CALIFORNIA
AIR RESOURCES BOARD

Consumer Products Category Selection for the 2023 Survey

October 29, 2024

Questions during the Webinar?

Please ask questions in the Q&A box at any time

Logistical questions will be answered by moderators during the webinar

Presentation content related questions will be answered at the end

Timeline

October 29, 2024

Category Selection Methodology Webinar

Deadline for Feedback: Nov 15

Finalization of Category Selection

November 2024

Early December 2024

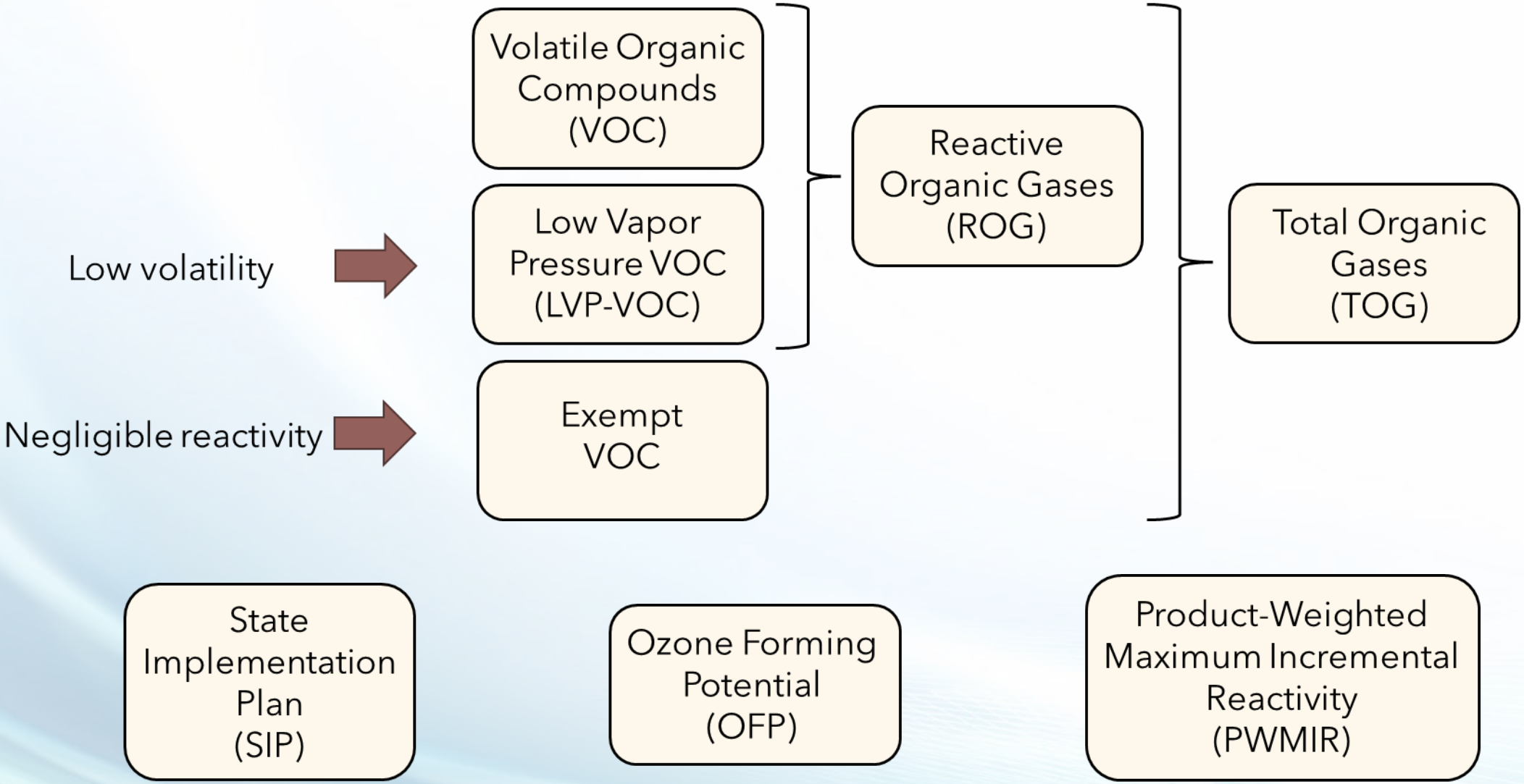
Survey Launch

Consumer Products Reporting Tool (CPRT) Webinar

Deadline for Submitting Completed Survey Data

Early March 2025

Common Acronyms



Category Selection Drivers and Methodology

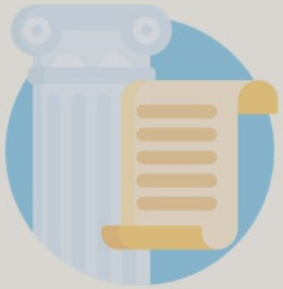
Fulfillment of 2022 SIP Commitment

Capture changes due to US EPA regulations

Promote Program's Toxics Priorities

Category Selection Drivers and Methodology

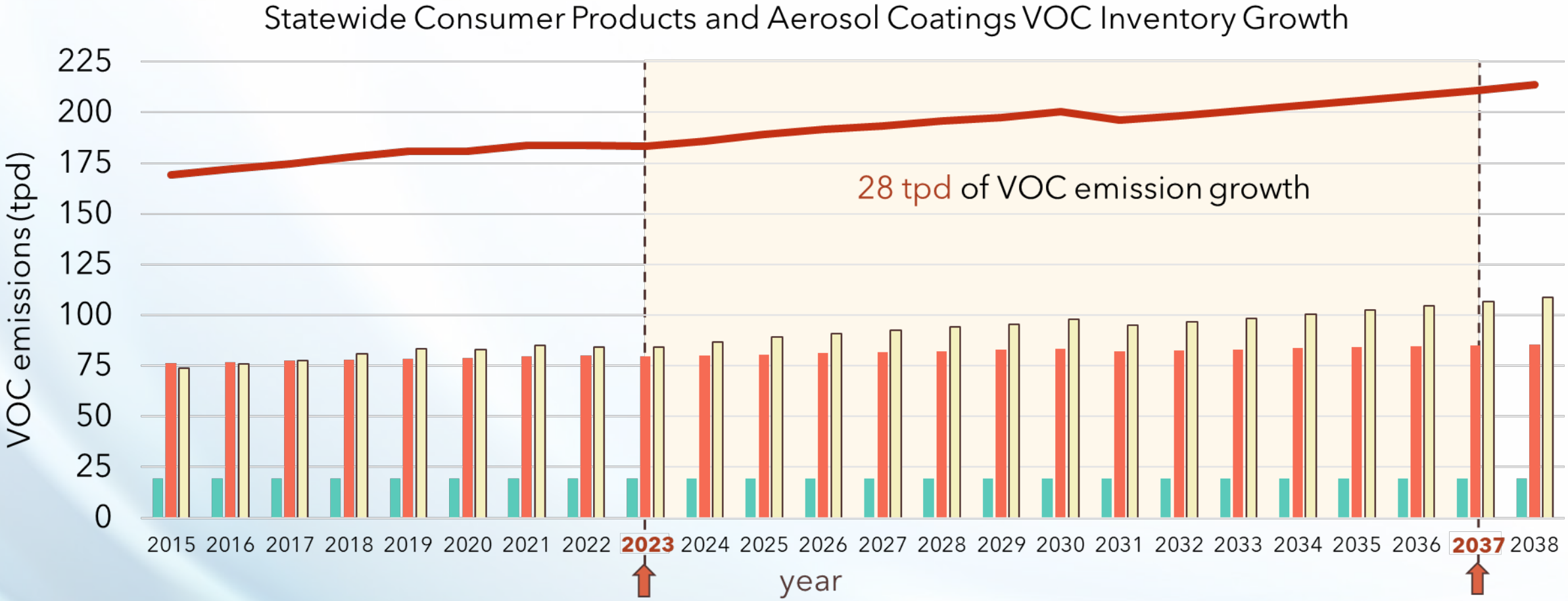
Fulfillment of 2022 SIP Commitment



Capture changes due to US EPA regulations

Promote Program's Toxics Priorities

Rationale for the 2022 SIP Commitment



SIP Reduction Commitment by 2037 = Remediate majority of 28 tpd VOC growth = 20 tpd Reductions

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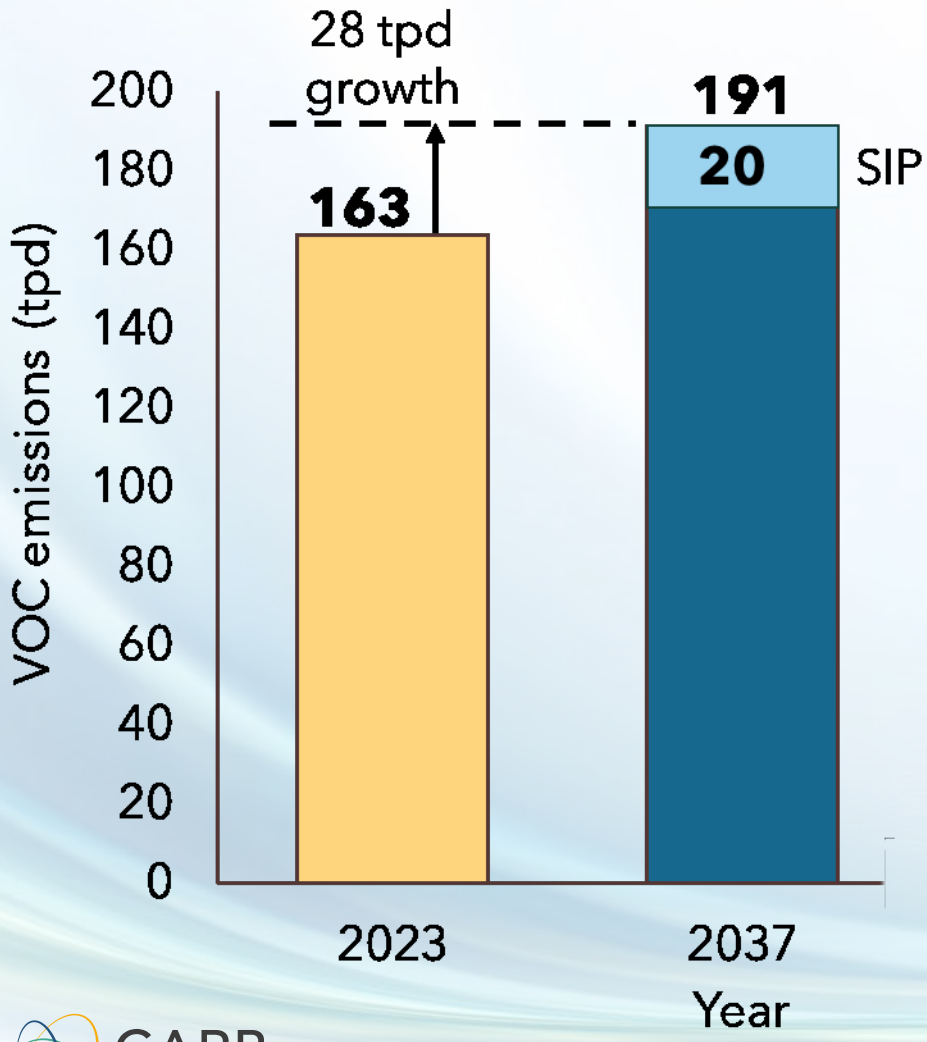
2022 SIP Commitment



20 tpd
VOC
Reductions

OR

20 tpd
VOC-eq
Reductions

For the first time in the Consumer Products program history, the SIP commitment is expressed as a choice of two metrics

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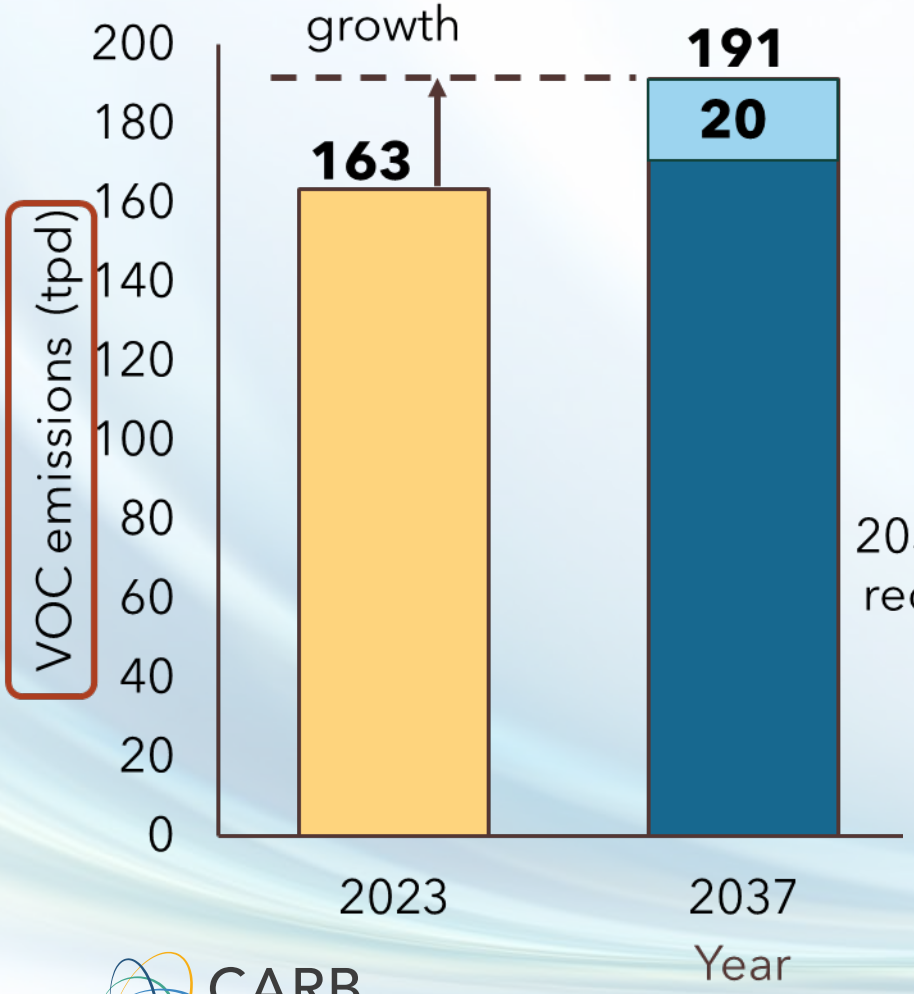
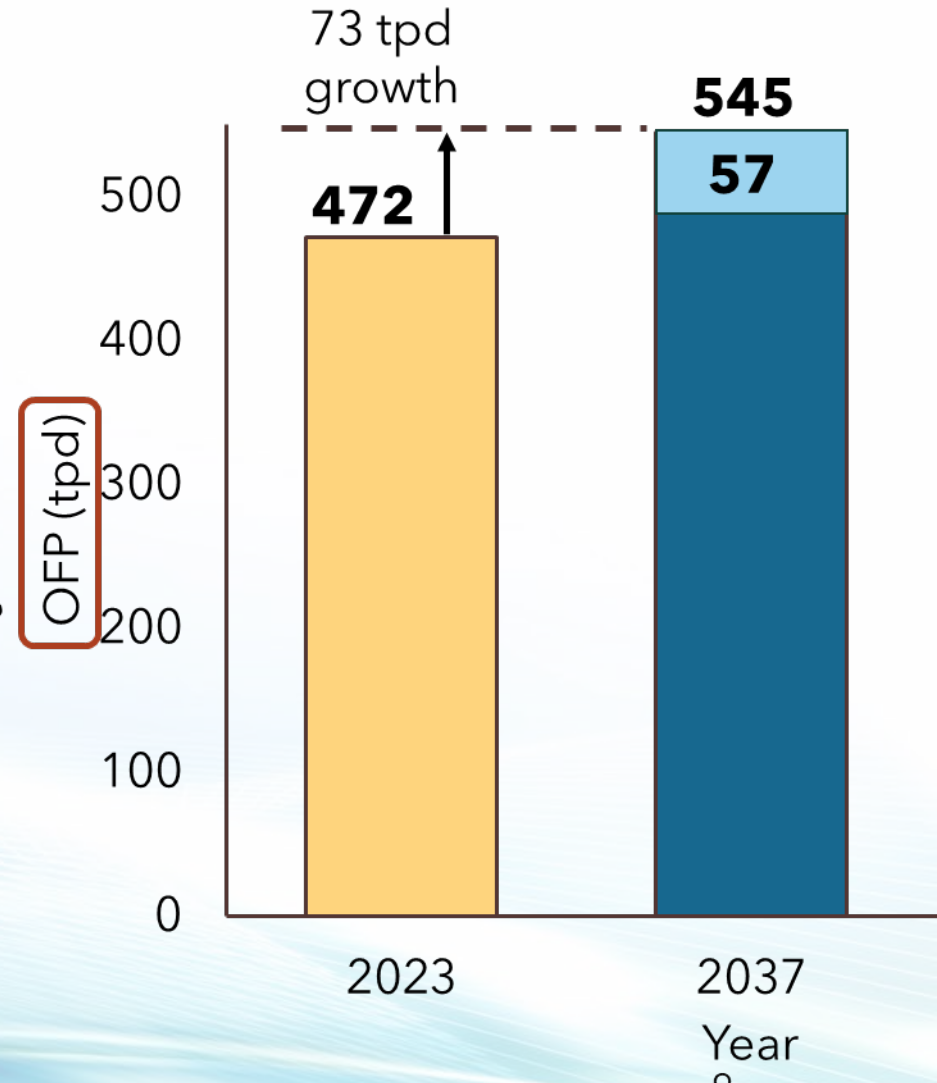
Broaden Focus to Total Ozone Forming Potential



What is the equivalent OFP Reduction to 20 tpd VOC SIP Reduction Commitment?

$$20 * \frac{545}{191} = 57$$

$$\text{2037 VOC reduction} * \frac{\text{2037 OFP}}{\text{2037 VOC}} = \text{2037 OFP reduction}$$



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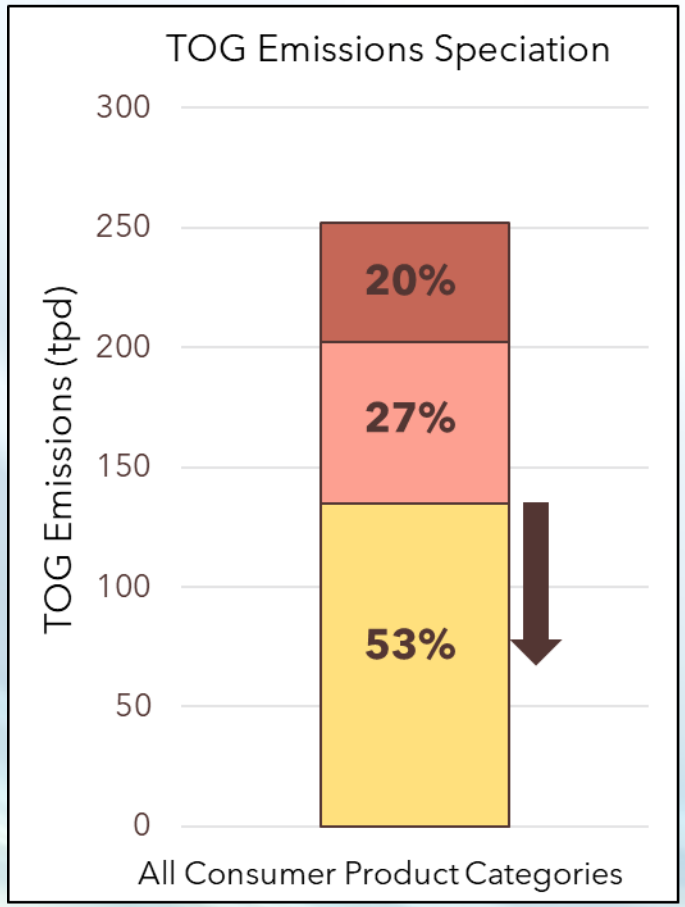
Need to consider all TOG contributions to Ozone

Ultimate purpose of SIP Commitment: Ozone reduction for attainment

Over 30 years, the program aimed at reducing ozone by reducing VOC.



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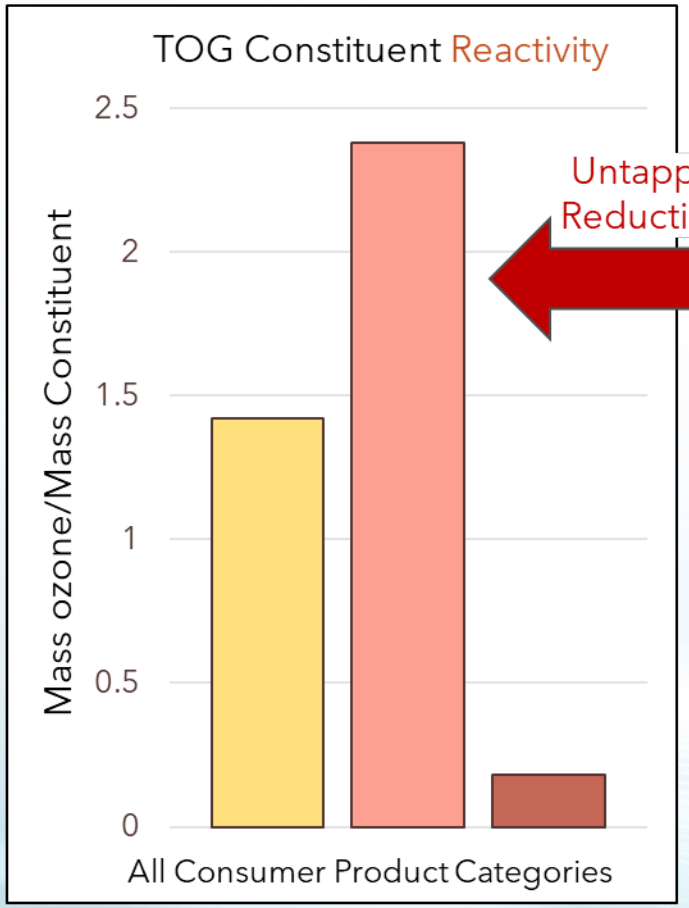

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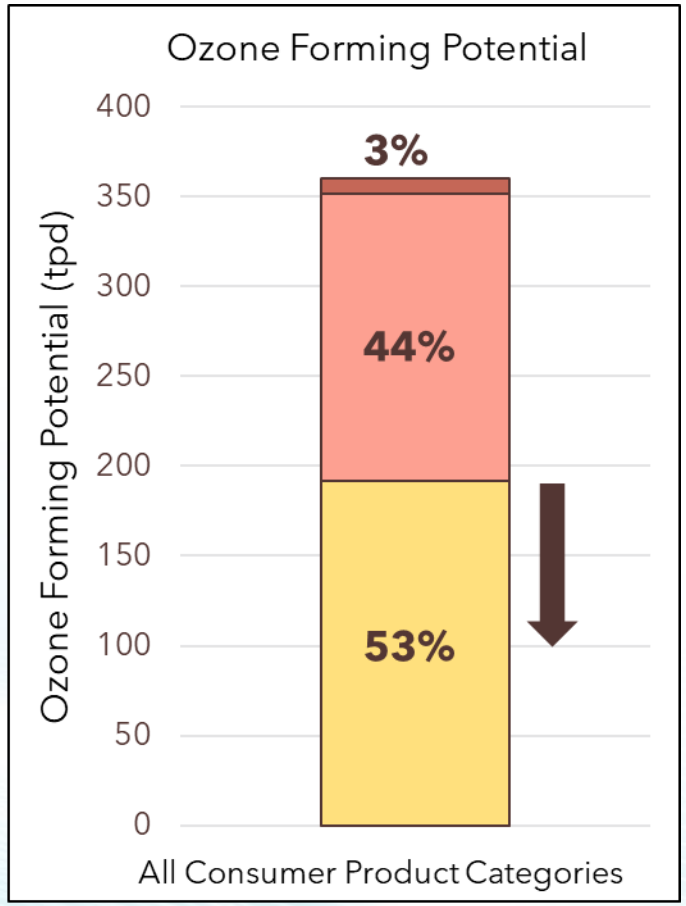
But, there is a significant ozone contribution by LVP-VOCs



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VOC LVP-VOC Exempt VOC

Translating Reductions: From OFP to VOC equivalent

Consumer Product Program ratio between VOC and OFP

Total CP VOC / Total CP OFP
0.351

2015 CARB Consumer and Commercial Product Survey - Preliminary Draft Data For Public Review (Report Date: December 12, 2019)									
Category Code	Category Name	Product Data	Emissions Data *(Fate and Transport Adjusted)*						
		Sales (tpd)	VOC (tpd)	ROG (tpd)	TOG (tpd)	PWMIR (gO_3/g)	Ozone Forming Potential (tpd)	2037 VOC (tpd)	2037 OFP (tpd)
70115	Tire or Wheel Cleaner (aerosol)	1.23	0.10	0.10	0.24	0.11	0.13	0.11	0.15
70116	Tire or Wheel Cleaner (nonaerosol)	4.72	0.04	0.07	0.18	0.04	0.19	0.04	0.22
70117	Undercoating (aerosol only)	0.51	0.19	0.19	0.27	0.83	0.43	0.21	0.48
70118	Wax/Polish/Sealant/Glaze (other than automotive)*	0.10	0.01	0.02	0.02	0.15	0.01	0.01	0.02
70199	Other vehicle and marine vessel detailing products	1.43	0.06	0.13	0.14	0.12	0.17	0.07	0.19
70203	Automotive Windshield Washer Fluid (Type "A" Areas)	3.73	0.81	0.81	0.81	0.15	0.54	0.90	0.61
70204	Automotive Windshield Washer Fluid (Non Type "A" Areas)	65.32	0.05	0.05	0.05	0.00	0.05	0.05	0.05
70205	Belt Dressing	0.16	0.08	0.08	0.15	0.82	0.13	0.09	0.15
70206	Body Repair Products (other than coatings)	6.17	1.16	1.17	1.17	0.33	2.06	1.30	2.29
70207	Brake Anti-Squeal Compound*	0.04	0.02	0.02	0.03	0.73	0.03	0.02	0.03
70208	Brake Cleaner	10.14	0.89	0.89	9.29	0.40	4.06	0.99	4.53
70209	Carburetor or Fuel-Injection Air Intake Cleaner	2.31	0.23	0.25	1.99	0.58	1.35	0.26	1.50
70210	Engine Degreaser (aerosol)	1.15	0.15	0.70	0.70	0.92	1.06	0.16	1.18
70211	Engine Degreaser (nonaerosol)*	0.32	0.04	0.04	0.04	0.54	0.17	0.04	0.19
70212	Engine Starting Fluid	0.49	0.05	0.05	0.05	0.17	0.08	0.05	0.09
70213	Home-Use Metal Parts Immersion Wash*	0.02	0.00	0.00	0.00	0.10	0.00	0.00	0.00
70214	Mold and Mildew Retardant*	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
70216	Tire Sealants and Inflator	2.95	0.30	0.38	0.83	0.37	1.09	0.34	1.22
70217	Windshield De-Icer*	0.17	0.09	0.10	0.10	0.65	0.11	0.10	0.12
70218	Windshield Washer Fluid Additive	4.22	1.14	1.14	1.14	0.19	0.81	1.27	0.90
70219	Windshield Water Repellent	0.25	0.18	0.18	0.22	1.03	0.26	0.20	0.29
70299	Other vehicle and marine vessel maintenance and repair products	2.14	0.19	0.20	0.21	0.14	0.30	0.21	0.33
All Categories			134.86	202.03	252.27	0.05	391.32	172.17	490.49

Systematic focus shift from VOC to ozone across all categories

Translating Reductions: From OFP to VOC equivalent

2015 CARB Consumer and Commercial Product Survey - Preliminary Draft Data For Public Review (Report Date: December 12, 2019)										
Category Code	Category Name	Product Data	Emissions Data *(Fate and Transport Adjusted)*							Total CP VOC / Total CP OFP = 0.351
		Sales (tpd)	VOC (tpd)	ROG (tpd)	TOG (tpd)	PWMIR (gO_3/g)	Ozone Forming Potential (tpd)	2037 VOC (tpd)	2037 OFP (tpd)	2037 VOC Equivalent (tpd)
70115	Tire or Wheel Cleaner (aerosol)	1.23	0.10	0.10	0.24	0.11	0.13	0.11	0.15	0.05
70116	Tire or Wheel Cleaner (nonaerosol)	4.72	0.04	0.07	0.18	0.04	0.19	0.04	0.22	0.08
70117	Undercoating (aerosol only)	0.51	0.19	0.19	0.27	0.83	0.43	0.21	0.48	0.17
70118	Wax/Polish/Sealant/Glaze (other than automotive)*	0.10	0.01	0.02	0.02	0.15	0.01	0.01	0.02	0.01
70199	Other vehicle and marine vessel detailing products	1.43	0.06	0.13	0.14	0.12	0.17	0.07	0.19	0.07
70203	Automotive Windshield Washer Fluid (Type "A" Areas)	3.73	0.81	0.81	0.81	0.15	0.54	0.90	0.61	0.21
70204	Automotive Windshield Washer Fluid (Non Type "A" Areas)	65.32	0.05	0.05	0.05	0.00	0.05	0.05	0.05	0.02
70205	Belt Dressing	0.16	0.08	0.08	0.15	0.82	0.13	0.09	0.15	0.05
70206	Body Repair Products (other than coatings)	6.17	1.16	1.17	1.17	0.33	2.06	1.30	2.29	0.81
70207	Brake Anti-Squeal Compound*	0.04	0.02	0.02	0.03	0.73	0.03	0.02	0.03	0.01
70208	Brake Cleaner	10.14	0.89	0.89	9.29	0.40	4.06	0.99	4.53	1.59
70209	Carburetor or Fuel-Injection Air Intake Cleaner	2.31	0.23	0.25	1.99	0.58	1.35	0.26	1.50	0.53
70210	Engine Degreaser (aerosol)	1.15	0.15	0.70	0.70	0.92	1.06	0.16	1.18	0.41
70211	Engine Degreaser (nonaerosol)*	0.32	0.04	0.04	0.04	0.54	0.17	0.04	0.19	0.07
70212	Engine Starting Fluid	0.49	0.05	0.05	0.05	0.17	0.08	0.05	0.09	0.03
70213	Home-Use Metal Parts Immersion Wash*	0.02	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00
70214	Mold and Mildew Retardant*	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
70216	Tire Sealants and Inflator	2.95	0.30	0.38	0.83	0.37	1.09	0.34	1.22	0.43
70217	Windshield De-Icer*	0.17	0.09	0.10	0.10	0.65	0.11	0.10	0.12	0.04
70218	Windshield Washer Fluid Additive	4.22	1.14	1.14	1.14	0.19	0.81	1.27	0.90	0.32
70219	Windshield Water Repellent	0.25	0.18	0.18	0.22	1.03	0.26	0.20	0.29	0.10
70299	Other vehicle and marine vessel maintenance and repair products	2.14	0.19	0.20	0.21	0.14	0.30	0.21	0.33	0.12
All Categories			134.86	202.03	252.27	0.05	391.32	172.17	490.49	172.17

Translating Reductions: From OFP to VOC equivalent

$$\text{Category VOC-equivalent emissions} = \text{Category OFP} * \frac{\text{Total CP VOC}}{\text{Total CP OFP}} = 0.351$$

Total VOC = Total VOC-eq

The use of VOC equivalent emissions allows focus on categories with potential ozone reductions regardless of VOC content

Ranked Categories based on

VOC → OFP

Category Code	Category Name	2037 VOC (tpd)
30201	Anti-microbial Dry Hand Wash (Hand Sanitizer)	17.14
30502	Personal Fragrance Products with 20% or less fragrance	15.95
30606	Hair Finishing Spray	14.93
30710	Rubbing Alcohol	13.30
20305	Disinfectant (aerosol)	7.04
20311	General Purpose Cleaner (nonaerosol)	6.01
30411	Sunscreen (hair or body) (aerosol)	5.05
10115	Plastic Pipe Cement and Primer	3.85
20903	Laundry Detergent	2.99
20103	Dual Purpose Air Freshener/Disinfectant (aerosol)	2.99
30501	Deodorant Body Spray	2.54
30101	Antiperspirant	2.23
20102	Air Freshener, Single Phase Aerosol	2.22
20701	Charcoal Lighter Material	2.21
21013	Multi-purpose Lubricant (including solid and semisolid products)	2.17
20101	Air Freshener, Double Phase Aerosol	2.02
31006	Mouthwash/Rinse	1.94
40403	Crawling Bug Insecticide (aerosol)	1.93
60205	Denatured Alcohol	1.90
20601	Aerosol Cooking Spray	1.82
30705	External Analgesic Product	1.65
21405	Floor Wax Stripper	1.57
20104	Air Freshener, liquid/pump spray	1.37
30613	No Rinse Shampoo (Dry Shampoo and Conditioner)	1.35
70206	Body Repair Products (other than coatings)	1.30
30603	Dye, permanent	1.28
70218	Windshield Washer Fluid Additive	1.27
30102	Deodorant	1.18
20306	Disinfectant (nonaerosol)	1.17

Category Code	Category Name	2037 OFP (tpd)
20311	General Purpose Cleaner (nonaerosol)	28.84
30502	Personal Fragrance Products with 20% or less fragrance	27.57
30201	Anti-microbial Dry Hand Wash (Hand Sanitizer)	26.21
20903	Laundry Detergent	26.00
30404	Hand and Body Conditioner, Cream, Lotion, and Moisturizer	22.96
30606	Hair Finishing Spray	21.72
20104	Air Freshener, liquid/pump spray	14.64
30102	Deodorant	12.26
10115	Plastic Pipe Cement and Primer	11.60
20305	Disinfectant (aerosol)	10.87
30603	Dye, permanent	9.85
30602	Conditioner without styling claims	9.54
20153	Scented Candle	9.28
21405	Floor Wax Stripper	9.18
30710	Rubbing Alcohol	8.37
20326	Oven or Grill Cleaner (nonaerosol)	7.97
30411	Sunscreen (hair or body) (aerosol)	7.77
30207	Body Wash/Mousse/Gel/Soap/FoamScrub	7.69
20919	Liquid Fabric Softener	6.72
20313	General Purpose Degreaser (nonaerosol)	6.03
30101	Antiperspirant	4.94
20103	Dual Purpose Air Freshener/Disinfectant (aerosol)	4.57
31006	Mouthwash/Rinse	4.55
70208	Brake Cleaner	4.53
30705	External Analgesic Product	4.45
60216	Paint Thinner (nonaerosol)	4.31
30202	Anti-microbial hand or body cleaner or soap	4.26
30615	Shampoo	4.21
31202	Pet Care Products (pet litter, etc.)	4.08

Ranked Categories based on

OFP → VOC-eq

Category Code	Category Name	2037 OFP (tpd)
20311	General Purpose Cleaner (nonaerosol)	28.84
30502	Personal Fragrance Products with 20% or less fragrance	27.57
30201	Anti-microbial Dry Hand Wash (Hand Sanitizer)	26.21
20903	Laundry Detergent	26.00
30404	Hand and Body Conditioner, Cream, Lotion, and Moisturizer	22.96
30606	Hair Finishing Spray	21.72
20104	Air Freshener, liquid/pump spray	14.64
30102	Deodorant	12.26
10115	Plastic Pipe Cement and Primer	11.60
20305	Disinfectant (aerosol)	10.87
30603	Dye, permanent	9.85
30602	Conditioner without styling claims	9.54
20153	Scented Candle	9.28
21405	Floor Wax Stripper	9.18
30710	Rubbing Alcohol	8.37
20326	Oven or Grill Cleaner (nonaerosol)	7.97
30411	Sunscreen (hair or body) (aerosol)	7.77
30207	Body Wash/Mousse/Gel/Soap/FoamScrub	7.69
20919	Liquid Fabric Softener	6.72
20313	General Purpose Degreaser (nonaerosol)	6.03
30101	Antiperspirant	4.94
20103	Dual Purpose Air Freshener/Disinfectant (aerosol)	4.57
31006	Mouthwash/Rinse	4.55
70208	Brake Cleaner	4.53
30705	External Analgesic Product	4.45
60216	Paint Thinner (nonaerosol)	4.31
30202	Anti-microbial hand or body cleaner or soap	4.26
30615	Shampoo	4.21
31202	Pet Care Products (pet litter, etc.)	4.08

Category Code	Category Name	2037 VOC-eq (tpd)
20311	General Purpose Cleaner (nonaerosol)	10.12
30502	Personal Fragrance Products with 20% or less fragrance	9.68
30201	Anti-microbial Dry Hand Wash (Hand Sanitizer)	9.20
20903	Laundry Detergent	9.13
30404	Hand and Body Conditioner, Cream, Lotion, and Moisturizer	8.06
30606	Hair Finishing Spray	7.62
20104	Air Freshener, liquid/pump spray	5.14
30102	Deodorant	4.30
10115	Plastic Pipe Cement and Primer	4.07
20305	Disinfectant (aerosol)	3.82
30603	Dye, permanent	3.46
30602	Conditioner without styling claims	3.35
20153	Scented Candle	3.26
21405	Floor Wax Stripper	3.22
30710	Rubbing Alcohol	2.94
20326	Oven or Grill Cleaner (nonaerosol)	2.80
30411	Sunscreen (hair or body) (aerosol)	2.73
30207	Body Wash/Mousse/Gel/Soap/FoamScrub	2.70
20919	Liquid Fabric Softener	2.36
20313	General Purpose Degreaser (nonaerosol)	2.12
30101	Antiperspirant	1.74
20103	Dual Purpose Air Freshener/Disinfectant (aerosol)	1.60
31006	Mouthwash/Rinse	1.60
70208	Brake Cleaner	1.59
30705	External Analgesic Product	1.56
60216	Paint Thinner (nonaerosol)	1.51
30202	Anti-microbial hand or body cleaner or soap	1.50
30615	Shampoo	1.48
31202	Pet Care Products (pet litter, etc.)	1.43

Ranked Categories based on

VOC → VOC-eq

Category Code	Category Name	2037 VOC (tpd)
30201	Anti-microbial Dry Hand Wash (Hand Sanitizer)	17.14
30502	Personal Fragrance Products with 20% or less fragrance	15.95
30606	Hair Finishing Spray	14.93
30710	Rubbing Alcohol	13.30
20305	Disinfectant (aerosol)	7.04
20311	General Purpose Cleaner (nonaerosol)	6.01
30411	Sunscreen (hair or body) (aerosol)	5.05
10115	Plastic Pipe Cement and Primer	3.85
20903	Laundry Detergent	2.99
20103	Dual Purpose Air Freshener/Disinfectant (aerosol)	2.99
30501	Deodorant Body Spray	2.54
30101	Antiperspirant	2.23
20102	Air Freshener, Single Phase Aerosol	2.22
20701	Charcoal Lighter Material	2.21
21013	Multi-purpose Lubricant (including solid and semisolid products)	2.17
20101	Air Freshener, Double Phase Aerosol	2.02
31006	Mouthwash/Rinse	1.94
40403	Crawling Bug Insecticide (aerosol)	1.93
60205	Denatured Alcohol	1.90
20601	Aerosol Cooking Spray	1.82
30705	External Analgesic Product	1.65
21405	Floor Wax Stripper	1.57
20104	Air Freshener, liquid/pump spray	1.37
30613	No Rinse Shampoo (Dry Shampoo and Conditioner)	1.35
70206	Body Repair Products (other than coatings)	1.30
30603	Dye, permanent	1.28
70218	Windshield Washer Fluid Additive	1.27
30102	Deodorant	1.18
20306	Disinfectant (nonaerosol)	1.17

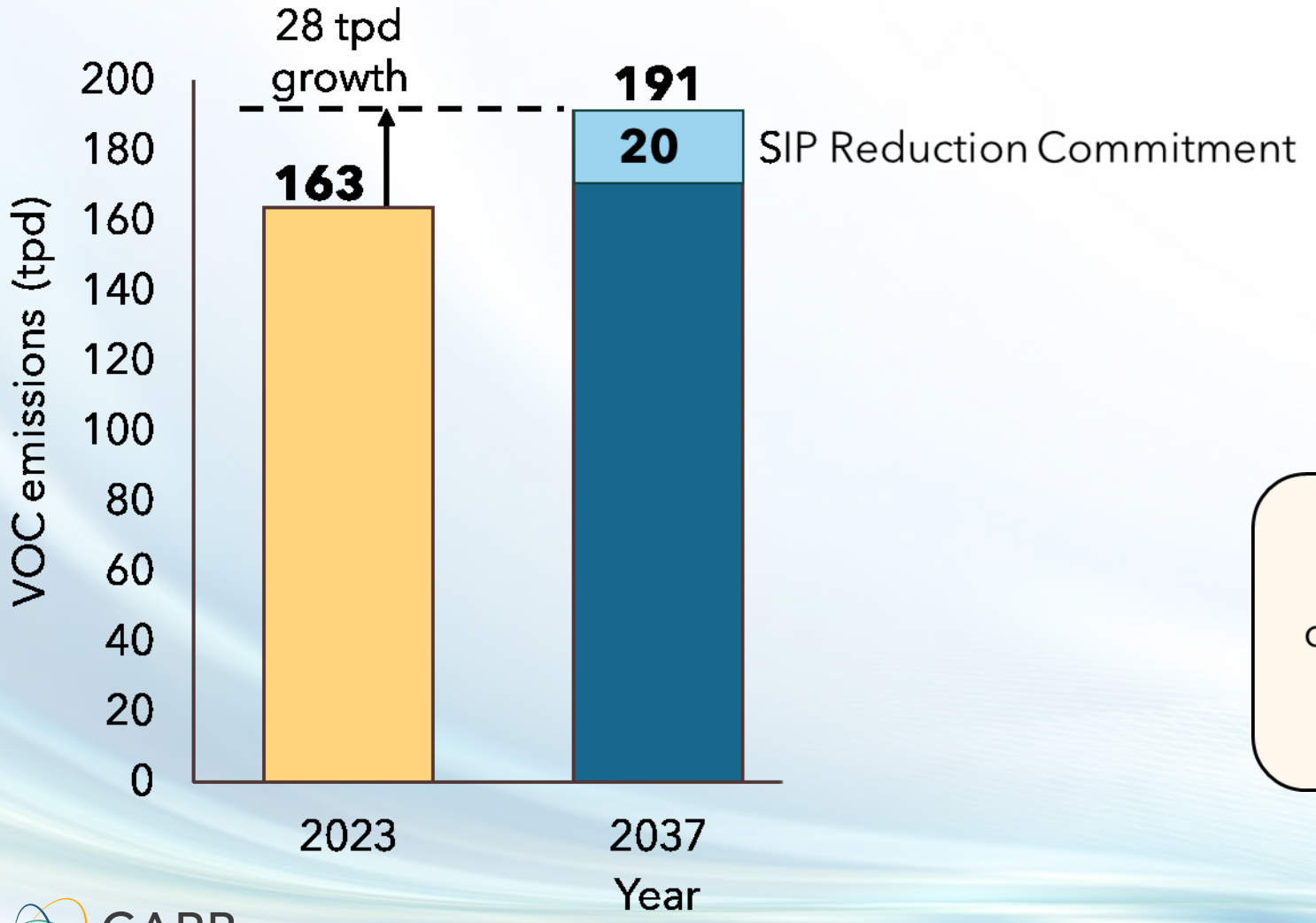
Total VOC for All 451 Categories 172.17

Category Code	Category Name	2037 VOC-eq (tpd)
20311	General Purpose Cleaner (nonaerosol)	10.12
30502	Personal Fragrance Products with 20% or less fragrance	9.68
30201	Anti-microbial Dry Hand Wash (Hand Sanitizer)	9.20
20903	Laundry Detergent	9.13
30404	Hand and Body Conditioner, Cream, Lotion, and Moisturizer	8.06
30606	Hair Finishing Spray	7.62
20104	Air Freshener, liquid/pump spray	5.14
30102	Deodorant	4.30
10115	Plastic Pipe Cement and Primer	4.07
20305	Disinfectant (aerosol)	3.82
30603	Dye, permanent	3.46
30602	Conditioner without styling claims	3.35
20153	Scented Candle	3.26
21405	Floor Wax Stripper	3.22
30710	Rubbing Alcohol	2.94
20326	Oven or Grill Cleaner (nonaerosol)	2.80
30411	Sunscreen (hair or body) (aerosol)	2.73
30207	Body Wash/Mousse/Gel/Soap/FoamScrub	2.70
20919	Liquid Fabric Softener	2.36
20313	General Purpose Degreaser (nonaerosol)	2.12
30101	Antiperspirant	1.74
20103	Dual Purpose Air Freshener/Disinfectant (aerosol)	1.60
31006	Mouthwash/Rinse	1.60
70208	Brake Cleaner	1.59
30705	External Analgesic Product	1.56
60216	Paint Thinner (nonaerosol)	1.51
30202	Anti-microbial hand or body cleaner or soap	1.50
30615	Shampoo	1.48
31202	Pet Care Products (pet litter, etc.)	1.43

Total VOC-eq for All 451 Categories 172.17

CARB

2022 SIP Commitment



20 tpd VOC Reductions

OR

20 tpd VOC-eq Reductions ✓

We will utilize the VOC-eq commitment metric in this category selection methodology and subsequent evaluation of regulatory proposals

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Category Selection Drivers and Methodology

Fulfillment of 2022 SIP Commitment

Capture changes due to US EPA regulations

Promote Program's Toxics Priorities

EPA Prohibited Methylene Chloride in Paint Strippers in 2019

2015 CARB Consumer and Commercial Product Survey - December 12, 2019

Category Code	Category Name	Product Data					Emissions Data *(Fate and Transport Adjusted)*				
		Reporting Companies	Reported Products	Sales (tpd)	Sales Weighted Average VOC Content (undiluted)	Speciation (VOC, LVP-VOC, Exempt, Water, Other)	VOC (tpd)	ROG (tpd)	TOG (tpd)	PWMIR (gO_3/g)	Ozone Forming Potential (tpd)
60201	Baseboard Stripper*	11	17	0.03	28.59%		0.01	0.01	0.01	0.70	0.02
60202	Brush Cleaner and Reconditioner*	17	51	0.35	9.78%		0.03	0.04	0.27	0.39	0.14
60203	Clean Up Solvent	11	26	0.58	24.43%		0.14	0.16	0.57	0.57	0.33
60204	Specialty Degreasers (specific use)*	Omitted to Protect Confidentiality									
60205	Denatured Alcohol	5	16	1.75	97.44%		1.70	1.70	1.70	1.04	1.82
60206	Floor or Wall Covering Adhesive Remover	Omitted to Protect Confidentiality									
60207	Gasket or Thread Locking Adhesive Remover*	6	8	0.01	45.82%		0.01	0.01	0.01	1.05	0.01
60208	General Purpose Adhesive Remover	25	57	0.22	11.08%		0.02	0.05	0.07	0.60	0.13
60209	Graffiti Remover (aerosol)	22	28	0.13	46.71%		0.06	0.08	0.12	1.79	0.24
60210	Graffiti Remover (nonaerosol)	26	57	0.15	20.03%		0.03	0.09	0.10	1.13	0.17
60211	Lacquer Thinner	10	57	4.63	10.21%		0.47	0.47	4.53	0.53	2.47
60212	Multi-purpose Solvent (aerosol)	7	14	0.75	96.28%		0.72	0.72	0.73	1.29	0.97
60213	Multi-purpose Solvent (nonaerosol)	18	96	6.58	1.54%		0.10	0.89	6.32	0.46	3.03
60214	Paint Remover or Stripper	32	181	3.75	24.81%		0.93	1.03	3.46	0.47	1.76
60215	Paint Thinner (aerosol)*	Omitted to Protect Confidentiality									
60216	Paint Thinner (nonaerosol)	12	83	4.96	11.84%		0.59	3.93	4.23	0.78	3.86
60217	Specialty Adhesive Remover*	8	15	0.02	59.22%		0.01	0.01	0.02	2.82	0.07
60218	Spray Gun Cleaner and Solvent*	9	20	0.08	4.04%		0.00	0.05	0.07	0.53	0.04
60219	Surface Preparation Solvent and Cleaner (Marine Vessel and Watercraft Surfaces)*	Omitted to Protect Confidentiality									
60220	Surface Preparation Solvent and Cleaner (Motor Vehicle Surfaces)*	11	53	0.09	32.13%		0.03	0.03	0.03	0.76	0.07
60221	Thinner/Reducer/Retardant (Furniture Coating Systems)	4	11	0.03	99.28%		0.03	0.03	0.03	2.74	0.08
60222	Thinner/Reducer/Retardant (Marine Vessel and Watercraft Coating Systems)*	Omitted to Protect Confidentiality									
60223	Thinner/Reducer/Retardant (Motor Vehicle Coating Systems)	5	59	0.65	34.69%		0.22	0.22	0.37	0.60	0.39
60224	Other adhesive removers	Omitted to Protect Confidentiality									
60299	Other solvent and thinning products	21	92	0.40	11.41%		0.05	0.05	0.06	0.17	0.07

Paint Remover or Stripper:
Ranked as 54th highest contributing category to OFP

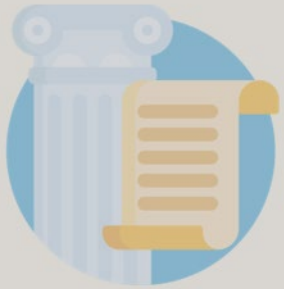
Need to survey to capture the impact of methylene chloride prohibition

Posted at CARB, 2019

CARB

Category Selection Drivers and Methodology

Fulfillment of 2022 SIP Commitment



Capture changes due to US EPA regulations

Promote Program's Toxics Priorities

Consumer Products Toxicity Ranking Methodology

Based on EPA Risk-Screening Environmental Indicators Methodology Hazard-based approach

Chemical Toxicity Weights

Toxicity Score

Toxicity Ranking of Categories

Consumer Product Survey Speciation

Identified toxics and their mass

Toxicity Ranking of Chemicals

OEHHA
California Office of Environmental Health Hazard Assessment

Vetted through Extensive Consultation with OEHHA Toxicologists

Top 10 Toxic Chemicals and Categories for Consumer Products

Rank	Chemical Name	Mass (tpd)	Final Toxicity Score
1	Parachlorobenzotrifluoride (PCBTF)	0.32	9853
2	Methylene Chloride (Dichloromethane)	2.18	7861
3	Perchloroethylene (Tetrachloroethylene)	0.26	5676
4	1,4-Dichlorobenzene	0.58	2245
5	Trichloroethylene	0.11	1654
6	Glutaraldehyde	0.01	417
7	Peroxyacetic Acid	0.08	352
8	n-Propyl Bromide	0.02	317
9	Acrylic Acid	0.03	115
10	Ethylene Glycol Monobutyl Ether	2.24	96

Rank	Category Name	Toxics Mass (tpd)	Final Toxicity Score
1	Paint Remover or Stripper	2.79	7557
2	Energized Electrical Cleaner	0.32	6200
3	Thinner/Reducer/Retardant (Motor Vehicle Coating Systems)	0.15	3508
4	Mothballs	0.58	2245
5	Paint Thinner	0.10	2024
6	Sealant or Caulking Compound – Nonchemically Curing	0.27	1900
7	Lacquer Thinner	0.34	1813
8	General Purpose Degreaser	0.06	1024
9	Plastic Pipe Cement and Primer	2.81	390
10	Sanitizer (nonaerosol)	0.10	265

Top Toxics have already been Prohibited in Key Categories

Rank	Chemical Name	Mass (tpd)	Final Toxicity Score
1	Parachlorobenzotrifluoride (PCBTF)	0.32	9853
2	Methylene Chloride (Dichloromethane)	2.18	7861
3	Perchloroethylene (Tetrachloroethylene)	0.26	5676
4	1,4-Dichlorobenzene	0.58	2245
5	Trichloroethylene	0.11	1654
6	Glutaraldehyde	0.01	417
7	Peroxyacetic Acid	0.08	352
8	n-Propyl Bromide	0.02	317
9	Acrylic Acid	0.03	115
10	Ethylene Glycol Monobutyl Ether	2.24	96

Prohibited in

43

Consumer Product Categories

Table 94509 (m)(1)(A). *The California Consumer Products Regulations*. CARB, 2022.

EPA Prohibited Methylene Chloride in Paint Strippers in 2019

Rank	Chemical Name	Mass (tpd)	Final Toxicity Score
1	Parachlorobenzotrifluoride (PCBTF)	0.32	9853
2	Methylene Chloride (Dichloromethane)	2.18	7861
3	Perchloroethylene (Tetrachloroethylene)	0.26	5676
4	1,4-Dichlorobenzene	0.58	2245
5	Trichloroethylene	0.11	1654
6	Glutaraldehyde	0.01	417
7	Peroxyacetic Acid	0.08	352
8	n-Propyl Bromide	0.02	317
9	Acrylic Acid	0.03	115
10	Ethylene Glycol Monobutyl Ether	2.24	96

Rank	Category Name	Final Toxicity Score
1	Paint Remover or Stripper	7555.93
2	Plastic Pipe Cement and Primer	255.57
3	Carburetor or Fuel-Injection Air Intake Cleaner	42.38
4	Penetrant	4.60
5	Other sealants and caulks	1.40
6	Wick Lamp Fuel, Scented and Nonscented	1.18
7	Bug and Tar Remover (non-automotive)	0.34
8	Gear, Chain, or Wire Lubricant (nonaerosol)	0.02
9	Multi-purpose Dry Lubricant	0.01
10	Other adhesives	0.00
11	General Use Hand or Body Cleaner or Soap	0.00
12	Dish Detergent/Soap (manual)	0.00
13	Other fabric, carpet, and upholstery care products	0.00
14	Carpet and Upholstery Cleaner (nonaerosol - dilutable)	0.00
15	General Purpose Degreaser (nonaerosol)	0.00

We plan to survey the "Paint Remover or Stripper" category to capture the impact of methylene chloride prohibition by EPA in 2019

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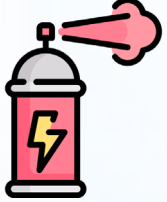

Perc and TCE: Essential Non-Flammable Solvents for Safety

Rank	Chemical Name	Mass (tpd)	Final Toxicity Score
1	Parachlorobenzotrifluoride (PCBTF)	0.32	9853
2	Methylene Chloride (Dichloromethane)	2.18	7861
3	Perchloroethylene (Tetrachloroethylene)	0.26	5676
4	1,4-Dichlorobenzene	0.58	2245
5	Trichloroethylene	0.11	1654
6	Glutaraldehyde	0.01	417
7	Peroxyacetic Acid	0.08	352
8	n-Propyl Bromide	0.02	317
9	Acrylic Acid	0.03	115
10	Ethylene Glycol Monobutyl Ether	2.24	96

Rank	Category Name	Final Toxicity Score
1	Energized Electrical Cleaner	4746.74
2	General Purpose Degreaser (labeled not for retail sale)	762.92
3	Other vehicle and marine vessel maintenance and repair products	79.42
4	Gear, Chain, or Wire Lubricant (aerosol)	39.29
5	Other solvent and thinning products	30.76
6	General Purpose Cleaner (aerosol)	9.62
7	Single Purpose Cleaner	5.29
8	Penetrant	0.78
9	Gear, Chain, or Wire Lubricant (nonaerosol)	0.31
10	Multi-purpose Lubricant (including solid and semisolid products)	0.31
11	Silicone-based Multi-purpose Lubricant	0.22

Rank	Category Name	Final Toxicity Score
1	Energized Electrical Cleaner	592.91
2	General Purpose Degreaser (labeled not for retail sale)	107.57
3	Plastic Pipe Cement and Primer	63.10
4	Single Purpose Cleaner	10.16
5	General Purpose Degreaser (aerosol)	4.98
6	Other office supply products	1.96
7	Other lubricants and penetrants	1.01
8	Rubbing and Polishing Compound (other than automotive)	0.76
9	Belt Dressing	0.29
10	Single Purpose Degreaser	0.21
11	Silicone-based Multi-purpose Lubricant	0.13
12	Multi-purpose Lubricant (including solid and semisolid products)	0.00

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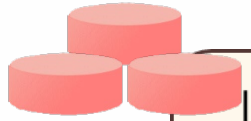
1,4-Dichlorobenzene in Mothballs

Rank	Chemical Name	Mass (tpd)	Final Toxicity Score
1	Parachlorobenzotrifluoride (PCBTF)	0.32	9853
2	Methylene Chloride (Dichloromethane)	2.18	7861
3	Perchloroethylene (Tetrachloroethylene)	0.26	5676
4	1,4-Dichlorobenzene	0.58	2245
5	Trichloroethylene	0.11	1654
6	Glutaraldehyde	0.01	417
7	Peroxyacetic Acid	0.08	352
8	n-Propyl Bromide	0.02	317
9	Acrylic Acid	0.03	115
10	Ethylene Glycol Monobutyl Ether	2.24	96



In 2004, CARB prohibited 1,4-Dichlorobenzene from Solid Air Fresheners and Toilet/Urinal Products

Rank	Category Name	Final Toxicity Score
1	Mothballs	2244.78

- CARB does not have the authority to regulate 1,4-Dichlorobenzene as a pesticide in mothballs
- Authority is under the Department of Pesticide Regulation

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Promote Program's Toxics Priorities

PCBTF is the top ranked toxic among 451 product categories based on the Consumer Products Toxicity Ranking Methodology

Already prohibited in 10 categories

Table 94509 (m)(1)(B)

Seek to explore prohibiting continued use of PCBTF in categories currently found

Rank	Chemical Name	Mass (tpd)	Final Toxicity Score
1	Parachlorobenzotrifluoride (PCBTF)	0.32	9853
2	Methylene Chloride (Dichloromethane)	2.18	7861
3	Perchloroethylene (Tetrachloroethylene)	0.26	5676
4	1,4-Dichlorobenzene	0.58	2245
5	Trichloroethylene	0.11	1654
6	Glutaraldehyde	0.01	417
7	Peroxyacetic Acid	0.08	352
8	n-Propyl Bromide	0.02	317
9	Acrylic Acid	0.03	115
10	Ethylene Glycol Monobutyl Ether	2.24	96

Rank	Category Name	Final Toxicity Score
1	Thinner/Reducer/Retardant (Motor Vehicle Coating Systems)	3508.16
2	Paint Thinner (nonaerosol)	2022.73
3	Sealant or Caulking Compound -- Nonchemically Curing	1875.23
4	Lacquer Thinner	1807.97
5	Footwear or Leather Care Product (all other forms)	223.07
6	Multi-purpose Solvent (nonaerosol)	156.53
7	Footwear or Leather Care Product (aerosol)	126.71
8	Clean Up Solvent	54.80
9	Rust Preventative or Rust Control Lubricant (aerosol)	20.83
10	Undercoating (aerosol only)	16.88
11	Carpet and Upholstery Cleaner (nonaerosol - dilutable)	3.78
12	General Purpose Degreaser (aerosol)	3.77
13	Metal Polish/Cleanser (aerosol)	1.42
14	Cutting or Tapping Oil (aerosol)	1.12
15	General Purpose Degreaser (nonaerosol)	1.08
16	Spot Remover (nonaerosol)	1.06
17	Sealant or Caulking Compound -- Chemically Curing	0.79
18	Multi-purpose Dry Lubricant	0.38
19	Penetrant	0.21

How would prohibition of PCBTF affect emissions?

PCBTF-containing Survey Category

Set A: Products with PCBTF

- # of products
- Sales A
- Sales-Weighted Average VOC mass % A
- Sales-Weighted Average PWMIR A

Set B: Products without PCBTF

- # of products
- Sales B
- Sales-Weighted Average VOC mass % B
- Sales-Weighted Average PWMIR B

*Simplified equations for speciated products

Potential VOC reduction = sales A × (SWA VOC % A – SWA VOC % B) *

Potential OFP reduction = sales A × (SWA PWMIR A – SWA PWMIR B) *

Potential VOC-eq reduction = OFP reduction × 0.351

PCBTF Elimination : Converting OFP impact to VOC-eq

Catcode	Category Name	Strategy Type	# of products	2037 Sales (tpd)	2037 OFP (tpd)	SWA VOC %	SWA PWMIR	Δ VOC (tpd)	Δ OFP (tpd)	Δ VOC-eq (tpd)
60223	Thinner/Reducer/Retardant (Motor Vehicle Coating Systems)	with PCBTF	21	0.17	0.03	0.54	0.18	0.07 ↑	0.09 ↑	0.03
		without PCBTF	47	0.56	0.41	44.81	0.73			
		unspeciated	1	0.00	0.00	34.69	0.60			
70117	Undercoating (aerosol only)	with PCBTF	2	0.01	0.01	38.95	0.83	0.00 ↓	0.00 ↓	0.00
		without PCBTF	32	0.14	0.11	35.42	0.80			
		unspeciated	30	0.43	0.35	35.59	0.81			
60216	Paint Thinner (nonaerosol)	with PCBTF	12	1.64	1.10	0.33	0.67	0.45 ↑	0.42 ↑	0.15
		without PCBTF	79	2.34	2.00	19.93	0.85			
		unspeciated	29	1.58	1.23	11.83	0.78			
10210	Sealant or Caulking Compound -- Nonchemically Curing	with PCBTF	148	0.42	0.09	12.50	0.20	-0.05 ↓	-0.07 ↓	-0.02
		without PCBTF	685	30.18	1.87	0.97	0.06			
		unspeciated	401	3.38	0.22	1.13	0.06			
60211	Lacquer Thinner	with PCBTF	12	0.34	0.12	2.57	0.35	0.03 ↑	0.07 ↑	0.03
		without PCBTF	50	4.21	2.30	10.79	0.55			
		unspeciated	10	0.64	0.34	10.18	0.53			
21303	Footwear or Leather Care Product (all other forms)	with PCBTF	61	0.08	0.04	54.90	0.46	-0.07 ↓	-0.05 ↓	-0.02
		without PCBTF	542	1.88	0.15	2.24	0.08			
		unspeciated	286	1.20	0.12	4.43	0.10			
60213	Multi-purpose Solvent (nonaerosol)	with PCBTF	4	0.09	0.06	0.56	0.64	0.00 ↑	-0.02 ↓	-0.01
		without PCBTF	88	6.10	2.79	1.55	0.46			
		unspeciated	45	1.19	0.55	1.54	0.46			
21301	Footwear or Leather Care Product (aerosol)	with PCBTF	7	0.02	0.02	74.58	0.94	-0.01 ↓	-0.02 ↓	-0.01
		without PCBTF	38	0.31	0.14	35.86	0.45			
		unspeciated	62	0.19	0.09	38.15	0.48			
Net VOC and OFP Impacts of PCBTF Elimination								**0.43 ↑**	**0.44 ↑**	**0.16**

Reduction in VOC-eq

Increase in VOC-eq

Net VOC-eq increase

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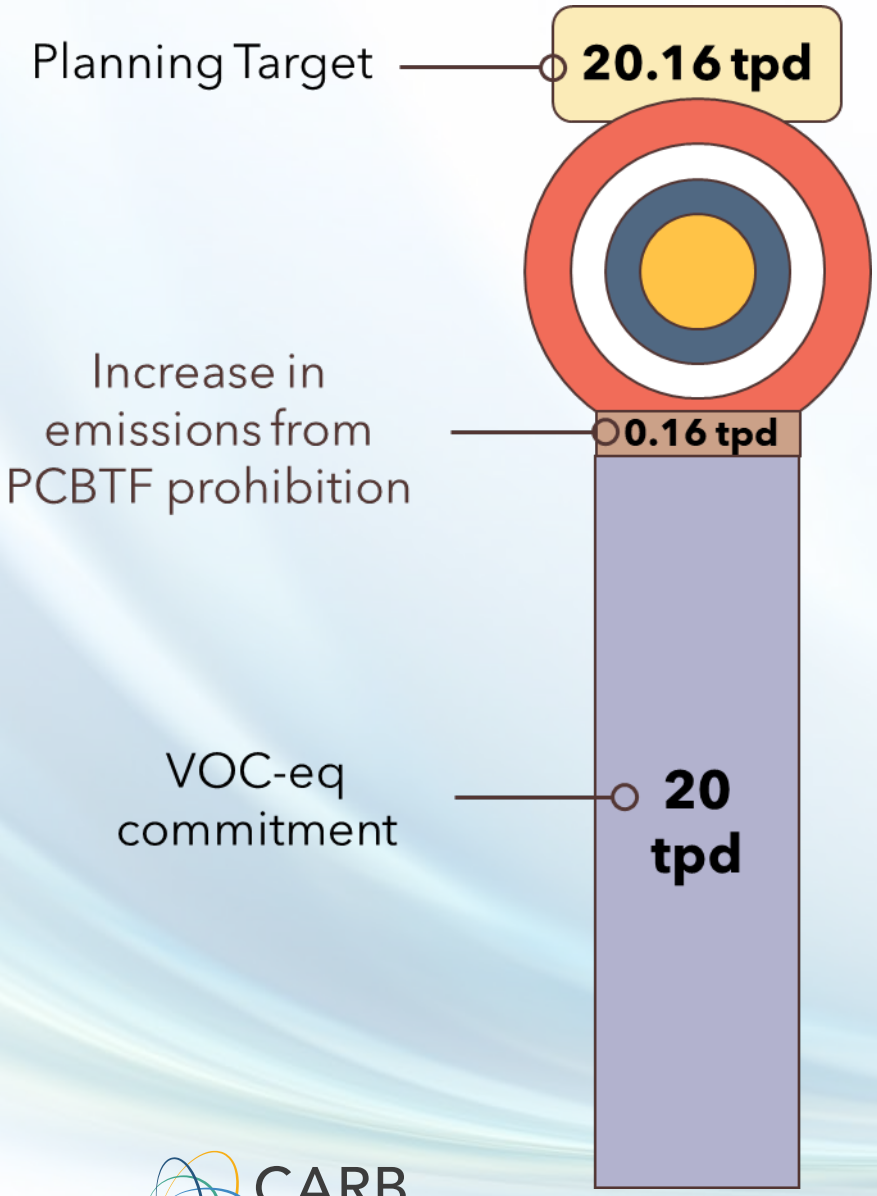
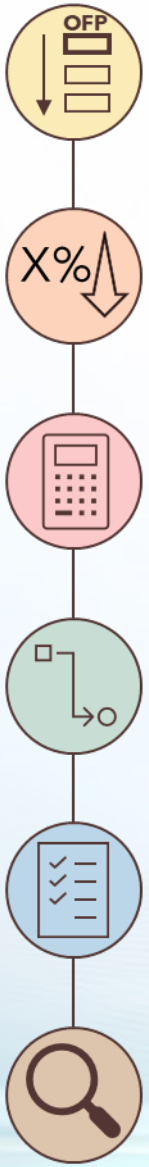
Survey Category Selection Methodology





Rank categories in terms of OFP

Planning Scenario
X% Reduction in Reactivity across all categories

Calculate the OFP Reductions across all categories

Convert OFP Reductions to VOC-eq Reductions across all categories

Determine the minimum number of categories N needed to meet the 20.16 tpd planning target

Is X% Scenario Feasible for all Selected Categories?

NO

If infeasible, replace with next ranked categories

Repeat for a new X%

YES

Selection Complete

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Step1: What is the programmatic minimum Reactivity Reduction needed?

Step A: Assume a programmatic X % reduction in SWA PWMIR for all categories in 2037

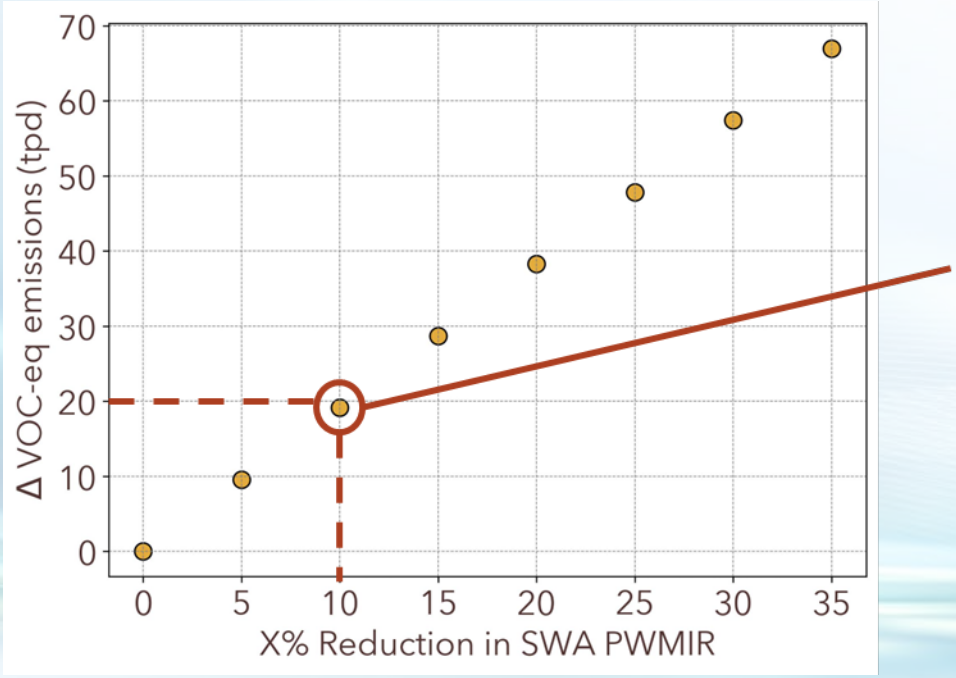
X % SWA PWMIR Reduction in 2037

Step B: Calculate programmatic OFP reduction across all categories

Δ OFP = 2037 Sales * PWMIR * X%

Step C: Calculate VOC-eq Reductions

Δ VOC-eq = Δ OFP * 0.351



We need over a 10% Reduction in Reactivity in ALL 451 categories to reach 20.16 tpd of VOC-eq reductions

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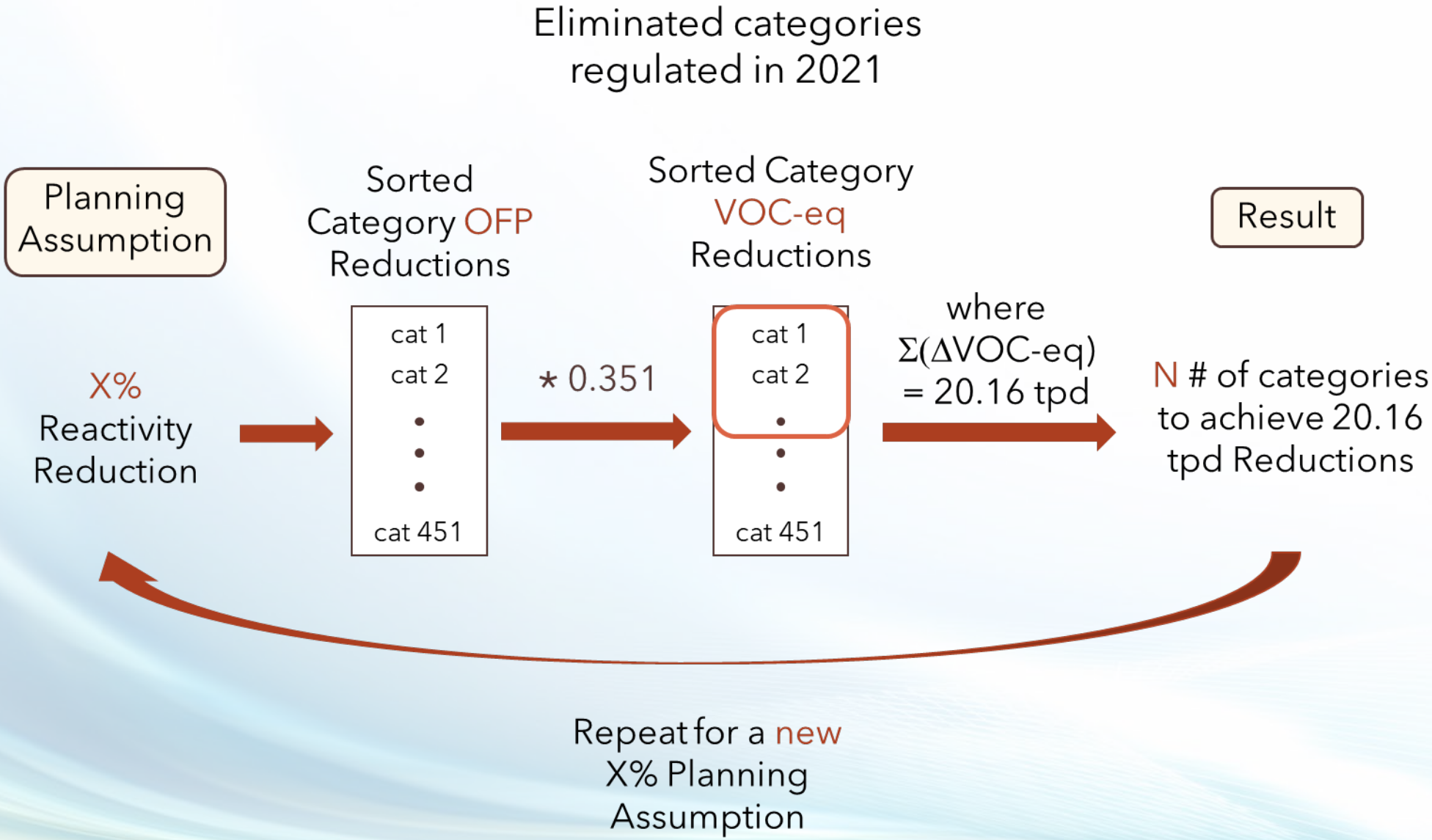
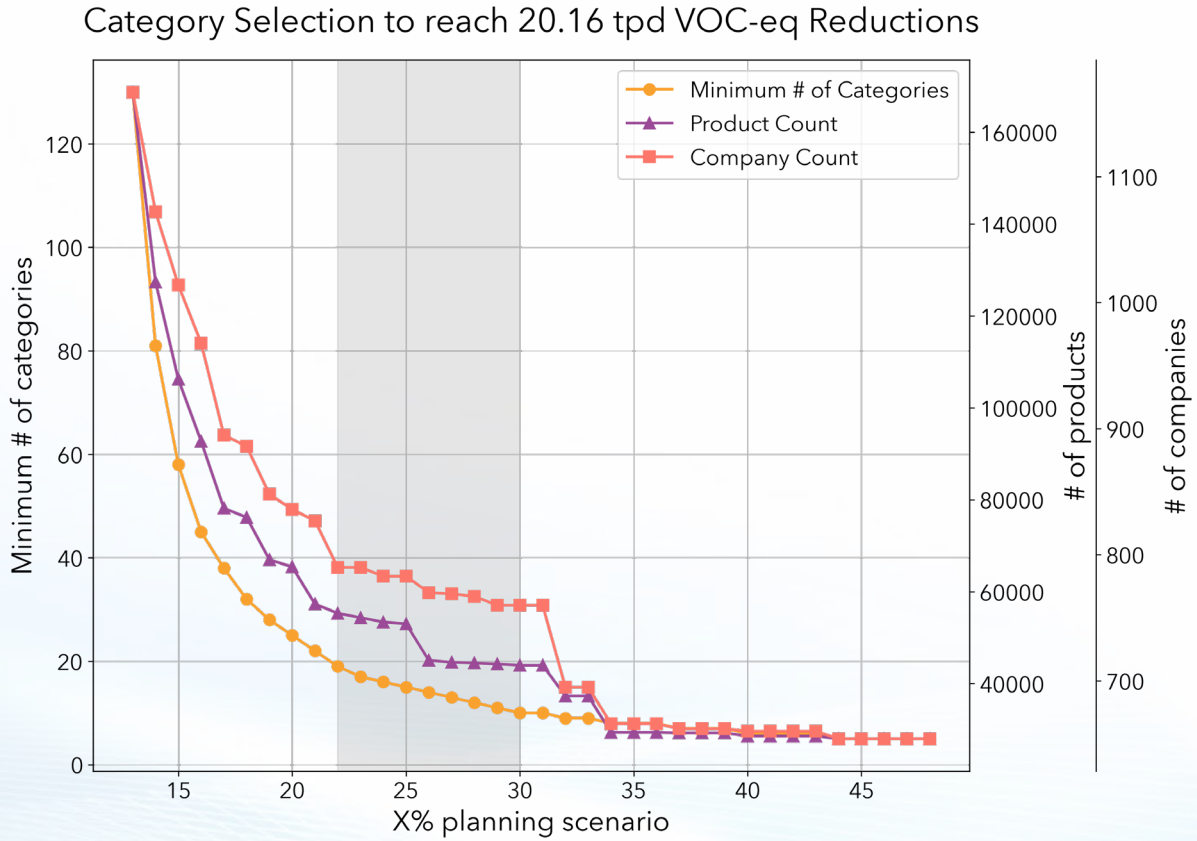
Step 2: What is the minimum number of categories we need?



Step 3: Quantify Survey Effort for each X% reduction scenario

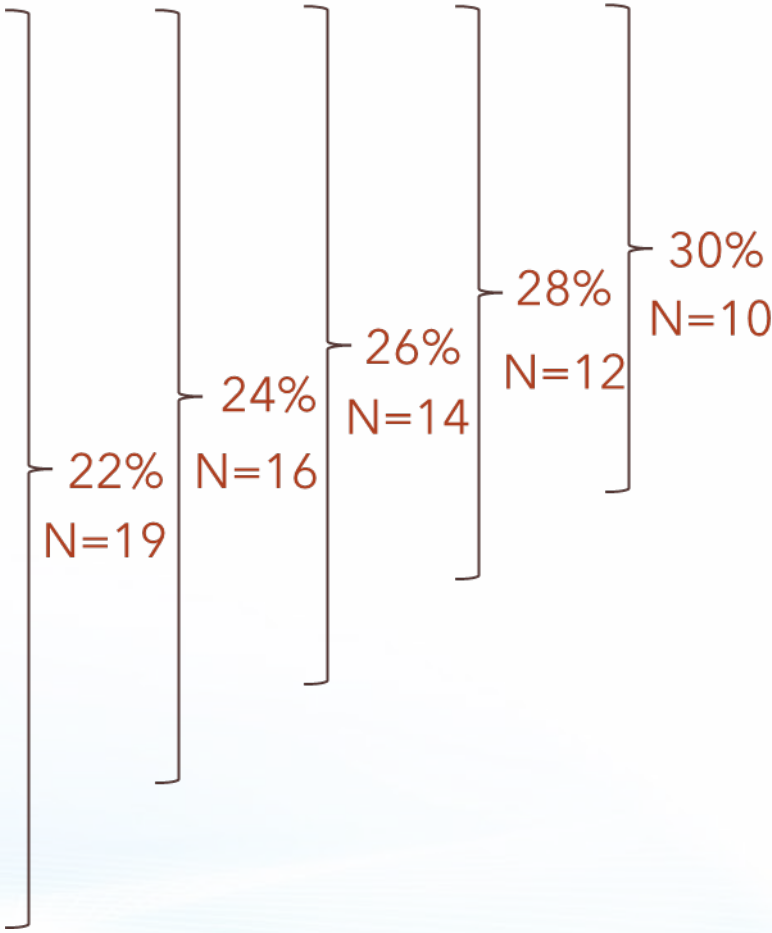
X% Reactivity Reduction	N # of Categories Needed	# of Previously regulated categories	Product Count	Company Count
13%	130	60	168,692	1,167
14%	81	35	127,395	1,072
15%	58	23	106,235	1,014
16%	45	17	92,761	968
17%	38	14	78,176	895
18%	32	11	76,179	886
19%	28	9	66,986	848
20%	25	9	65,401	836
21%	22	8	57,334	827
22%	19	7	55,320	790
23%	17	6	54,371	790
24%	16	5	53,418	783
25%	15	5	53,031	783
26%	14	5	45,072	770
27%	13	5	44,667	769
28%	12	4	44,484	767
29%	11	4	44,269	760
30%	10	3	44,001	760
31%	10	3	44,001	760
32%	9	3	37,328	695
33%	9	3	37,328	695



Categories to Survey

Rank	Category Code	Category Name	VOC-eq (tpd)
1	20311	General Purpose Cleaner (nonaerosol)	10.12
2	30201	Anti-microbial Dry Hand Wash (Hand Sanitizer)	9.20
3	20903	Laundry Detergent	9.13
4	30404	Hand and Body Conditioner, Cream, Lotion, and Moisturizer	8.06
5	20104	Air Freshener, liquid/pump spray	5.14
6	30102	Deodorant	4.30
7	10115	Plastic Pipe Cement and Primer	4.07
8	20305	Disinfectant (aerosol)	3.82
9	30603	Dye, permanent	3.46
10	30602	Conditioner without styling claims	3.35
11	21405	Floor Wax Stripper	3.22
12	30710	Rubbing Alcohol	2.94
13	20326	Oven or Grill Cleaner (nonaerosol)	2.80
14	30411	Sunscreen (hair or body) (aerosol)	2.73
15	30207	Body Wash/Mousse/Gel/Soap/Foam/Scrub	2.70
16	20919	Liquid Fabric Softener	2.36
17	20313	General Purpose Degreaser (nonaerosol)	2.12
18	30101	Antiperspirant	1.74
19	20103	Dual Purpose Air Freshener/Disinfectant (aerosol)	1.60
20	31006	Mouthwash/Rinse	1.60
21	70208	Brake Cleaner	1.59
22	30705	External Analgesic Product	1.56
23	60216	Paint Thinner (nonaerosol)	1.51
24	30202	Anti-microbial hand or body cleaner or soap	1.50
25	30615	Shampoo	1.48

Programmatic Reactivity Reduction Scenarios

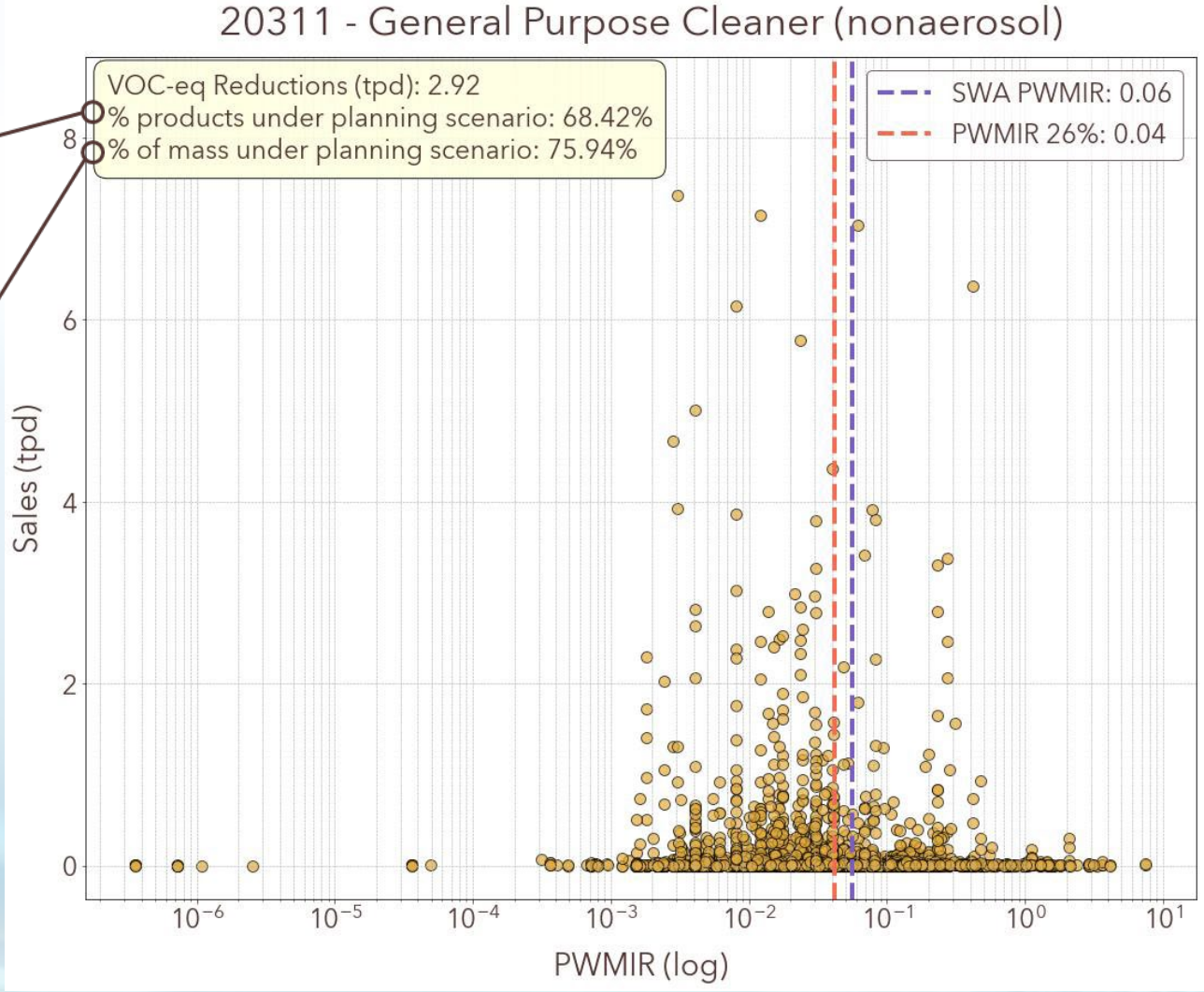


Feasible X% Reactivity Reduction Example

Planning Scenario: 26% reactivity reduction

indicator of technical feasibility of product reformulation

indicator of consumer acceptance of reformulated products

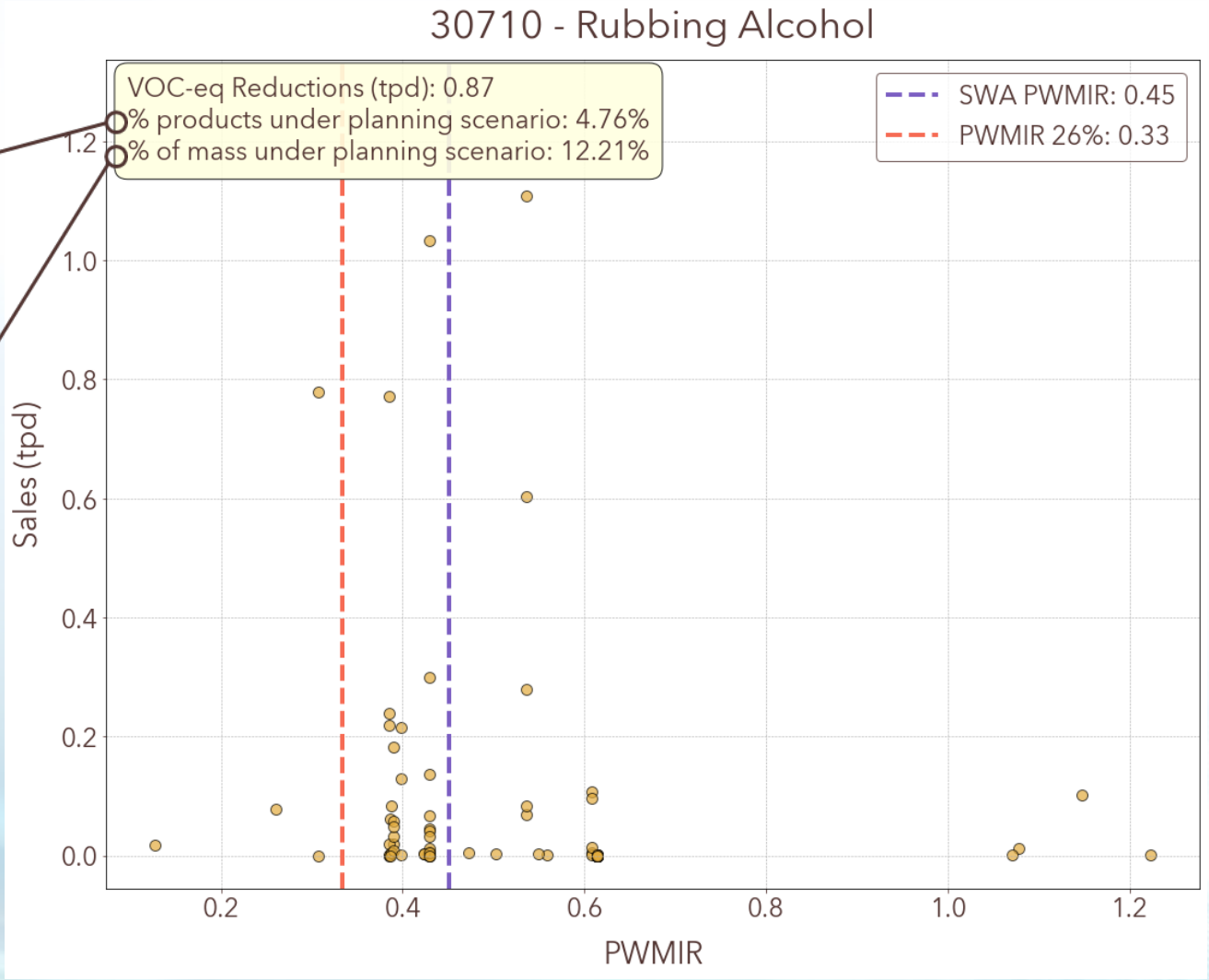


Infeasible X% Reactivity Reduction Example

Planning Scenario: 26% reactivity reduction

indicator of technical feasibility of product reformulation

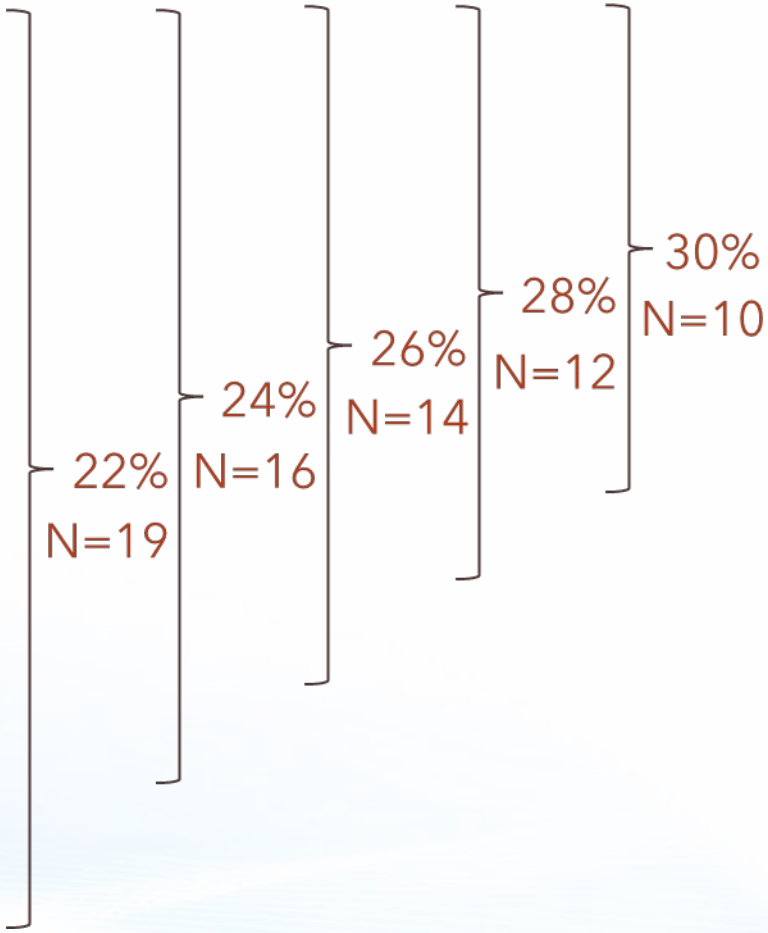
indicator of consumer acceptance of reformulated products



Categories to Survey

= Also on PCBTF Prohibition list

Rank	Category Code	Category Name	VOC-eq (tpd)
1	20311	General Purpose Cleaner (nonaerosol)	11.25
2	30201	Anti-microbial Dry Hand Wash (Hand Sanitizer)	10.22
3	20903	Laundry Detergent	10.14
4	30404	Hand and Body Conditioner, Cream, Lotion, and Moisturizer	8.96
5	20104	Air Freshener, liquid/pump spray	5.71
6	30102	Deodorant	4.78
7	10115	Plastic Pipe Cement and Primer	4.52
8	20305	Disinfectant (aerosol)	4.24
9	30603	Dye, permanent	3.84
10	30602	Conditioner without styling claims	3.72
11	21405	Floor Wax Stripper	3.58
12	30710	Rubbing Alcohol	3.27
13	20326	Oven or Grill Cleaner (nonaerosol)	3.11
14	30411	Sunscreen (hair or body) (aerosol)	3.03
15	30207	Body Wash/Mousse/Gel/Soap/Foam/Scrub	3.00
16	20919	Liquid Fabric Softener	2.62
17	20313	General Purpose Degreaser (nonaerosol)	2.35
18	30101	Antiperspirant	1.93
19	20103	Dual Purpose Air Freshener/Disinfectant (aerosol)	1.78
20	31006	Mouthwash/Rinse	1.77
21	70208	Brake Cleaner	1.77
22	30705	External Analgesic Product	1.73
23	60216	Paint Thinner (nonaerosol)	1.68
24	30202	Anti-microbial hand or body cleaner or soap	1.66
25	30615	Shampoo	1.64



Categories to Survey

Rank	Category Code	Category Name	VOC-eq (tpd)
1	20311	General Purpose Cleaner (nonaerosol)	11.25
2	30201	Anti-microbial Dry Hand Wash (Hand Sanitizer)	10.22
3	20903	Laundry Detergent	10.14
4	30404	Hand and Body Conditioner, Cream, Lotion, and Moisturizer	8.96
5	20104	Air Freshener, liquid/pump spray	5.71
6	30102	Deodorant	4.78
7	10115	Plastic Pipe Cement and Primer	4.52
8	20305	Disinfectant (aerosol)	4.24
9	30603	Dye, permanent	3.84
10	30602	Conditioner without styling claims	3.72
11	21405	Floor Wax Stripper	3.58
12	30710	Rubbing Alcohol	3.27
13	20326	Oven or Grill Cleaner (nonaerosol)	3.11
14	30411	Sunscreen (hair or body) (aerosol)	3.03
15	30207	Body Wash/Mousse/Gel/Soap/Foam/Scrub	3.00
16	20919	Liquid Fabric Softener	2.62
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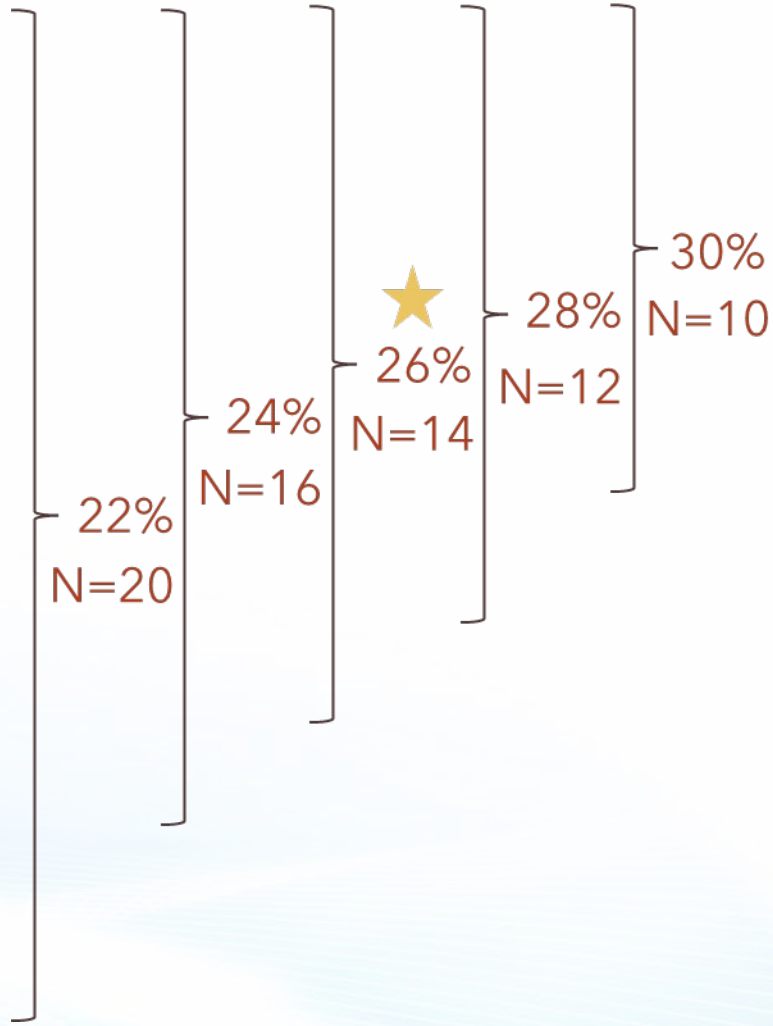
20	31006	Mouthwash/Rinse	1.77
21	70208	Brake Cleaner	1.77
22	30705	External Analgesic Product	1.73
23	60216	Paint Thinner (nonaerosol)	1.68
24	30202	Anti-microbial hand or body cleaner or soap	1.66
25	30615	Shampoo	1.64

= Also on PCBTF Prohibition list



All 34 Selected Categories for new Survey

SIP Commitment for 26% Scenario
(14 categories)

Category Code	Category Name
20311	General Purpose Cleaner (nonaerosol)
30211	Anti-microbial Dry Hand Wash (Hand Sanitizer)
20903	Laundry Detergent
30404	Hand and Body Conditioner, Cream, Lotion, and Moisturizer
20104	Air Freshener, liquid/pump spray
30102	Deodorant
10115	Plastic Pipe Cement and Primer
20305	Disinfectant (aerosol)
30603	Dye, permanent
30602	Conditioner without styling claims
21405	Floor Wax Stripper
20326	Oven or Grill Cleaner (nonaerosol)
30411	Sunscreen (hair or body) (aerosol)
30207	Body Wash/Mousse/Gel/Soap/Foam/Scrub

US EPA Regulations
(1 category)

Category Code	Category Name
60214	Paint Remover or Stripper

PCBTF Prohibition
(19 categories)

Category Code	Category Name
60223	Thinner/Reducer/Retardant (Motor Vehicle Coating Systems)
60216	Paint Thinner (nonaerosol)
10210	Sealant or Caulking Compound -- Nonchemically Curing
60211	Lacquer Thinner
21303	Footwear or Leather Care Product (all other forms)
60213	Multi-purpose Solvent (nonaerosol)
21301	Footwear or Leather Care Product (aerosol)
60203	Clean Up Solvent
21018	Rust Preventative or Rust Control Lubricant (aerosol)
70117	Undercoating (aerosol only)
20504	Carpet and Upholstery Cleaner (nonaerosol - dilutable)
20312	General Purpose Degreaser (aerosol)
20321	Metal Polish/Cleanser (aerosol)
21003	Cutting or Tapping Oil (aerosol)
20313	General Purpose Degreaser (nonaerosol)
20513	Spot Remover (nonaerosol)
10209	Sealant or Caulking Compound -- Chemically Curing
21012	Multi-purpose Dry Lubricant
21014	Penetrant

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Provide Feedback on Webinar

Please email the Survey Help Box at 2023CPSurvey@arb.ca.gov

Please provide feedback by Nov. 15

Program-Related Questions

For general inquiries not related to the survey, please email the general Consumer Products Program help box at csmrprod@arb.ca.gov

Questions

Written

Type in the Q&A box

OR

Verbally

Use the raised hand function (#2 if calling in by phone)

Please state your name and affiliation before asking a question or making a comment