



Preliminary Results on 2022 AQMP Reasonably Available Control Measures (RACM) Demonstration for Stationary Sources

**AQMP Advisory Group Meeting
Agenda Item # 2
January 28, 2022**

Cleaning The Air That We Breathe...



Background

- **What is the requirement for RACM?**
 - A federal Clean Air Act requirement for ozone nonattainment areas as part of attainment plan
 - Measures must be adopted if:
 - Technologically and economically feasible; and
 - Will advance the attainment date, at a minimum, by one year, or are necessary for Reasonable Further Progress (RFP)
 - Applies to stationary and mobile sources
- **Purpose**
 - Demonstrate that an air agency has adopted all reasonably available control measures



Approach for Stationary Sources



Stage 1: Identify potential RACM through a seven-step analysis

- Rules/regulations/measures that have been or are being implemented in other areas
- Guidance documents
- Working groups/workshops



Stage 2: Evaluate technological and economic feasibility

- Rule limits
- Emission limits in permitted units
- Vendor discussion
- Potential cost
- Emissions inventory and potential reductions



Stage 3: Evaluate whether emission reductions are needed for Reasonable Further Progress/could advance attainment by one year

- All potential RACM are taken collectively



Stage 1: Seven-Step Analysis for Stationary Sources

1. Updated RACT/RACM
2. EPA Technical Support Documents
3. Control Measures beyond RACM in 2016 AQMP
4. Control Measures by Other California Air Districts and State Agencies
5. EPA Menu of Control Measures
6. EPA Guidance Documents
7. Control Measures Workshop and AQMP Working Groups



Stage 1: Potential RACM Identified

| Potential RACM | Title / Source Categories | South Coast AQMD Applicable Rule |
|----------------|---|----------------------------------|
| 1 | Lowering NOx Emission Limits for Boilers, Steam Generators, and Process Heaters | Rule 1146 |
| 2 | VOC Emission Reductions from Cooling Towers | Not applicable |
| 3 | Lowering NOx Emission Limit for Commercial Food Ovens | Rule 1153.1 |
| 4 | Additional Enhancement in Reducing Existing Residential Building Energy Use | Not applicable |
| 5 | Lowering VOC Emission Limit for Gasoline Bulk Terminals | Rule 462 |
| 6 | Lowering VOC Emission Limit for Auto and Light-Duty Truck Assembly | Rule 1115 |
| 7 | Lowering VOC Emission Limits for Interior Body Sprays for Metal Container, Closure, and Coil Coating Operations | Rule 1125 |



Stage 2: Potential RACM 1 – Lowering NOx Emission Limits for Boilers, Steam Generators, and Process Heaters



- **Synopsis**

- South Coast AQMD Rule 1146 includes BARCT emission limits established in 2018

| Natural-gas Fired Boiler Units | South Coast AQMD Rule 1146 NOx Limit (ppm) | San Joaquin Valley APCD Rule 4320 (Amended 12/17/20) NOx Limit (ppm) |
|--------------------------------|--|--|
| 5-20 MMBtu/hour | 7-9 | 5 |
| >20 MMBtu/hour | 5 | 2.5 |

- **Technological Feasibility**

- NOx limits at 5 ppm or below likely require Selective Catalyst Reduction (SCR) installation
- Technological limitations for retrofitting existing units
 - Age, flow, and size of the SCR catalyst bed; potentially higher ammonia emissions
- SJV’s rule includes technology forcing limits and allows compliance through a mitigation fee option

- **Economic Feasibility**

- To be determined once the lower limits become technologically feasible

- **Proposed Control Measure L-CMB-02 addresses emissions from boilers**



Stage 2: Potential RACM 2 – VOC Emission Reductions from Cooling Towers



- **Synopsis**

| Requirements | Bay Area AQMD Rule 11-10 | U.S. EPA 40 CFR 63 |
|-------------------------------|--|--|
| Leak monitoring and threshold | Weekly or bi-weekly in air at 6 ppm and in water at 84 ppb (existing) or 42 ppb (new/modified) | Monthly or quarterly in air at 6.2 ppm (existing) or 3.1 ppm (new) |
| Leak repair time | Within 21 days of first detection | No later than 45 days of detecting the leak |

- **Technological Feasibility**

- An increase in monitoring frequency and additional leak repair requirements are feasible

- **Economic Feasibility**

- Costs depend on the frequency of monitoring and leak repairs
- Fugitive emissions from refineries are mostly from storage tanks (regulated under Rule 1178)
- Emissions from cooling towers vary largely year-to-year and facility-to-facility
 - Range from 0.09–0.81 tpd from 10 refineries in 2015–2020
 - Potential emission reductions to be determined

- **Proposed Control Measure FUG-02 addresses emissions from cooling towers**



Stage 2: Potential RACM 3 – Lowering NOx Emission Limit for Commercial Food Ovens



- **Synopsis**

| | South Coast AQMD Rule 1153.1 | San Joaquin Valley Rule 4309 |
|---------------------|--|------------------------------|
| NOx emission limit | 60 ppm at 3% O ₂ (≈6.5 ppm at 19% O ₂) | 4.3 ppm |
| Temperature setting | Food ovens run at > 500 °F | NA; food ovens are exempt |

- **Technological Feasibility**

- Amendments to Rule 1153.1 currently underway, feasibility to be determined through Best Available Retrofit Control Technology (BARCT) assessment

- **Economic Feasibility**

- NOx emissions ~0.2 tpd from 98 applicable facilities (~240 units)
- Feasibility to be determined through upcoming BARCT assessment



Stage 2: Potential RACM 4 – Additional Enhancement in Reducing Existing Residential Building Energy Use



- **Synopsis**
 - ❑ NO_x reductions from reducing energy use in existing buildings
- **Technological Feasibility**
 - ❑ Energy-efficient residential appliances are available
 - ❑ Weatherization is feasible
- **Economic Feasibility**
 - ❑ Implementation cost varies widely depending on the existing infrastructure
 - ❑ Could be cost-effective for specific scenarios:
 - ❑ Cost savings when replacing both space heating and cooling units with heat pump
 - ❑ When incentives are available to lower the upfront incremental cost (equipment/infrastructure)
- **Proposed Control Measures R-CMB series and ECC-03 address emissions from residential buildings**



Stage 2: Potential RACM 5 – Lowering VOC Emission Limit for Gasoline Bulk Terminals



- **Synopsis**

| | South Coast AQMD Rule 462 | Bay Area AQMD Rule 8-33 |
|--|---------------------------|-------------------------|
| VOC limit (lbs/1,000 gallons of liquid loaded) | 0.08 | 0.04 |

- **Technological Feasibility**

- Vapor recovery technology to reduce VOC emissions from bulk loading terminals is achieved in practice

- **Economic Feasibility**

- 2018 baseline inventory is 0.34 tpd of VOC emissions from 23 terminals
 - Emission rates for most facilities reported below the lower VOC limit
- Considering a minor modification needed per terminal, cost-effectiveness is over \$250,000 per ton of VOC reduced

Stage 2: Potential RACM 6 – Lowering VOC Emission Limits for Auto and Light-Duty Truck Assembly



- **Synopsis**

| VOC limit (lbs/gallon of deposited solids) | South Coast AQMD Rule 1115 | 2008 U.S. EPA Control Technique Guidelines (CTG) |
|--|----------------------------|--|
| Spray primer, primer surfacer, or topcoat | 15 | 12 |

- **Technological Feasibility**

- ❑ Considered feasible to meet the emission limits in the 2008 EPA CTG
 - ❑ Lower VOC content reformulations already exist

- **Economic Feasibility**

- ❑ Emission reductions or costs associated are expected to be negligible
 - ❑ Operators are already using coatings that would meet the proposed lowered VOC emission limits

- **As part of the 2020 RACT, committed to amend Rule 1115 to address the U.S. EPA's CTG requirements**

- ❑ Amendment underway - scheduled for Spring 2022

Stage 2: Potential RACM 7 – Lowering VOC Limits for Metal Container, Closure, and Coil Coating Operations



- **Synopsis**

| VOC Limits (g/L) | South Coast AQMD Rule 1125 | San Joaquin Valley APCD/ Bay Area AQMD |
|-------------------------------------|-------------------------------|---|
| Two-piece can interior body spray | 440 | 420 |
| Three-piece can interior body spray | 510 | 360 |

- **Technological Feasibility**

- Lower VOC content reformulations exist
 - Other air districts have identified known uses at lower VOC content

- **Economical Feasibility**

- 2018 baseline inventory is 0.007 tpd of VOC emissions
- Based on the costs to implement the testing and transition and the small inventory of these coatings, cost-effectiveness is ~\$260,000 per ton



Stage 2: Summary of RACM Preliminary Analysis

| Potential RACM | Target Pollutant | Technological Feasibility | Economic Feasibility | Actions |
|--|------------------|---------------------------|---|---|
| 1. Boilers, Steam Generators, and Process Heaters | NOx | × | TBD | Continue to monitor and assess feasibility To be addressed as part of L-CMB-02 |
| 2. Cooling Towers | VOC | √ | Potential cost effectiveness to be quantified | To be addressed as part of FUG-02 |
| 3. Commercial Food Ovens | NOx | TBD | TBD | Feasibility to be evaluated as part of Rule 1153.1 amendment currently underway |
| 4. Existing Residential Building Energy Use | NOx | √ | Cost effectiveness varies widely | To be addressed as part of R-CMB-01 through R-CMB-04 and ECC-03 |
| 5. Gasoline Bulk Terminals | VOC | √ | × | Continue to monitor and assess feasibility |
| 6. Auto and Light-Duty Truck Assembly | VOC | √ | √ | Rule 1115 amendment underway |
| 7. Metal Container, Closure, and Coil Coating Operations | VOC | √ | × | Continue to monitor and assess feasibility |

Next Steps



Solicit input from stakeholders



Determine whether emission reductions are needed for RFP / could advance attainment by one year



Release Draft RACM Demonstration as part of Draft 2022 AQMP



Motor Vehicle Emissions Budget – State Implementation Plan

2022 AQMP Advisory Group

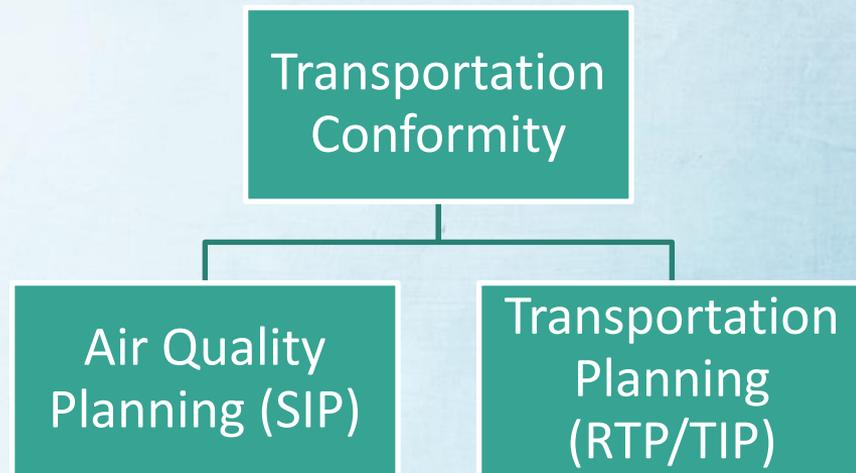
January 28, 2022

Outline

- Overview of transportation conformity and MVEB
- Types of SIPs with MVEB
- Tools used for MVEB
- Interagency consultation process
- Adequacy determination criteria and process
- Application of MVEB

Transportation Conformity

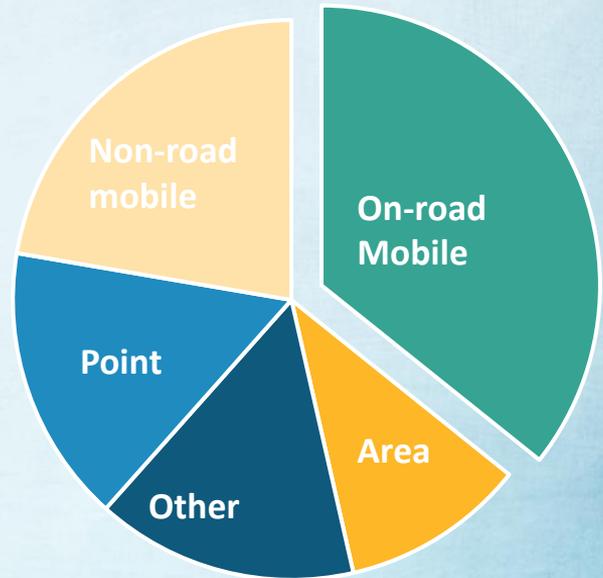
- Connects transportation and air quality planning process
- **M**otor **V**ehicle **E**missions **B**udget established in SIP
- Transportation activities must not
 - produce new air quality violations
 - worsen existing violations
 - delay timely attainment of NAAQS



Motor Vehicle Emissions Budget

Biogenic
On-Road
Mobile

- Shows how much on-road emissions that region can have and still meet SIP's goals
- Based on emission inventory and control measures
- Established by CARB in California



Pollutants and Precursors

Direct and Precursor Emissions

| Pollutants | Direct Emissions | NOx | VOC | Ammonia (NH ₃) | Sulfur Dioxide (SO ₂) | Road Dust |
|-------------------------|---|---|--|---|---|---|
| Ozone (O ₃) |  |  |  |  |  |  |
| PM ₁₀ |  |  |  |  |  |  |
| PM _{2.5} |  |  |  |  |  |  |

Types of SIPs with MVEB

- SIPs that contain MVEB
 - Control strategy implementation plans
 - Maintenance plans
- MVEB must be established for
 - Milestone years (RFP)
 - Attainment and post-attainment (PM2.5) years
 - Last year of the maintenance plan

Tools for Developing MVEB

- Use latest EPA-approved emission model, consistent with SIP inventories – EMFAC2017
 - Vehicle population & type
 - Vehicle age distribution
- Vehicle activity (VMT and speed) must be based on the latest planning assumptions and network-based modeling
 - Land use, human population, employment
 - Travel cost, level of service, congestion
- Encouraged to update the latest planning assumptions every five years

Interagency Consultation

- A forum to collaborate and discuss key elements of MVEB
 - Methodology and assumptions
 - Issues associated with travel demand and emissions modeling
- Typical Participants
 - Federal – FHWA, FTA, & USEPA
 - State – CARB, Caltrans
 - Regional – AQMD, SCAG
 - Local – Transportation and transit agencies



MVEB Adequacy Determination

- Must be determined adequate or approved by USEPA before use for a conformity determination
- Adequacy finding is separate from completeness finding on a SIP
- Adequacy finding does not guarantee approval of a SIP

Adequacy Determination Criteria

- Clearly identified and precisely quantified in SIP
- Must be consistent with emissions inventory/control measures
- Control measures achieve air quality (RFP, attainment, maintenance)
- Revisions to previously submitted SIPs must be explained



Adequacy Process

- Approximately **90-day** process
- State submits SIP to USEPA
- USEPA announces receipt of SIP on OTAQ website to start a **30-day** public comment period
- USEPA Region 9 office makes adequacy/inadequacy finding
 - Respond to any comments
 - Send a letter to state
 - Issue a Federal Register notice (FRN)
 - Post findings on the OTAQ website
- Finding effective **15 Days** after FRN published

Application of Transportation Conformity

- Approved MVEB acts as a ceiling for on-road source emissions
- MPOs demonstrates conformity when adopting or amending
 - Long-range regional transportation plans
 - Transportation improvement programs
 - Federal transportation projects

Summary

- Transportation conformity ensures air and transportation agencies interact on a continuous basis
- Latest emission model and planning assumptions must be used
- MVEB must be consistent with emission inventory, RFP, and attainment or maintenance demonstration

Thank you



QUESTIONS?



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General Questions

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Overview of Transportation Control Measures and Application of Motor Vehicle Emissions Budgets

A Presentation to South Coast AQMD AQMP Advisory Group

Rongsheng Luo

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January 28, 2022

www.scag.ca.gov



- Southern California Association of Governments (SCAG)
 - ✓ Metropolitan Planning Organization for Southern California Region: Six Counties, Four Air Basins, Five Air Districts, and 26 Nonattainment and Maintenance Areas
 - ✓ Develop Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and Federal Transportation Improvement Program (FTIP)
- SCAG's Role in South Coast AQMPs:
 - ✓ Provide Socioeconomic Growth Forecast and Travel Activity Projections
 - ✓ Develop Regional Transportation Plan/Sustainable Communities Strategy and Transportation Control Measures (Appendix IV-C)

Background

- RTP/SCS

- ✓ Mandated by federal government, a regional blueprint that provides a 20+ year vision for investing in a multimodal transportation system
- ✓ Required by SB 375, a Sustainable Communities Strategy (SCS) to meet regional GHG emission reduction targets
- ✓ Serves as regional transportation strategy and control measures for South Coast AQMP
- ✓ Required to Demonstrate Transportation Conformity



- FTIP

- ✓ Short-term Transportation Program Implementing RTP/SCS; Developed Every Two Years
- ✓ Also Required to Demonstrate Transportation Conformity



- **Federal Regional Transportation Conformity Requirements:**
 - ✓ **Regional Emissions Analysis:**

meets all applicable motor vehicle emissions budget or interim emission tests for all milestone, attainment, and planning horizon years for all applicable criteria pollutants in all nonattainment and maintenance areas.
 - ✓ **Timely Implementation of TCMs:**

All committed TCMs are given funding priority, are expected to be implemented on schedule, and in the case of any delay, any obstacle to implementation have been or are being overcome.
 - ✓ **Fiscal Constraint:**

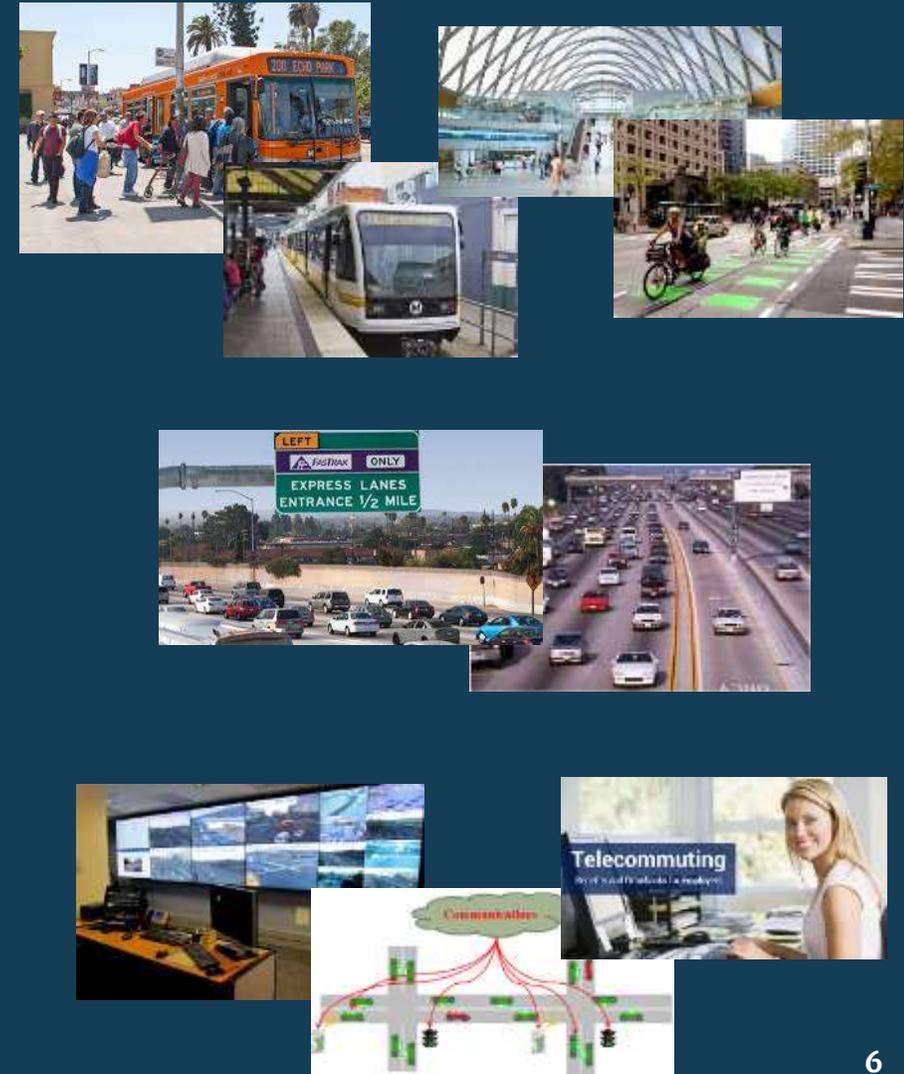
Reasonably available transportation revenues have been identified to meet all transportation projects/programs costs
 - ✓ **Interagency Consultation and Public Involvement Process:**

Follow interagency consultation and public involvement strategies described in SCAG's Public Participation Plan

- Consequences of Regional Transportation Conformity Failures:
 - ✓ Conformity Lapse Grace Period/Conformity Freeze:
 - ✓ Transportation projects in current conforming RTP/SCS and FTIP can move forward
 - ✓ No new RTP/FTIP amendments except exempt projects
 - ✓ Conformity Lapse:
 - ✓ Only exempt projects and previously authorized TCM projects can move forward
 - ✓ All impacted projects can neither receive federal funding, federal approval, nor be amended into RTP or FTIP

What Are Transportation Control Measures (TCMs)?

- Define in Federal Clean Air Act: Transportation programs and projects that reduce vehicle use or changes traffic flow or congestion conditions for purposes of reducing emissions from transportation sources, excluding technology, fuel, and maintenance based measures
- Subset of transportation programs and projects in RTP/SCS and committed through FTIP
- Three Categories of Projects:
 - ✓ High Occupancy Vehicle (HOV) and High Occupancy Toll/Express Lane
 - ✓ Transit and Non-motorized Modes/Active Transportation
 - ✓ Information-based Strategies (e.g., traffic signal synchronization)



How Are TCMs Added and Enforced?

- **Roll-over Process:** A TCM project is automatically committed if funding is programmed in the first two year of right-of-way or construction phase through SCAG's FTIP development process.
- **Enforced On-going TCM Timely Implementation:**
 - ✓ Report on implementation status and demonstrate timely implementation in every RTP/SCS and FTIP
 - ✓ A TCM is required to be substituted if it is delayed significantly or cannot move forward
 - ✓ TCM substitution requires interagency consultation, public comment, SCAG Regional Council adoption, and concurrence by both ARB and US EPA.

How Robust Are TCMs in South Coast?

- Draft 2022 AQMP TCM RACM analysis (required for Serious and above ozone SIP) demonstrates that all reasonably available TCMs are being implemented in the South Coast Air Basin.
- EPA approved last 2016 AQMP TCM BACM analysis (required for Serious PM_{2.5} SIP) demonstrates that the best available TCMs are being implemented in the South Coast Air Basin:
 - ✓ Much more robust TCM selection process
 - ✓ Much greater level of total and per capita funding for TCMs
 - ✓ Past and continuing substantial increase in TCM infrastructure
 - ✓ No new TCMs were identified for consideration from TCM programs outside of South Coast

How Effective Are TCMs in Reducing Emissions in South Coast?

- Based on draft analysis of TCMs in 2020 RTP/SCS for illustrative purposes: TCMs would yield only 0.3–0.4 ton per day of emission reduction in VOC and NO_x in 2035
- Potential future emission reduction from TCMs will be consistently diminishing due to increasingly cleaner vehicles

How Are Motor Vehicle Emissions Budgets Used?

- Used in RTP/SCS and FTIP Regional Emissions Test that is required as part of the transportation conformity analysis and determination
- Emissions from RTP/SCS and FTIP must not exceed applicable motor vehicle emissions budgets for all milestone, attainment, and planning horizon years for all applicable criteria pollutants in all nonattainment and maintenance areas

How Are Motor Vehicle Emissions Budgets Used?

- Example: South Coast 2008 and 2015 Ozone Budget Test Table

| Pollutant | | Nonattainment Area | 2023 | 2026 | 2029 | 2031 | 2037 | 2045 |
|-----------|---------------|-------------------------------------|------|------|------|------|------|------|
| ROG | Budget | SCAB | 68 | 60 | 54 | 50 | 50 | 50 |
| | Plan Emission | Morongo | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 |
| | | Pechanga | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | SCAB excluding Morongo and Pechanga | 65.3 | 57.9 | 52.0 | 48.4 | 40.5 | 36.9 |
| | | Sum | 65.5 | 58.1 | 52.3 | 48.6 | 40.6 | 37.0 |
| | | SCAB | 66 | 59 | 53 | 49 | 41 | 37 |
| | | Budget – Plan Emission | 2 | 1 | 1 | 1 | 9 | 13 |
| NOx | Budget | SCAB | 89 | 77 | 69 | 66 | 66 | 66 |
| | Plan Emission | Morongo | 0.9 | 0.7 | 0.6 | 0.5 | 0.4 | 0.4 |
| | | Pechanga | 0.5 | 0.4 | 0.3 | 0.3 | 0.2 | 0.2 |
| | | SCAB excluding Morongo and Pechanga | 80.7 | 69.5 | 61.2 | 57.3 | 51.3 | 52.7 |
| | | Sum | 82.1 | 70.6 | 62.1 | 58.1 | 51.9 | 53.2 |
| | | SCAB | 83 | 71 | 63 | 59 | 52 | 54 |
| | | Budget – Plan Emission | 6 | 6 | 6 | 7 | 14 | 12 |

Questions?

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Updates on 2022 AQMP Control Measures / Control Strategy

AQMP Advisory Group Meeting
Agenda Item # 5
January 28, 2022

Cleaning The Air That We Breathe...



2022 AQMP Control Measures Workshop

- **South Coast AQMD and CARB hosted the Workshop on November 10, 2021**
 - **South Coast AQMD stationary source measures (morning)**
 - **South Coast AQMD mobile source measures (afternoon)**
 - **CARB SIP Strategy measures (afternoon)**
- **Preliminary comment period ended December 8, 2021**





Public Comment Letters

- **Received 92 comment letters**
 - Concerned constituents (82 individuals with similar comments)**
 - American Coatings Association (ACA)**
 - Southern California Air Quality Alliance (SCAQA)**
 - Roof Coatings Manufacturing Association (RCMA)**
 - California Environmental Voters/Sierra Club/RMI/Peoples Collective for Environmental Justice/Earthjustice/Center for Community Action & Environmental Justice/Coalition for Clean Air**
 - California Council for Environmental and Economic Balance (CCEEB)**
 - Regulatory Flexibility Group (RFG) represented by Latham and Watkins**
 - Earthjustice and undersigned organizations**
 - California Communities Against Toxics/California Kids IAQ/ Center for Community Action & Environmental Justice/Coalition for a Safe Environment/Community Dreams/East Yard Communities for Environmental Justice/EMERGE/NAACP/Pacific Environment/People's Collective for Environmental Justice/San Pedro & Peninsular Homeowner's Association/USC professors/West Long Beach Association**
 - Western States Petroleum Association (WSPA)**
 - Southern California Gas Company (SoCalGas)**
 - National Fuel Cell Research Center – Dr. Jack Brouwer**

Summary of Key Comments

| Category | Key Comments | Commentors |
|--|--|--|
| Transition to zero-emission (ZE) and near-zero emission (NZE) technologies | <ul style="list-style-type: none"> • <i>Focus on regulatory approach rather than incentive measures</i> • <i>Prioritize adopting ZE technologies and incentive programs for low-income/environmental justice communities</i> • <i>Use of ZE and NZE fuel cell systems to replace large turbines</i> • <i>Heavy economic impacts to small and medium-sized businesses with a major transition (scale and pace) and costly mandate</i> | <ul style="list-style-type: none"> • Concerned constituents • SCAQA • California Environmental Voters/Sierra Club/RMI/Peoples Collective for Environmental Justice/Earthjustice/Center for Community Action & Environmental Justice/Coalition for Clean Air • CCEEB • Earthjustice • NFCRC |
| Incentives | <ul style="list-style-type: none"> • <i>Shifting existing incentive programs to ZE</i> • <i>Targeted incentives – all for ZE</i> • <i>Oppose sole reliance on incentive programs</i> | <ul style="list-style-type: none"> • Earthjustice |

Summary of Key Comments (cont'd)

| Category | Key Comments | Commentors |
|---|--|---|
| ZE and NZE technologies for stationary and area sources | <ul style="list-style-type: none"> <i>Penetration of ZE technologies in residential buildings, commercial buildings, and for large combustion equipment</i> <i>Pathway to additional NOx reduction goal in refinery sector given recent Rule 1109.1 amendment</i> <i>Stranded assets if ZE technology implemented soon after BARCT-level controls are implemented</i> <i>ZE/NZE technology availability and fit for turbines</i> | <ul style="list-style-type: none"> WSPA California Environmental Voters/Sierra Club/RMI/Peoples Collective for Environmental Justice/Earthjustice/Center for Community Action & Environmental Justice/Coalition for Clean Air CCEEB Earthjustice NFCRC |
| Buildings | <ul style="list-style-type: none"> <i>Support of ZE technologies</i> <i>Greater commitment to solar energy technologies in new construction/major remodels</i> <i>Support targeted incentives for environmental justice communities and low-income households</i> <i>Costs associated with building decarbonization and impacts on low-to middle-income households</i> | <ul style="list-style-type: none"> Concerned constituents Earthjustice California Environmental Voters/Sierra Club/RMI/Peoples Collective for Environmental Justice/Earthjustice/Center for Community Action & Environmental Justice/Coalition for Clean Air SoCalGas |

Summary of Key Comments (cont'd)

| Category | Key Comments | Commentors |
|--|---|--|
| Emergency engines / back up generators | <ul style="list-style-type: none"> • <i>Emergency engines at essential public services must be a special category</i> • <i>Allow non-ZE technologies for emergency engines</i> • <i>Public safety, feasibility, and need of reliable and instantaneously available emergency backup engines</i> • <i>Costs and benefits of diesel back up generators</i> | <ul style="list-style-type: none"> • CCEEB • WSPA • SCAQA • SoCalGas |
| Infrastructure | <ul style="list-style-type: none"> • <i>Infrastructure planning and technology assessment to support ZE technologies (e.g., assurance of electrical grid)</i> • <i>Gradual transition from a fossil-fuel based economy</i> • <i>Operational challenges from increasingly higher renewable resource mix</i> • <i>Emissions from dispatchable electric generators</i> | <ul style="list-style-type: none"> • SCAQA • CCEEB • RFG • SoCalGas |
| VOC measures | <ul style="list-style-type: none"> • <i>More VOC reductions from petroleum refinery sectors</i> • <i>Concerns with removing PCBTF/tBAC exemptions</i> • <i>Concerns with incentivizing UV/EB/LED technologies</i> • <i>Efficacy of FUG-01 in achieving emission reduction goal</i> | <ul style="list-style-type: none"> • ACA • RCMA • CCEEB • Earthjustice • WSPA |



Summary of Key Comments (cont'd)

| Category | Key Comments | Commentors |
|---|--|--|
| Transportation / mobile source related measures | <ul style="list-style-type: none"> • <i>Additional measures for transportation sector (MVEB, robust TCM, general conformity, etc.)</i> • <i>Emission reductions from commercial marine ports</i> • <i>Additional ISRs for railyards, new development and other sources</i> • <i>Adoption of aggressive fleet rules</i> | <ul style="list-style-type: none"> • Earthjustice |
| Utilization of Clean Air Act Section 182(e)(5) | <ul style="list-style-type: none"> • <i>Support/oppose reliance on black box measures</i> | <ul style="list-style-type: none"> • Earthjustice • WSPA |
| Fair share reductions | <ul style="list-style-type: none"> • <i>Fair share emission reductions by EPA and CARB</i> | <ul style="list-style-type: none"> • CCEEB |

Next Steps



Address and incorporate public comments



Control Measures Development



Working Group Meetings



Release of Draft Control Measures



Release of Draft AQMP