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2015 EMA Certification Workshop
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Vision for Clean Air: Framework for Air Quality and Climate Planning

- Climate Change
- Criteria Pollutants
- Toxics Exposure

Technology, Energy & Efficiency
California’s Air Quality and Climate Goals

Climate Change Goal

Federal Ozone Standards
Regional Ozone & PM Requirements

Current actions show strong progress, but ~75% NOx reductions needed by 2032 below baseline

South Coast Air Basin 8-Hour Ozone Trends

Design Value (ppm)

Basin Exceedance Days

National 8-Hour Ozone Standard
Statewide GHG Targets

- 1990 levels by 2020 (AB 32)
- 80% below 1990 levels by 2050

Transp. Sector 38%; LDV 28%
How Do We Get There?

- Transition to Zero / near-zero technologies
  - True zero tailpipe (e.g., battery electric, fuel cells, electrified wayside) passenger transportation
  - Move towards electrified goods movement
- Off-road equipment
  - Electrified in smaller applications
  - Biofuels in larger applications
- Lowest possible combustion emissions
  - Lower and broader engine certification
  - Enhanced preventative maintenance
Demonstrate new technologies that achieve low NOx and low GHG emissions together

- Lower NOx standard
- Broader standard
  - Wider not-to-exceed windows
  - Longer warranties
  - Stronger recall provisions
  - Improved durability testing
Enhanced Preventative Maintenance

- Define best practices
  - Based on OEM guidance
  - Enhanced with lessons learned from ARB retrofit program
    - Many repair shops have expressed concerns about having access to latest diagnostics software and service manuals
    - This information is critical to make informed repairs on any engine
    - Need EMA assistance to make this information widely available
  - Outreach to fleets through stakeholder associations in California
Achieving the Vision

- Demonstrate new technologies that provide anticipated benefits.
- Push conventional technologies to lower certification levels.
- Focus combustion technologies in highest marginal utility applications.
- Ensure technical assessments based on best science.
Looking Ahead

* “Innovative technologies” regulatory item
  * Develop tiered certification process for new technologies, ramp up requirements as market develops

* “Phase 2 GHG” regulatory item
  * Build on engine and vehicle improvements
  * Opportunity to achieve further GHG reductions

* Improvements to the certification program
  * Streamlined certification process
Certification Comments

* Continued Good Communication between Manufacturer and ARB staff
* Improvement in Application Status
* Alternate Fuels Conversions
  * New vs Used
  * EPA and ARB Harmonized, But Minor Differences Remain