



AQMP Advisory Group

October 9, 2019

Cleaning The Air That We Breathe...



Agenda

1. AQMP Advisory Group Overview

2. Upcoming State Implementation Plan (SIP) Obligations

3. 2016 AQMP Implementation

4. Draft Contingency Measure Plan



Agenda Item # 1
AQMP Advisory Group Overview



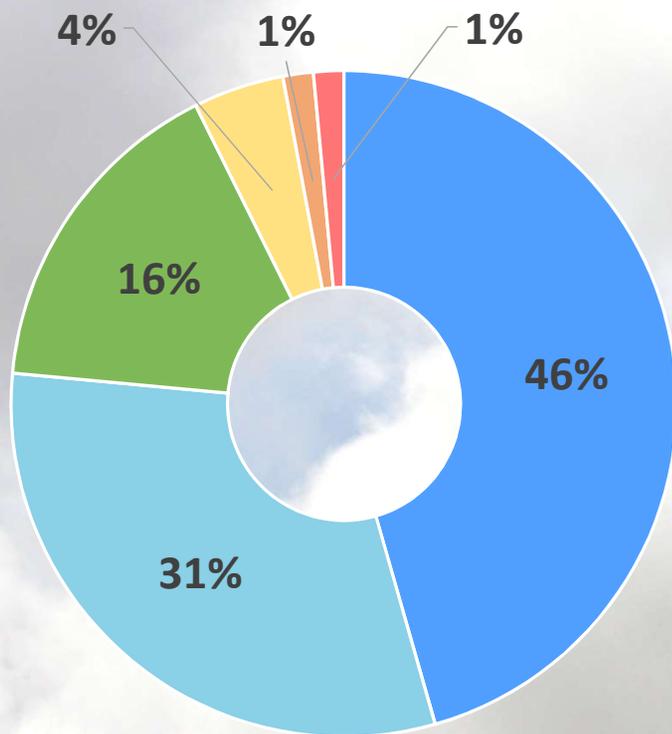
AQMP Advisory Groups Mission Statement

To review the overall aspects of a draft air quality management plan and to make recommendations concerning emission inventories, modeling, control measures, and socioeconomic impacts, including:

1. Review and comment on underlying technical documents.
2. Foster coordinated approaches toward overall attainment strategies.
3. Assist in resolving key technical issues.



AQMP Advisory Group Membership Overview



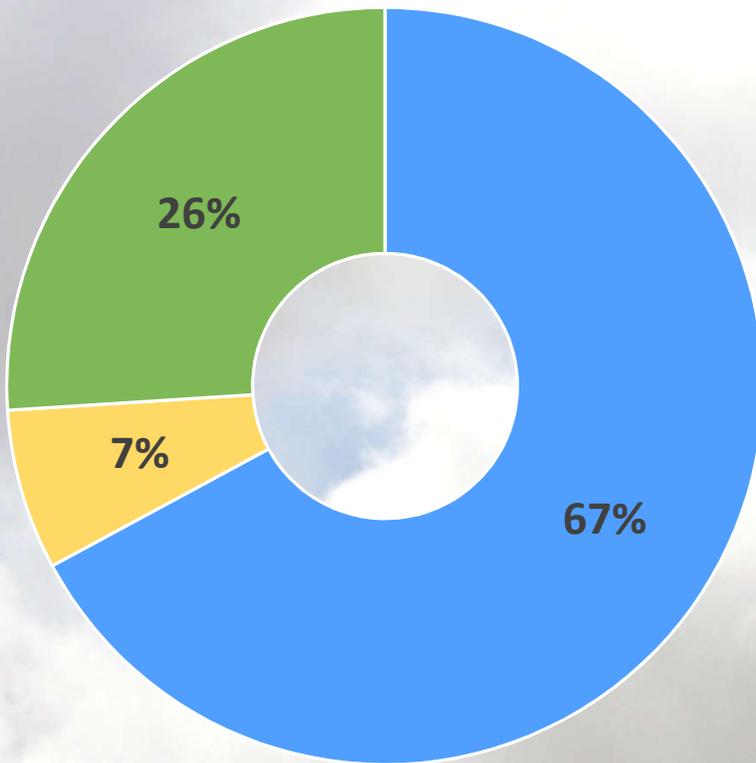
2022 AQMP Advisory Group

- Total Membership: 68

- Business - 31
- Government Agency - 21
- Environmental/Community Group - 11
- Partner Agency - 3
- Academia - 1
- Labor - 1



AQMP Advisory Group Membership Changes



○ **2014 – 2017 Membership: 55**

○ **2019 – 2023 Membership: 68**

■ **Continuing Membership - 49**

■ **Consolidated/Discontinued Membership - 5**

■ **New Membership - 19**



Agenda Item # 2
Upcoming SIP Obligations



Ozone SIP Obligations Through 2022

Criteria Pollutant	NAAQS Year	NAAQS Level	Air Basin	Classification	Attainment Date	Major Obligation	Due to U.S. EPA
Ozone	1997	80 ppb	South Coast	Extreme Nonattainment	June 15, 2024	182(e)(5) Contingency Measure	Dec. 31, 2019
Ozone	1997	80 ppb	Coachella Valley	Extreme Nonattainment	June 15, 2024	Extreme Area SIP	July 10, 2020*
Ozone	2015	70 ppb	South Coast	Extreme Nonattainment	Aug. 3, 2038	RACT, Base Year Inventory	Aug. 3, 2020
						Nonattainment NSR	Aug. 3, 2021
			Coachella Valley	Severe Nonattainment	Aug. 3, 2033	Attainment Demonstration, RACM, Control Strategies, Contingency Measure	Aug. 3, 2022

*Pending U.S. EPA's final determination of SIP submittal date.



2022 AQMP Schedule and Purpose

- **Purpose**
 - **Address 2015 8-Hour Ozone Standard for South Coast Air Basin and Coachella Valley**
 - **Update attainment demonstrations for other standards**
- **Schedule**
 - **SIP submittal due August 3, 2022**
 - **Emission inventory**
 - **Control strategy**
 - **Contingency measures**
 - **Attainment demonstration**



Agenda Item # 3
2016 AQMP Implementation



South Coast AQMD Control Measure and Rule Developments

	Rule	Adoption Date	Reduction NOx (tpd)	Reduction VOC (tpd)	Control Measure#
Adopted Rules Since 2016 AQMP	Rule 1113 – Architectural Coatings	2/5/2016		0.88	CTS-01(2012 AQMP)
	Rule 1168 – Adhesive and Sealant Applications	10/6/2017		1.4	CTS-01
	Rule 1111 - Natural-Gas-Fired, Fan-Type Central Furnaces	3/2/2018	0.017		CMB-02
	Rule 1135 – Electricity Generating Facilities	11/2/2018	1.8	0.014	CMB-05, CMB-01
	Rule 1146, Rule 1146.1, Rule 1146.2 – Non-Refinery Boilers and Heaters	12/7/2018	0.27		CMB-05, CMB-01
	Rule 1118.1 – Non-Refinery Flares	1/4/2019	0.2		CMB-03
	Rule 1134 – Stationary Gas Turbines	4/5/2019	2.8		CMB-05, CMB-01
Rules in Development	Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines*	Scheduled to be heard in Nov 2019	0.29		CMB-05; potentially CMB-01 for non-RECLAIM sources;
	Rule 1109.1 – Refinery Equipment	Working Group #8 in June 2019			
	Rule 1117 – Emissions of Oxides of Nitrogen from Glass Melting Furnaces	Working Group # 1 in August 2019			
	Rule 1147 – Series NOx Reductions from Miscellaneous Sources	Working Group #3 in May 2019			
	Rule 1147.1 – NOx Reductions from Large Miscellaneous Combustion				
	Rule 1147.2 – NOx Reductions from Metal Processing Equipment	Working Group #2 in August 2019			
	Rule 1150.3 – Emissions of Oxides of Nitrogen from Combustion Equipment at Landfills	Working Group #2 in August 2019			
Rule 1179.1 – NOx Emission Reduction from Combustion Equipment and Publicly Owned Treatment Work Facilities	Working Group #2 in August 2019				



Facility-Based Mobile Source Measures

Sector	May 2018 Board Direction	Key Upcoming Actions
Airports	Pursue MOUs to implement airport clean air plans	Board to consider adopting MOUs in December 2019
Ports	Pursue MOUs to implement specific Clean Air Action Plan measures; pursue introduction of cleaner vessels	Following port adoption of truck rate in November 2019, Board to consider adopting MOU in early 2020
New /Redevelopment	Continue to work with stakeholders to develop rule concepts and preliminary costs/benefits	Release construction equipment/technology costs study RFP October 2019
Warehouses	Develop rule concept; conduct economic impacts study to inform rule concept	Board considers adopting ISR May 2020
Rail yards	Pursue rulemaking; explore potential for new agreements/MOUs beyond the 1998 and 2005 agreements	Board considers adopting ISR December 2020



Incentives RFP (CMB-01, CMB-02, CMB-04, ECC-03)

- In Jan 2018, Board approved RFP to incentivize emission reduction or technology demonstration projects
 - 58 (out of 81 submitted) technically qualified with \$211 M requested
 - 26 projects awarded totally ~\$48 M
- Mobile Sources – emission reduction/technology demo
 - ✓ Zero emission vans, terminal equipment, electric refrigeration transport, tugboats, harbor craft, refuse trucks
- Stationary Sources – emission reduction/technology demo
 - ✓ Residential energy efficiency, street sweeping, restaurants, fuel cells

Anticipate 88 tons/year of NOx and 2 tons of PM2.5/year reductions



CARB's Adopted 2016 State SIP Strategy Measures

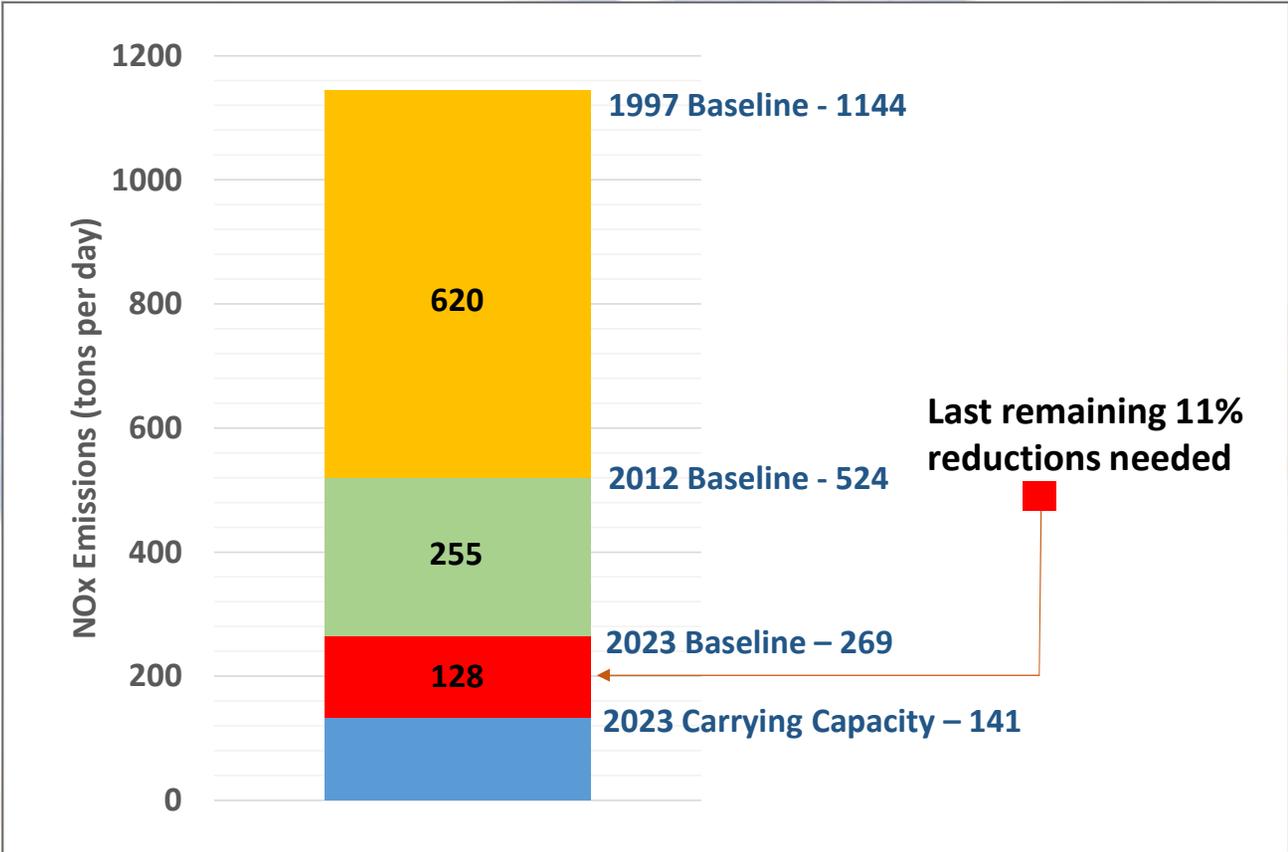
Measure Title	Board Date Adopting the Subsequent Rule
South Coast On-Road Heavy Duty Vehicle Incentive Measure	March 22, 2018
Heavy-Duty Diesel Vehicle Emission Control System Warranty Regulation Amendments	June, 2018
Zero-emission Airport Shuttle Regulation	June 1, 2019
Zero-Emission Powertrain Certification Regulation	June 1, 2019
Electric Vehicle Supply Equipment Standards	June 1, 2019
Ocean-Going Vessel At Berth And At Anchor Regulation	Scheduled December, 2019



Agenda Item # 4
Draft Contingency Measure Plan for the
1997 8-hour Ozone Standard (80 ppb)

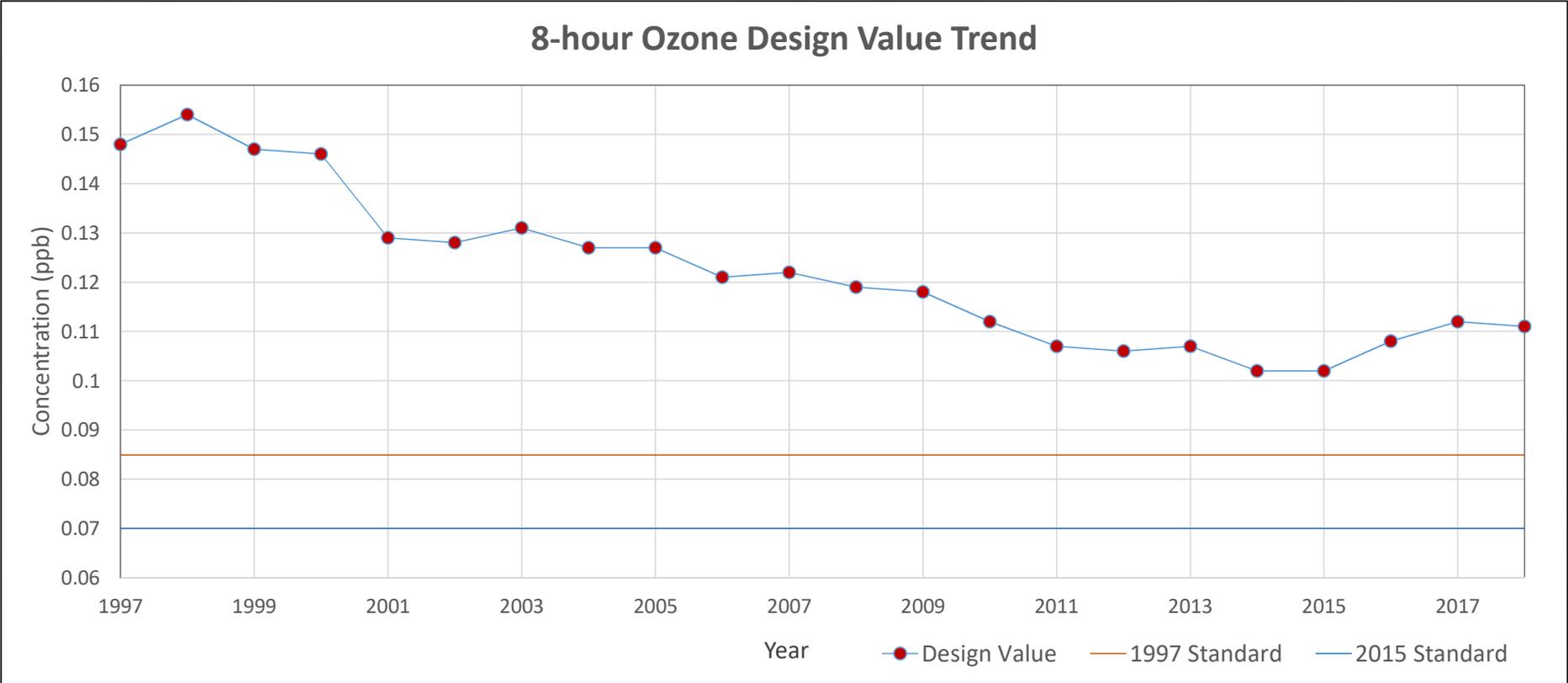


Progress in Overall NOx Reductions Since 1997



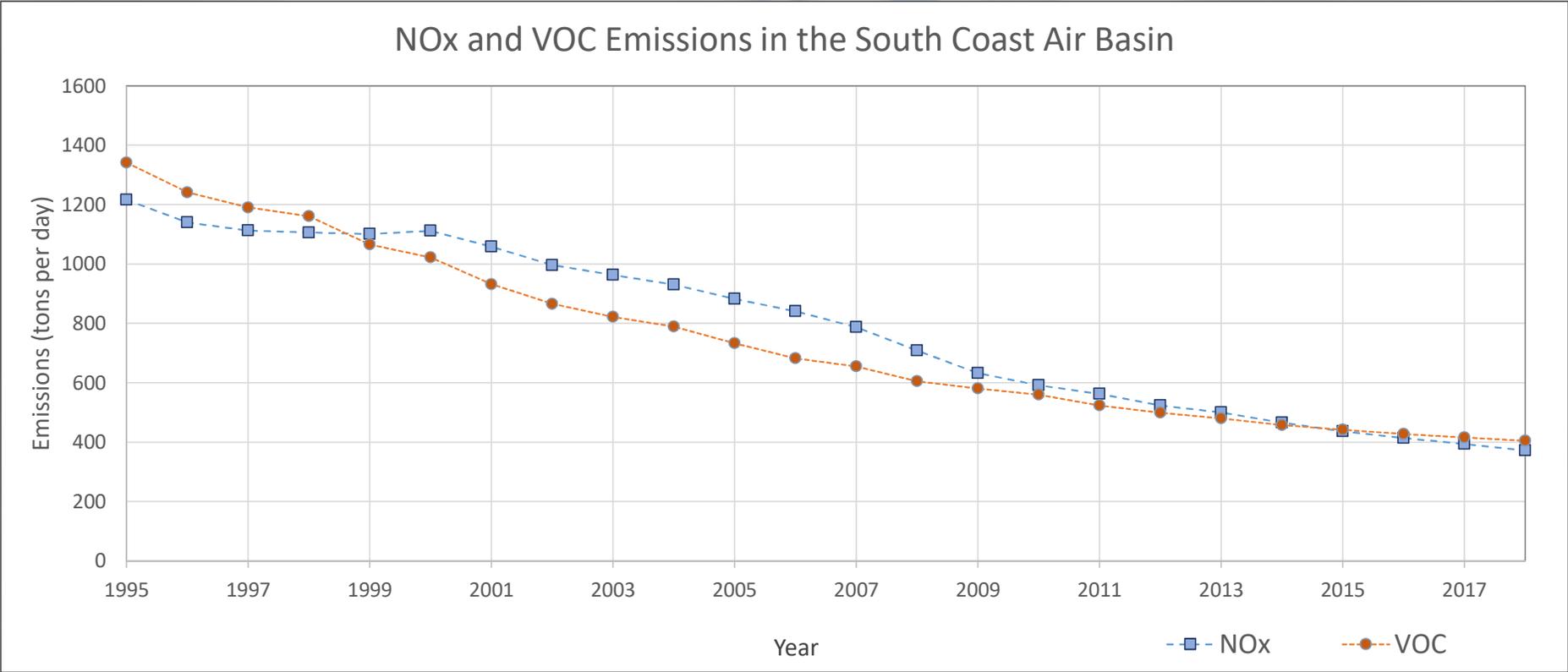


Ozone Design Value has been Trending Down



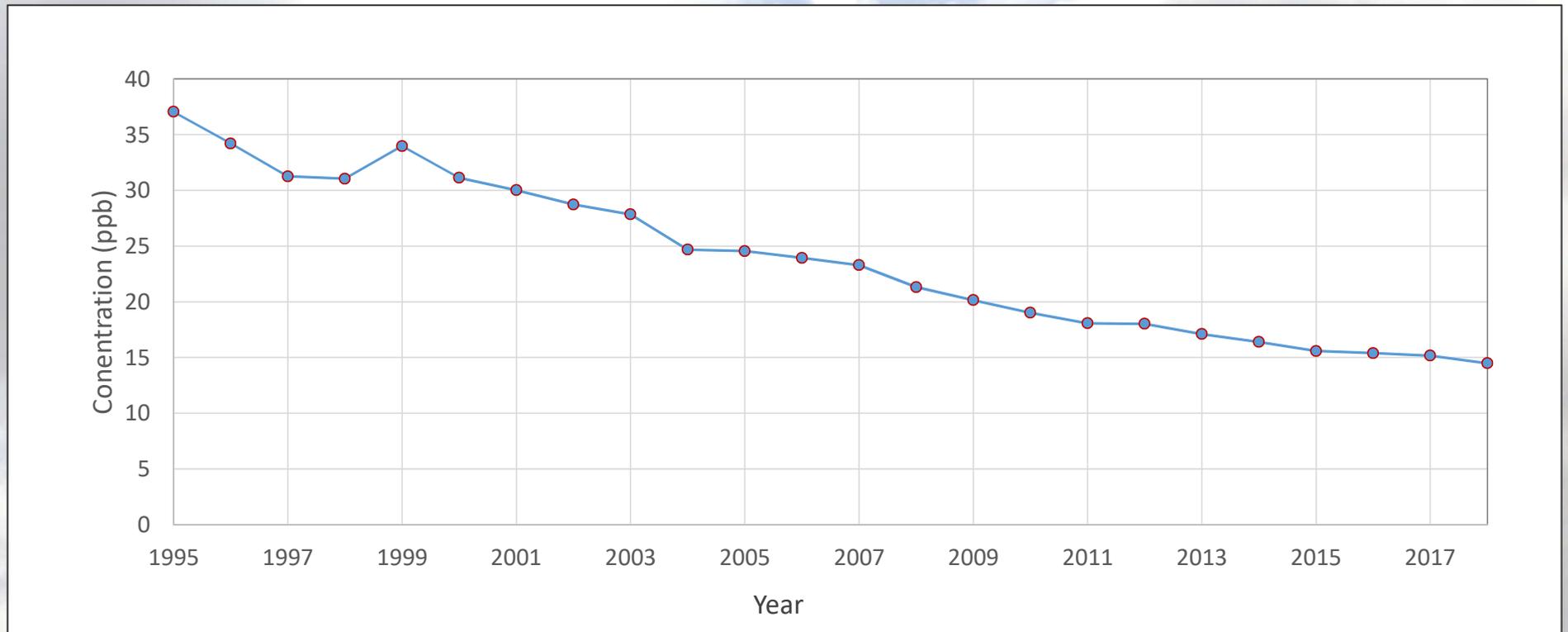


Basin Precursor Emissions Also Decreasing





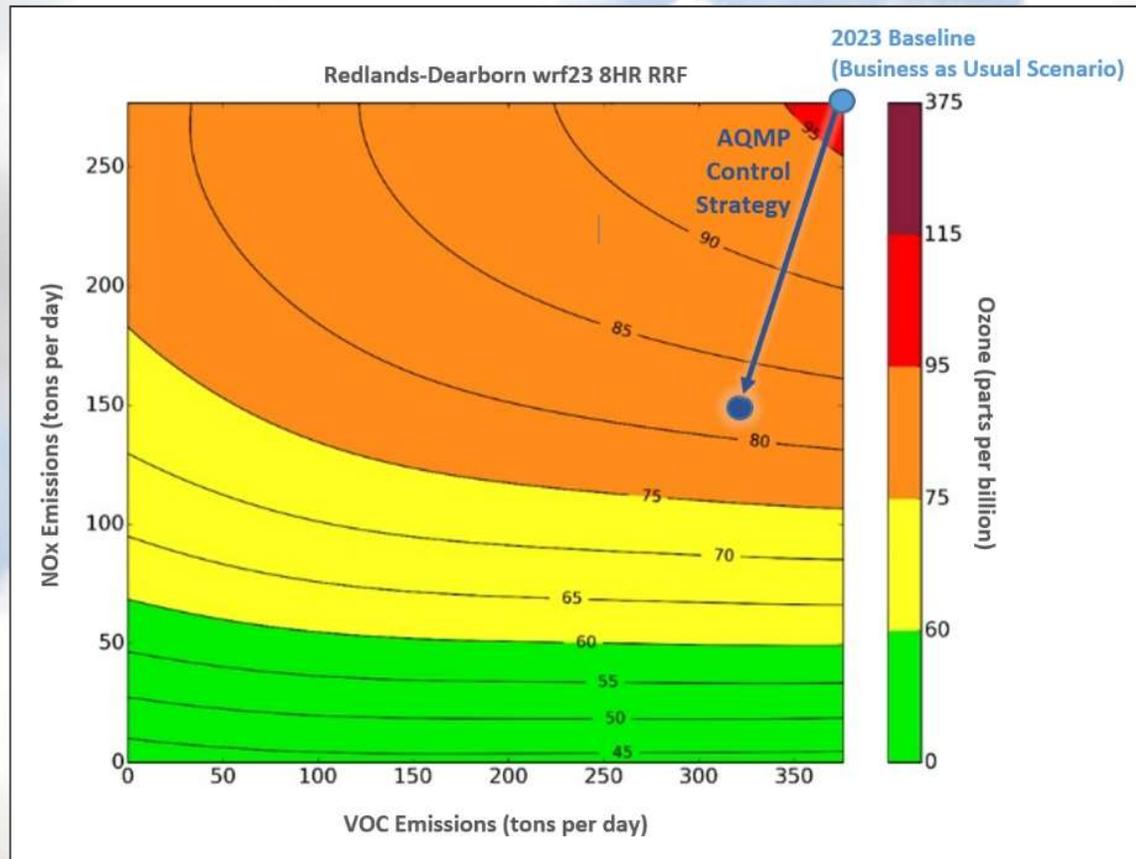
Annual Average NO₂ Concentrations in The South Coast Air Basin



75% data completeness criteria was applied.



2016 AQMP - NOx Reductions, Most Efficient Control Path For Ozone Attainment





2016 AQMP - Overall Control Strategy (NOx)

Sources	NOx
Year 2023 Baseline¹	269
Carrying Capacity	141
Total Emission Reductions (All Measures):	135
Defined Measures:	27
South Coast AQMD's Stationary Source Control Measures	7
South Cost AQMD Additional Mobile Source Control Measures	16
CARB's Defined Measures	4
Further Deployment of Cleaner Technologies	108
Set Aside Budget ²	3
2023 Remaining Emissions	137³

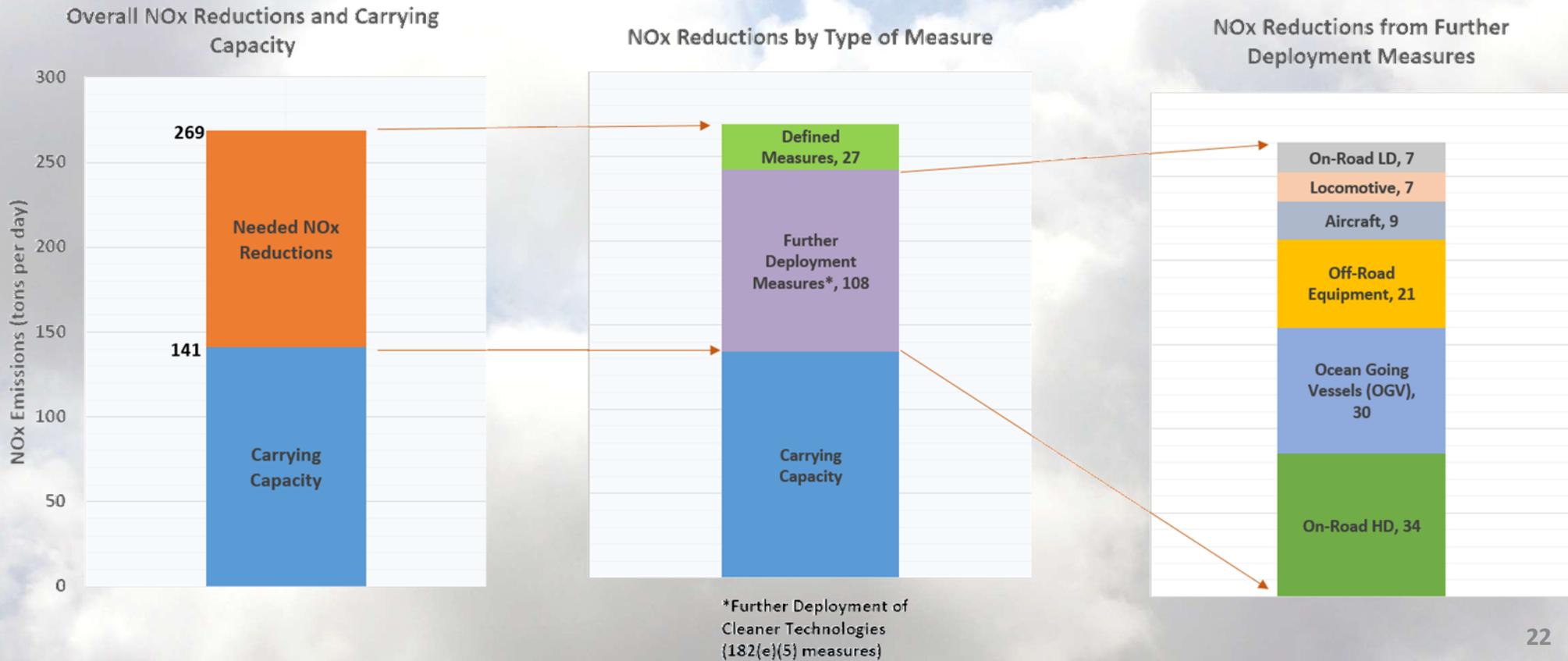
¹ Reflects CARB's 2018 Updates to the California State Implementation Plan

² As SIP reserve for potential technology assessment and for general conformity purposes

³ Reflects an additional 4.2 tons per day of NOx emission reductions beyond the projected carrying capacity of 141 tons per day to accommodate changes in ocean-going vessel (OGV) emission inventory and CARB's SIP strategy for OGV.



Further Deployment of Cleaner Technologies Measures by Mobile Source Category (2023)



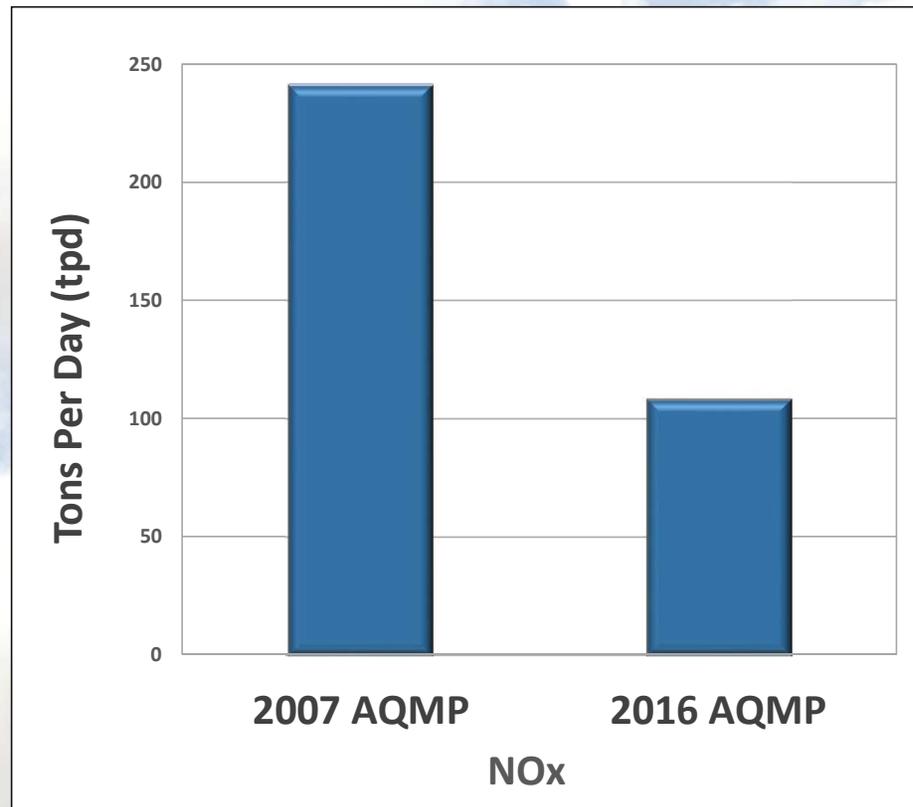


CAA Section 182(e)(5) for Extreme Non-Attainment Areas

- **Federal CAA Section 182(e)(5) allows for anticipated development of new control techniques or improvement of existing control technologies for attainment demonstration in extreme areas**
- **Contingency measures required 3 years prior to implementation of plan provisions (i.e., 2023 attainment date)**
 - **Provide full reductions assigned to 182(e)(5) measures**



Reduced Reliance on Control Strategies Approved Under 182(e)(5) Long-Term/Further Deployment Measures





Draft Contingency Measure Plan



Identified Emission Reduction Strategies



Additional Incentive Funding



Federal Measures/Responsibilities



Identified Emission Reduction Strategies



Measures Description	Agency	NOx Reductions (tpd)
RECLAIM Transition Rules	South Coast AQMD	2
Ports MOU	South Coast AQMD	3-5
Airports MOU	South Coast AQMD	0.5
Metrolink Locomotives	South Coast AQMD	3
OGV Vessel Speed Reduction	South Coast AQMD	0.2
Funding Incentives (Expected Future Funding)	South Coast AQMD	1.5
Low Carbon Fuel Standard and Alternative Diesel Fuels Regulation	CARB	1.7
ATCM for Portable Engines, and the Statewide Portable Equipment Registration Program Regulation	CARB	0.25
HD Inspection and Maintenance (I/M) program	CARB	4.2
Innovative New Measures	CARB	3.0
Total Reductions Towards 182(e)(5) Commitment*		24-26 tpd

**Preliminary estimates; also includes 4.2 tons per day of reductions associated with updated OGV emissions inventory and CARB's SIP Strategy for OGV*



CARB's Innovative New Measures



- **Co-Benefits of Climate Change Scoping Plan Building Electrification**
- **Tier 5 Off-Road Diesel Engine Standard**
- **Reduction in Single-Occupancy Vehicle Travel Growth**
- **State Green Contracting**
- **Locomotive Emission Reduction Measure**
- **VMT and Land Conservation**
- **Regional VMT Reductions**



Additional Incentive Funding

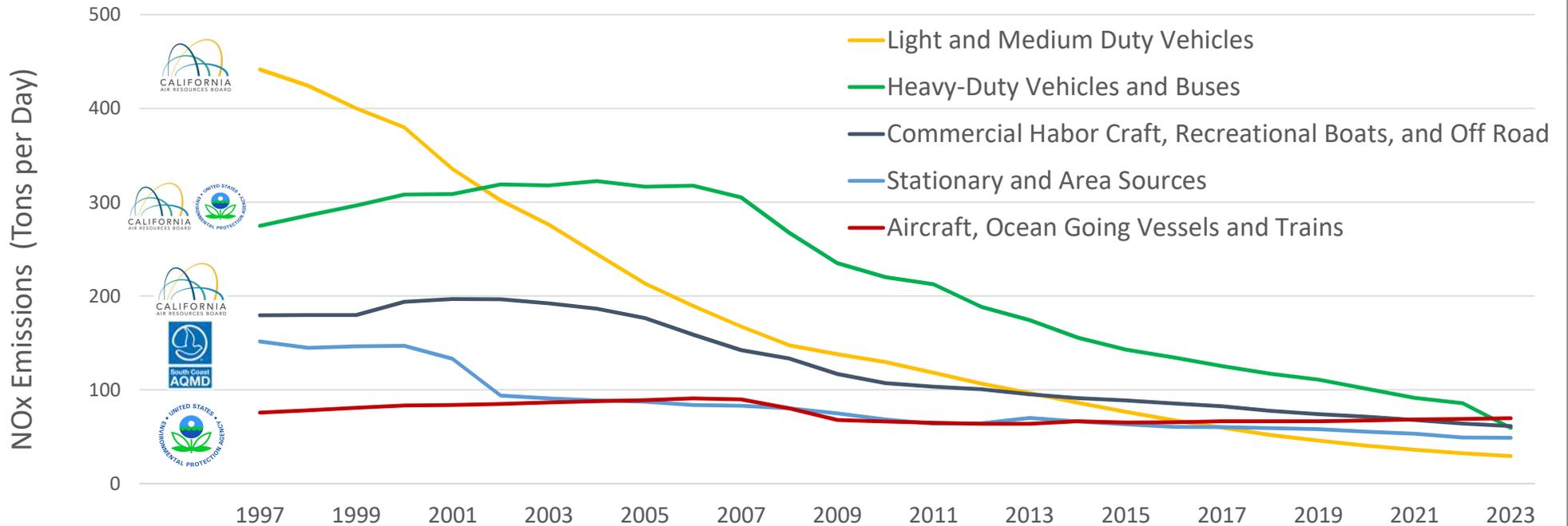


- **2016 AQMP**
 - Over \$1 Billion per year over 14 years
 - Current effort will update this estimate based on latest information
- **Expected Future Funding (approximately \$800 M over 4 years)**
 - AB 617-related Incentives - \$80-90 M/yr
 - Carl Moyer - \$40-50 M/yr
 - Prop 1B - \$30 M
 - VW Settlement - \$67 M
 - AB2766 Subvention Fund - \$22 M/yr
 - Mobile Source Air Pollution Reduction Review Committee - \$17 M/yr
- **Additional Funding Needed**
 - Voting District Authorization legislation - \$1.4 B/yr
 - Other Mechanisms - TBD
 - Expected 2023 NOx Reductions: 15 tons per day



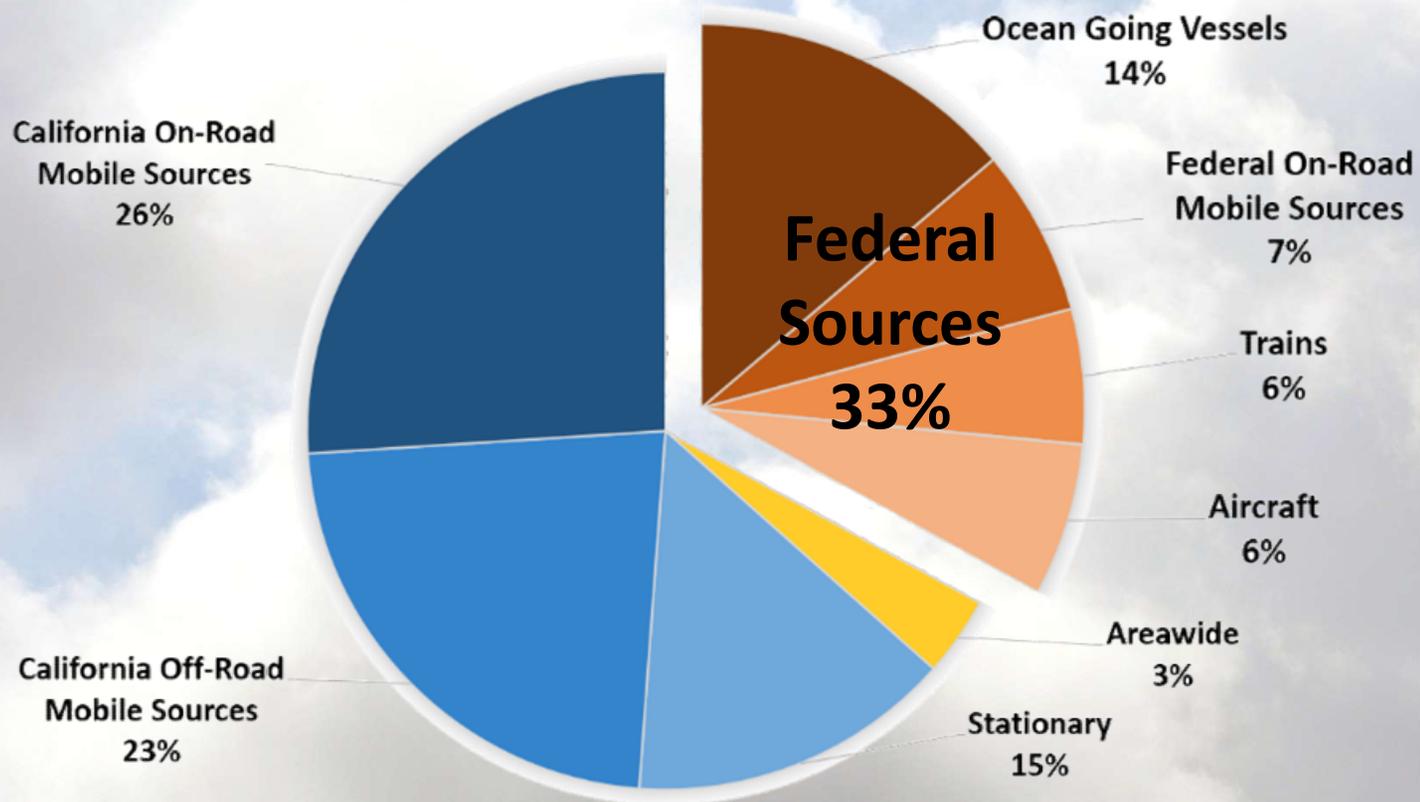
Emission Trends for Major Sources

NOx Emissions from 1997 to 2023





Contribution of Federal Sources (2023 NO_x emissions)





Potential Federal Measures



Measures	Measure Description	2023 NOx Reductions (tpd)
Low-NOx Heavy-Duty Vehicles	Heavy-duty vehicles (above 14,000 lbs. GVWR) powered by low-NOx engines in 2023	Up to 35
Low-NOx Ocean-Going Vessels	Ocean-going vessels coming to California powered by Tier 3 engines in 2023	Up to 28
Low-NOx Locomotives	Locomotives coming to California powered by Tier 4 engines in 2023	Up to 11
Low-NOx Aircraft	Aircraft NOx reductions assumption of 20% if emissions are held at 2012 levels.	Up to 4
Total Possible Reductions Towards 182(e)(5) Commitment		Up to 78 tpd



Contingency Measure Plan Strategies to Address 182(e)(5) Reductions

Strategy	2023 Reductions (tpd)
Identified Emissions Reduction Strategies	24-26
Additional Incentive Funding	15
Federal Measures and / or Funding	67-69
All Strategies	108



A Call to Action

- California is doing all we can to reduce emissions
- Included innovative strategies that need further development
- All levels of government need to take action to reduce emissions
- Work collaboratively to identify further reductions
- More incentive funding is needed to accelerate turn over of existing fleet to cleaner technologies
- Federal action is needed on sources California cannot address





Public Process





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2016 AQMP

Interested Parties





SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT



Questions and Answers