

# Air Quality Improvement Program (AQIP) & Low Carbon Transportation Investments

Third Public Workshop on the Fiscal Year (FY) 2015-16 Funding Plan

Sacramento, California  
March 26, 2015

California Environmental Protection Agency  
 **Air Resources Board**

## Workshop Agenda

Time	Session
10 am – 10:30 am	Introduction and Overview of Project Category Funding Allocations
10:30 am – Noon	Light-Duty Vehicle Investments
Noon – 1 pm	Lunch Break
1 pm – 3 pm	Heavy-Duty Vehicle and Off-Road Equipment Investments
3 pm – 3:30 pm	Truck Loan Assistance Program
3:30 pm – 4 pm	Next Steps, Wrap Up, Additional Comments

## **Session 1: Introduction and Overview of Funding Allocations**

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## **AQIP Background**

- Created by Assembly Bill (AB) 118 (2007); updated and reauthorized by AB 8 (2013)
- Mobile source technology advancement
- Annual funding plan guides investments

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## Auction Proceeds Investments for Low Carbon Transportation

- Budget appropriations from Greenhouse Gas Reduction Fund (GGRF) consistent with Administration's 3-year investment plan
  - Achieve greenhouse gas reductions
  - Disadvantaged communities investment requirements
- FY 2014-15: \$200 million to ARB for Low Carbon Transportation (LCT)
  - Board approved joint AQIP/Low Carbon Transportation Funding Plan in June 2014

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## Governor's FY 2015-16 Budget Proposal

### Low Carbon Transportation

- \$200 million to ARB to accelerate transition to low carbon freight and passenger transportation
  - At least 50 percent of funds to benefit disadvantaged communities
  - Continues FY 2014-15 appropriation at same funding

### AQIP

- \$23 million to ARB for AQIP projects
  - Consistent with recent years' funding

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## Guiding Principles for Funding Allocations

- Build on investments from previous years
- Refine programs to address new legislation
  - SB 1275: Charge Ahead California Initiative
  - SB 1204: California Clean Truck, Bus, and Off-Road Vehicle and Technology Program
- Staff recommendations informed by public work group meetings since last public workshop
- Acknowledge demand exceeds available funding

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## ARB Draft Staff Funding Recommendations

Project Category	AQIP (millions)	LCT* (millions)
<b>Light-Duty Vehicle Projects = \$125M</b>		
• Clean Vehicle Rebate Project	\$5	\$111
• Pilot Projects to Benefit Disadvantaged Communities		\$9
<b>Heavy-Duty Vehicle and Equipment Projects = \$98M</b>		
• Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP)	\$5	\$5
• Truck and Bus Pilot Commercial Deployment		\$30
• Low NOx Trucks Certified to Optional Standards ( <i>new</i> )	\$2-3	\$5
• Advanced Technology Demonstration		\$40
• Truck Loan Program (AQIP funding only)	\$10	
<b>Potential Reserve for AQIP Revenue Uncertainty</b>	\$0-1	
<b>Total</b>	<b>\$23</b>	<b>\$200*</b>

\*At least 50% of Low Carbon Transportation funds will benefit disadvantaged communities.

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## Addressing Budget Uncertainty

- Any changes in May revised Budget would be reflected in proposed Funding Plan
- Any changes in final Budget would be reflected as modifications to proposed Funding Plan at the June Board meeting

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## Session 2: Light-Duty Vehicle Investments

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## Light-Duty Vehicle Projects

- Policy and statutory drivers
- Clean Vehicle Rebate Project
- Light-Duty Vehicle Pilot Projects to Benefit Disadvantaged Communities

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## Policy and Statutory Drivers CVRP and Light-Duty Vehicle Pilot Projects

- Support Governor's goals
  - Deploy 1.5 million zero-emission vehicles (ZEVs) by 2025
  - Reduce fuel consumption by up to 50% by 2030
- State Implementation Plan for ozone attainment
- 2014 Climate Change Scoping Plan
- ZEV Action Plan
- ARB's ZEV Regulation
- SB 1275

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## **Policy and Statutory Drivers**

### **Goals of SB 1275: Charge Ahead California Initiative**

- Place in service at least one million near-zero and zero-emission vehicles by January 1, 2023
- Establish a self-sustaining market
- Increase access for disadvantaged, low-income, and moderate-income communities and consumers and placement of vehicles in these communities

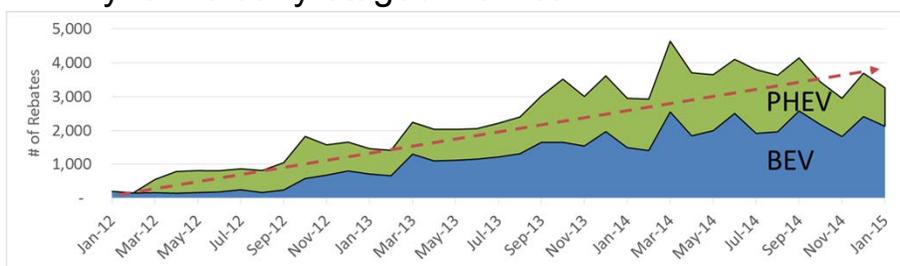
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## **Clean Vehicle Rebate Project**

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## Status Update

- Significant project growth over the last 3 years
  - Over 95,000 rebates issued
  - Over 25 eligible vehicle models
- Dynamic early-staged market



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## SB 1275: Charge Ahead California Initiative

- Directs ARB to adopt CVRP changes by June 30, 2015 to ensure:
  - Rebate levels can be phased down in increments based on cumulative sales
  - Consideration of the conversion to prequalification and point-of-sale rebates
  - Eligibility is limited based on income
- Additional SB 1275 requirements will be addressed in FY 2016-17 Funding Plan

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## SB 1275 Requirements

- *Ensure rebate levels can be phased down in increments based on cumulative sales*
  - Technology evaluation milestones identified in Board-approved FY 2014-15 Funding Plan
  - Long-term plan to be developed for FY 2016-17
- Staff does not recommend lowering rebate amounts in FY 2015-16

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## SB 1275 Requirements

- *Consideration of the conversion to prequalification and point-of-sale rebates*
  - Participation in CVRP is already high (~70 percent of all California sales/leases of eligible vehicles)
  - May lead to providing rebates to consumers who would have otherwise purchased vehicle anyways
  - Increases program complexities
- Staff does not recommend conversion to prequalification or point-of-sale for FY 2015-16
  - Will continue to evaluate ways to increase participation

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## Establishing Income Eligibility Limit

- Key principles
  - Ensure minimal impact to market growth and support deployment of 1 million ZEVs by 2023
  - Simple approach, can refine in future years
- Process
  - Review existing programs with income limits
  - Analyze CVRP survey data
  - Consider stakeholder feedback through public process

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## Establishing Income Eligibility Limit

### Draft Staff Recommendation

- Set income eligibility limits consistent with Proposition 30 (annual gross income)
  - \$250,000 for single filers
  - \$340,000 for head-of-household filers
  - \$500,000 for joint filers
- Proposition 30: voter approved initiative
  - Potential impact to CVRP minimal
  - Impact will be monitored for necessary adjustments

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## Implementing Income Eligibility Limit

- Income verification procedures must be enforceable and auditable
- Income eligibility limit must be clearly communicated
  - Allow 4-6 months after adoption
  - Consumer outreach and dealer training critical
  - Website and application redesign necessary

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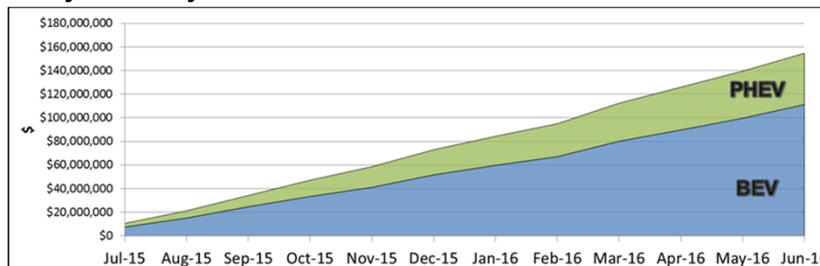
## Implementing Income Eligibility Limit Draft Staff Recommendation

- Conduct random income verification during application process before rebates issued
  - Rebate applicants must provide household income on application and agree to terms and conditions
  - Random sample of rebate applicants audited
  - CVRP Administrator conducts audit and verification
  - Similar to BAR's Consumer Assistance Program

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## Addressing Budget Gap

- Recommended budget: \$116 million
- Projected funding need of \$150-160 million without modifications
- Early and dynamic market



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## Addressing CVRP Budget Gap Draft Staff Recommendations

- Recommended income eligibility limit would provide some potential savings
- Establish a waiting list if necessary
  - Additional funding could reduce or eliminate need for waiting list
- Reserve to carry CVRP between budget cycles
  - Up to \$10 million reserve carried forward from FY 2014-15
  - Allows CVRP to be sustainable
  - Minimizes project disruptions

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## **Increasing Access to CVRP for Lower Income Consumers**

- Expand CVRP to increased rebate amounts for low- and moderate-income consumers
  - If additional funding becomes available
  - Incentivize consumers that value the rebates the most
  - Further supports SB 1275 goals
- Complements light-duty vehicle pilot projects in disadvantaged communities

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## **Light-Duty Pilot Projects to Benefit Disadvantaged Communities**

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## Light-Duty Vehicle Pilot Projects

- Suite of projects to reduce GHG emissions in or benefit disadvantaged communities
  - Increased Incentives for Public Fleets
  - Vehicle Retirement/Replacement (EFMP) Plus-up
  - Car Sharing and Mobility Options
  - Financing Assistance
- Priorities for FY 2015-16
  - Build upon last year's initial light-duty pilot projects
  - Fulfill SB 1275 requirement to increase disadvantaged community access to electric transportation

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## Light-Duty Vehicle Pilot Projects

### FY 2014-15 Status Updates

- Increased Incentives for Public Fleets
  - Rebates up to \$15,000 for government fleets in and benefiting disadvantaged communities to buy CVRP-eligible vehicles
  - Project launched February 2015
- Vehicle Retirement/Replacement (EFMP) Plus-up
  - Higher Enhanced Fleet Modernization Program (EFMP) incentives for lower-income consumers to replace old vehicles with advanced technology vehicles
  - Agreements with South Coast and San Joaquin Valley air districts expected Spring 2015

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## **Light-Duty Vehicle Pilot Projects**

### **FY 2014-15 Status Updates (continued)**

- **Car Sharing and Mobility Options**
  - Establishes advanced clean vehicle car sharing fleets and mobility options
  - Solicitation released February, 2015 grant agreements expected May 2015
- **Financing Assistance**
  - Assists lower income consumers to purchase advanced technology vehicles
  - Solicitation release and grant agreements anticipated in Spring 2015

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## **Light-Duty Vehicle Pilot Projects**

### **Development Process**

- Two public workshops and two light-duty specific public work groups
- Stakeholders input
  - Greater than \$9 million funding level necessary to grow projects
  - Prioritize the EFMP Plus-up and Car Sharing and Mobility Options projects for more funding if it becomes available

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## **Light-Duty Vehicle Pilot Projects**

### **Draft Staff Recommendations**

- Maintain \$9 million allocation with same project categories and funding splits as in FY 2014-15
- Continue requirement that all funding benefit disadvantaged communities
- Provide Executive Officer authority to adjust funding amounts based on demand/project needs

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## **Light-Duty Vehicle Pilot Projects**

### **Draft Staff Recommendations (continued)**

- Priorities if additional funding becomes available
  - EFMP Plus-Up
  - Car Sharing and Mobility Options projects, including vanpools
  - Additional rebate levels for lower-income CVRP participants

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## **Light-Duty Vehicle Pilot Projects**

### **Stakeholder Suggestions, Draft Staff Recommendations**

- Agriculture worker vanpools in San Joaquin Valley
  - Consider if funds become available
- Incentives for low rolling resistance tires
  - Not recommended because tires not certified and no standard for emission reductions or fuel savings
- Incentives for hydrogen canister fuel cell neighborhood vehicles
  - Not recommended because vehicles not certified for sale in California

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## **Session 3: Heavy-Duty Vehicle and Off-Road Equipment Projects**

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## **Policy and Statutory Drivers**

### **Heavy-Duty Projects**

- State Implementation Plan for ozone attainment
- 2014 Climate Change Scoping Plan
- Sustainable Freight Strategy
- Technology Assessments
- ZEV Action Plan
- Cut Petroleum Use in Half by 2030
- SB 1204

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## **SB 1204: Clean Truck, Bus and Off-Road Vehicle Technology Program**

- Allocates Low Carbon Transportation funds for zero- and near zero-emission vehicle and technology projects with priority for projects benefitting disadvantaged communities
- Directs ARB to develop guidance through the existing AQIP funding plan process and address key requirements

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## **SB 1204 Requirements**

### **1) Establish Performance Criteria and Metrics**

- Potential for statewide and local emission reductions and health benefits
  - Disadvantaged community focus
  - Criteria and GHG reduction co-benefits
- Potential for technology viability
  - Cost parity, reliability and durability
  - Transferability
  - Fueling infrastructure and renewables

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## **SB 1204 Requirements**

### **2) Coordinate Investments with Energy Commission**

- Seamless integration of GGRF and SB 1204 requirements into AQIP Funding Plan
- Routine collaboration with CEC on development of each agency's funding plans

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## **SB 1204 Requirements**

### **3) Promote Projects to Meet Goals Beyond 2020**

- Target vehicles and industry sectors with greatest potential for GHG reductions
  - Zero-emission drayage demonstration
  - Multi-source facility demonstration
  - Zero-emission truck and bus pilot projects
- Expand deployments and transfer technologies to other sectors
  - Zero-emission truck and bus commercial deployments
  - Advanced technology on-road, off-road and freight demonstrations
  - Consider zero- and near-zero emission technologies

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## **SB 1204 Requirements**

### **4) Promote Investments in Multiple Applications**

- Ongoing investments
  - Vocational trucks
  - Transit buses
  - School buses
  - Short haul trucks
- Proposed new investments
  - Long haul trucks
  - Locomotive and off-road equipment

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## **SB 1204 Requirements**

### **5) Implement Incentives to Increase Use in Disadvantaged Communities**

- At least 50 percent of Low Carbon Transportation funding to projects benefiting disadvantaged communities
  - HVIP funding: Over 70 percent benefits disadvantaged communities
  - Heavy-duty demonstrations and pilots: All projects benefit disadvantaged communities

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## **SB 1204 Requirements**

### **6) Allow Conversions for Purchase Incentives**

- Conversions of existing in-use vehicles to zero-emission are eligible for demonstration and pilot projects
- Recommend expanding HVIP eligibility for zero-emission conversions and hybrid upfits of original equipment manufacturer vehicles

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## **SB 1204 Requirements**

### **7) Establish Competitive Process**

- Continue process established under AQIP

### **8) Leverage Federal and Private Funding**

- Proponents encouraged to seek private capital and funding from federal, state, and local sources

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## **SB 1204 Requirements**

### **9) Ensure Emission Benefits Can be Quantified**

- Rigorous monitoring and reporting requirements for all projects
- Contract with independent third party for data collection and analysis

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## SB 1204 Requirements

### 10) Complement Efforts to Maintain Air Quality Standards

- Vehicle technologies funded with GGRF will provide deep reductions in:
  - GHG emissions
  - Criteria and toxic pollutant emissions

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## SB 1204 Requirement for Overarching Vision

- Incentives will support evolution of technology advancement (established under AQIP)
  - *Demonstration phase*: Fund development and testing of first-time applications
  - *Pilot phase*: Fund commercial and early commercial technologies to increase numbers, broaden application, and drive down costs
  - *Commercialization phase*: Fund vouchers to offset higher vehicle cost and encourage consumer adoption
  - *Transition phase*: Expand consumer adoption to new demographic segments

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## **Complementary Funding**

### **Heavy-Duty Vehicles and Fueling**

- Alternatively fueled trucks
  - Natural gas truck funding from Energy Commission
- Renewable fuel production
  - Production facility funding from Energy Commission
- Staff recommends continuing a comprehensive State funding portfolio approach
- Proposed low NOx engine funding can support renewable fuel demand

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## **Hybrid and Zero Emission Truck and Bus Voucher Incentive Project (HVIP)**

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## Background

- Vouchers for California fleets on a first-come, first-served basis
- Up to \$30,000 for eligible hybrid truck or bus
- Up to \$95,000 for eligible zero-emission truck or bus
- Increased voucher amount for trucks that benefit disadvantaged communities
  - Up to \$110,000 for zero-emission trucks and buses

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## Goals

- Increase clean truck demand
- Lower costs through economies of scale
- Identify opportunities to solve barriers to fleet adoption
- Provide benefits to disadvantaged communities

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## Status Update

- Since 2010 launch, HVIP has provided over \$56 million for advanced technology trucks
  - Over 380 vouchers issued for zero-emission trucks and buses
  - Over 1,600 vouchers issued for hybrid trucks

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## Funding Recommendation for FY 2015-16

- \$10 million recommended allocation
  - \$5 million from Low Carbon Transportation
  - \$5 million from AQIP
- No changes to current per vehicle voucher amounts
- Helps meet SB 1204 requirement that at least 20 percent of truck funding must support early commercial deployment of existing technologies

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## Recommended HVIP Changes

- Add hybrid upfits as an eligible vehicle type on a limited basis (Class 2a and larger vehicles)
- Add zero-emission conversion as an eligible vehicle type on a limited basis
- Geographic data and telematics requirement on all vehicles

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## Zero-Emission Truck and Bus Pilot Projects

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## Goals

- Accelerate medium- and heavy-duty vehicle deployments
  - Increase use of commercialized cleaner trucks and buses
  - Reduce emissions and provide benefits to disadvantaged communities
  - Reduce per vehicle costs
  - Develop workforce and infrastructure
  - Promote technology transfer

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## Funding Recommendation

- \$30 million for truck and bus pilot projects
  - Funding from Low Carbon Transportation
  - Fuel cell and battery electric
  - Up to \$20 million for bus projects (transit, school, shuttle)
  - Up to \$10 million for truck projects (freight, delivery)
- Allow combination with FY 2014-15 funding plan solicitations
- Additional funding needed to meet demand
- Truck pilots help meet SB 1204 requirement for early commercial deployment of existing technologies

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## Low NO<sub>x</sub> Engine Incentives

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## Funding Recommendation

- \$8 million recommended allocation
  - \$5 million from Low Carbon Transportation
  - up to \$3 million from AQIP
- Incentives for purchase of on-road heavy-duty vehicles equipped with low NO<sub>x</sub> engines
  - 50%, 75%, or 90% lower than the diesel standard
  - Contingency provisions if no vehicles are available
- Renewable fuel component
- Coordinate implementation with CEC

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## **Funding Recommendation, cont.**

- Helps meet SB 1204 requirement that at least 20 percent of truck funding must support early commercial deployment of existing technologies
- Workgroup meetings to address implementation

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## **Advanced Technology Freight Demonstration Projects**

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## Advanced Technology Freight Demonstration Projects

- Accelerate the introduction of advanced technologies
  - Validation of pre-commercial technologies breaks down barriers to commercial acceptance
  - Stimulates private investment in development and deployment of advanced technologies
- Reduce GHG and criteria pollutant emissions
- Benefit disadvantaged communities

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## Recommended Funding and Project Categories

\$40 million from Low Carbon Transportation

Recommended demonstration project categories

- On-road trucks: \$20 million
  - ITS and connected vehicles
  - Advanced engines and powertrains
- Freight locomotives: \$10 million
  - Zero-emission tender technology
  - Zero- or near zero-emission switch locomotives

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## Recommended Demonstration Project Categories (cont.)

- Off-road freight equipment: \$10 million
  - Zero-emission cargo handling equipment
  - Zero-emission ground support equipment
  - Advanced port equipment and strategies
- Data collection and analysis: \$2 million

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## Recommended Demonstration Project Categories (cont.)

- Other demonstration projects if additional funds are available:
  - Zero- and near zero-emission short and regional haul heavy-duty trucks
  - Non-road passenger transportation
  - Off-road hybrid and near-zero emission agricultural and construction equipment
  - Expand other demonstrations

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## **Session 4: Truck Loan Assistance Program**

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## **Truck Loan Assistance Program**

- Project goals
  - Aid small business truckers subject to the In-Use Truck and Bus Rule
  - Provide financing assistance for newer truck and exhaust retrofit purchases
- \$52 million State contribution to date
  - Leveraged to provide \$401 in financing
  - 6,222 trucks
  - 437 exhaust retrofits
- Helps small fleets and minority populations

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## **Truck Loan Assistance Program**

### **Draft Staff Recommendations**

- Recommend \$10 million allocation for FY 2015-16
  - Same as FY 2014-15 allocation
- Recommend continuing program in future to meet strong demand

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## **Session 5: Next Steps, Wrap Up, and Additional Comments**

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## Funding Plan Development Next Steps

Milestone	Date
Staff prepares Funding Plan based on input from workshops and work groups	April-May 2015
Governor's Revised Budget released <ul style="list-style-type: none"> <li>Any changes from January Budget proposal would be reflected in Funding Plan</li> </ul>	On or Before May 14, 2015
Release proposed Funding Plan	May 22, 2015
Board consideration of proposed Funding Plan	June 25-26, 2015
Start implementing FY 2015-16 projects	July 2015

For more information on AQIP and Low Carbon Transportation:

<http://www.arb.ca.gov/aqip/>

<http://www.arb.ca.gov/cc/capandtrade/auctionproceeds/auctionproceeds.htm>

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## Comments and Discussion

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