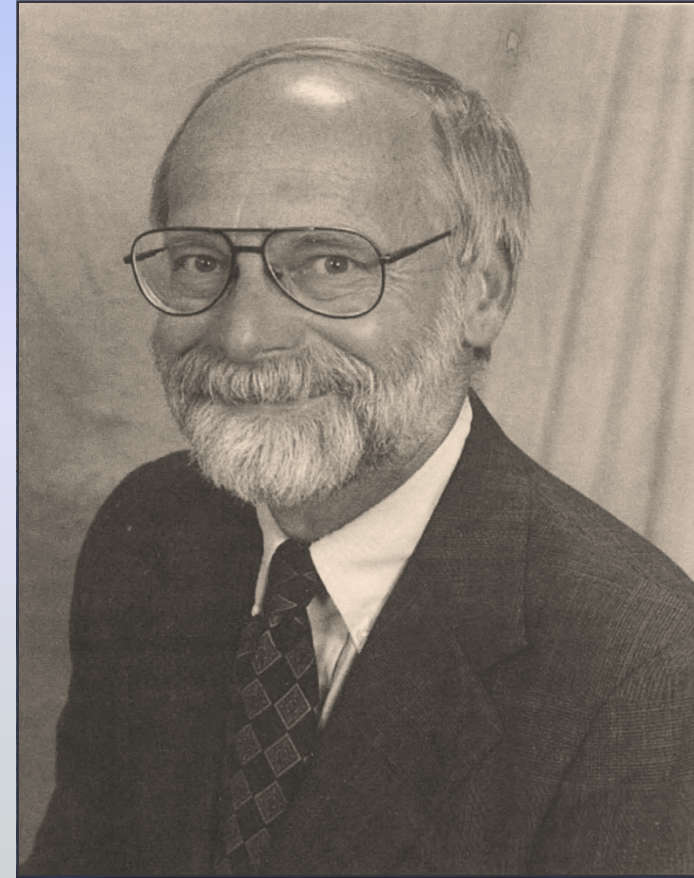


Proposed Revisions to the Carl Moyer Program Guidelines

California Air Resources Board
April 27, 2017



History of the Carl Moyer Program

Established in 1998 to help improve air quality in California

- Provide funding for cleaner technology
- Reduce emissions above and beyond regulations
- Complement, not replace, regulations

Program has evolved over time to address emerging needs

- Inclusion of environmental justice requirements
- Added weighted PM and ROG emissions

Health & Safety Code requirements

- Achieve surplus reductions of covered pollutants: NO_x, ROG, and PM
- Achieve SIP creditable emission reductions

Key to Success: Partnership with Air Districts

**ARB Provides
Oversight**

--

**Air District
Implementation**

- ARB provides guidance and oversight
- Air Districts lead locally
 - Outreach
 - Environmental Justice
 - Selection of projects
 - Inspections and enforcement
 - Accountability through annual reports

Core Principles of the Carl Moyer Program

Emission Benefits

- Cost-effective
- Surplus and SIP creditable
- Environmental justice benefit

Operation

- Air district decisions for local needs
- ARB oversight
- Accountability and transparency

Carl Moyer Funding Sources

**Moyer Authorized Budget of
\$69 Million Annually**



**Smog Abatement Fee
(No sunset date)**



**Tire Fee
(Sunsets 2023)**



**Local Match
~\$8 Million Annually**



**AB 923 and other local
funding sources**

Carl Moyer Program Accomplishments



Provided over \$900 million in funds since 1998



Cleaned up over 50,000 old dirty engines



Reduced 178,000 tons of ozone precursors and 6,500 tons of PM

Moyer Success Inspires Other Programs

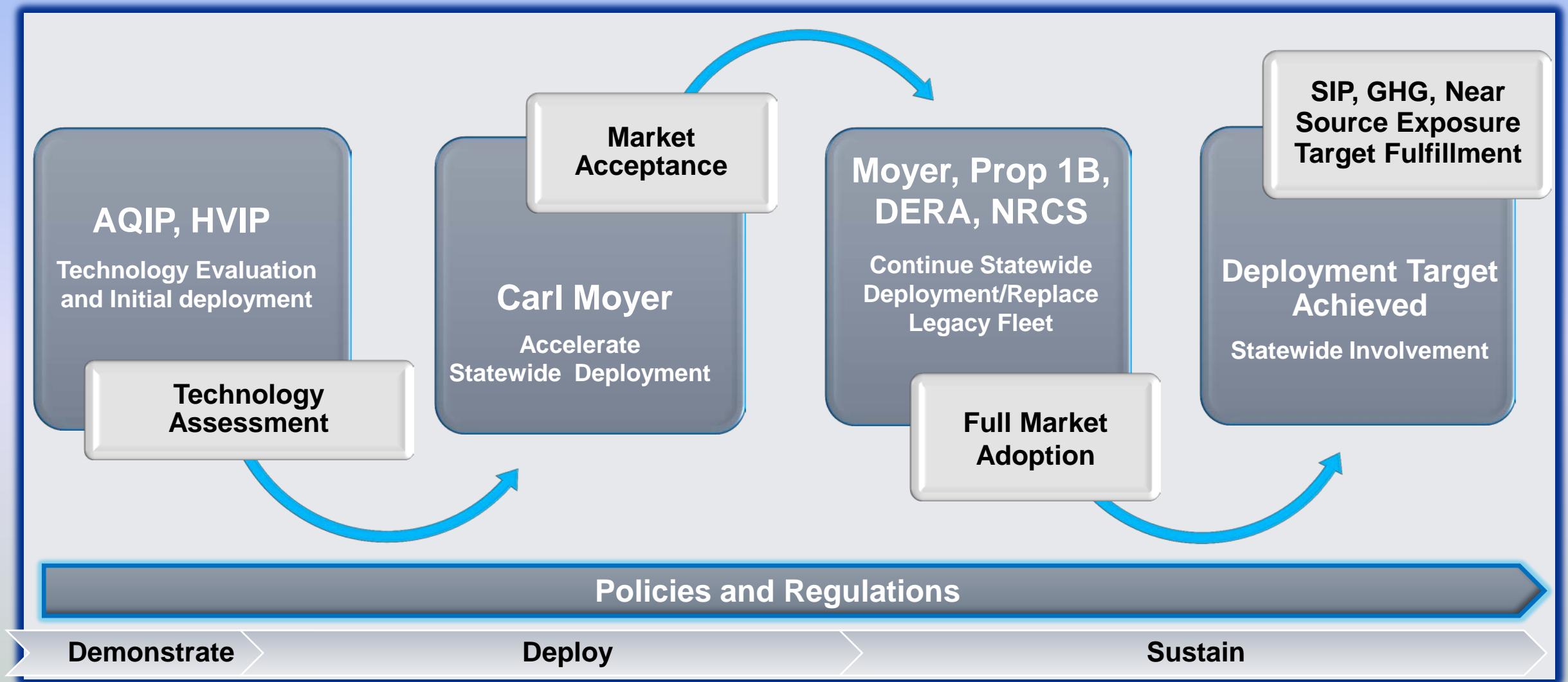
Federal and Other States

- DERA
- NRCS
- Texas Emission Reduction Plan
- Drive Clean Chicago
- New York Truck Voucher Incentive Program
- Massachusetts Electric Vehicle Incentive Program

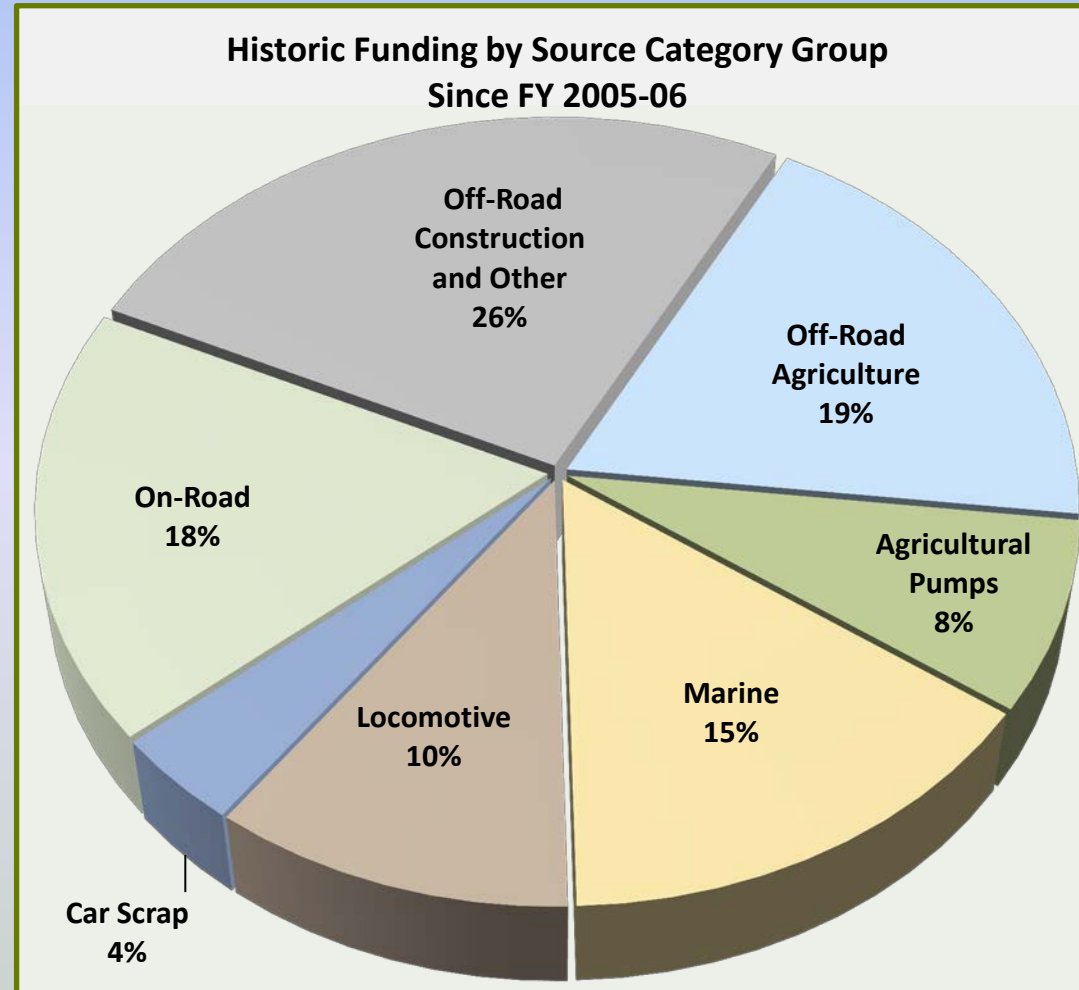
California

- Air Quality Improvement Program
- Goods Movement Emission Reduction Program (Prop 1B)
- Hybrid/Zero-Emission Truck/Bus Voucher (HVIP)
- Enhanced Fleet Modernization Program
- Energy Commission's Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)

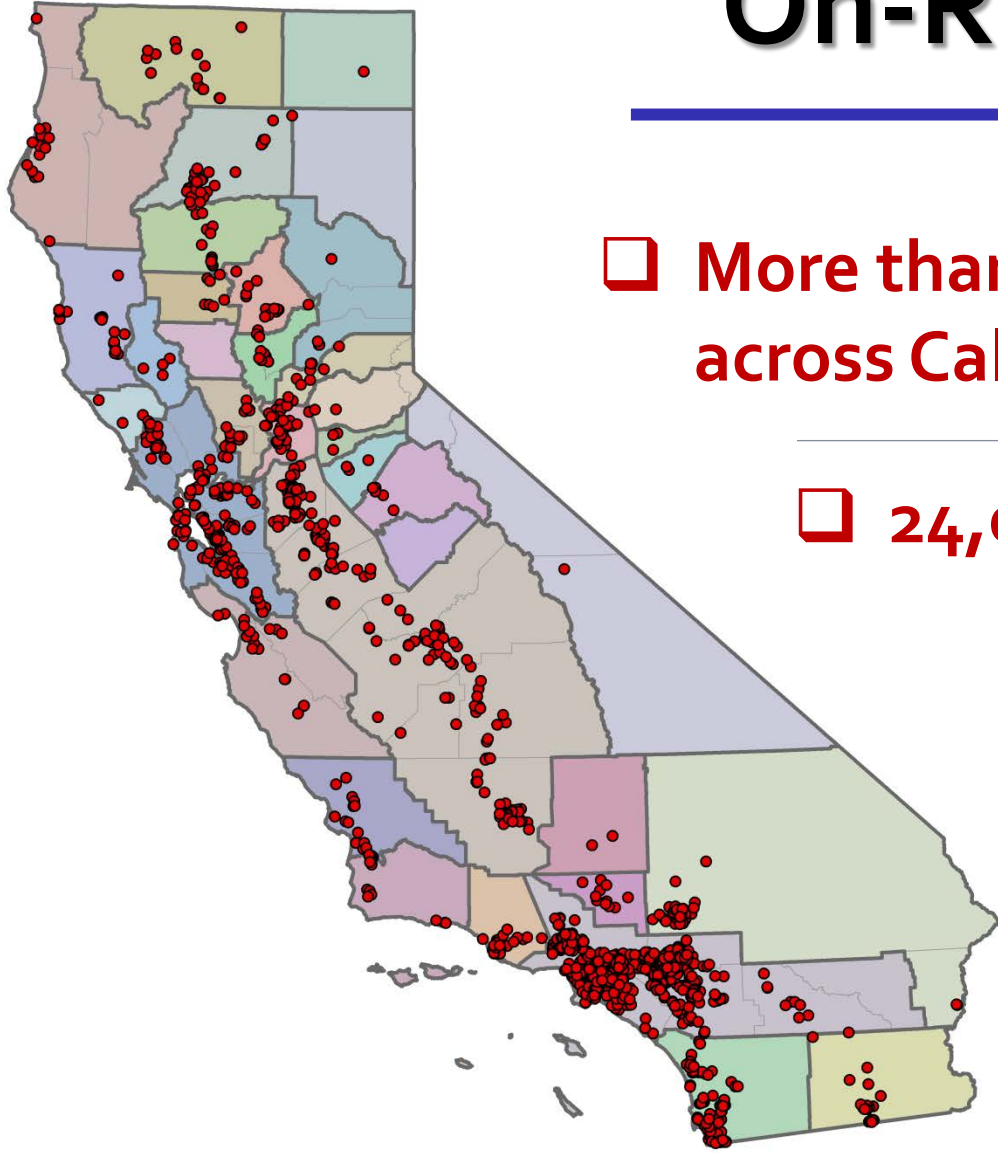
A Pathway for Technologies



Project Diversity



On-Road Heavy Duty Vehicles



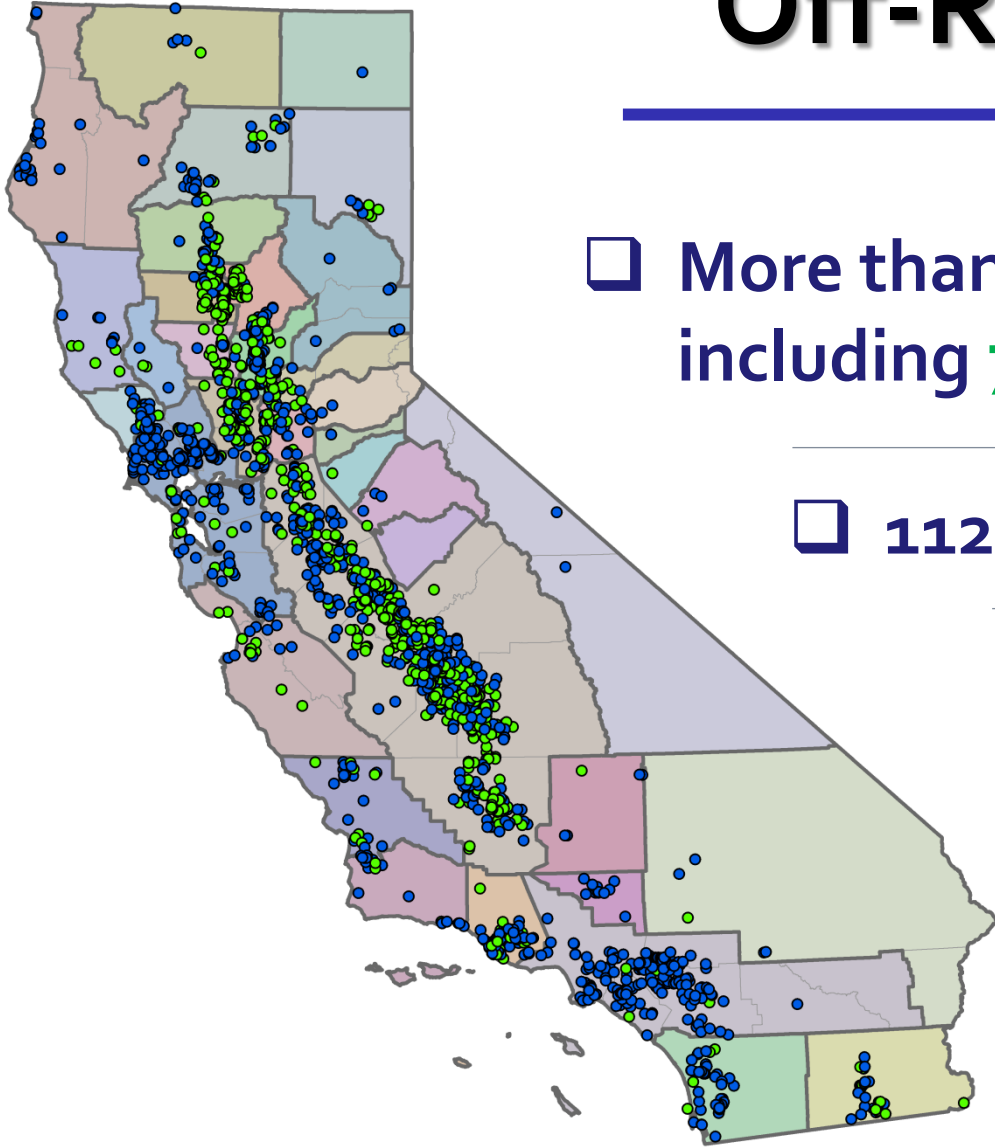
❑ More than 7,200 dirty on-road engines replaced across California

❑ 24,000 tons of NOx and ROG reduced

❑ 660 tons of diesel PM reduced



Off-Road Equipment



- ❑ More than 13,000 off-road engines replaced including 7,500 agricultural pumps
- ❑ 112,700 tons of NOx and ROG reduced
- ❑ 4,200 tons of diesel PM reduced

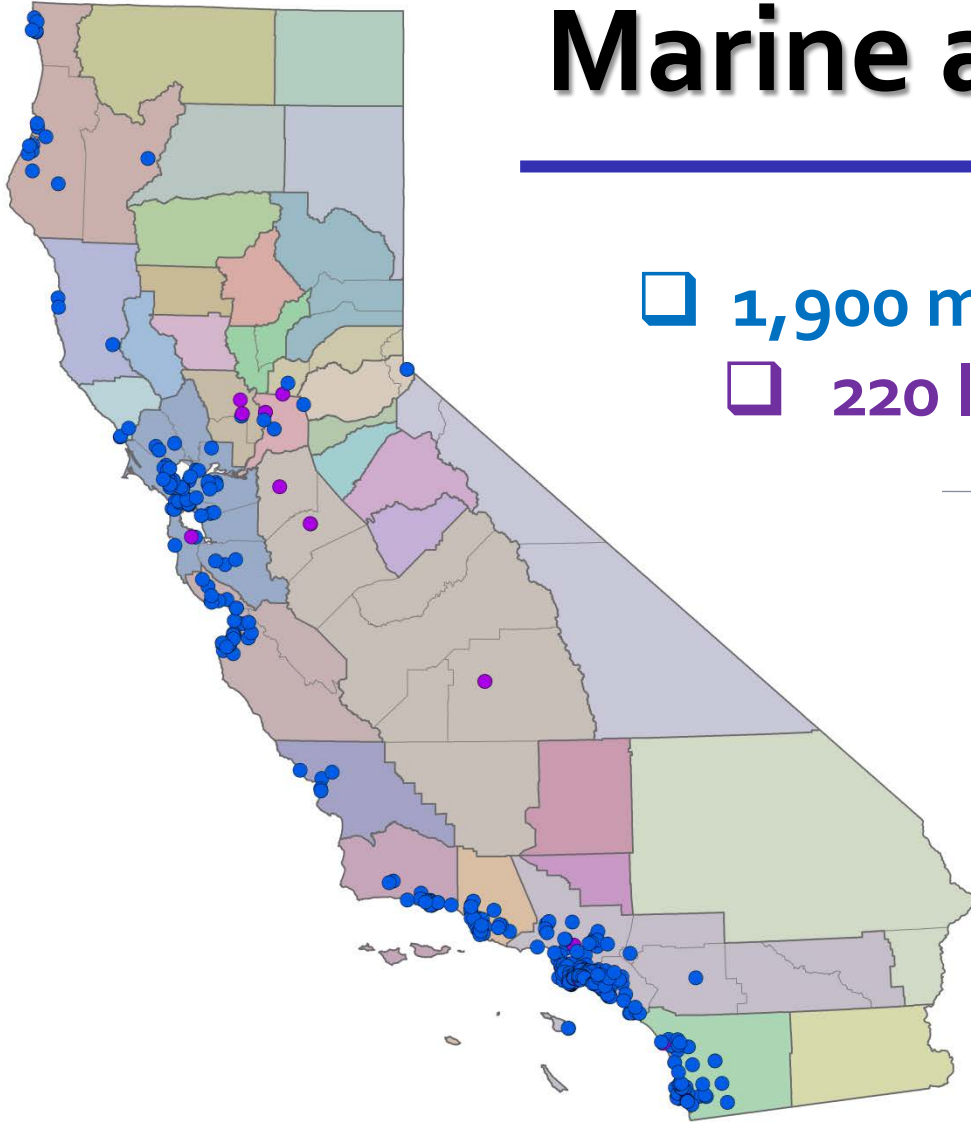


Marine and Locomotive Projects

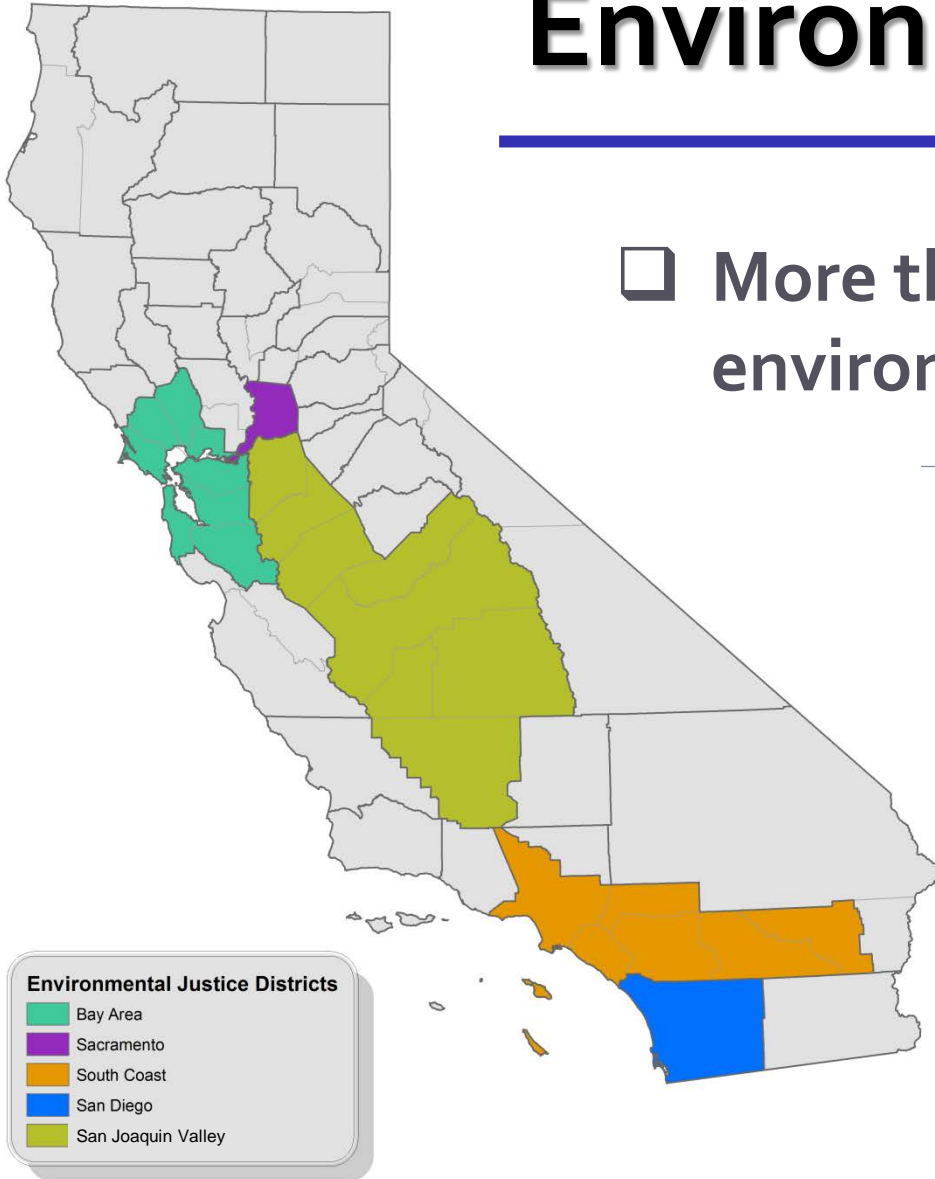
- 1,900 marine engines funded
- 220 locomotive engines funded

□ 38,000 tons of NOx and ROG reductions

□ 1,600 tons of diesel PM reductions



Environmental Justice



❑ More than 19,300 projects funded in environmental justice communities

❑ 68,000 tons of NOx and ROG reductions

❑ 2,500 tons of diesel PM reductions

❑ About \$344 million over the past 12 years

Moyer Looks Ahead to Future Needs

Increase funding opportunity for zero and near-zero technologies

Support our clean air targets in SIPs and Freight Plan

Add flexibility, simplify program implementation

SB 513 Program Revisions



Cost-Effectiveness

- Cost of technology
- Cost of regulations
- School Buses

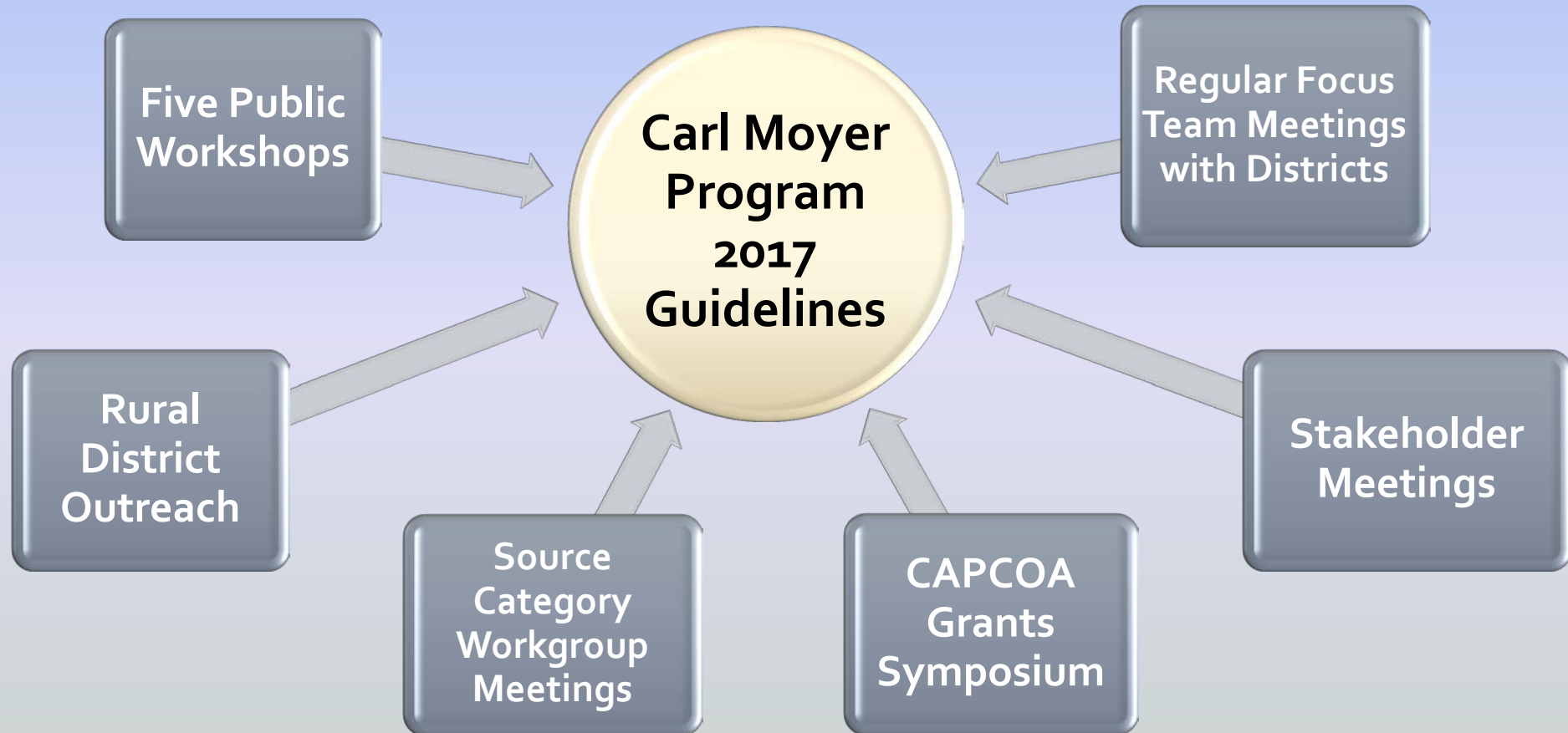
Infrastructure

- Enable and support advanced technologies

Co-Funding

- Leverage other funding programs without penalty

Developing New Guidelines



Update Cost-Effectiveness Limit

Original Cost-Effectiveness Limit



Cost-effectiveness
limit set at \$12,000
per ton in 1998

Current Cost-Effectiveness Limits

$$CE = \frac{\$\$}{\text{TON}}$$

Today's cost
effectiveness limit is
\$18,260 per ton



\$276,230 per ton for
school bus projects to
align with the LESBP

Proposed Cost-Effectiveness Limits

SB 513 Criteria to Establish New Limits



Consider the
costs of cleaner
technology

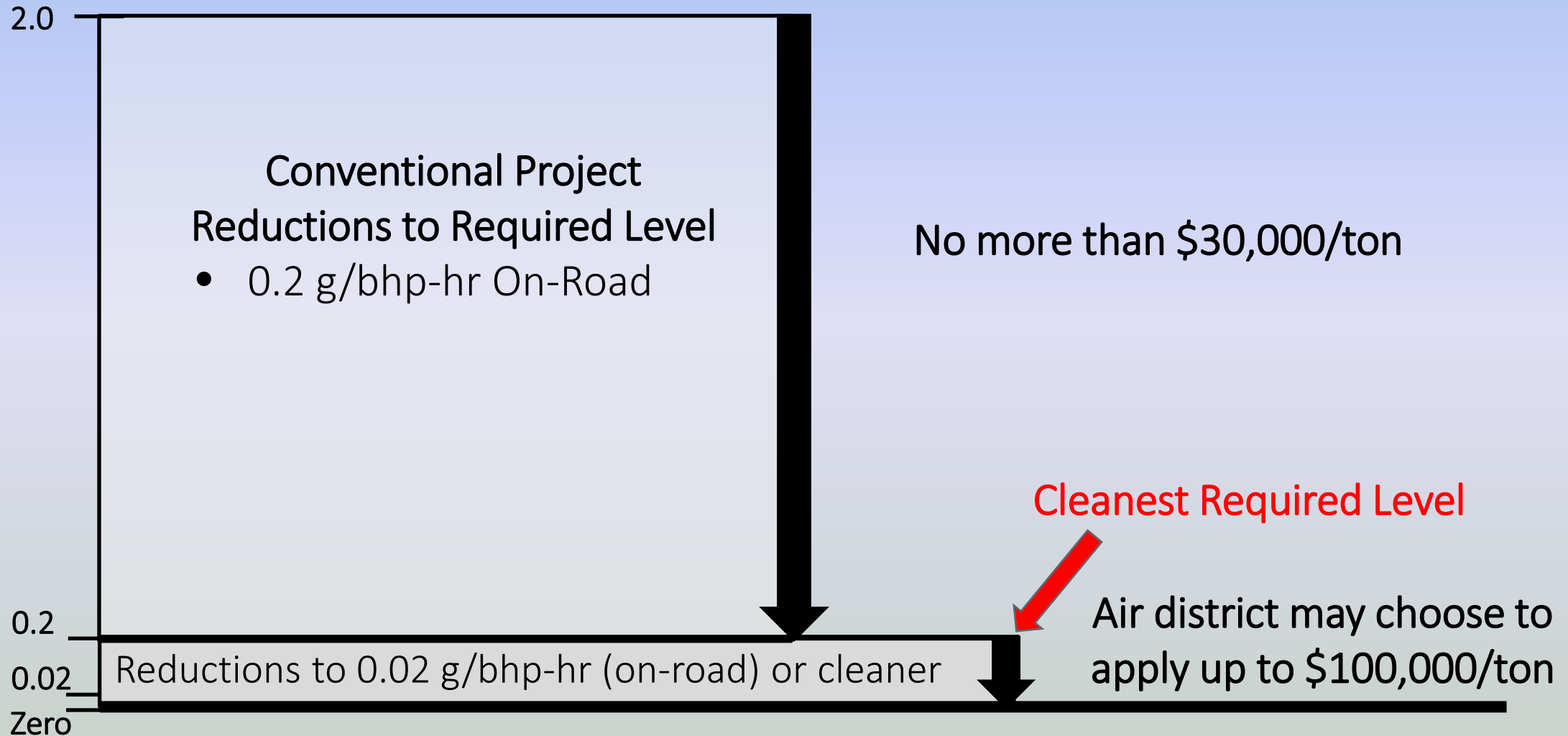


Consider the
cost-effectiveness
of regulations

Base
cost-effectiveness limit
\$30,000 per ton

Optional advanced technology
cost-effectiveness limit
\$100,000 per ton

Air Districts Could Apply the Optional Cost Effectiveness Level



Increased Opportunities to Fund Infrastructure Projects



**Solar Powered
Agricultural Pumps**



**Natural Gas and
Hydrogen
Fueling Stations**



**Battery Charging
Stations**

New Co-Funding Opportunities

- Leverage funds without cost-effectiveness penalty
- Ensure statutory safeguards
 - No overpayment
 - No double counting of emissions reductions



Advanced Technology Support Hydrogen Transit Bus Case Study

Vehicle: Moyer can help fund transit bus replacements and repowers

Infrastructure: Moyer can complement CEC funding by project type

Co-Funding: Moyer can work alongside State, federal and local funding

On-Road Heavy Duty Updates



**Update
Incentive
Amounts to
Better Serve
Small Fleets**



**Improve
Opportunities
for Moyer to
Fund Advanced
Technologies**



**Increase
Opportunities
for Large Fleets
to Purchase
Cleaner
Technologies**

Senate Bill 1 and Moyer

SB 1 Does

- Limit new fleet rules for trucks less than 13 years/800,000 miles.
- Authorize DMV to deny registration in 2020 for vehicles out of compliance with current Truck and Bus Regulation

SB 1 Does Not

- Restrict incentive funding
- Limit Moyer Program ability to help truck owners comply before regulatory deadlines
- Reduce Moyer Program benefits

Off-Road and Portable/Stationary Equipment



Expand eligibility for large fleets but continue to ensure opportunity for medium fleets



Expand the replacement program to include portable equipment and Tier 3 to Tier 4 or electric

Other Proposed Changes



Marine

- Increased incentive for emerging technologies
- Adjust eligibility to allow compliant Tier 2 engines



Locomotive

- Focus funding on cleanest technologies
- Allow reuse and recycle of baseline chassis



Other Categories

- Continue other categories, including car scrap, Lawn and Garden and Agricultural Assistance program
- Update emissions estimates

Moyer and Incentives Key to SIP Success

**Revised
Proposed 2016 State
Strategy for the State
Implementation Plan**

March 7, 2017

California Environmental Protection Agency
Air Resources Board

State SIP Strategy identifies actions to deploy next generation of cleaner technologies

Incentive programs support accelerated penetration of these technologies

Moyer program will play key role in implementing the State SIP Strategy

Summary and Conclusion

Proposed Changes

- Cost-effectiveness limits
- Infrastructure
- Co-funding
- Source category updates

Recommendations

- Approve Carl Moyer Program 2017 Guidelines
- Continue to support significant emission reductions in a changing landscape