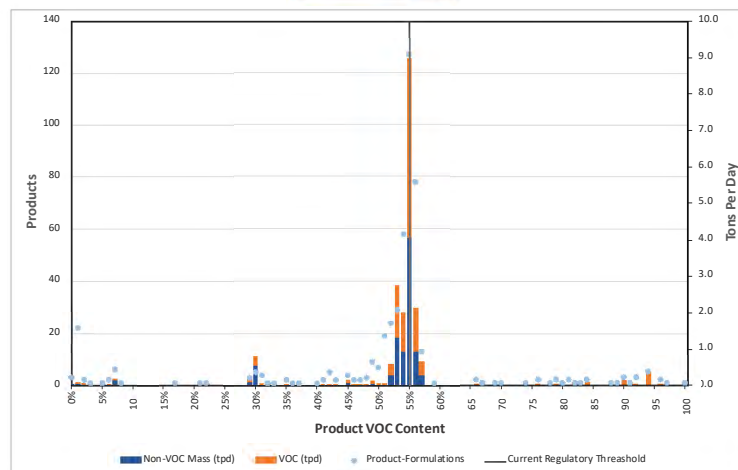
Example Category Considerations

- Hair Finishing Spray - (10.4 tpd VOC, 15.2 tpd OFP)
 - Complying Market Share and Feasibility
- No Rinse Shampoo - (0.9 tpd VOC, 1.1 tpd OFP)
 - Complying Market Share and Feasibility
- Sunscreen (hair or body) (aerosol) - (3.5 tpd VOC, 5.5 tpd OFP)
 - Health Benefit and Other Regulatory Regimes
- Laundry Detergent - (4.6 tpd VOC, 32.5 tpd OFP)
 - Average product VOC content and Fragrance
- Floor Wax Stripper – (1.3 tpd VOC, 7.9 tpd OFP)
 - High OFP Ingredients

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Hair Finishing Spray (30606)

Product Data					Emissions Data (Fate and Transport Adjusted)				
Reporting Companies	Reported Products	Sales (tpd)	Sales Weighted Average VOC Content	Speciation	VOC (tpd)	ROG (tpd)	TOG (tpd)	PWMIR (gO ₂ /g)	Ozone Forming Potential (tpd)
109	1165	19.50	53.24%	VOC LVP-VOC Exempt Water Other	10.38	10.39	13.26	0.78	15.20



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30606 - Hair Finishing Spray

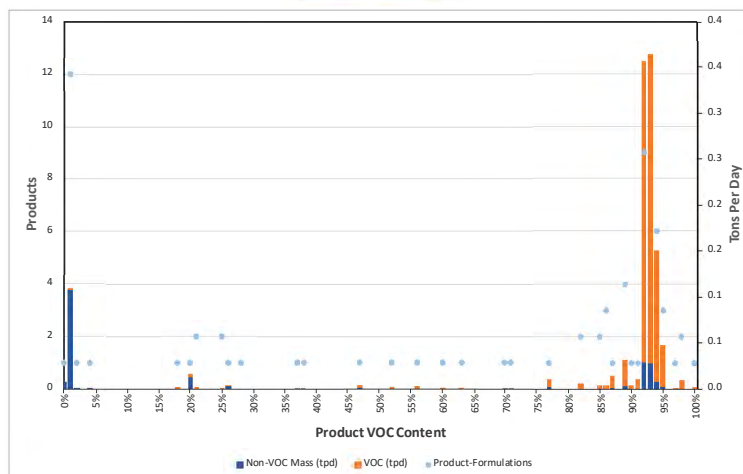
Category Summary

- Regulated at 55% VOC since June 1, 1999
- Most emissions occur from products in 50-55% VOC content range
- TOG consists primarily of ethanol and propellant
- 1,165 reported products, 96 unique formulations
- 20% market share at 50% VOC

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No Rinse Shampoo (Dry Shampoo and Conditioner) (30613)

Product Data					Emissions Data (Fate and Transport Adjusted)				
Reporting Companies	Reported Products	Sales (tpd)	Sales Weighted Average VOC Content	Speciation	VOC (tpd)	ROG (tpd)	TOG (tpd)	PWMIR (gO ₃ /g)	Ozone Forming Potential (tpd)
75	325	1.16	81.21%	<div style="display: flex; justify-content: space-around; font-size: 0.8em;"> VOC LVP-VOC Exempt Water Other </div>	0.94	0.94	0.94	0.96	1.11



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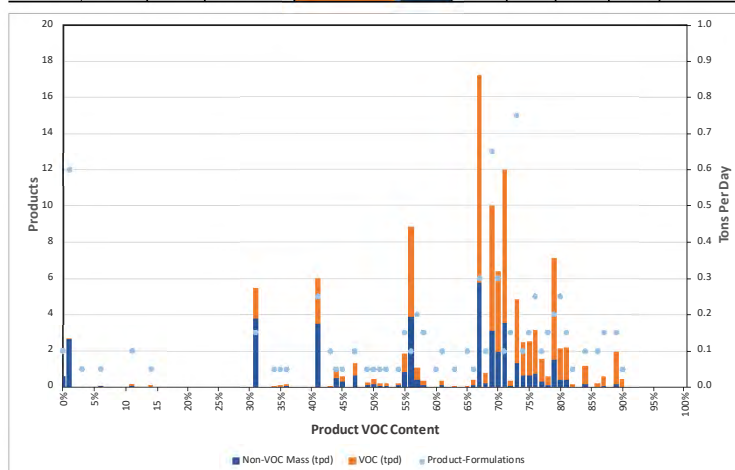
30613 - No Rinse Shampoo (Dry Shampoo and Conditioner) Category Summary

- No VOC limit
- Category definition added in January 2015
- 0 to 99% VOC content in category (Average ~80%)
- TOG consists primarily of isobutane and ethanol
- 325 reported products, 26 unique formulations
- 27% market share at 50% VOC
- 10% market share at 5% VOC

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Sunscreen (Hair or Body) (aerosol) (30411)

Product Data					Emissions Data (Fate and Transport Adjusted)				
Reporting Companies	Reported Products	Sales (tpd)	Sales Weighted Average VOC Content	Speciation	VOC (tpd)	ROG (tpd)	TOG (tpd)	PWMIR (gO ₃ /g)	Ozone Forming Potential (tpd)
				VOC LVP-VOC Exempt Water Other					
27	405	5.56	63.27%		3.52	3.60	3.62	0.99	5.48



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30411 - Sunscreen (hair or body) (aerosol)

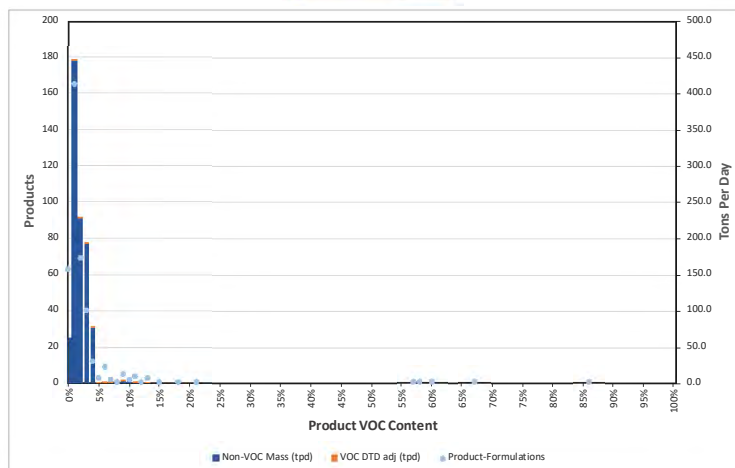
Category Summary

- No VOC limit – Not regulated as a consumer product by CARB
- 0 to 90% VOC in category
- TOG consists primarily of ethanol and propellant
- 405 reported products, 59 unique formulations
- 26% market share at 50% VOC
- 40% market share at 65% VOC
- FDA regulated (Over the Counter Drug)

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Laundry Detergent (20903)

Product Data					Emissions Data (Fate and Transport Adjusted)				
Reporting Companies	Reported Products	Sales (tpd)	Sales Weighted Average VOC Content	Speciation	VOC (tpd)	ROG (tpd)	TOG (tpd)	PWMIR (gO ₂ /g)	Ozone Forming Potential (tpd)
93	1757	1019.06	1.38%	VOC LVP-VOC Exempt Water Other	4.57	7.49	7.49	0.03	32.47



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20903 – Laundry Detergent

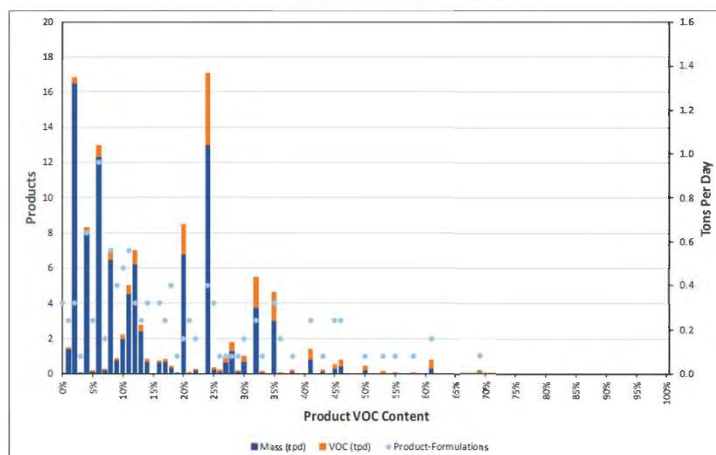
Category Summary

- No VOC limit – Not regulated as a consumer product by CARB
- Average 1.4% VOC in category
- TOG consists primarily of ethanol and fragrance
- 1,757 reported products, 228 unique formulations
- 50% market share at 1% VOC

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Floor Wax Stripper (21405)

Product Data					Emissions Data (Rate and Transport Adjusted)				
Reporting Companies	Reported Products	Sales (tpd)	Sales Weighted Average VOC Content (undiluted)	Speciation	VOC (tpd)	ROG (tpd)	TOG (tpd)	PWMIR (gO ₂ /g)	Ozone Forming Potential (tpd)
				VOC LVP-VOC Exempt Water Other					
47	266	9.00	14.87%		1.34	1.73	1.73	0.88	7.94



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21405 – Floor Wax Stripper

Category Summary

- Regulated since January 1, 2002
 - 94509(j) VOC limit applies to dilutions for specific use instructions
 - No “as sold” VOC limit
- TOG consists primarily of ethylene glycol monomethyl ether, 2-butoxy ethanol, monoethanolamine, benzyl alcohol
- 266 reported products, 20 unique formulations
- Category VOC emissions: 1.3 tpd
- Category OFP: 7.9 tpd

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Definition/Reporting Updates Workgroup

- Identify portions of the regulation that may need updates or clarification
 - Definitions
 - Reporting Requirements
- Prioritize issues with potential emissions or compliance consequences

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U.S. EPA Prohibition on Methylene Chloride (MeCl) in Paint Stripper

- MeCl exposure can cause death due to nervous system exposure
 - Less harmful substitutes available
- U.S. EPA announced ban on March 15, 2019
 - Does not apply to workplace uses
 - Action eliminates MeCl, an Exempt VOC, as a compliance option to meet paint stripper VOC content limits
- DTSC Safer Consumer Product Program also evaluating MeCl use in paint stripper
- CARB to work with DTSC and interested stakeholders to evaluate and address compliance challenges

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Next Steps

- Sign-up for public workgroups
 - To sign up to be notified of workgroup meetings, email lucy.negrete@arb.ca.gov or sign up here (sheet/clipboard)
- Focused workgroups from May through Summer 2019
 - Materials to be posted prior to each meeting
- Next public workshop in Fall 2019 with findings and initial options/proposals to meet emission reduction commitments

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- Listserv signup
 - <https://public.govdelivery.com/accounts/CARB/subscriber/new>
 - Enter your email and check "Consumer Products Program"

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Discussion & Questions

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