

Public Workshop

2017 5% Plan for 1997 PM2.5 Standard and 2017 PM10 Maintenance Plan for 1987 PM10 Standard

May 18, 2017

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1997 Federal PM2.5 Standard

- EPA established first PM2.5 standard in 1997
 - Annual 15 $\mu\text{g}/\text{m}^3$
 - 24 hour 65 $\mu\text{g}/\text{m}^3$
- EPA designated Valley nonattainment in 2005
- EPA finalized first PM2.5 implementation rule in 2007
- District adopted PM2.5 Plan in 2008, demonstrating attainment with both standards prior to April 5, 2015 deadline
- In 2014, District requested reclassification to Serious nonattainment with new attainment deadline of December 31, 2015
- In 2012, the Valley was on the verge of attaining the 1997 PM2.5 standard under the 2008 Plan
 - Valley's annual average PM2.5: 14.7 $\mu\text{g}/\text{m}^3$ (standard 15 $\mu\text{g}/\text{m}^3$)
 - Valley's 24-hour peak PM2.5: 56.4 $\mu\text{g}/\text{m}^3$ (standard 65 $\mu\text{g}/\text{m}^3$)
- Extreme weather conditions in winter 2013-2014 led to unusually high PM2.5 concentrations – made attainment in 2015 impossible

5% Plan for 1997 PM2.5 Standard

- In April 2015, District adopted Serious area plan requesting attainment date extension to December 31, 2020
 - All control measures meet Best Available Control Measures (BACM)
 - All control measures meet Most Stringent Measures (MSM)
 - Commitments to achieve extra emission reductions
 - Commitments to evaluate additional opportunities beyond the 2015 PM2.5 Plan
 - Commitment to leave no stone unturned to evaluate additional opportunities
- EPA failed to act by July 2016 deadline after having Plan for over a year
 - District worked closely with EPA for over a year before submittal to address concerns/requirements
 - EPA formally proposed approval of plan in January 2016
 - EPA did not provide explanation for inaction or give District advance notice to address any perceived deficiency
- EPA inaction set attainment deadline at December 2015, which had already passed
- Due to EPA inaction, Valley businesses and residents now subject to CAA §189(d) 5% plan requirements

Foundation Includes Numerous Plans Already in Place

- *2007 PM10 Maintenance Plan (1987 PM10 standard)*
- *2007 Ozone Plan (1997 8-hour ozone standard)*
- *2008 PM2.5 Plan (1997 PM2.5 Standard)*
- *2012 PM2.5 Plan (2006 PM2.5 Standard)*
- *2013 Plan for the Revoked 1-hour Ozone Standard (1979 1-hour ozone standard)*
- *2015 PM2.5 Plan for the 1997 PM2.5 Standard (1997 PM2.5 Standard)*
- *2016 Plan for the 2008 8-hour Ozone Standard (2008 Ozone Standard)*
- *2016 Moderate Area PM2.5 Plan for the 2012 Standard (2012 PM2.5 Standard)*

District's Strategy has Significantly Improved Air Quality in the Valley

- District has adopted numerous attainment plans
 - Toughest air regulations in the nation
 - Adopted over 600 stringent rules and regulations
 - Groundbreaking rules serve as model for others
 - Over 80% reduction in stationary source emissions
- \$40 billion spent by businesses on clean air
- Strong incentive programs (\$1.7 billion in public and private investment reducing 140,000 tons of emissions)
- Public education and participation
 - Build public support for tough measures adopted
 - Urge air friendly behavior by public
- Through these combined efforts, Valley's air quality better than any other time on record

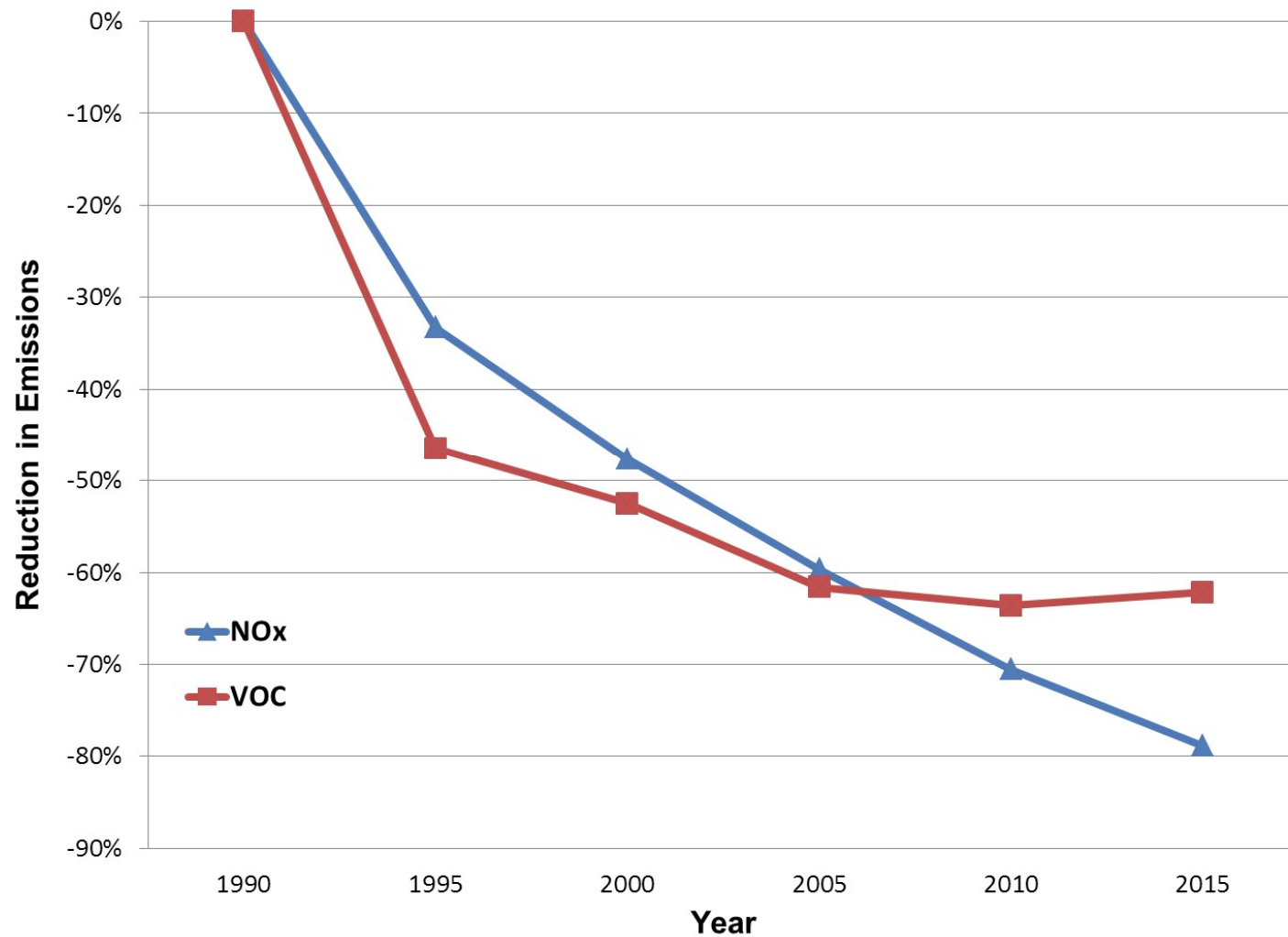
2016 Cleanest PM_{2.5} Year on Record for San Joaquin Valley

- Zero exceedances of 65 µg/m³ 24-hr standard for the first time in Valley history
- Fewest exceedances of 35 µg/m³ 24-hr standard
- Zero “Unhealthy” or worse Air Quality Index (AQI) days across all Valley counties in the District during the 2015-2016 winter wood burning season
- Highest number of Good AQI days across all Valley counties
- Fewest number of Unhealthy AQI days across all Valley counties
- Valley’s peak annual average in 2016 was 16 µg/m³, reflecting a 30% drop from 2013 and bringing Valley closest it has ever been to reaching federal standard

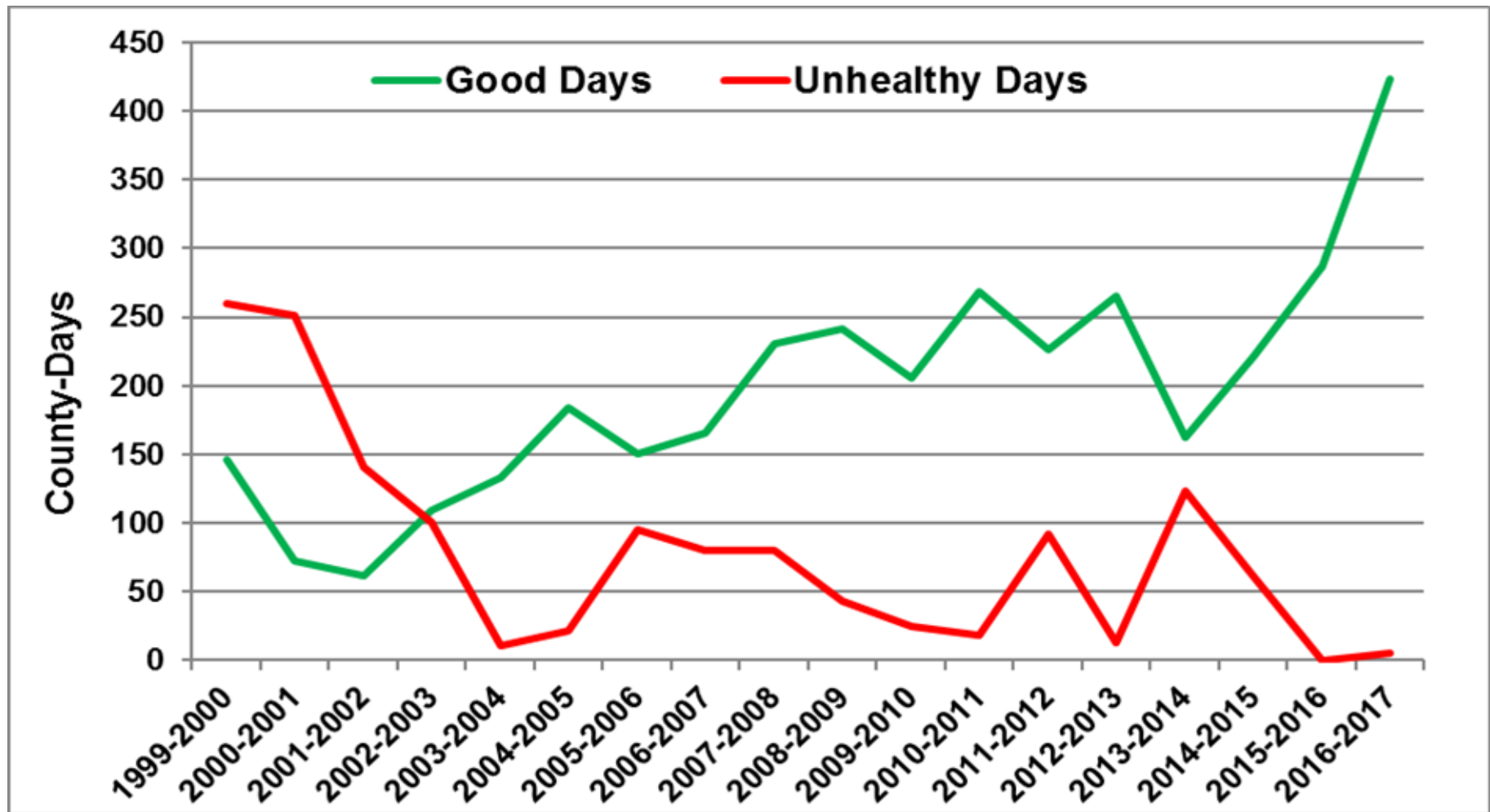
Control Measures Currently in Place

- Mobile Source Regulations (ARB)
 - Truck and Bus Regulation
 - Off-Road Regulation
 - Advanced Clean Cars
 - Expanded Passenger Vehicle Retirement
 - Smog Check Improvements
 - And more...
- Stationary/Area Source Regulations (District)
 - Combustion Devices
 - Industrial Processes
 - Coatings and Solvents
 - Oil and Gas
 - Managed Burning
 - Agricultural Processes
 - Residential and Commercial Sources
 - Waste Management
 - And more...

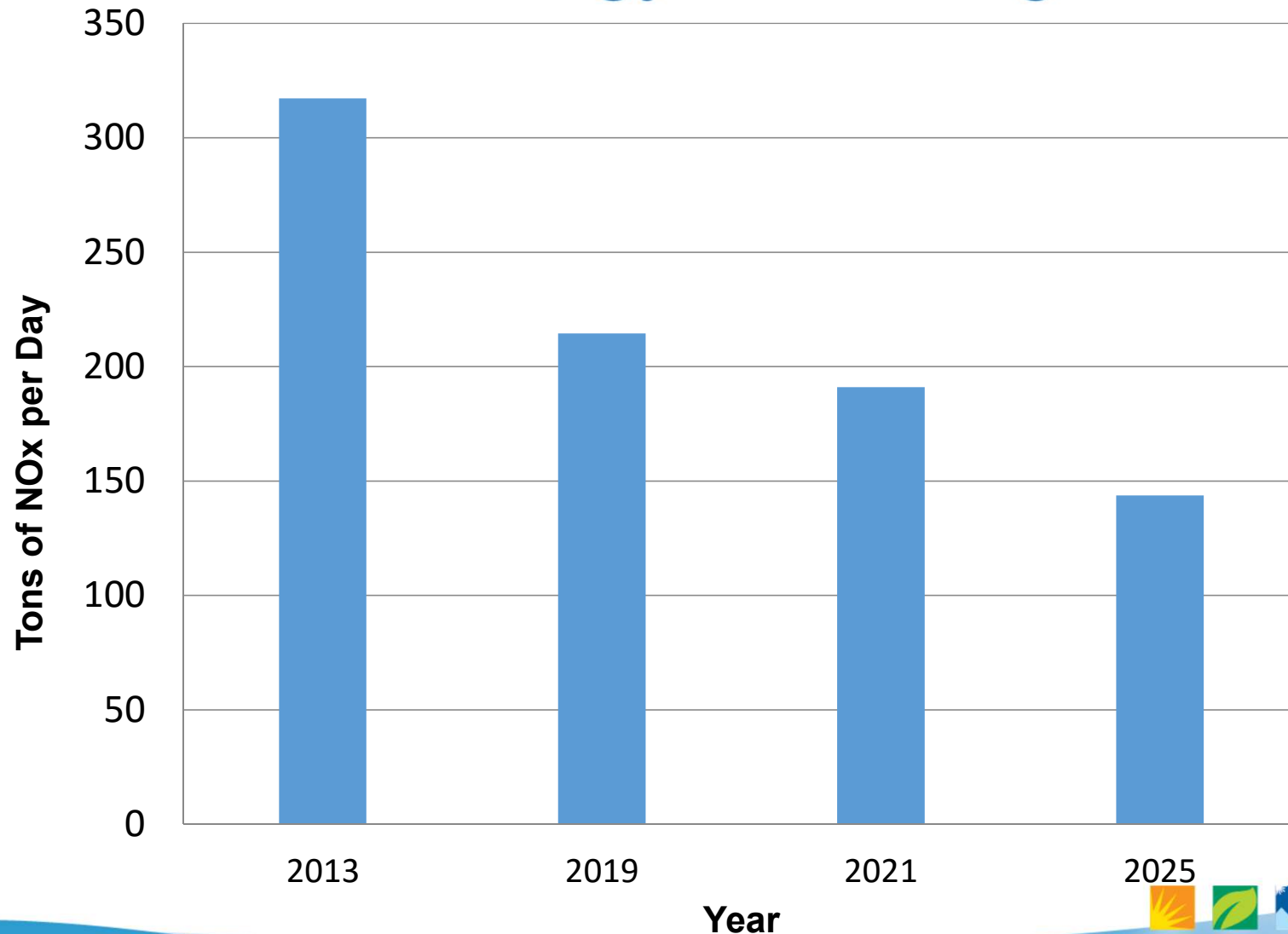
Decrease in Stationary Sources Emissions



Trend in PM2.5 Good and Unhealthy AQI County-Days per Winter Season (Nov-Feb)



Significant NOx Reductions in Valley from Current Strategy in Coming Years



Requirements for 5% Plan

- Include sufficient measures to demonstrate at least 5% annual emissions reduction in direct PM_{2.5} or any PM_{2.5} precursor (NO_x, SO_x) each year until attainment
- Provide for attainment as expeditiously as practicable
 - Allowed up to 10 years until 2026 to demonstrate attainment
- Include additional following elements:
 - Emissions inventory
 - Attainment demonstration and modeling
 - Reasonable Further Progress (RFP)
 - Quantitative milestones
 - Contingency measures

District's Current Measures Provide Needed Reductions for 5% Plan

- District's strategy has achieved and will continue to achieve significant additional emission reductions, particularly with respect to NO_x (PM_{2.5} and Ozone precursor)
 - Valley now in attainment of 24-hr standard (65 µg/m³)
 - Valley on track to meeting 15 µg/m³ annual standard
- Preliminary analysis indicates that District measures currently in place are sufficient to:
 - Exceed 5% annual emission reduction requirement
 - Satisfy federal plan requirements
 - Achieve expeditious attainment of 1997 standard
- District and ARB working to address contingency requirements and complete attainment modeling

2017 PM10 Maintenance Plan for 1987 PM10 Standard

PM10 Maintenance Plan

- In October 2006, EPA issued Final Rule determining that Valley attained federal 1987 PM10 standard (used to exceed standard by over 50 days per year)
- Historic achievement representing years of hard work and investment by businesses, agriculture, and Valley communities
- Federal Clean Air Act §175A(a) requires plan to provide for maintenance of standard for at least ten years after redesignation
 - In December 2008, EPA redesignated Valley to attainment of federal 1987 PM10 standard
 - District adopted *2007 PM10 Maintenance Plan* to provide for maintenance of standard for at least ten years (2009 through 2018)
- Federal Clean Air Act §175A(b) requires one more plan to provide for maintenance of standard for at least an additional ten-year period (2019 through 2028)



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Maintenance Plan Requirements

- **Attainment emissions inventory**
 - Identify the level of emissions sufficient to attain the PM10 standard
 - Present emission data for time period which ambient air monitoring data showing attainment
- **Maintenance Demonstration**
 - Use modeling to show that future mix of sources and emission rates will not cause a violation of the standard for ten year period of 2019-2028
 - Project emissions for ten year period of 2019-2028
 - Show that emission rate projections are based on permanent, enforceable reductions

Maintenance Plan Requirements (cont'd)

- **Monitoring Network**
 - Demonstrate the state will continue to monitor after redesignation to verify attainment
 - Discuss provisions for continued operation of air quality monitors that will verify attainment
- **Verification of Continued Attainment**
 - Ensure the state has the legal authority to implement and enforce all measures needed to attain and maintain the standard, including the acquisition of ambient and source emission data
 - Show how continued maintenance of standard will be tracked
- **Contingency Plan**
 - Verify implementation of emission control measures in the fully approved implementation plan
 - Identify indicators and provisions to promptly correct any violation occurring after redesignation



Additional Emissions Reductions Achieved Beyond 2007 PM10 Maintenance Plan

- District has adopted numerous additional rules achieving direct PM, NO_x, and SO_x emission reductions beyond *2007 PM10 Maintenance Plan*
- District Rule 4901 (Wood Burning Fireplaces and Heaters)
 - Amended in 2014 to significantly reduce PM during periods of atmospheric stagnation when those reductions are needed most
 - Continue to provide additional reductions as Valley residents continue to replace existing wood burning fireplaces and heaters with cleaner devices through District's Burn Cleaner program
- ARB has also adopted numerous mobile source measures achieving significant additional emissions reductions

Additional Emissions Reductions Beyond 2007 PM10 Maintenance Plan – District Rules

- Rule 4103 Open Burning
- Rule 4306 & 4320 Boilers, Steam Generators, & Process Heaters > 5 MMBtu/hr
- Rule 4307 Boilers, Steam Generators, & Process Heaters 2 to 5 MMBtu/hr
- Rule 4308 Boilers, Steam Generators, & Process Heaters 0.075 to < 2 MMBtu/hr
- Rule 4311 Flares
- Rule 4352 Solid Fuel Fired Boilers, Steam Generators, and Process heaters
- Rule 4354 Glass Melting Furnaces
- Rule 4401 Steam-Enhanced Crude Oil Production Wells
- Rule 4402 Crude Oil Production Sumps
- Rule 4566 Organic Material Composting Operations
- Rule 4570 Confined Animal Facilities
- Rule 4601 Architectural Coatings
- Rule 4602 Motor Vehicle Assembly Coatings
- Rule 4603 Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts
- Rule 4605 Aerospace Assembly and Component Coatings Operations

Additional Emission Reductions Beyond 2007 PM10 Maintenance Plan – District Rules

- Rule 4606 Wood Products and Flat Wood Paneling Products
- Rule 4607 Graphic Arts and Paper, Film, Foil and Fabric Coatings
- Rule 4612 Motor Vehicle and Mobile Equipment Coating Operations
- Rule 4621 Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants
- Rule 4622 Gasoline Transfer into Motor Vehicle Fuel Tanks
- Rule 4625 Wastewater Separators
- Rule 4653 Adhesives and Sealants
- Rule 4682 Polystyrene, Polyethylene, and Polypropylene Products and Manufacturing
- Rule 4684 Polyester Resin Operations
- Rule 4692 Commercial Charbroiling
- Rule 4695 Brandy Aging and Wine Aging Operations
- Rule 4702 Internal Combustion Engines
- Rule 4901 Wood Burning Fireplaces and Wood Burning Heaters
- Rule 4902 Residential Water Heaters
- Rule 4905 Natural Gas-Fired, Fan-Type Central Furnaces
- Rule 9410 Employer-based Trip Reduction



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Emissions Reductions Beyond 2007 PM10 Maintenance Plan – ARB Rules

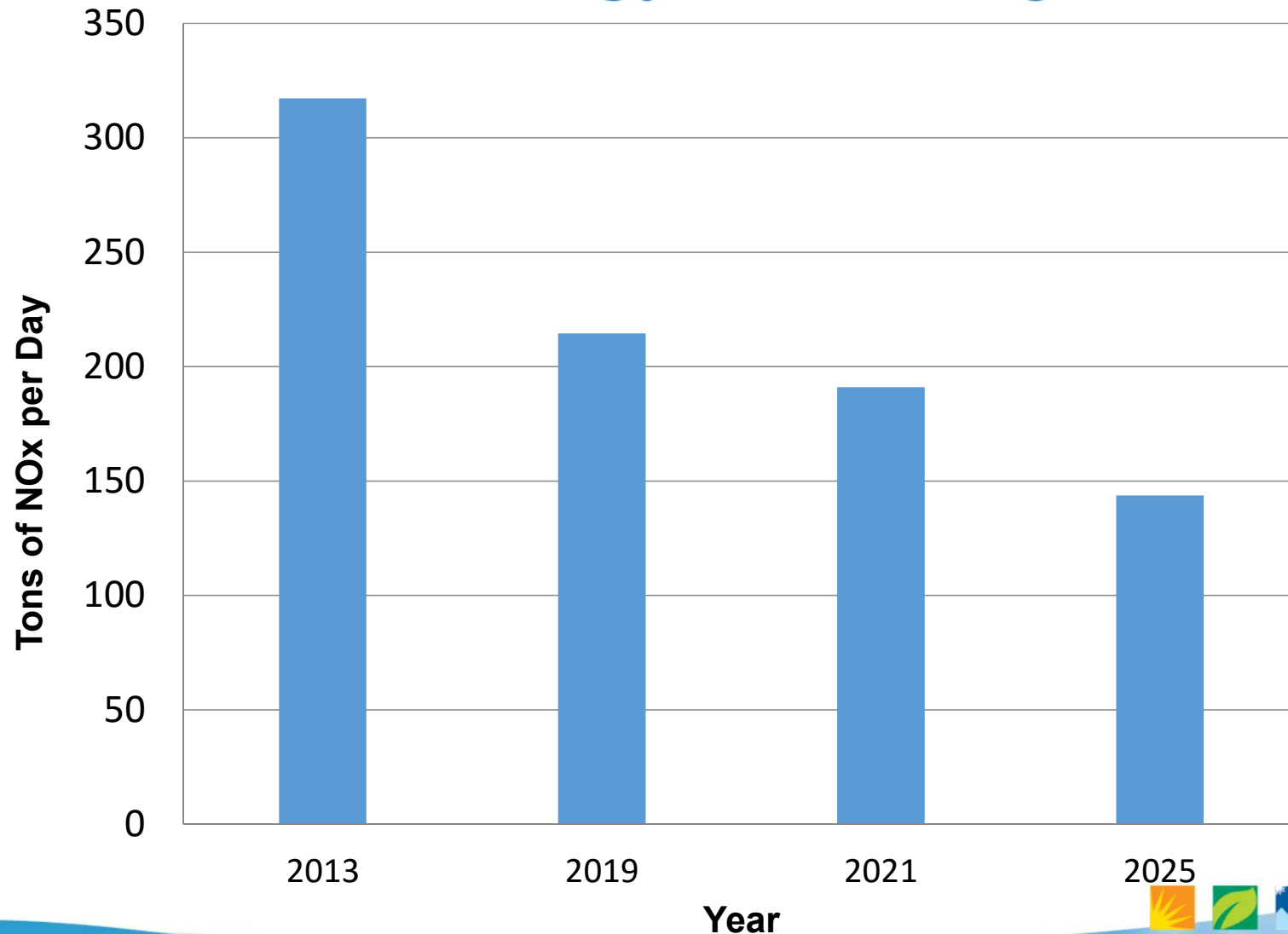
- To address legacy fleets of higher-emitting Heavy Duty vehicles with long service lives, ARB adopted numerous mobile source control measures to significantly reduce PM and NOx emissions, including:
 - Drayage (Port of Rail Yard) Regulation
 - Public Agency and Utilities Regulation
 - Solid Waste Collection Vehicle Regulation
 - ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling
 - Heavy-Duty Diesel Vehicle Inspection Program
 - Periodic Smoke Inspection Program
 - Fleet Rule for Transit Agencies
 - Lower-Emission School Bus Program
 - Heavy-Duty Truck Idling Requirements
- In 2012, ARB adopted California's Advanced Clean Cars
 - Emissions-control program for model years 2017 through 2025
 - Upon full implementation in 2025, consumer vehicles will produce 75% less emissions



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Significant NOx Reductions in Valley from Current Strategy in Coming Years



Continued Maintenance of PM10 Standard Expected from 2019 through 2028

- District and ARB assessments indicate continued maintenance of PM10 standard without need for additional measures due to extensive measures already in place
 - District's 2017 PM10 Maintenance Plan will satisfy all federal requirements
- In addition, upcoming plans for 2006 PM2.5 Standard, 2012 PM2.5 Standard, and 2015 Ozone Standard will require enormous additional reductions which will further contribute to significant future reductions in PM10

Next Steps

- Draft *2017 PM10 Maintenance Plan* and *2017 5% PM2.5 Plan for 1997 PM2.5 Standard* anticipated to be posted in July 2017 for public review and comment
- Opportunity for additional comment at public hearing for proposed adoption at August 2017 District Governing Board Meeting

Additional Information

- Up-to-date information available at <http://www.valleyair.org/pmplans/>
- Receive email updates on the development of this plan and future air quality attainment plans at <http://www.valleyair.org/lists/list.htm>
- Email comments to airqualityplans@valleyair.org

Comments and Discussion

webcast@valleyair.org



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