

Status Update on South Coast Air Basin Attainment Plan for the 2012 Annual PM_{2.5} Standard

Board Meeting
April 5, 2024

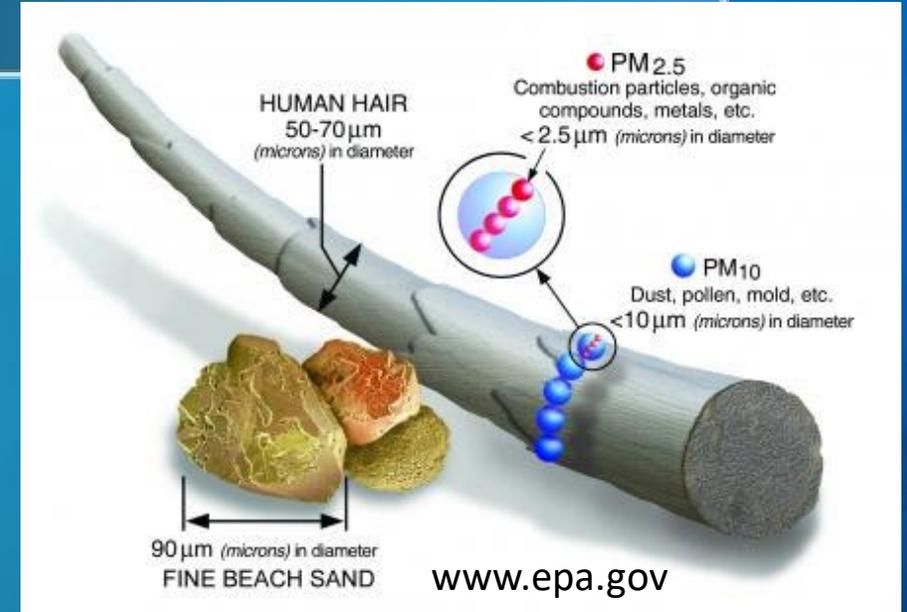


Overview

- South Coast AQMD developed a Draft Plan to demonstrate attainment of the 2012 annual PM2.5 standard for the South Coast Air Basin
- The draft control strategy relies on the NOx reduction strategy from the 2022 AQMP, and limited controls for PM2.5 and ammonia
- Staff released the Draft Plan for public review on March 22, 2024

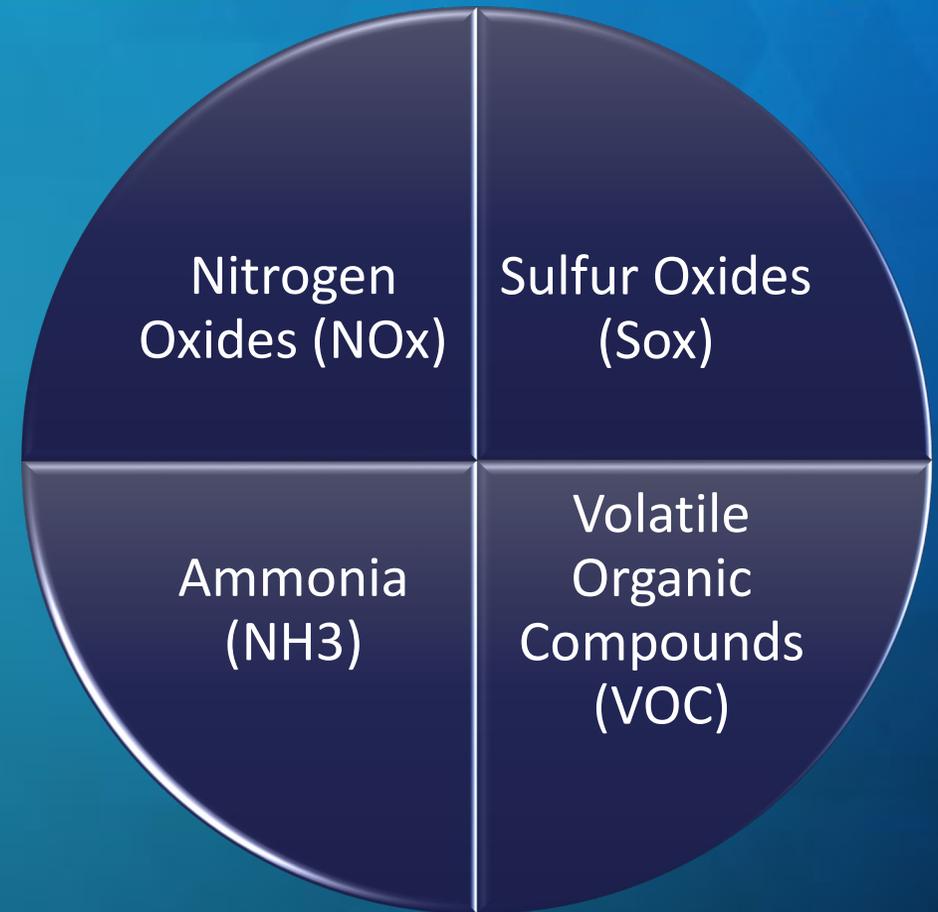
PM2.5 Background

- PM2.5 is particulate matter less than 2.5 μm in diameter
- Linked to adverse cardiovascular and respiratory health effects including premature death, asthma, and lung cancer
- Evidence suggests link to metabolic system, nervous system, cognition, and reproductive and developmental effects
- Exposure to PM2.5 drives majority of public health costs due to air pollution in our region



PM2.5 Formation and Precursors

- PM2.5 is both directly emitted and formed via reactions of precursors in the atmosphere
- U.S. EPA requires direct PM2.5 and applicable precursors to meet SIP planning requirements (e.g., control strategy, contingency measures, reasonable further progress, etc.)



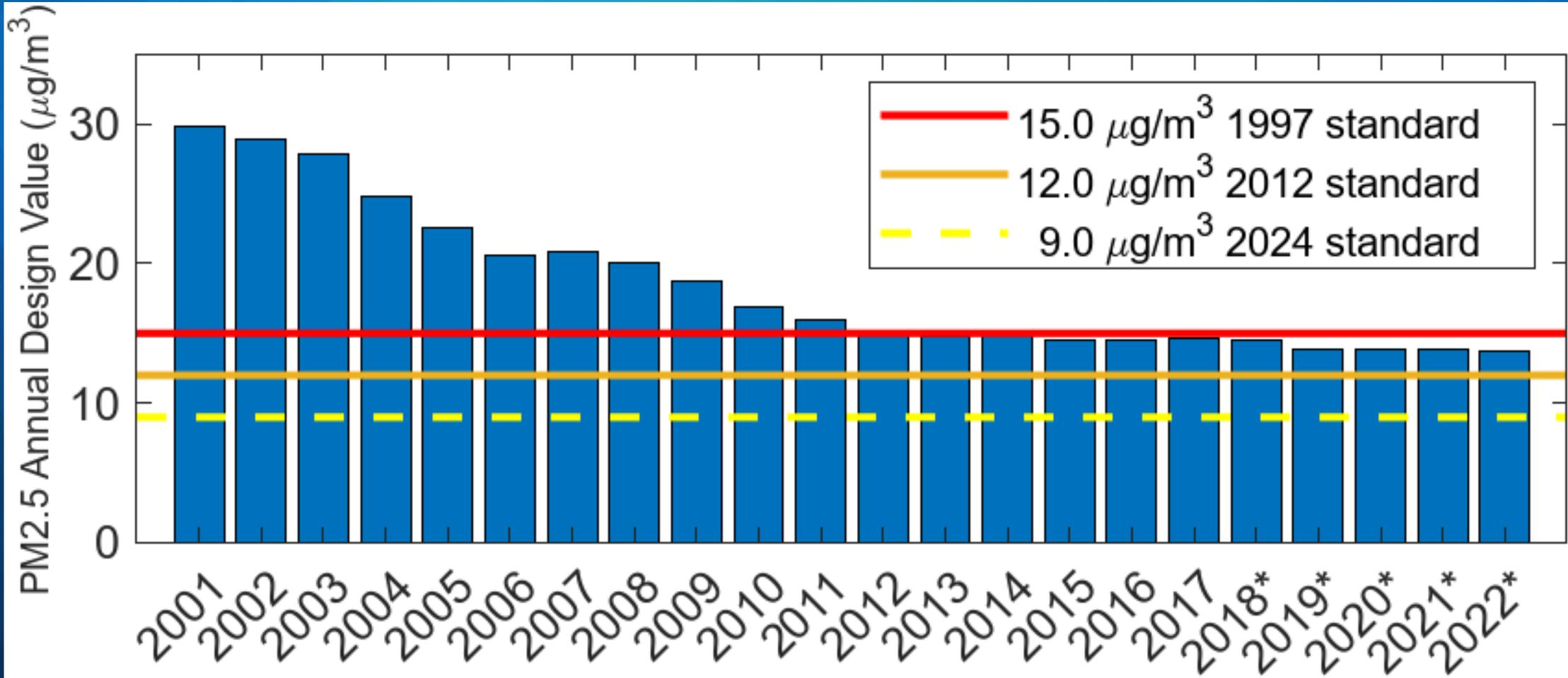
PM 2.5 Precursor Pollutants

PM2.5 Attainment Status

PM2.5 Standard	Level	South Coast Air Basin Classification	Attainment Date	AQMP/SIP
1997 Annual	15 µg/m ³	Attainment	-	-
2006 24-hour	35 µg/m ³	Serious*	December 31, 2023	Submitted to U.S. EPA in 2020
2012 Annual	12 µg/m ³	Serious	December 31, 2025	Current Plan
2024 Annual	9 µg/m ³	Designations expected in 2026	Likely December 31, 2036	A new plan to be submitted in 2027

*Attainment expected based on preliminary data for 2023

Annual PM2.5 Trend in the South Coast Air Basin



*Data likely to be approved as exceptional events by U.S. EPA were removed.

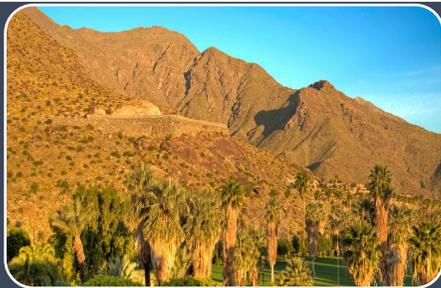
Annual PM2.5 Standard



This Plan addresses the 2012 annual PM2.5 standard, set at $12 \mu\text{g}/\text{m}^3$



South Coast Air Basin is in “serious” nonattainment, which is the highest classification for PM2.5 standards¹



Coachella Valley is in attainment of this standard

¹ Reclassification from “moderate” to “serious” approved by U.S. EPA effective December 9, 2020 (85 FR 71264)

Overview of SIP Actions for the 2012 Annual PM2.5 Standard

Attainment plan was included in the 2016 AQMP and submitted to U.S. EPA in 2017

Near roadway data became available for SIP in 2020 and U.S. EPA requested a supplemental attainment demonstration

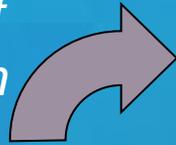
The submitted plan was withdrawn in 2023 to avoid potential disapproval*

A revised attainment plan is due to U.S. EPA by December 23, 2024 to avoid sanctions

*U.S. EPA was sued by Center for Biological Diversity in 2023 for its failure to act on the submitted plan

Process to Conduct Attainment Demonstration

Evaluate impact of emission reduction



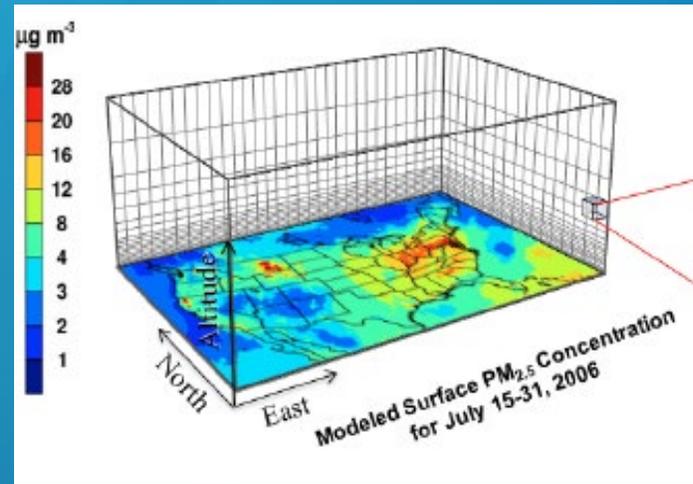
Emissions Inventory



Develop control strategy and apply the reductions to the inventory



Photochemical Air Quality Model



Determine spatial/temporal air quality



Precursor Demonstration

Demonstrate that a particular precursor does not contribute to PM_{2.5} levels significantly

Approved demonstration waives many resource-intensive SIP planning requirements (e.g., Best Available Control Measure analysis, etc.)

Air quality modeling indicates that NO_x and ammonia are the only significant precursors for the annual PM_{2.5} standard in the Basin

Strategy to Attain Annual PM2.5 Standard



NO_x strategy from the
2022 AQMP



Limited controls needed for
PM_{2.5} and precursors



Measures from the 2022 AQMP/SIP that can be Implemented by 2030

South Coast AQMD stationary source measures transition to zero emission where feasible, lower NO_x where infeasible



South Coast AQMD mobile source measures include incentives and facility-based measures



CARB will continue to implement the 2022 State SIP Strategy



Control Measures Identified as Most Stringent Measures (MSM)

- MSM requires all South Coast AQMD rules to be at least stringent as those in any other air district or state
- Four measures identified that need to be implemented by December 2029



Remove low-income exemption in Rule 445 (Check Before You Burn)



Lower permitting thresholds for confined animal facilities in Rule 223

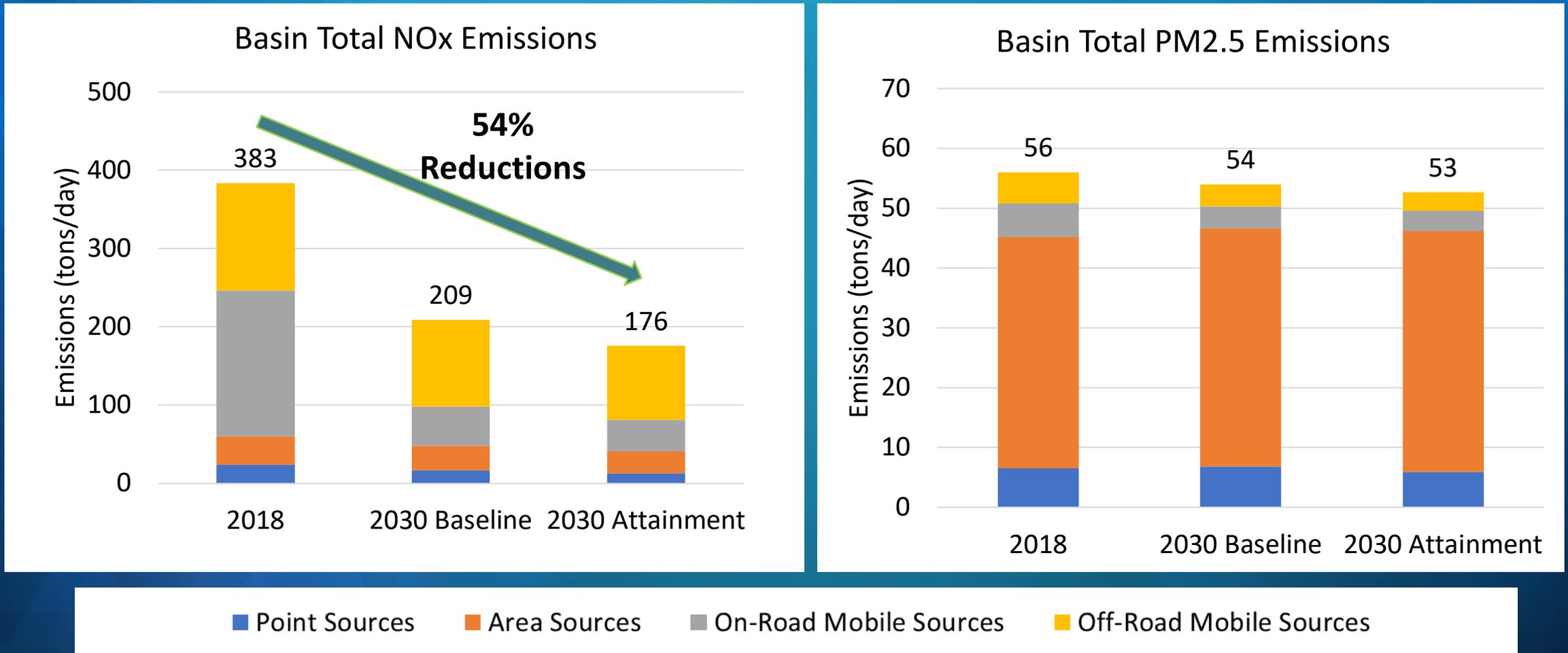


Lower threshold to require catalytic oxidizers for chain-driven charbroilers in Rule 1138

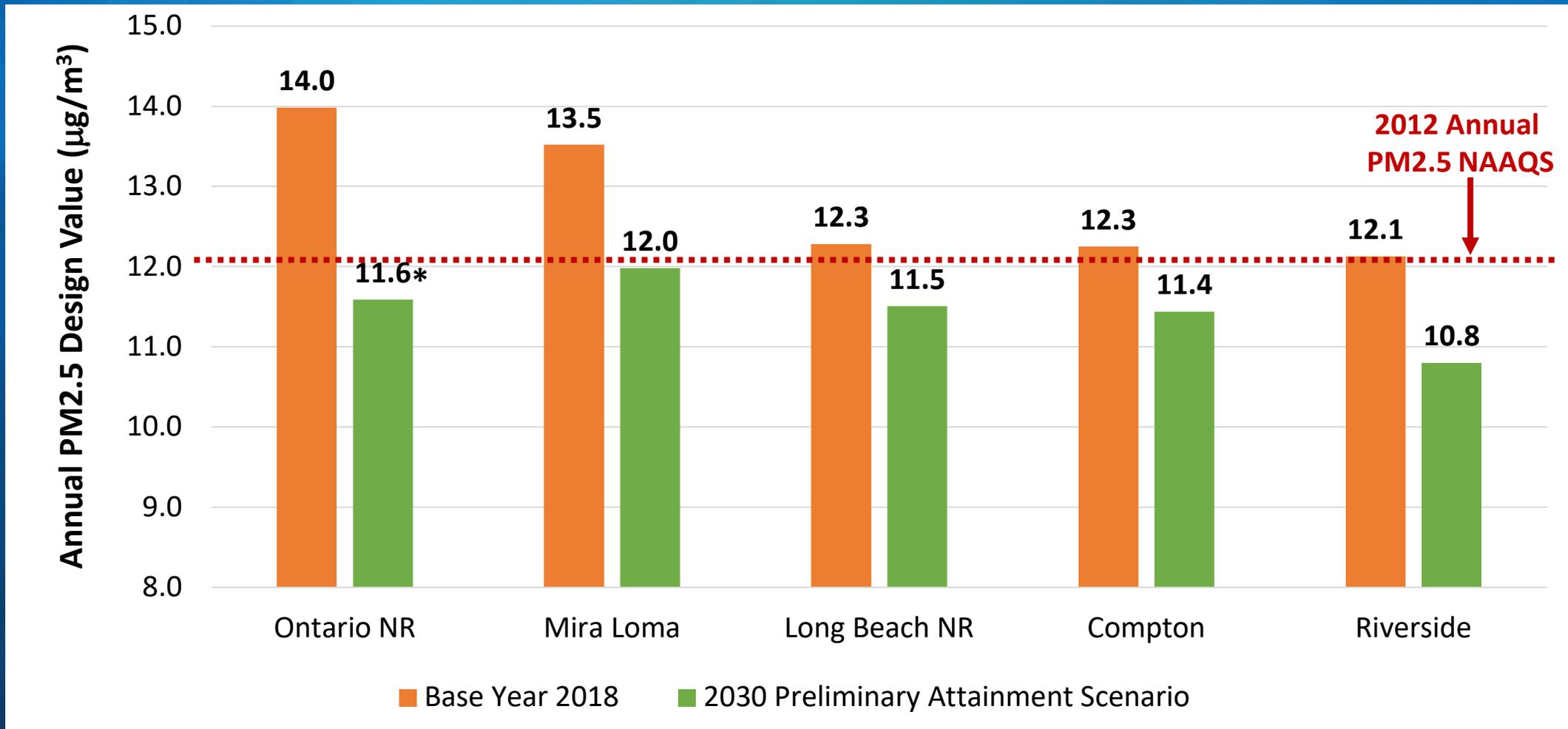


Require composting of chipped and ground greenwaste prior to land application

Emission Changes from 2018 to Attainment Scenario



Future Annual PM2.5 Concentrations



* Design value calculated using a hybrid modeling approach

SIP Development Public Process

Spring - Fall 2023

- AQMP & STMPR Advisory Group Meetings

March 2024

- Released Draft Plan for Public Review and Comments

April - May 2024

- Regional Public Hearings

May 2024

- Release of Draft Socioeconomic Impact Assessment

June 7, 2024

- Public Hearing for Board consideration

Summer 2024

- CARB adoption and submittal to EPA

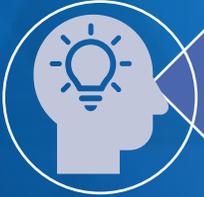
For more information, visit

[https://www.aqmd.gov/home/air-quality/air-quality-management-plans/other-state-implementation-plan-\(sip\)-revisions](https://www.aqmd.gov/home/air-quality/air-quality-management-plans/other-state-implementation-plan-(sip)-revisions)

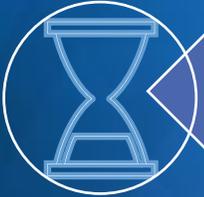
Conclusion



Staff developed the Draft Plan to attain the 2012 annual PM_{2.5} standard, 12 $\mu\text{g}/\text{m}^3$ in the South Coast Air Basin by 2030



Plan includes continued implementation of 2022 AQMP NO_x strategy and limited additional controls mandated by U.S. EPA



Public Hearing: June 7, 2024



By August 2027, a new plan with additional controls will be required to attain the new 2024 annual PM_{2.5} standard, 9 $\mu\text{g}/\text{m}^3$