



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

## **State of Washington Volkswagen Beneficiary Mitigation Plan**

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*In re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation; United States v. Volkswagen et al, US District Court, Northern District of California, San Francisco Division*

*Case No. 16-cv-00295-CRB (N.D. Cal.) MDL No. 2672 CRB (JSC)*

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**State of Washington  
Volkswagen Beneficiary Mitigation Plan**

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*In re: Volkswagen “Clean Diesel”  
Marketing, Sales Practices, and Product  
Liability Litigation*

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Air Quality Program  
Washington State Department of Ecology  
Olympia, Washington

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# Overview

## Volkswagen's Violation and Settlement

From 2008 to 2015, the global automaker Volkswagen sold diesel vehicles equipped with illegal software designed to cheat and falsify U.S. emissions tests, a violation of the federal Clean Air Act. About 24,000 of these diesel vehicles are registered in Washington, each emitting up to 40 times the permitted levels of nitrogen oxides – a harmful air pollutant. Volkswagen's fraudulent actions damaged public trust and put people's health at risk.

In 2017, the U.S. Department of Justice entered into a settlement with Volkswagen that requires the automaker pay \$2.7 billion into an Environmental Mitigation Trust. The trust will fund projects that reduce emissions to offset damage from the vehicles equipped with the cheating software. Washington State is eligible for \$112.7 million from the settlement.

## The Mitigation Plan

The justice department requires beneficiaries of settlement funds to name a lead agency and develop a plan for use of the funds. Washington Governor Jay Inslee appointed the Washington State Department of Ecology (Ecology) as the lead agency for Washington.

The plan provides an overview of how the funds can be used, eligible project categories, projected reductions in emissions, health impacts, and the approach to involve the public. It also includes principles to maximize public health and environmental benefits, focus air quality improvement towards communities that have historically borne a disproportionate share of air pollution and substantially reduce harmful air pollutants beyond nitrogen oxides. Plan priorities guide selection of projects that emphasize transformational change in advanced emission reduction technologies.

## A Transformational Opportunity

Transportation is the largest source of air pollution, including carbon pollution, in Washington. Diesel emissions pose a particular concern because toxic chemicals and small particle pollution in diesel exhaust are especially harmful to human health. Over four million people – more than half the state's population – live or work close to transportation corridors where they breathe high levels of toxic diesel exhaust.<sup>1</sup> Some of the highest exposures come from public transportation.

The settlement represents an unprecedented opportunity to make transformative improvements across Washington's transportation sector. By investing in advanced zero emission technologies and prioritizing publicly owned transportation fleets, we can substantially reduce public exposure to harmful pollutants and help address climate change while saving millions of dollars in government fuel and maintenance costs.

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<sup>1</sup> Diesel Particulate Emission Reduction Strategy for Washington State, Washington State Department of Ecology Air Quality Program, December 2006; Publication No. 06-02-022

## Development of Washington's Mitigation Plan

Ecology developed this Plan in consultation with the Washington State legislature, Washington State Departments of Transportation, Commerce, Enterprise Services, and Health, and the Governor's office. Development of the plan included substantial stakeholder and public education, outreach and input, further described in Appendix B.

Ecology may modify the goals and investment levels in Washington's Plan at Washington's discretion, consistent with the Environmental Mitigation Trust Agreement, and as needed to achieve the stated goals. The Plan provides an overview of the vehicles in Washington covered by the Environmental Mitigation Trust Agreement, diesel emissions in Washington and their human health impacts. It also includes principles and project priorities that Ecology will use to prioritize the selection of eligible mitigation projects.

In accordance with the Trust agreement, it describes:

- Washington's overall goal for the use of Trust funds.
- Eligible mitigation actions to achieve the stated goals and the percentages of funds anticipated to be used for each type of eligible mitigation action.
- How Washington will consider the potential beneficial impact of the selected eligible mitigation actions on air quality in areas that bear a disproportionate share of the air pollution burden.
- Expected ranges of emissions benefits Washington estimates would be realized by implementation of the eligible mitigation actions identified in the Plan.
- The process Washington will use to seek and consider public input on its Plan.

Washington's Plan was developed to reduce emissions from diesel engines in Washington where the Volkswagen vehicles were, are, or will be operated and to fully mitigate the total lifetime excess nitrogen oxide emissions of the subject vehicles. It provides a high-level summary of how Washington intends to use the funds under the Environmental Mitigation Trust Agreement. Volkswagen Diesel Vehicles in Washington.



# Volkswagen Diesel Vehicles in Washington

Ecology estimates there are more than 24,000 affected diesel vehicles registered in Washington. About 87 percent of these subject vehicles are registered in 13 counties, with King County predominating with 38 percent (See Figure 1 and Table 1).

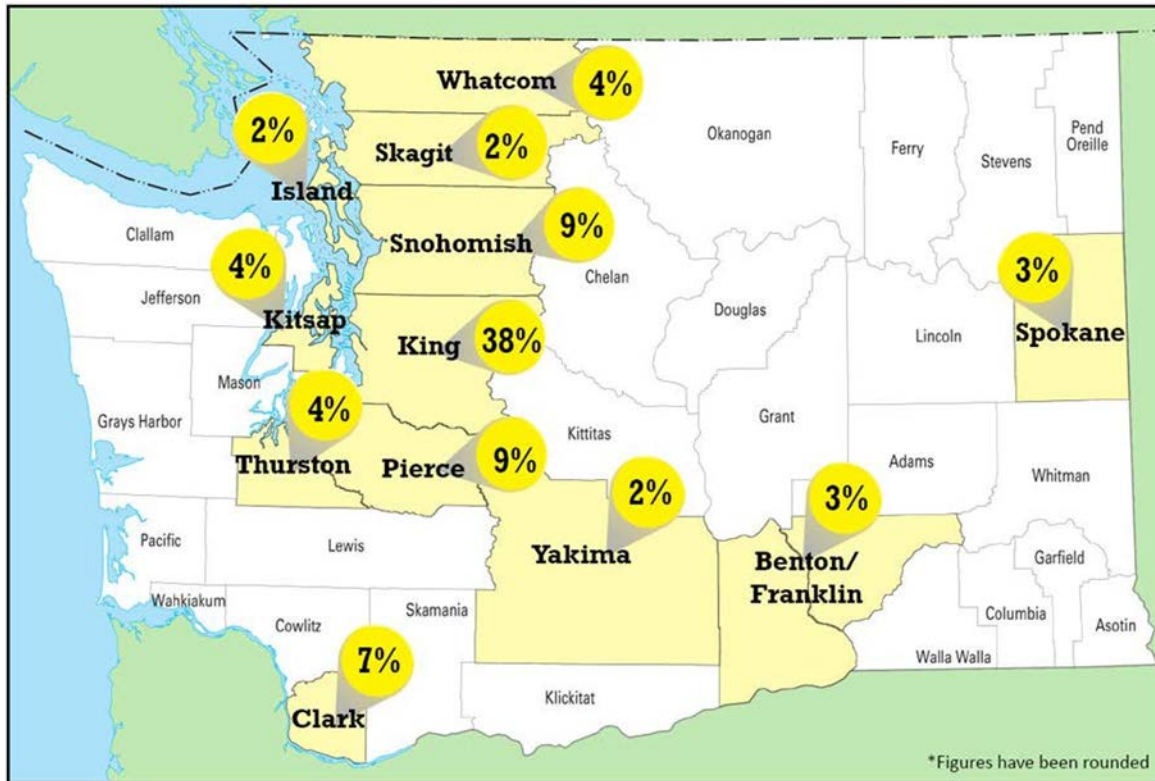


Figure 1: Top Washington counties with registered subject 2.0 and 3.0 Volkswagen diesel vehicles. Other counties have less than 1.5 percent of the registered vehicles.

**Table 1: Top Washington Counties with Registered Subject 2.0 and 3.0 Volkswagen Diesel Vehicles<sup>2</sup>**

<b>County</b>	<b>Percent of Registered Subject Vehicles</b>	<b>Number of Registered Subject Vehicles</b>
King	38.2%	9,302
Snohomish	9.2%	2,229
Pierce	9.0%	2,199
Clark	6.5%	1,574
Whatcom	4.2%	1,014
Thurston	3.9%	937
Kitsap	3.8%	925
Spokane	3.1%	753
Benton/Franklin	2.7%	655
Skagit	2.4%	584
Island	2.0%	487
Yakima	1.7%	405
Other Counties	13.4%	3,272
<b>Total</b>	<b>100.0%</b>	<b>24,336</b>

## **Diesel Pollution in Washington**

Pollution from diesel engines is particularly harmful to public health and the environment. The Department of Ecology has identified diesel exhaust as the toxic air pollutant most harmful to Washington’s citizens. It causes or contributes to asthma, heart and lung diseases, and cancer. More than four million people live or work close to transportation corridors where they are exposed to high levels of diesel exhaust.

Diesel engines primarily emit nitrogen oxides, fine particulate matter, and greenhouse gases including black carbon, all of which cause or contribute to significant public health and environmental impacts.

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<sup>2</sup> Washington State Department of Ecology query of Washington Department of Licensing vehicle license database, July 2016.

## Nitrogen Oxides (NO<sub>x</sub>) and ground level ozone

Nitrogen oxides (NO<sub>x</sub>) are a family of poisonous, highly reactive gases that irritate the lungs. These gases form when fuel is burned, especially at high temperatures. NO<sub>x</sub> pollution is primarily emitted by automobiles, trucks and various non-road vehicles (e.g., construction equipment, boats, etc.) and reacts with other chemicals in the air to form ground-level ozone (smog) and particulate matter.

Ground level ozone is formed when NO<sub>x</sub> and volatile organic compounds react with each other in sunlight and hot temperatures. Ozone aggressively attacks lung tissue and has harmful effects on people's health. Excessive levels of ozone can make it difficult to breathe, cause lung damage, worsen asthma symptoms, and cause coughing with throat or chest irritation.

In 2014, Washington sources emitted 363,312 tons of NO<sub>x</sub>. The transportation sector accounts for nearly 70 percent of the NO<sub>x</sub> emissions in Washington. On-road motor vehicles alone account for about half of these NO<sub>x</sub> emissions (see Figure 2).

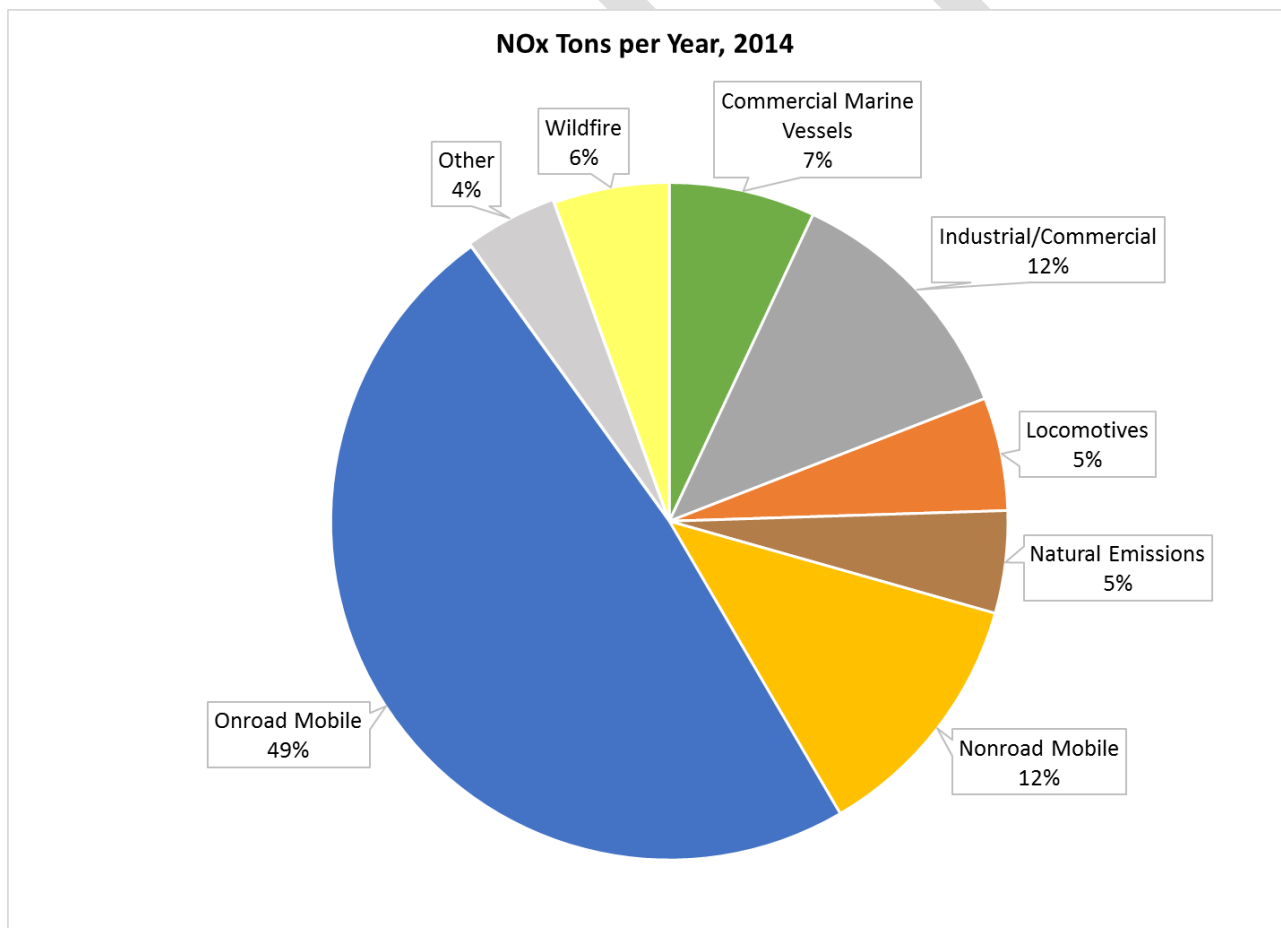
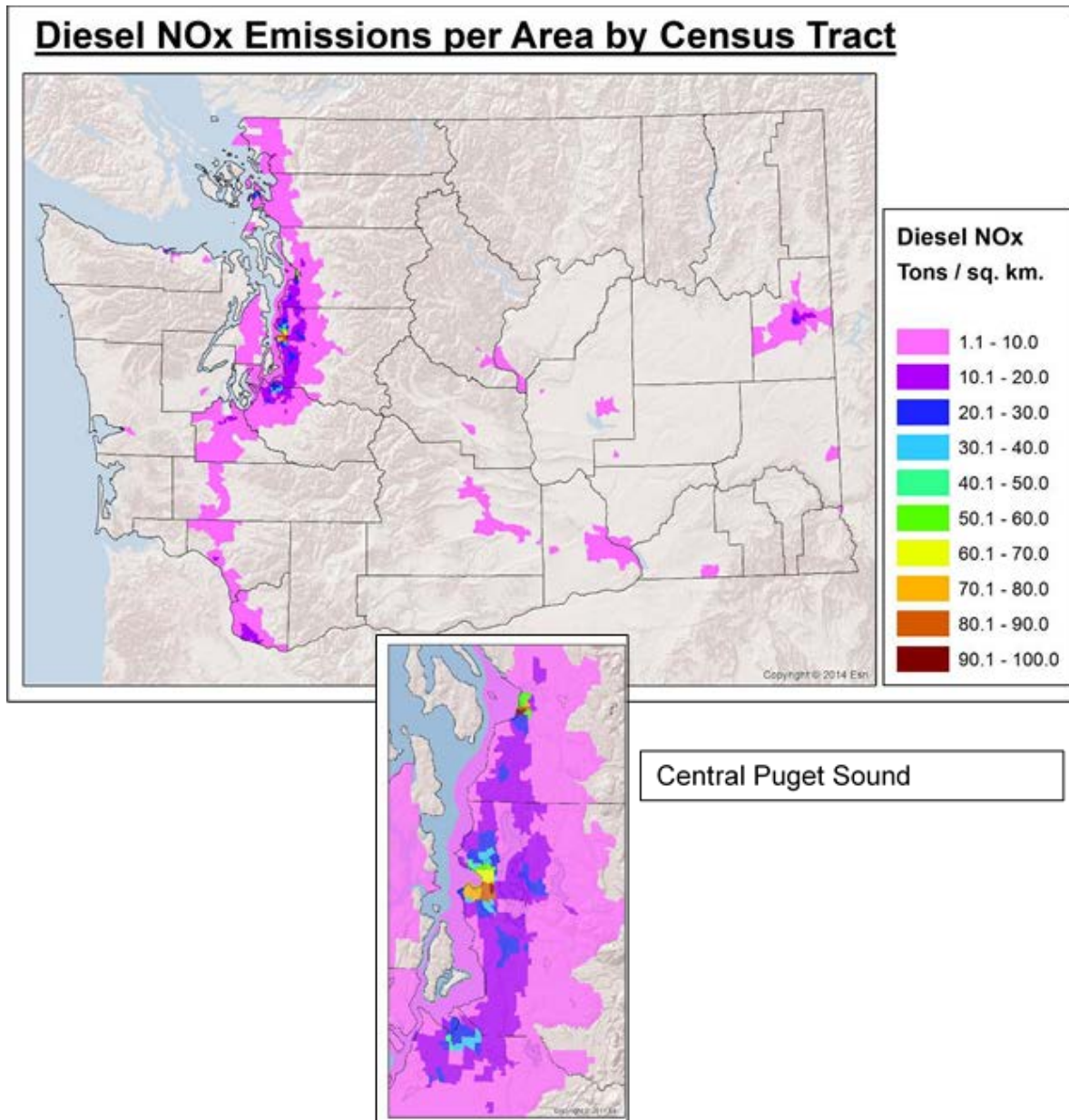


Figure 2: Washington State NO<sub>x</sub> emissions for 2014 total 363,312 tons.<sup>3</sup>

<sup>3</sup> Washington Department of Ecology, 2014 Comprehensive Emissions Inventory, preliminary estimates

Motor vehicles generate significant amounts of NO<sub>x</sub> along our major traffic corridors, especially in the central Puget Sound region, where the largest number of people reside and commute to work (see Figure 3).



**Figure 3: Diesel NO<sub>x</sub> emissions in tons/kilometer squared (2014 emissions inventory)<sup>4</sup>**

<sup>4</sup> Washington Department of Ecology, 2014 Comprehensive Emissions Inventory, preliminary estimates.

Washington has historically reported its highest values of ozone downwind of our major urban areas. This typically occurs on hot, sunny days with stagnant air conditions (see Figure 4).

The state currently meets federal air quality standards. In the past, we violated federal air quality standards for ozone in the central Puget Sound and Vancouver regions. Recent monitoring of the Tri-cities area has detected periods of high ozone concentrations. Reducing NO<sub>x</sub> emissions will lower the risk ozone presents to public health and lower the risk of these areas violating the federal ozone standards.

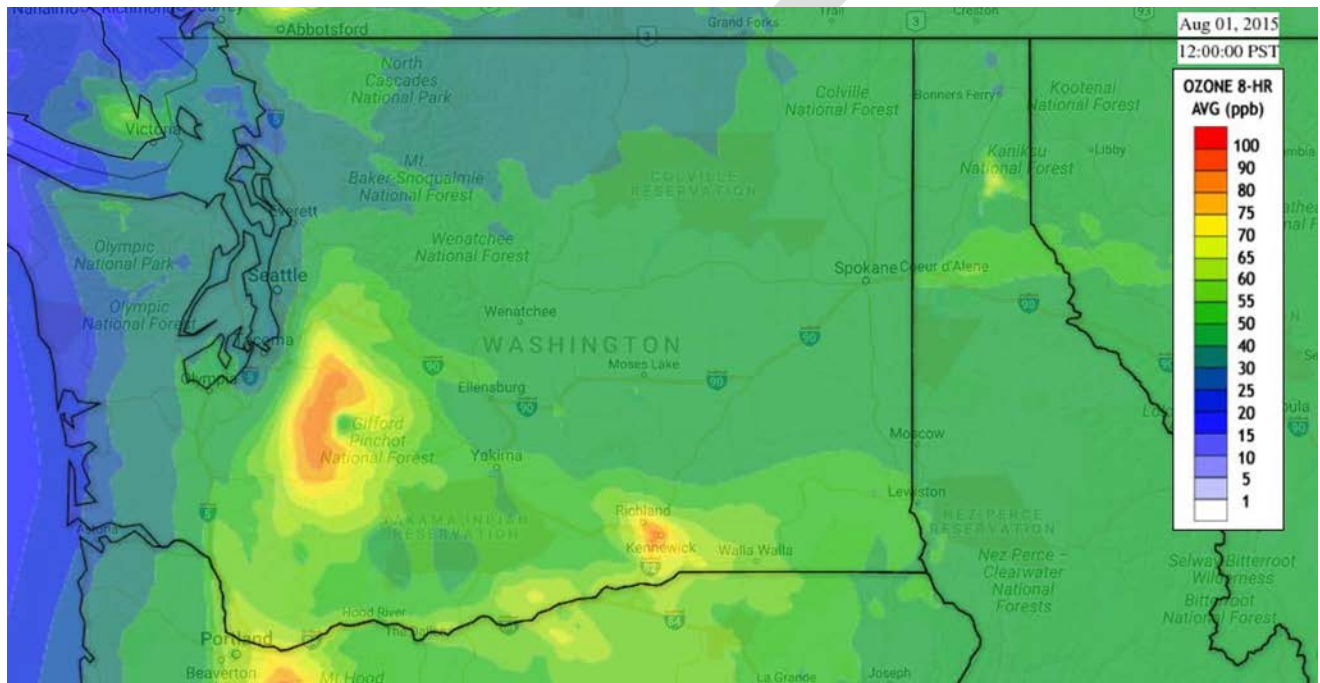


Figure 4: Maximum 8-hour average ozone concentrations on Aug. 1, 2015<sup>5</sup>

## Diesel particulate matter

Diesel particulate matter is composed of fine and ultra-fine particles, which easily penetrate deep in the lungs, where they cause or contribute to a range of health problems. Diesel particulate matter makes healthy people more at risk for respiratory disease and worsens the symptoms of people with health problems such as asthma, heart disease, and lung disease. Seventy percent of the cancer risk from airborne pollutants in Washington comes from diesel exhaust. More than four million people in Washington live or work close to highways and other major roads where they are most likely exposed to diesel particulate matter. People living or working near ports or areas with high rail or truck traffic are also at a greater risk of exposure. Strategies to mitigate the

<sup>5</sup>AIRPACT-4 model simulations of maximum 8-hour average ozone concentrations for Washington on August 1, 2015.

excess diesel pollution will achieve co-benefits that reduce toxic diesel fine particles and their negative human health effects.<sup>6</sup>

In 2014, Washington sources emitted 4,578 tons of diesel particulate matter (PM). The transportation sector accounts for about 96 percent of the diesel particulate matter emissions in Washington. Similar to NO<sub>x</sub> emissions, on-road motor vehicles alone account for nearly half of the diesel particulate matter emissions (see Figure 5).

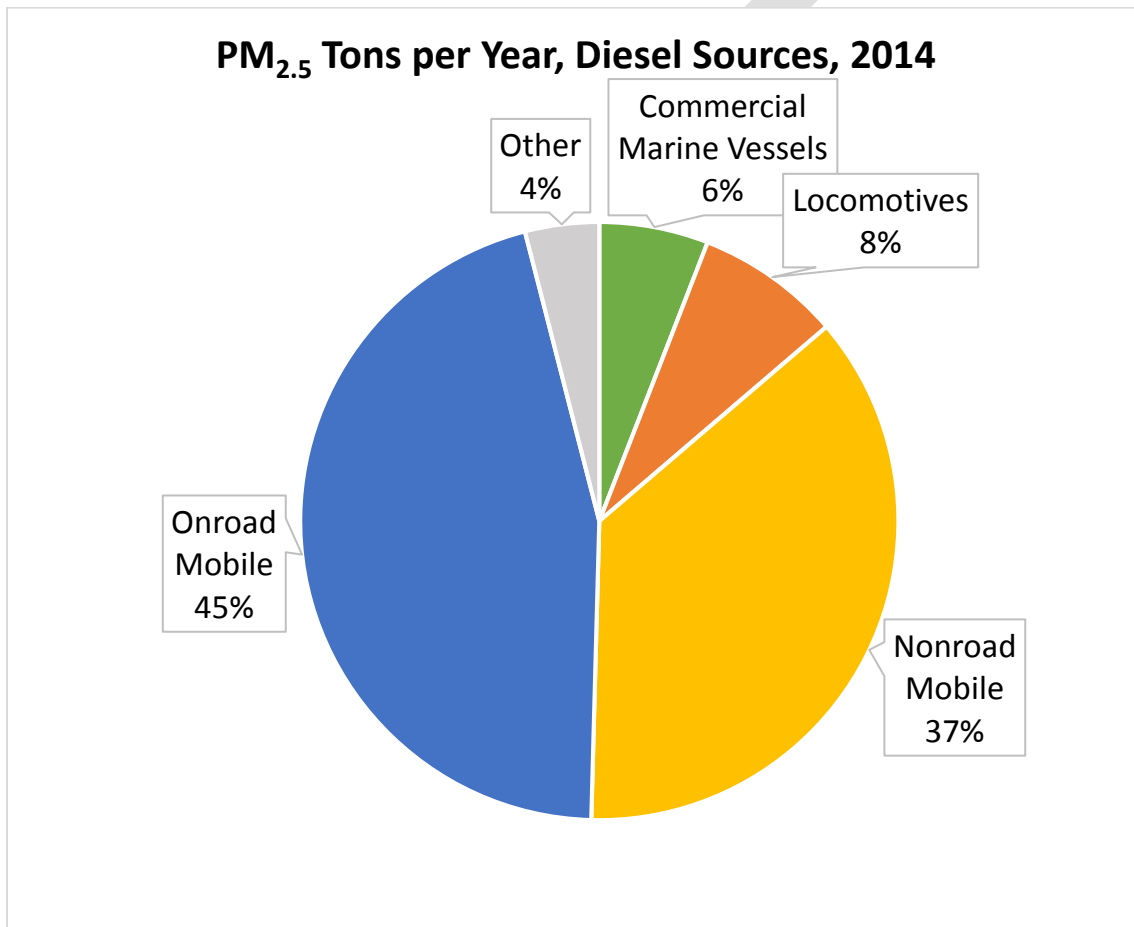


Figure 5: Washington State 2014 diesel PM emissions total 4,578 tons<sup>7</sup>

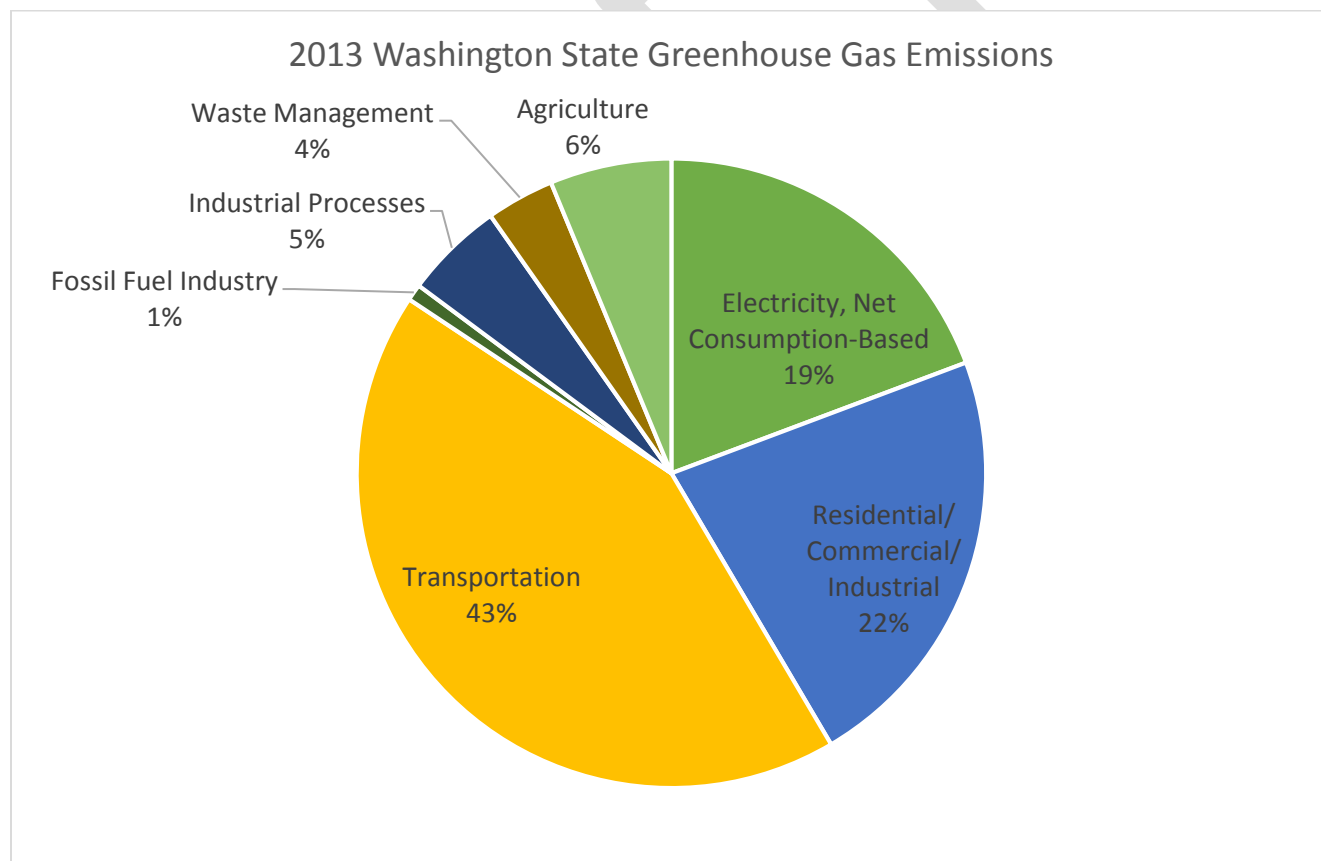
<sup>6</sup> Diesel Particulate Emission Reduction Strategy for Washington State, Washington Department of Ecology, December 2006, Pub. No. 06-02-022

<sup>7</sup> Washington Department of Ecology, 2014 Comprehensive Emissions Inventory, preliminary estimates.

## Greenhouse Gases and Black Carbon

In 2013, Washington sources emitted 94,400,000 tons of greenhouse gases. Transportation is the largest source of greenhouse gas emissions in Washington, accounting for 43 percent of total greenhouse gas emissions in 2013. On-road diesel vehicles account for 18 percent of the transportation sector's greenhouse gas emissions (see Figures 6 and 7).

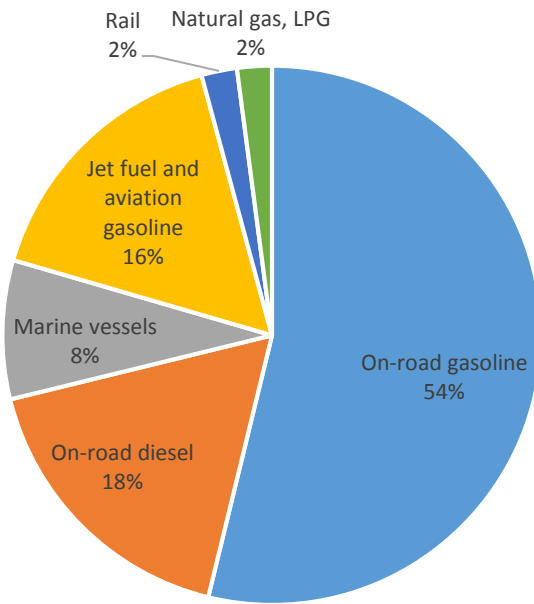
Burning diesel releases carbon dioxide, a greenhouse gas, into the atmosphere. It also produces black carbon, a solid particle that absorbs radiation from the sun and contributes to warming of the atmosphere. Black carbon is called a "short-lived climate forcer" because it has a short life span and remains in the air for only a few weeks. In comparison, carbon dioxide can build up in the atmosphere for hundreds of years. Reducing black carbon has a more immediate effect on the climate, and can slow the rate of climate change in the near term. Strategies to mitigate the excess diesel pollution will also help Washington achieve co-benefits and reduce transportation greenhouse gas emissions.



**Figure 6: Washington State 2013 greenhouse gas emissions totaling 94,400,000 tons<sup>8</sup>**

<sup>8</sup> Washington Department of Ecology, Report to the Legislature on Washington Greenhouse Gas Emissions Inventory: 2010-2013, October 2016, Publication number 16-02-025.

### 2013 Washington State Transportation GHG Emissions (MMT CO<sub>2</sub>e)



**Figure 7: Washington State 2013 transportation sector greenhouse gas emissions totaling 40,400,000 tons<sup>9</sup>**

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<sup>9</sup> Washington Department of Ecology, Report to the Legislature on Washington Greenhouse Gas Emissions Inventory: 2010-2013, October 2016, Publication number 16-02-025.



# Mitigation Plan Requirements

To protect air quality in the interest of public health and welfare, the Environmental Mitigation Trust Agreement requires environmental remediation to address excess NO<sub>x</sub> emissions caused by the subject vehicles.

In accordance with the Trust agreement, this section describes:

- Washington's overall goal for the use of Trust funds.
- The categories of eligible mitigation actions to achieve the stated goals and the percentages of funds anticipated to be used for each type of eligible mitigation action.
- How Washington will consider the potential air quality benefits the selected mitigation actions may have in areas that bear a disproportionate share of the air pollution burden.
- A general description of the expected ranges of emissions benefits Washington estimates would be realized by implementation of the eligible mitigation actions identified in the Plan.
- How Washington received and considered public input on the plan.

Ecology, along with input from stakeholders and Washington citizens, also established a set of principles and a list of project priorities to help guide project selection.

## Mitigation plan goals

Washington's goals for the use of Trust funds are to:

- Reduce emissions from diesel engines in the state where the 2.0 and 3.0 liter Volkswagen vehicles were, are, or will be operated.
- Fully mitigate the total, lifetime excess NO<sub>x</sub> emissions of the subject vehicles.

Washington will use the following principles and priorities to guide project selection to achieve the goals of the mitigation plan.

## Principles

Washington will use the following principles to guide the selection of eligible mitigation projects.

- Improve air quality for communities that have historically borne a disproportionate share of the air pollution burden in Washington.
- Maximize air quality co-benefits beyond nitrogen oxide reductions.
- Maximize public health benefits.

## Priorities

Washington will prioritize projects that:

- Accelerate adoption of electric vehicles, equipment, and vessels.
- Promote electrification technologies in public transportation fleets.
- Accelerate fleet turnover to the cleanest engines.
- Achieve substantial additional emission reductions—beyond what would already occur, absent trust funding.
- Ensure cost-effectiveness.
- Leverage additional matching funds.

## Mitigation fund opportunities and investments

By investing in projects that dramatically transform Washington’s transportation sector we can advance much-needed changes that will lower public exposure to harmful pollutants from diesel exhaust.

Key opportunities include:

### Electric Buses

About half of urban transit bus routes occur in low income and minority neighborhoods. Strategic deployment of electric transit buses could improve air quality and public health in communities that have historically borne an undue share of the air pollution burden. Converting diesel buses to all-electric buses would reduce fuel and maintenance costs by about 10%.<sup>10, 11</sup>

### Electric Ferries

In the Puget Sound, Washington State Ferries account for more than half of the air pollution generated by harbor vessels. Converting diesel to all-battery electric ferries will significantly reduce diesel and carbon emissions, improve fleet reliability, virtually eliminate engine noise that can harm marine animals, and reduce ferry operating costs by up to 20%.<sup>12</sup>

### Electric Charging Stations

Passenger vehicles generate nearly half of our state’s air pollution and greenhouse gas emissions. Major auto manufacturers recently announced the intent to significantly increase the number of

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<sup>10</sup> Feasibility of Achieving a Carbon-Neutral or Zero-Emission Fleet, March 2017, King County Metro Transit, Sam Schwartz Consulting, and WSP | Parsons Brinkerhoff Engineering Services

<sup>11</sup> Electric Bus Analysis for New York City Transit, May 2016, Judah Aber, Columbia University

<sup>12</sup> Jumbo Mark II Class – Hybrid Conversion Feasibility Study, prepared for Washington State Ferries by Elliot Bay Design Group, Publication Ref:17071-340, Rev. A, June 21, 2017

all-electric vehicles produced. To support the expected increase in electric vehicles, we need to significantly increase the number of electric charging stations in Washington.

Each of the eligible vehicle and equipment categories in the VW settlement generate significant amounts of NO<sub>x</sub> emissions in Washington. In each eligible category, replacing the diesel vehicles and equipment, or repowering their diesel engines, will cost effectively reduce NO<sub>x</sub> emissions and provide public health benefits. On-road vehicles, non-road equipment, marine vessels, and locomotives combine to generate 73% of the NO<sub>x</sub> emissions in Washington.

- Regionally, these engines generate significant emissions that chemically react with other pollutants to form ozone.
- In densely populated areas, they regularly expose large numbers of people to toxic emissions.
- At ports, heavy-duty trucks, non-road equipment, marine vessels, and locomotives combine to form the largest concentration of diesel emission sources in Washington.
- Buses, vessels, and locomotives often operate in or near communities that have historically borne a disproportionate share of the air pollution burden.

Appendix A contains the full suite of categories and types of eligible mitigation actions excerpted from Appendix D-2 of the settlement agreement. Table 2 lists the eligible high-level mitigation categories and an initial proposed percentage of investment in each category that Washington anticipates will be appropriate to achieve its stated goals. EPA has determined that the included eligible categories have a proven track record, are relatively straight forward to implement, and are cost-effective.

**Table 2: Eligible Mitigation Action Categories with Preliminary Funding Allocation and Anticipated Percentage of Funds**

Eligible Mitigation Action Categories*	Fund Percentages
<b>On-Road Heavy Duty Vehicles</b> Priority: Electrification of public fleets, especially transit buses <ul style="list-style-type: none"> <li>• Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Eligible Buses)</li> <li>• Class 4-7 Local Freight Trucks (Medium Trucks)</li> <li>• Class 8 Local Freight Trucks and Port Drayage Trucks (Eligible Large Trucks)</li> </ul>	≤ 45%
<b>Non-Road Equipment</b> Priority: Electrification <ul style="list-style-type: none"> <li>• Airport Ground Support Equipment</li> <li>• Forklifts and Port Cargo Handling Equipment</li> </ul>	≤ 5%
<b>Locomotives</b> Priority: Publicly owned locomotives <ul style="list-style-type: none"> <li>• Freight Switchers</li> </ul>	≤ 5%
<b>Marine Vessels</b> Priority: Electrification of public vessels, especially ferry vessels <ul style="list-style-type: none"> <li>• Ferries/Tugs</li> <li>• Ocean Going Vessels (OGV) Shore Power</li> </ul>	≤ 45%
<b>Light Duty Zero Emission Vehicle Supply Equipment</b>	15%
<b>Diesel Emission Reduction Act (DERA) Option</b>	≤ 5%
<b>Total</b>	<120%

\*The relative allocation of funds may change over time depending on project proposals, technology advancement, and analysis of emission benefits and costs for each proposed project.

## On-road, Heavy-duty Vehicles

On-road, heavy-duty vehicles generate 49% of the NO<sub>x</sub> emissions in Washington. Buses generate toxic emissions that expose both the public and bus riders. School buses transport our most sensitive and vulnerable population (children).

- Transit, School, and Shuttle Buses: Replacing diesel transit buses and school buses can annually reduce up to 0.5 tons of NO<sub>x</sub> emissions per bus.<sup>13</sup>
- Heavy-duty Trucks: Replacing local freight delivery, heavy-duty trucks can annually reduce up to 0.3 tons of NO<sub>x</sub> emissions per truck.<sup>14</sup>

## Non-Road Equipment

Non-road equipment generates 12% of the NO<sub>x</sub> emissions in Washington.

- Airport Ground Support Equipment: Electrifying airport ground support equipment can annually reduce up to 0.4 tons of NO<sub>x</sub> emissions per equipment.<sup>15</sup>
- Forklifts and Port Cargo Handling Equipment: Replacing forklifts and port cargo handling equipment can annually reduce up to 0.4 tons of NO<sub>x</sub> emissions per equipment.<sup>16</sup>

## Marine Vessels and Switch Locomotives

Marine vessels and locomotives combine to generate 12% of the NO<sub>x</sub> emissions in Washington. Marine vessels and locomotives have huge diesel engines, typically generating ten to sixty times the amount of NO<sub>x</sub> emissions as other diesel vehicles and equipment.

- Locomotives: Repowering switch locomotives can annually reduce two to twelve tons of NO<sub>x</sub> emissions per engine.<sup>17</sup>
- Tug Boats: Repowering tugs can annually reduce twenty to forty tons of NO<sub>x</sub> emissions per engine.<sup>18</sup>
- Ferries: Repowering ferries can annually reduce twenty to thirty tons of NO<sub>x</sub> emissions per engine.<sup>19</sup>
- Shorepower for ocean-going vessels: Providing electric shore power can annually reduce five to one hundred tons of NO<sub>x</sub> emissions per shorepower station.<sup>20</sup>

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<sup>13</sup>EPA Diesel Emissions Quantifier: replace pre-2007 bus

<sup>14</sup>EPA Diesel Emissions Quantifier: replace pre-2007 truck

<sup>15</sup> EPA Diesel Emissions Quantifier: replace Tier 1 or older engine

<sup>16</sup> EPA Diesel Emissions Quantifier: replace Tier 1 or older engine

<sup>17</sup> VW Settlement Recommendations prepared by Environmental Defense Fund for Texas: Methodology developed by Texas Emission Reduction Program

<sup>18</sup> Benefits reported on Crowley Marine tugboat repower project at Port of Los Angeles

<sup>19</sup> VW Settlement Recommendations prepared by Environmental Defense Fund for Texas: Methodology developed by Texas Emission Reduction Program

<sup>20</sup> EPA 2016 National Port Strategy Assessment

## **Diesel Emission Reduction Act (DERA)**

Under DERA, states may match federal funds and receive 50% in additional incentive funds. Annually, Washington typically receives \$200,000 to \$300,000 of DERA funds. If Washington uses VW funds to match DERA funds, then Washington would receive \$100,000 to \$150,000 annually in additional incentive funds to help reduce diesel emissions. Over a 10-year period, Washington would expect to use \$2,000,000 to \$3,000,000 of VW funds for the DERA option category.

## **Light-duty Zero Emission Vehicle Supply Equipment**

On-road motor vehicles account for nearly half of Washington's NO<sub>x</sub> and diesel particulate matter emissions. The transportation sector is, by far, the largest source of greenhouse gas emissions.

Washington's electricity comes predominantly from hydro-power, one of the cleanest sources of electricity. Clean cars not only reduce emissions to the air, but electric-drive systems use fewer lubricants and fluids that can drip onto roadways and end up polluting water bodies, such as our rivers and Puget Sound. Investments in light-duty zero emission vehicle supply equipment will expedite the deployment of zero emission vehicles (ZEVs) and help offset emissions from the largest source of vehicle emissions in Washington.

## **Expected ranges of emission benefits**

The Environmental Mitigation Trust Agreement requires the beneficiary's mitigation plan include, "... a general description of the expected ranges of emission benefits the Beneficiary estimates would be realized by implementation of the Eligible Mitigation Actions identified in the Beneficiary Mitigation Plan."

Ecology estimated the excess lifetime NO<sub>x</sub> emissions for the 24,000 violating vehicles registered in Washington. The VW settlement requires VW replace or repair 85% of the violating vehicles. If they fall short of this 85% "recall rate", VW must pay additional funds into the mitigation trust. This calculation of lifetime excess emissions from the subject vehicles therefore includes a range of values:

- 1) ≈ 3,000 tons, based on VW replacing or repair 85% of the vehicles<sup>21</sup>
- 2) ≈ 8,000 tons, based on VW not replacing or repairing any vehicles<sup>22</sup>

Ecology expects to fund projects that reduce lifetime NO<sub>x</sub> emissions by at least 3,000 tons.

## **Disproportionately impacted communities**

A principle of Washington's Plan is to improve air quality for communities that have historically borne a disproportionate share of the air pollution burden in Washington.

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<sup>21</sup> Washington Department of Ecology 2017 calculation

<sup>22</sup> Washington Department of Ecology 2017 calculation

Low income households, communities of color, and minority populations located near industrial facilities, ports, and high-traffic or freight corridors often bear a disproportionate share of the air pollution burden. Ecology, in coordination with Washington Department of Health, local clean air agencies, and environmental justice community organizations, will use a variety of tools (Washington Tracking Network, Puget Sound Clean Air Agency's Highly Impacted Communities analysis, Ecology Comprehensive Emissions Inventory, etc.) to identify and consider beneficial impacts of projects in disproportionately impacted communities.

For example, Ecology has determined that projects along the I-5 corridor, located near and between the Ports of Seattle and Tacoma, including SeaTac Airport, represent the type of area that deserves priority consideration. Through its stakeholder process, Washington will engage these communities to help identify appropriate projects that mitigate the impact of NO<sub>x</sub> emissions and improve air quality in their communities.

To the extent practical, Washington will use mitigation funds for mitigation actions that provide air quality benefits in disproportionately impacted communities.

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## Public engagement

Prior to drafting the Mitigation Plan, Ecology regularly engaged stakeholders and the general public. Principle tools included a dedicated website and listserv, where Ecology provided information and solicited public input. A portion of Ecology's public engagement included outreach to:

- Stakeholders to help refine Washington's Mitigation Plan's goal, principles and geographic scope, and general priorities.
- The public by offering surveys that allowed individuals and groups to comment on the draft mitigation plan goal, principles, priorities, and eligible project categories.

Appendix B further details the process by which Washington sought and considered public input for the state Mitigation Plan.

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# Appendices

## Appendix A. Eligible Project Categories

See Appendix D-2 in the Environmental Mitigation Trust Agreement.<sup>23</sup>

- 1) Class 8 Local Freight Trucks and Port Drayage Trucks (Eligible Large Trucks)
  - a) Eligible large trucks include 1992-2009 engine model year class 8 local freight or drayage.
  - b) Eligible large trucks must be scrapped.
  - c) Eligible large trucks may be repowered with any new diesel or alternate fueled engine or all-electric engine, or may be replaced with any new diesel or alternate fueled or all-electric vehicle, with the engine model year in which the eligible large trucks mitigation action occurs or one engine model year prior.
- 2) Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Eligible Buses)
  - a) Eligible buses include 2009 engine model year or older class 4-8 school buses, shuttle buses, or transit buses. For beneficiaries with state regulations that already require upgrades to 1992-2009 engine model year buses at the time of the proposed eligible mitigation action, eligible buses shall also include 2010-2012 engine model year class 4-8 school buses, shuttle buses, or transit buses.
  - b) Eligible buses must be scrapped.
  - c) Eligible buses may be repowered with any new diesel or alternate fueled or all-electric engine, or may be replaced with any new diesel or alternate fueled or all-electric vehicle, with the engine model year in which the eligible bus mitigation action occurs or one engine model year prior.
- 3) Freight switchers
  - a) Eligible freight switchers include pre-Tier 4 switcher locomotives that operate 1000 or more hours per year.
  - b) Eligible freight switchers must be scrapped.
  - c) Eligible freight switchers may be repowered with any new diesel or alternate fueled or all-electric engine(s) (including generator sets), or may be replaced with any new diesel or alternate fueled or all-electric (including generator sets) freight switcher, that is certified to meet the applicable EPA emissions standards (or other more stringent equivalent state standard) as published in the Code of Federal Regulations for the engine model year in which the eligible freight switcher mitigation action occurs.

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<sup>23</sup> Case No. 16-cv-00295-CRB (N.D. Cal.), MDL No. 2672 CRB (JSC); United States Notice of Filing of Trust Agreements, Filed 10/02/2017

- 4) Ferries/Tugs
  - a) Eligible ferries and/or tugs include unregulated, Tier 1, or Tier 2 marine engines.
  - b) Eligible ferry and/or tug engines that are replaced must be scrapped.
  - c) Eligible ferries and/or tugs may be repowered with any new Tier 3 or Tier 4 diesel or alternate fueled engines, or with all-electric engines, or may be upgraded with an EPA certified remanufacture system or an EPA verified engine upgrade.
- 5) Ocean Going Vessels (OGV) Shore Power. Eligible marine shore power includes systems that enable a compatible vessel's main and auxiliary engines to remain off while the vessel is at berth. Components of such systems eligible for reimbursement are limited to cables, cable management systems, shore power coupler systems, distribution control systems, and power distribution.
- 6) Class 4-7 Local Freight Trucks (Medium Trucks)
  - a) Eligible medium trucks include 1992-2009 engine model year class 4-7 local freight trucks, and for beneficiaries that have state regulations that already require upgrades to 1992-2009 engine model year trucks at the time of the proposed eligible mitigation action, eligible trucks shall also include 2010-2012 engine model year class 4-7 local freight trucks.
  - b) Eligible medium trucks must be scrapped.
  - c) Eligible medium trucks may be repowered with any new diesel or alternate fueled or all-electric engine, or may be replaced with any new diesel or alternate fueled or all-electric vehicle, with the engine model year in which the eligible medium trucks mitigation action occurs or one engine model year prior.
- 7) Airport Ground Support Equipment
  - a) Eligible airport ground support equipment includes:
    - i) Tier 0, Tier 1, or Tier 2 diesel powered airport ground support equipment; and
    - ii) Uncertified or certified to 3 g/bhp-hr or higher emissions, spark ignition engine powered airport ground support equipment.
  - b) Eligible airport ground support equipment must be scrapped.
  - c) Eligible airport ground support equipment may be repowered with an all-electric engine, or may be replaced with the same airport ground support equipment in an all-electric form.
- 8) Forklifts and Port Cargo Handling Equipment
  - a) Eligible forklifts includes forklifts with greater than 8000 pounds lift capacity.
  - b) Eligible forklifts and port cargo handling equipment must be scrapped.
  - c) Eligible forklifts and port cargo handling equipment may be repowered with an all-electric engine, or may be replaced with the same equipment in an all-electric form.
- 9) Light Duty Zero Emission Vehicle Supply Equipment. Each beneficiary may use up to fifteen percent (15%) of its allocation of trust funds on the costs necessary for, and directly

connected to, the acquisition, installation, operation and maintenance of new light duty zero emission vehicle supply equipment.

- 10) Diesel Emission Reduction Act (DERA) Option. Beneficiaries may use trust funds for their non-federal voluntary match, allowing use for actions not identified not specifically included above.

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## Appendix B. Public Engagement

As required by the Environmental Mitigation Trust Agreement, Washington sought and considered public input on the development of its Beneficiary Mitigation Plan.

7. (ii) ...for the Beneficiary Mitigation Plan required under Paragraph 4.1 of the Trust Agreement, the procedures by which public input will be solicited and considered;

### PUBLIC INPUT STRATEGY

Ecology worked with interested stakeholders and the public to seek and consider public input on the Beneficiary Mitigation Plan. Ecology promoted a transparent process to keep people informed and provided multiple opportunities for engagement at key decision points.

Ecology provided the public the opportunity to comment on the proposed Beneficiary Mitigation Plan. Ecology considered these public comments in development of the final plan. Ecology used public input from a variety of stakeholders to help determine the types of projects that best serve communities' needs. In addition to the general public, organizational representatives with potential interests included:

- Business and trucking companies
- Utilities
- Environmental organizations
- Environmental justice groups
- State and local governments
- Local air agencies
- Tribes
- Port authorities
- Transit and transportation agencies

Ecology sought input from the public through three levels of public involvement: we informed the public, consulted with the public, and involved the public. Below we describe these strategies for seeking input, as well as criteria we considered in evaluating input.

### INFORMED THE PUBLIC

- Used the Ecology website as an information hub.
- Provided educational opportunities through online webinars, videos, blogs, and speaking engagements.
- Provided information in multiple languages in addition to English.
- Used an email listserv to inform and notify.
- Provided legislative briefings to keep state leaders informed.
- Shared information through social media channels, e.g. Twitter and Facebook.
- Broadcasted public service announcements to encourage public participation to comment on the state's draft Beneficiary Mitigation Plan

## **CONSULTED WITH THE PUBLIC**

In drafting and finalizing the mitigation plan, Ecology provided multiple opportunities for the public to provide input on key decisions. Ecology:

- Encouraged early, active and ongoing participation.
- Engaged cross-agency coordination to expand reach.
- Deployed multiple surveys to gather input on decisions around
  - Plan goal, principles, and priorities (completed March 2017).
  - Eligible projects Washington should invest in (completed June 2017).
- Solicited formal public comments on the state's draft Beneficiary Mitigation Plan (November/December 2017).

## **INVOLVED THE PUBLIC**

Ecology provided opportunities for public input as decision-making progressed through:

- Surveys.
- Round table discussions.
- State and local cross-agency coordination.
- Sounding board sessions to gain feedback as the draft Beneficiary Mitigation Plan was developed.

## **CONSIDERED INPUT**

In considering the input we received, Washington first determined whether comments were consistent with the Environmental Mitigation Trust Agreement, including the following key elements:

- Intent of the Environmental Mitigation Trust, "...to fully mitigate the total, lifetime excess NOx emissions..." from the subject vehicles.
- Eligible mitigation actions and mitigation action expenditures.
- Beneficiary Mitigation Plan requirements.
- Required certifications in Appendix.

For input consistent with the Environmental Mitigation Trust Agreement, Washington considered, qualitatively, the degree to which the input aligned with and supported Washington's Beneficiary Mitigation Plan.

Washington considered the degree to which the input supported and furthered progress toward the goals of the Washington State Legislature, Gov. Jay Inslee's Results Washington performance management system and Washington Department of Ecology's strategic plan:

- The Washington State Legislature's limits for greenhouse gas emissions (Chapter 70.235 RCW). The limits require Washington to reduce greenhouse gas emissions to 1990 levels by 2020, 25 percent below 1990 levels by 2035, and 50 percent below 1990 levels by 2050.

- Governor Jay Inslee’s Results Washington Goal(s) regarding Clean Transportation and Healthy Air. The Clean Transportation goal is to reduce transportation greenhouse gas emissions by getting 50,000 electric vehicles on the road by 2020, accelerating fleet turnover to cleaner engines, and increasing the overall efficiency of the transportation system. The Healthy Air goal is for all of the state to continue to have healthful air that meets federal air quality standards.
- Washington Department of Ecology, Air Quality Program Strategic Plan (esp. re: transportation). The plan includes strategies to prevent unhealthful air and violations of air quality standards, reduce health and environmental threats from motor vehicle emissions, and advance the public’s understanding of their role in reducing motor vehicle emissions.

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