

Architectural Coatings

Update to Suggested Control Measure

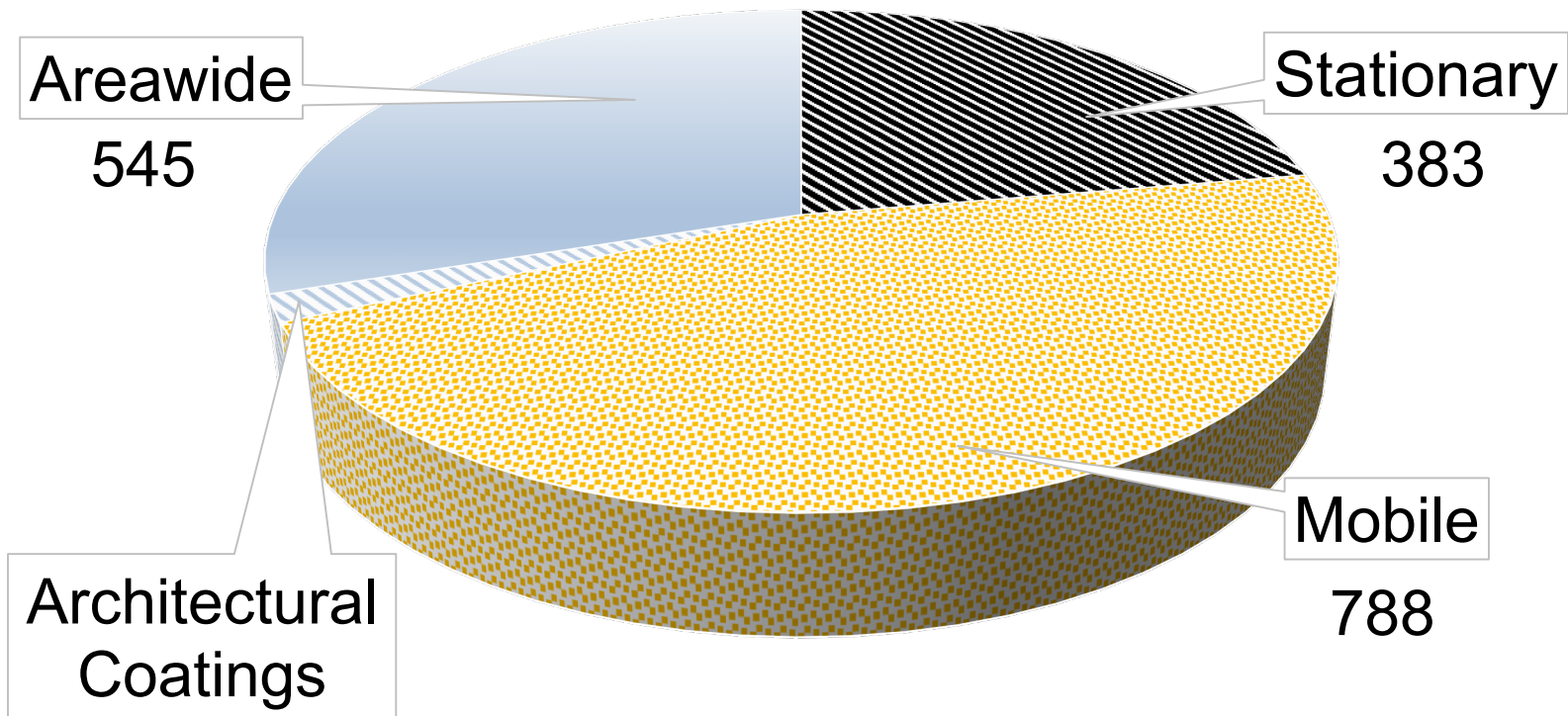


May 23, 2019

Outline

- Background
- Draft suggested control measure (SCM)
- Staff recommendation

Statewide VOC Emissions Tons/Day



Source: CEPAM: 2016 SIP (Summer) - Standard Emission Tool

Definition of Architectural Coatings



- Coatings applied to stationary structures and their appurtenances, including:
 - Paints
 - Stains
 - Industrial maintenance coatings
 - Traffic coatings
- Does not include aerosol paints

Suggested Control Measures



- Air districts have regulatory authority
- SCMs are a model rule
- SCMs promote statewide uniformity
- Benefits
 - Air districts
 - Industry
- Air districts may choose to be more stringent

Rules

- SCM initially developed in 1977 and updated in 1985, 1989, 2000, and 2007
- 22 districts adopted local rules
 - 21 rules based on SCMs;
 - South Coast – more stringent than SCM
- 13 districts operate under the National Rule

2014 Architectural Coatings Survey



- Collected 2013 sales and VOC content of architectural coatings
 - Product information
 - Ingredient information
- Collected sales and VOC data on colorants

Survey Results



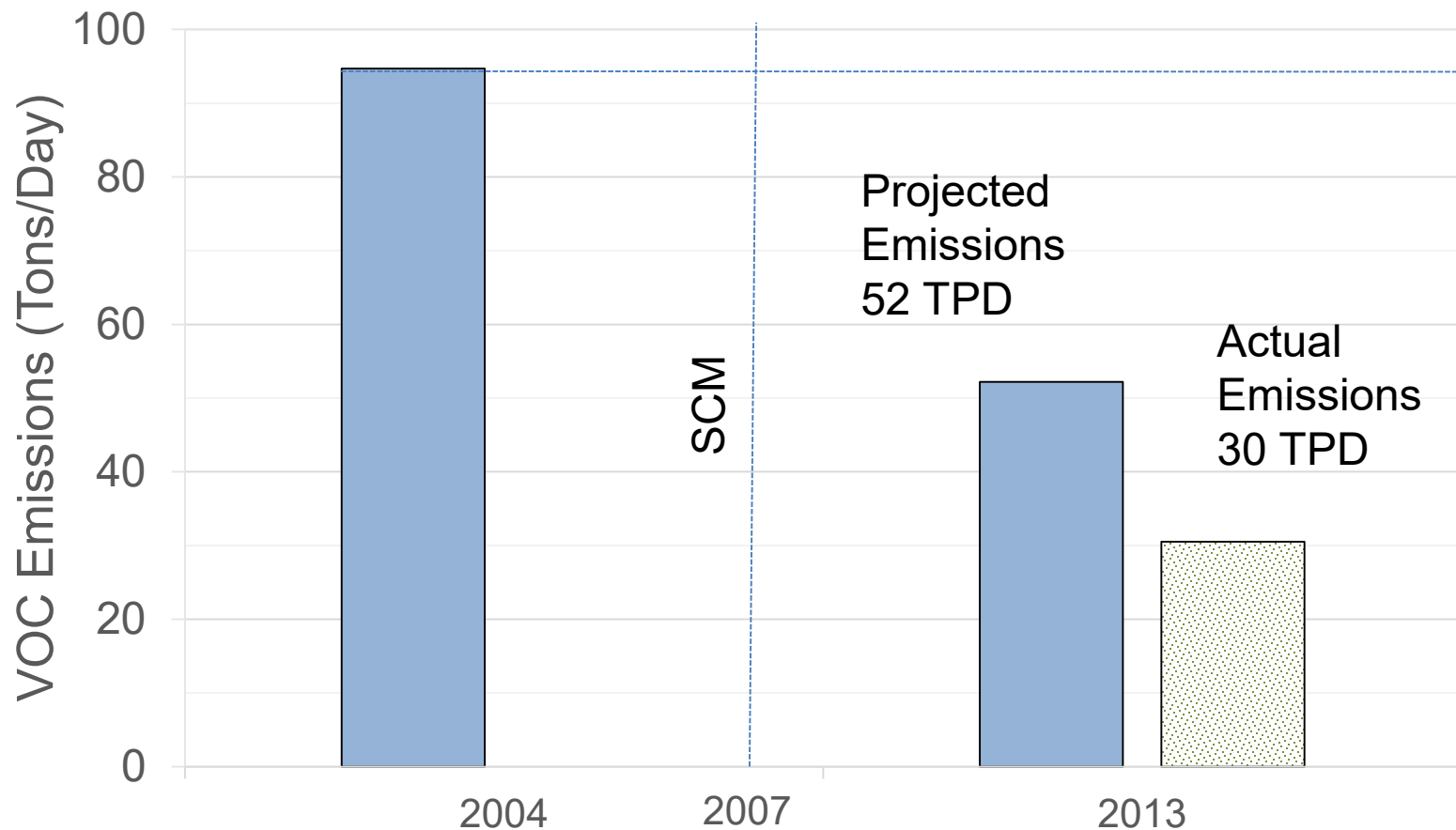
Coatings

- Total sales reported 89 million gallons
- Total VOC emissions of 30.5 TPD

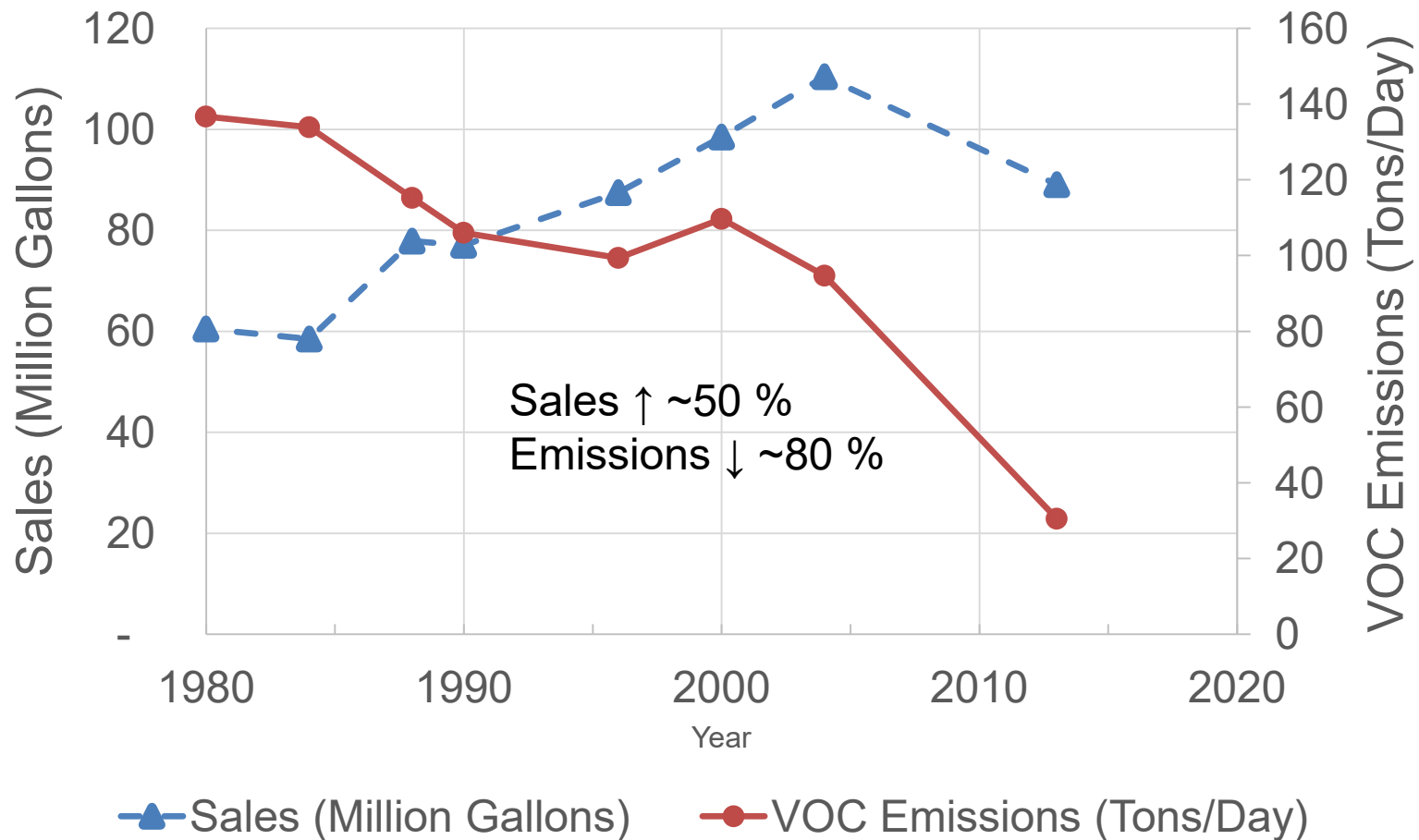
Colorants

- Total sales reported 2 million gallons
- Total VOC emissions of 1.3 TPD

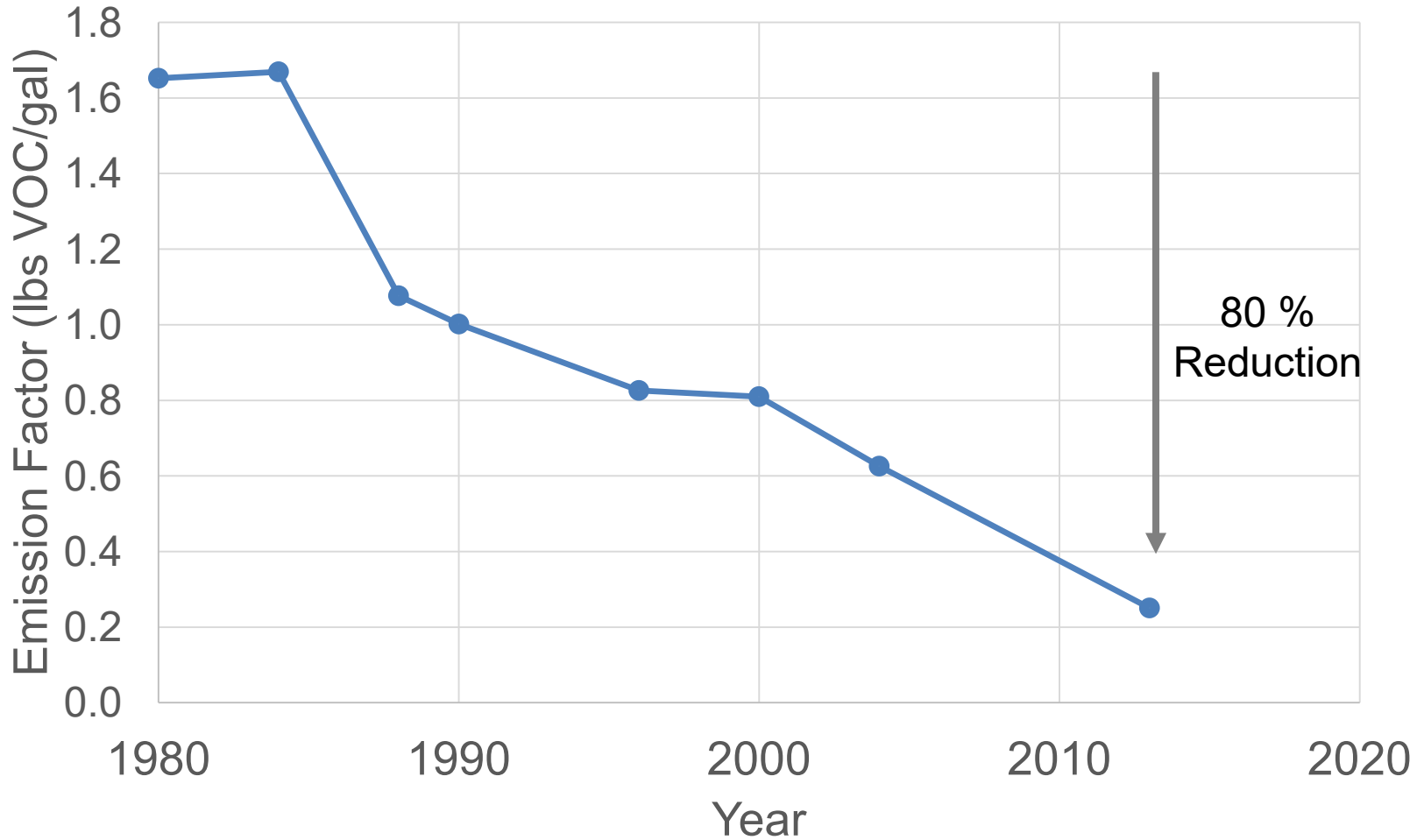
2007 SCM VOC Emission Impacts



Sales and Emissions Trends



Emission Factor Trends



SCM Development Process



- Assembled working group (CARB and district staff)
 - Seven air districts participated
- The working group:
 - Sought input from industry stakeholders
 - Held one public workshop

Draft Proposal: Key Components



- Establish VOC limits for colorants
- Decrease VOC limits for several coating categories sold in containers with a volume greater than one liter
- Prohibit bundling of small containers
- Other technical updates

Draft Proposal: Coatings



Coating Category	Existing VOC Limit, grams/liter (g/l)	Proposed VOC Limit (g/l)
Aluminum Roof Coatings	400	100
Building Envelope Coatings	NA	50
Dry Fog Coatings	150	50
Fire Resistive Coatings	350	150
Floor Coatings	100	50
Form Release Compounds	250	100
Nonflat - High Gloss Coatings	150	50
Nonflat Coatings	100	50
Stains (Exterior/Dual)	250	100
Stains (Interior)	250	250
Tile and Stone Sealers	100	100
Waterproofing Membranes	250	100

Draft Proposal: Colorants



Coating Category	Existing VOC Limit (g/l)	Proposed VOC Limit (g/l)*
Colorants Added to:		
Architectural Coatings, excluding Industrial Maintenance Coatings	NA	50
Solvent-Based Industrial Maintenance Coatings	NA	600
Waterborne Industrial Maintenance Coatings	NA	50
Wood Coatings	NA	600

* Includes 3-year sell-through

Draft Proposal: Small Containers



- Prohibit bundling small containers of the same coating category
- Label or other product literature cannot recommend combining multiple containers

Summary of VOC Reductions

Category	Future VOC Reductions (TPD)	
	Areas with 2007 SCM Rules	Statewide
All Coating Categories	1.32	2.36
Colorants	0.14	0.15
Total	1.46	2.51

Exempt VOC Compounds Concerns



- Use of exempt VOCs not needed to meet proposed SCM limits
 - tertiary-Butyl Acetate (TBAc)
 - Parachlorobenzotrifluoride (PCBTF)

Key Issues Raised by Stakeholders



- Aluminum roof coatings
 - Could eliminate product
 - Potential for hydrogen generation
- Exterior stains
 - Appearance and performance concerns
- Floor coatings
 - Potential issues with users

Pellucere Technologies Request



MoreSun[®] Coatings with Anti-Reflective and Anti-Soiling properties

- Manufacturer requested staff to include a new coating category in SCM
 - Coating intended for use on solar panels
 - Claims to increase energy production from solar arrays
 - Claims to decrease cleaning frequency

Staff Recommendation



- Approve the proposed updates to the SCM with suggested stakeholder changes
- Forward the SCM to the air districts and assist in adoption