Volkswagen Environmental Mitigation Trust for California

Public Workshop on Developing a Beneficiary Mitigation Plan

Sacramento | Fresno | Oakland | Redding | Diamond Bar | Fontana

February / March 2018
### Workshop Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
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<tbody>
<tr>
<td>30 minutes</td>
<td>Introduction and Overview</td>
</tr>
<tr>
<td>30 minutes</td>
<td>Recommended Eligible Mitigation Actions, Estimated Emission Reductions, and Implementation Options</td>
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<tr>
<td>1 hour</td>
<td>Open Discussion</td>
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</tbody>
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Introduction and Overview
Volkswagen (VW) Settlement

- 2 Consent Decrees covering 2.0-liter and 3.0-liter VW diesel vehicles
- Consists of main body & 4 appendices
  - Appendices A & B: Specifies buyback, lease termination, and potential vehicle modification terms
  - Appendix C: Specifies VW’s ZEV Investment Commitment
  - Appendix D: Specifies $3 billion ($423M for California) Mitigation Trust to address past and future excess emissions of Nitrogen Oxides (NOx)
- Civil penalties addressed in 3rd consent decree
How the Trust Works

1. Lead Agency
2. Beneficiary Mitigation Plan
3. Funding Requests
4. Trustee

The Lead Agency develops the Beneficiary Mitigation Plan, which includes funding requests. These requests are then submitted to the Trustee.
Beneficiary Mitigation Plan

- CARB will develop the Plan with public input
- Summarizes how California plans to use its Trust allocation
  - Overall goal for the use of the funds
  - Categories of eligible NOx mitigation actions to be funded and the corresponding allocations for each
  - Consideration of potential air quality benefits on areas disproportionately impacted by air pollution
  - Expected emission reductions
- May be updated as necessary
Legislative Direction: Senate Bill 92

- Passed in June 2017
- Directs CARB to strive to ensure that:
  - 35 percent of California’s allocation benefit low-income or disadvantaged communities
  - The expenditures align with the state’s priorities and provide for public transparency before approval
- Annual report to the Legislature
Current Status

- Opened public comment docket on September 20, 2017
  - ~40 unique comment letters and >4,000 form letter comments received
- Public workshop on October 9, 2017
- Update at public Board meeting on October 26, 2017
- California officially designated as Beneficiary of the Trust on January 29, 2018
- The Trust will be fully funded in November 2018
Policy and Statutory Drivers for Beneficiary Mitigation Plan Development

- State Implementation Plan
- Zero-Emission Vehicle mandates
- Sustainable Freight Action Plan
- Mobile Source Strategy
- Cut petroleum use in half by 2030
- SB 92: disadvantaged or low-income community targets
Guiding Principles

- Fully mitigate NOx, reduce risk to children, and ensure at least 35% of funds benefit disadvantaged or low-income communities
- Align with State priorities
- Zero-emission where available; low NOx everywhere else
- Surplus to regulations and additional to other funding
- Investment across geographic regions statewide with transformation of heavy-duty sector
- Implement with known method of public process, competitive solicitations, and project management
- Ensure accountability and transparency
NOx Target

- 10,000 tons
  - Assumes 85 percent recall or buy-back by mid-2019
  - Accounts for uncertainties:
    - market demand
    - types of projects that could be funded
    - infrastructure needs
  - Staff used 10,000 tons as target in determining funding recommendations
Recommended Categories and Allocations
## Beneficiary Mitigation Plan

### Funding Recommendations

<table>
<thead>
<tr>
<th>Eligible Mitigation Action (Project) Category</th>
<th>Allocation (millions)</th>
<th>Disadvantaged or Low-Income Community Benefit</th>
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</thead>
<tbody>
<tr>
<td>Transit, School, Shuttle Buses - zero-emission</td>
<td>$130</td>
<td>50%</td>
</tr>
<tr>
<td>Class 8 Freight and Port Drayage Trucks - zero-emission</td>
<td>$90</td>
<td>50%</td>
</tr>
<tr>
<td>Zero-Emission Freight / Marine - Forklifts and Port Cargo Handling Equipment, Airport GSE, Shorepower</td>
<td>$70</td>
<td>75%</td>
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<tr>
<td>Combustion Freight / Marine - Low NOx Class 7-8 trucks, Tier 4 Freight Switchers, Tier 4 or Hybrid Ferries/Tugs</td>
<td>$60</td>
<td>50%</td>
</tr>
<tr>
<td>Light-Duty ZEV Infrastructure</td>
<td>$10</td>
<td>35%</td>
</tr>
<tr>
<td>Admin Reserve</td>
<td>$63</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$423</td>
<td>&gt; 50%</td>
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Transit, School, and Shuttle Buses

Recommended Allocation: $130 million

- Supports early adoption of commercially available Class 4-8 zero-emission technologies and reduces diesel’s harmful impact on children

### Specifications

<table>
<thead>
<tr>
<th>Transit Bus</th>
<th>School Bus</th>
<th>Shuttle Bus</th>
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<tbody>
<tr>
<td>Battery: Up to $180,000*</td>
<td>Battery: Up to $400,000*</td>
<td>Battery: Up to $100,000*</td>
</tr>
<tr>
<td>Fuel Cell: Up to $400,000*</td>
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* Not to exceed 75 percent for non-government owned or 100 percent for government owned

- 2009 or older bus replacements
- Staff estimates at least 50% of allocation will benefit disadvantaged or low-income communities
# Class 8 Freight & Port Drayage Trucks

Recommended Allocation: $90 million

- Focus on later/future deployment of zero-emission technologies for heavy heavy-duty trucks

<table>
<thead>
<tr>
<th>Class 8 Truck Years 3-5</th>
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<tbody>
<tr>
<td>Up to $200,000*</td>
</tr>
<tr>
<td>To be re-evaluated as costs decrease*</td>
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* Not to exceed 75 percent for non-government owned or 100 percent for government owned

- 2009 or older model year replacements
- Staff estimates at least 50 percent of allocation will benefit disadvantaged or low-income communities
Zero-Emission Freight / Marine

Recommended Allocation: $70 million

- Funds the most cost-effective zero-emission freight or marine projects to ensure NOx reductions while supporting deployment of early commercial zero-emission technologies.

<table>
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<tr>
<th></th>
<th>Airport GSE</th>
<th>Forklifts &amp; Port Cargo Handling Equipment</th>
<th>Shorepower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to full incremental cost*</td>
<td>Up to $175,000*</td>
<td>Up to $2.5 million*</td>
<td></td>
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</table>

* Not to exceed 75 percent for non-government owned or 100 percent for government owned.

- At least 75 percent of allocation will benefit disadvantaged or low-income communities.
Combustion Freight / Marine

Recommended Allocation: $60 million

- Funds the most cost-effective, low NOx or cleanest available combustion technologies for freight or marine sector

<table>
<thead>
<tr>
<th>Class 7-8 Truck Low NOx Repowers or Replacements</th>
<th>Switcher Locomotive Tier 4 Repowers or Replacements</th>
<th>Ferry, Tug, and Tow Tier 4 or Hybrid Repowers</th>
</tr>
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<tbody>
<tr>
<td>Up to $60,000*</td>
<td>Up to $1.35 million*</td>
<td>Up to $1 million*</td>
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* Not to exceed maximum amounts in Consent Decree

- At least 50 percent of allocation will benefit disadvantaged or low-income communities
Light-Duty ZEV Infrastructure

Recommended Allocation: $10 million

- Supports market adoption of zero-emission vehicles by enhancing funding and pace of development of infrastructure in areas not served by other funding sources

<table>
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<tr>
<th>Public Charging (gov’t property)</th>
<th>Public Charging (private property)</th>
<th>Non-Public Charging (workplace and multi-unit dwellings)</th>
<th>Public Hydrogen Fueling</th>
</tr>
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<tr>
<td>Up to 100%*</td>
<td>Up to 80%*</td>
<td>Up to 60%*</td>
<td>Up to 25 to 33%*</td>
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* Purchase, installation, operation, and maintenance costs

- At least 35% of allocation will benefit disadvantaged or low-income communities
Estimated NOx Reductions, Program Administration and Oversight, and Next Steps
NOx Emission Reduction Scenarios

• Scenario 1: School Buses Only
  - $360M for zero-emission and low NOx school buses
  - Total NOx reductions = 3,000 tons
  - Will not fully mitigate NOx

• Scenario 2: Zero-Emission and Cost-Effective Projects (Staff’s Recommendation)
  - $130M for zero-emission transit, shuttle, and school buses
  - $90M for zero-emission Class 8 trucks
  - $70M for zero-emission freight / marine
  - $60M for combustion freight / marine
  - Total NOx reductions = 10,000+
  - Will fully mitigate NOx and support zero-emission transformation in heavy-duty sector
## Estimated NOx Reductions for Recommended Projects

<table>
<thead>
<tr>
<th>Eligible Mitigation Action (Project)</th>
<th>NOx Reductions (tpy)</th>
<th>Cost-Effectiveness ($ per ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit, School, Shuttle Buses - zero-emission</td>
<td>50 - 100</td>
<td>$30,000 - $180,000</td>
</tr>
<tr>
<td>Class 8 Freight and Port Drayage Trucks - zero-emission</td>
<td>100 - 150</td>
<td>$80,000 - $95,000</td>
</tr>
<tr>
<td>Zero-Emission Freight / Marine - Forklifts and Port Cargo Handling Equipment, Airport GSE, Shorepower</td>
<td>30 - 50</td>
<td>$130,000 - $350,000</td>
</tr>
<tr>
<td>Combustion Freight / Marine - Low NOx Class 7-8 trucks, Tier 4 Freight Switchers, Tier 4 or Hybrid Ferries/Tugs</td>
<td>650 - 750</td>
<td>$5,000 - $30,000</td>
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Project Administration and Oversight

- Recommend third-party administration
  - Air districts, other government entities, or California-based non-profit organizations
  - Administer project categories statewide
- Project administrators will conduct outreach, further define projects with CARB direction, develop solicitations, process applications and issue payments, and agree to audits and reporting requirements
- Mitigation action project agreements will describe implementation details and requirements
- CARB will oversee projects
  - Direct project development
  - Conduct program reviews and audits
Next Steps

- Continue to solicit comments
- Incorporate comments for proposed Beneficiary Mitigation Plan
- Final proposed Beneficiary Mitigation Plan to the Board expected in May 2018
- Funding available as soon as late 2018 / early 2019
Contacts for the Environmental Mitigation Trust for California

Website:  www.arb.ca.gov/msprog/vw_info/vsi/vw-mititrust/vw-mititrust.htm
          (Link provided on website for submitting comments)

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Comments & Discussion