

AMERICAN RECOVERY AND REINVESTMENT ACT
NATIONAL CLEAN DIESEL FUNDING ASSISTANCE PROGRAM
RFA Number: EPA-ARRA-OAR-OTAQ-09-06

i) Project Title: Portland Clean Diesel Partnership

ii) Applicant Information:

City of Portland
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• DUNS Number: 054971197

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iii) Applicant Eligibility: City of Portland is a local government with jurisdiction over transportation.

iv) Funding Requested: \$1,622,348

v) Total Project Cost: \$1,622,348

vi) Project Period: June 2009 - September 2010

vii) Multiple Projects: Replace inefficient marine fire boat engines with clean diesel engines. EPA Region 10. \$950,000 requested.

SECTION 1: WORKPLAN: PROJECT SUMMARY/APPROACH

Means of Emission Reductions: As an expansion and enhancement of the recent grant award from the EPA for the first phase of this project (EPA Grant ID: DE-960848-01), the City of Portland proposes to:

- 1). Retrofit Portland, Salem and Multnomah County's municipal diesel fleet:** The City of Portland proposes using EPA grant funding to purchase and install verified emission reduction technologies (diesel particulate filters, partial flow filters and diesel oxidation catalysts) on the City of Portland's (Portland or City), City of Salem's (Salem) and Multnomah County's (County) diesel fleet.
- 2). Purchase and install fuel operated heaters:** Portland proposes using EPA grant funding to install verified idle reduction technologies, in the form of fuel operated heaters, on Portland and Multnomah County's diesel fleet. By combining idle reduction technologies with verified retrofit technologies, the project will further reduce emissions.
- 3). Pilot a Clean Diesel Contracting Policy for construction contractors working for the City of Portland and Multnomah County on publicly funded construction projects:** Portland and Multnomah County will pilot clean diesel requirements on a number of upcoming construction projects, prioritizing those projects located in areas of poor air quality. Portland proposes using EPA grant funding to purchase and install verified emission reduction technologies on the contractor owned, leased, or rented off-road construction equipment used in pilot projects. The selection of pilot construction projects and the contractors that will do that work has not been finalized. In these demonstration projects, the City and County will seek to identify and mitigate barriers for small contractors and sub-contractors, especially disadvantaged and historically underutilized businesses.

Fleet Profile and Technologies: The City of Portland will prepare and manage a competitive Request for Proposals (RFP) to identify vendors and contractors to provide verified retrofit (filters) and idle reduction technologies (fuel operated heaters) and installation services. The subsequent contract(s) will meet cooperative purchasing guidelines allowing other jurisdictions not part of this project to purchase similar technologies if they desire. Equipment will be purchased and installed under contract(s) using only EPA or CARB verified best available passive system diesel retrofit technology, including Diesel Particulate Filters, Partial Flow Filters and Diesel Oxidation Catalysts, as well as fuel operated heaters (idle reduction technology). Contracts with vendors will require evidence of this verification. By matching each piece of equipment with the best available technology, and with the use of ULSD and high blends of biodiesel (B20 or greater), the project will maximize the diesel emission reductions. Portland's fleet ranges from 1996 to 2008, Salem's fleet ranges from 1999 to 2006, and Multnomah County's fleet ranges from 1977 to 2007. On average, off-road vehicles are kept in municipal fleets for 12 to 15 years. See attached fleet spreadsheet for details regarding number, types, use, ownership, engines and proposed emission reduction technologies.

Roles and Responsibilities: Project partners include the municipal jurisdictions of the City of Portland, the City of Salem and Multnomah County, as well as private construction contractors participating in the policy pilot. Portland proposes using grant funding to hire a Fleet Supervisor to facilitate the expedient retrofit of the municipal fleets with verified emission controls and fuel operated heaters – including the procurement, contracting, exhaust testing, installation, maintenance, documentation and data collection. Portland, as the grant applicant, will administer the grant and sub-awards, and be ultimately responsible for tracking and reporting on the success of the project. All partners will ensure proper maintenance of the retrofits, as well as data collection and reporting. Portland and Multnomah County will also provide staff resources for the clean diesel contracting policy development and pilot implementation – including coordinating the retrofit of private contractor construction equipment participating in the pilot projects. All partners, including private contractors, will be responsible for ensuring proper operation and maintenance of the retrofits installed on their equipment, keeping the technology on the equipment for a minimum amount of time (per EPA’s guidance), and reporting necessary data and information back to Portland to enable tracking and reporting on success. The Oregon DEQ will support this project with technical assistance.

Project Timeline:

- May 2009: **Issue Request For Proposals** for the purchase and installation of verified emission reduction technologies; begin identifying construction projects to pilot clean diesel contracting policy and incorporating appropriate specifications into contract bid documents, change orders, etc.
- May 2009: Adopt an idle reduction policy for City of Portland vehicles and equipment.
- June 2009: Finalize grant agreement with EPA; **Issue Request for Proposals** and/or Bid Requests for the purchase and installation of fuel operated heaters. Draft and adopt IGAs with project partners.
- July 2009: **Award vendor contract(s) and finalize price agreements for the purchase and installation of emission reduction technologies;** continue identifying construction projects to pilot clean diesel contracting policy and incorporate appropriate specifications into contract bid documents, change orders, etc.; **begin retrofitting municipal fleets, and contractor equipment.**
- July / August 2009: **Award vendor contract(s) and finalize price agreement for the purchase and installation of fuel operated heaters (idle reduction technology).** Begin installing heaters on Portland and Multnomah County equipment.
- March / May 2010: Complete retrofits and heater installation on Portland, Salem and Multnomah fleet.
- September 2010: Complete retrofits on construction contractor equipment participating in piloting the clean diesel policy.

Project Sustainability: While equipment remains in the municipal fleet, staff will maximize the useful life and performance of the equipment through regular maintenance and cleaning, which will be further facilitated by the use of grant funds to purchase a Diesel Particulate Filter Cleaning System. When equipment is sold or auctioned, retrofits will be kept in place in order to maintain emission reductions for the life of the equipment. To maximize the expected lifetime of the technology installed on project partner’s and contractor’s equipment, letters of agreement with the entities receiving sub-awards will include language detailing minimum requirements for proper maintenance, as well as the minimum amount of time (per EPA’s recommendations) the technology must remain on the equipment after the project is completed. Most lasting, the project will lend strong evidence to the formal adoption of a policy in which retrofitted technologies are required and/or weigh heavily as evaluation criteria in requests for proposals when awarding future publicly funded construction projects through Portland and Multnomah County.

Restriction for Mandated Measures: There are no Federal, State or local laws that mandate emission reductions associated with this project or its partners.

SECTION 2: NATIONAL REQUIREMENTS: RECOVERY ACT FUNDING PRIORITIES

Recovery Act Funding Priorities: The proposed project will achieve the goal of promoting job creation and/or preservation and economic recovery. According to the Oregon Economic and Community Development Department (OECD), the seasonally adjusted unemployment rate in Oregon has increased from 5.5% in 2008 to 12.1% in 2009 – **currently the second highest unemployment rate in the nation.** Multnomah County has seen an even higher increase in unemployment, going from 4.7% in 2008, to 11.2% in 2009 (138% increase). Salem has also seen an increase in unemployment going from 5.2% in 2008 to 11.2% in 2009 (115% increase).

In addition, Oregon has shown the steepest increase in unemployment compared to other Region 10 States. Specifically, from February 2008 to February 2009, the percent change was 100% for Oregon, 78.8% for Washington, 74.4% for Idaho, and 23.1% for Alaska. In addition, the number of people employed in the Motor Vehicle and Parts Dealer sector in Oregon has decreased by 18.9%, representing a loss of 4200 jobs in the last year. This employment sector would see the most activity from diesel retrofitting activity, which is critical to economic recovery in Oregon, as the unemployment rate in this particular sector has grown faster than the state-wide averages for several other employment sectors.

The Manufacturers of Emission Controls Association (MECA) has provided a jobs calculation formula, which builds on the study conducted by Keybridge Research regarding the macroeconomic impacts associated with DERA funding. This formula assumes 14.9 jobs per \$1M in spending for replacement, and 21.15 jobs per \$1M in spending for retrofits. Portland is using their formula in this application to allow for project proposals to be consistently reviewed (see below).

Total Project Cost (TPC): \$1.62M
Percent of TPC for Retrofit: 100
Percent of TPC for Replacement: 0

Jobs/Million = (100)(21.15) + (0)(14.9) = 21.15
Total Jobs Created = (21.15)(\$1.62M) = 34.3

The proposed project will reduce emissions from diesel engines, one of the most important air quality challenges facing this country. The project will invest in idle reduction and diesel emission retrofitting activities that provide long-term economic benefits by protecting the environment and improving public health. Such efforts will help reduce serious problems like asthma, lung cancer and various cardiac and respiratory diseases, which currently result in thousands of premature deaths, and millions of lost work-days each year. These investments will also increase economic efficiency by encouraging advances in vehicle emission reduction technologies.

Portland is positioned to **commence expenditures and activities very quickly**, as procurement efforts are already underway in connection with the recent grant award from the EPA for the first phase of this project (EPA Grant ID: DE-960848-01). In cooperation with Multnomah County, Portland is currently finalizing a competitive Request for Proposals (RFP) to identify vendors and contractors to provide retrofit technologies and installation services. This RFP is written to allow for the procurement of subsequent retrofit services if additional funding becomes available through the EPA or other sources. This RFP should be released in early May 2009, with the expectation of announcing the award(s) in June 2009. Procurement contract(s) are expected to be in place by July 2009, with project expenditures beginning soon thereafter. The resulting contract(s) and price agreement(s) will meet cooperative purchasing guidelines allowing other jurisdictions in the Portland metro area, that are not part of this project proposal, to purchase similar exhaust controls off of contract(s) if they desire.

Portland is committed to tracking and measuring the project's progress towards advancing the Recovery Act priorities using current and future information and resources, including the jobs calculation formula from MECA, employment information from OECD, public health and environmental protection

information from the Oregon DEQ, project information provided by partners, suppliers and vendors hired by Portland to do the retrofit work and pilot the clean diesel contracting policy.

SECTION 3: NATIONAL PROGRAMMATIC PRIORITIES

The Portland-Multnomah Clean Diesel Partnership will **maximize health benefits** by reducing diesel PM in a densely populated urban area with poor air quality. The municipal fleets are housed and operate in the urban environment. The project will retrofit approximately 141 pieces of public fleet on- and off-road equipment, 20 pieces of private contractor construction equipment and install 237 fuel operated heaters (municipal fleet only). Using the available municipal fleet data and national estimates for private contractor construction equipment (EPA Non-Road Model defaults), the benefits estimated by the EPA Diesel Emissions Quantifier include:

	Total Tons Reduced Per Year	Total Tons Reduced Lifetime	Total Cost Effectiveness (Project Cost /Lifetime Ton)
NOx	5.69	72.35	\$ 22,424.20
PM	4.07	26.49	\$ 61,240.78
HC	4.44	36.75	\$ 44,141.92
CO	25.28	229.85	\$ 7,058.28
CO2	267.54	3,399.66	\$ 477.21

Recent studies conducted by the EPA and the Oregon Department of Environmental Quality (DEQ) documented **elevated levels of air toxics, including diesel PM, in Portland** (Portland Air Toxics Assessment (PATA): <http://www.deq.state.or.us/aq/toxics/pata.htm>; National-scale Air Toxics Assessment (NATA): <http://www.deq.state.or.us/aq/toxics/nata.htm>). According to the EPA’s NATA, Multnomah County ranks the highest state-wide in terms health threats associated with exposure to air toxics, with mobile sources (cars and trucks) being the largest contributors of cancer-causing (56%) and non-cancer causing (73%) air toxics. The Salem area is under an approved Oregon Department of Environmental Quality Carbon Monoxide Limited Maintenance Plan.

According to the Oregon DEQ’s PATA (2006), mobile source pollutants, including acetaldehyde, formaldehyde, 1,3 butadiene, diesel PM, benzene, and arsenic show high concentrations along and adjacent to the major traffic corridors, with the urban core area having relatively greater mobile source concentrations than elsewhere. The DEQ found that **diesel PM is one of the top three sources of adverse health effects and cancer risk within the Portland area**. According to the DEQ, in Multnomah County (Portland), all diesel vehicles emitted 541.9 tons of PM 2.5 in 2005. In Marion County (Salem), all diesel vehicles emitted 270 tons of PM 2.5 in 2005. On- and off-road diesel engines are equally important diesel sources. While risk was significant across their modeling domain, higher concentrations likely exist in the downtown area where there is a concentration of emissions from vehicles, construction, marine and rail sources. They also determined that diesel PM alone contributes to 90-99 percent of the cumulative non-cancer and cancer risk in the Portland area.

The twenty-four neighborhoods comprising North Portland (including North East Portland) represent the oldest, and most racially and ethnically diverse communities in the Metropolitan area. North Portland residents have an incidence of respiratory illness that exceeds statewide and national averages, linked in part, to the fact that **North Portland has the highest levels of diesel emissions in the state**, estimated at twenty times the health standard. A map of diesel particulate matter and another map of children in poverty show high concentrations of both in the same area of Multnomah County (both maps can be found here: <http://www.equityatlas.org/maps/map2-11b.pdf> and <http://www.equityatlas.org/maps/map6-4.pdf>).

Portland receives a **disproportionate quantity of air pollution from diesel fleets** operating in the area, including the ports of Portland and Vancouver, the intermodal yards of the Union Pacific, Burlington Northern, and Santa Fe railroads, the Portland International Airport and the convergence of four major interstates (I-5, I-205, I-84 and I-405). The I-5 corridor, the primary north-south highway and truck freight

route along the west coast, runs through the Salem city limits, along with Highway 22, a designated East-West freight route to the Oregon Pacific Coast. Union Pacific's primary North-South West coast route, the Portland & Western Railroad and a rail switching yard all operate within Salem. The proposed project will prioritize retrofits on equipment operated in North Portland, downtown (including Salem) and other locations in the urban environment that have historically been disproportionately affected by high diesel emissions. Experience gained through this and related projects will enable the Portland and Multnomah County to ultimately enact a Clean Diesel Contracting Policy that will mitigate long-term health risks across the entire urban area.

The project will utilize EPA and/or CARB **verified technologies** to reduce diesel pollution by retrofitting diesel on-road and construction equipment with best available passive system retrofits including diesel particulate filters, partial flow filters and diesel oxidation catalysts. In order to **maximize the useful life** of these devices, the municipal fleet managers and construction project managers (for clean diesel policy pilot projects) will work closely with emission control manufacturers to determine best practices for the equipment being retrofitted. When equipment is sold or auctioned, retrofits will be kept in place in order to maintain emission reductions for life of equipment. To maximize the expected lifetime of the technology installed on contractor equipment, letters of agreement with the contractors receiving funding will include language detailing minimum requirements for proper maintenance, as well as the minimum amount of time (per EPA's recommendations) the technology must remain on the contractor's equipment after the project is completed.

Diesel fuel conservation measures for both the municipal fleet and the construction contractors will be taken to further minimize diesel emissions, including installation of fuel operated heaters. Additionally, other measures will be taken to reduce diesel fuel use, such as, regular equipment maintenance/tune-ups, fuel consumption data tracking/reporting, and the implementation of an idle-reduction policy. Portland, Salem and Multnomah County began using **biodiesel blended** (Portland B20 to B99; Multnomah B20; Salem B5) **with ultra-low sulfur diesel (ULSD)** in both their on- and off-road diesel fleets several years ago, meeting EPA's ULSD mandate for non-road projects well ahead of the anticipated schedule. These fuel practices will continue, and the use of ULSD will be a requirement for private sector construction contractors working on publicly funded projects through the piloting, and eventual implementation, of the clean diesel contracting policy. In addition, in 2007, the City of Portland adopted a **local renewable fuel standard** that requires 5% biodiesel to be blended into all on-road diesel fuel sold inside of the city limits.

SECTION 4: REGIONAL SIGNIFICANCE

Based on estimates by the Oregon DEQ, in Multnomah County each ton of diesel PM has a \$398,425 environmental and public health impact price tag. The proposed project will **maximize health benefits** by reducing diesel PM in densely populated urban areas (Portland and Salem) with poor air quality. The municipal fleets are housed and operate in the urban environment. In fact, the bulk of Portland's diesel fleet operates daily out of maintenance yards located directly adjacent to Interstate-5 and a major hospital in North Portland. Several interstate and international goods movement corridors converge in the Portland-Multnomah area, including I-5, I-205, I-405 and I-84, as well as barge and rail traffic along Columbia and Willamette River industrial areas. As a result, Portlanders are more exposed to higher concentrations of diesel emissions than many other parts of the State. Additionally, many of the potential construction projects identified for piloting the clean diesel policy are located in downtown, North and Northeast Portland, areas with identified toxic air pollutant concerns and geographic "hot spots" for diesel particulate matter (according to the Oregon DEQ's Portland Air Toxics Assessment study).

Because of the known air quality issues in North Portland, a **community-based multi-stakeholder collaborative process** called the North Portland Diesel Emissions Reduction Project (<http://www.orsolutions.org/metrohood/dieselem.htm>) convened in 2006. Community groups, regulators, and private and public fleets committed to several voluntary diesel emission-reduction actions. Reducing emissions from off-road construction equipment was one of the actions identified through that stakeholder process that this project proposal will help address. Also in 2006, the Portland and Multnomah County

adopted a joint Toxics Reduction Strategy that set a goal to reduce toxic emissions from fleet equipment by 2010 through particulate filter installations and implementation of an idle reduction policy. A multi-stakeholder group including representatives from government, industry, advocacy groups, and the public developed the Toxics Reduction Strategy.

By focusing investments on best available retrofits for diesel equipment, the proposed project is a **cost effective method** for achieving real reductions in diesel PM emissions. The project will utilize EPA and/or CARB **verified technologies** to reduce diesel pollution by retrofitting diesel vehicles and equipment with best available passive system retrofits including diesel particulate filters, partial flow filters and diesel oxidation catalysts. The project will further reduce emissions by installing fuel operated heaters to reduce idle time for fleet vehicles.

In order to **maximize the useful life** of these devices, the municipal fleet managers and construction project managers (for clean diesel policy pilot projects) will work closely with emission control manufacturers to determine best technology applications for the equipment being retrofitted. Portland, Salem and Multnomah fleet shops will ensure proper cleaning and maintenance of the technologies installed on the municipal fleets, and contractor equipment will be retrofitted/maintained by equally qualified private sector shops. In addition, both Portland and Multnomah municipal shops have received the "Eco-Business" certification, a joint pollution prevention project through the Oregon DEQ that recognizes automotive repair shops that go the extra mile to minimize their environmental impacts.

Lastly, **diesel fuel conservation** measures for both the municipal fleets and the construction contractors will be taken to minimize diesel emissions, as well as **greenhouse gas emissions**. Such measures include, but are not limited to, regular equipment maintenance/tune-ups, fuel consumption data tracking/reporting, and the implementation of an idle-reduction policy. Portland, Salem and Multnomah County began using **biodiesel** blended with ultra-low sulfur diesel (ULSD) in both their on- and off-road diesel fleets some time ago, meeting EPA's **ULSD mandate** for non-road projects well ahead of the anticipated schedule. These fuel practices will continue, and the use of ULSD will be a requirement for private sector construction contractors working on publicly funded projects through the piloting, and eventual implementation, of the clean diesel contracting policy.

SECTION 5: PAST PERFORMANCE

1) EPA Grant No. X3-83220701-0 "Stormwater Marketplace Feasibility Study"

The City has complied with all reporting requirements of the grant, including participation in meetings of a cohort group of grantees in Washington, DC in October 2005, December 2006, and November 2007. In addition, the City hosted a meeting of EPA representatives from the national office and Region 10 in May 2007. Each of these presentations provided in-depth information about the status of the project, lessons learned to date, significant changes in project team members, products developed as a result of the project, and expected next steps. In addition to these meetings, the Bureau has submitted two formal progress reports in 2006 and 2007. We have worked closely with our grant administrator and others associated with EPA's Science to Achieve Results (STAR) Program of the National Center for Environmental Research. The Network has provided valuable professional guidance, connected Portland's research to similar efforts around the country, and exposed Portland's project to interested and supportive staff within the EPA. The City has complied with all reporting requirements as noted above. All research materials, presentation and associated project information is available on the Internet at the following City web site: <http://www.portlandonline.com/bes/index.cfm?c=44048> .

2) EPA Grant No. BF96024001 "Portland Brownfield Project"

Progress has been reported through quarterly submission of Property Profile Forms, annual financial status reports, and closeout reports once grant agreements have concluded. Success in this agreement is attributed to the dedicated staff that followed the required EPA work plans. This includes interagency coordination among the City's grants office, program management, and staff. The City has fulfilled all reporting

requirements, including quarterly brownfield reports. All final technical reports have been submitted for grants whose cooperative agreements have expired.

3) *EPA Grant No. #XP97045801 “Innovative Wet Weather Project”*

The City published 17 project reports of public and private projects that demonstrate low-impact stormwater management solutions. For community engagement, the City has been conducting site visits and tours with EPA of the over 25 projects that were partially funded through the Innovative Wet Weather Program (IWWP). The agreements are successfully completed by providing in-house technical assistance and grants. Public/private partners share oversight responsibilities and provide additional funds and in-kind resources. BES successfully provided matching dollars at 45/55 (City/federal) via the Tanner 3 Sewer Project. The Bureau has complied with all reporting requirements including quarterly progress reports and a final environmental assessment submitted to the EPA in April 2004. All research materials, presentation and associated project information is available on the Internet at the following website:

<http://www.portlandonline.com/bes/index.cfm?c=35941&>

SECTION 6: STAFF EXPERIENCE AND QUALIFICATIONS

For the proposed project, Portland, Salem and Multnomah County lend staff expertise including, but not limited to, project management, fleet managers and mechanics, program managers for historically underutilized construction businesses, and project assistance.

- John Hunt, *City of Portland Fleet Manager*, will coordinate staff training and oversee the purchasing, installation and maintenance of City fleet retrofits. Hunt has 33 years of experience in fleet management and was named first ever Fleet Manager of the Year by Government Fleet.
- Michele Gardner, *County Fleet Manager*, will coordinate staff training and oversee the purchasing, installation and maintenance of County fleet retrofits. Gardner has worked with Multnomah County Fleet Services for 21 years.
- Donald Thomson, *City of Salem Fleet/Warehouse Superintendent* will coordinate staff training and oversee the purchasing, installation and maintenance of Salem’s retrofits. Thomson has been a fleet manager since 1985 in both private and public sectors.
- Michele Crim, *City Sustainability Project Manager*, will coordinate clean diesel contracting and idle-reduction policy development, implementation, and enforcement. Crim currently oversees sustainable city government operations and has worked in pollution prevention for over 10 years.
- Tim Lynch, *County Sustainability Project Manager*, will coordinate clean diesel contracting and idle-reduction policy development, implementation, and enforcement. Lynch currently oversees toxics reduction efforts for Multnomah County’s operations.
- Kyle Diesner, *City Sustainability Project Assistant*, will assist with project development and implementation including monitoring and verification. Diesner has 5 years experience in grant administration totaling \$2.5 million.

SECTION 7: RESULTS

Portland and the project partners are committed to tracking, measuring and reporting progress toward quickly reducing diesel emissions and maximizing job preservation and/or creation to promote economic recovery. The following table outlines the project’s expected activities, outputs, outcomes and how Portland will track and evaluate the effectiveness of those efforts.

Activities	Outputs	Outcomes	Tracking and Reporting
<p>I. Retrofit Portland, Salem and Multnomah County diesel vehicles and equipment.</p> <p>II. Retrofit private construction contractor equipment through piloting clean diesel contracting policy.</p>	<p>A. Evaluation of the completion status of the project, ultimately resulting in 121 pieces of municipal diesel equipment retrofitted with the best available passive control technology.</p> <p>B. Evaluation of the completion status of the project, ultimately resulting in ~20 pieces of heavy-duty off-road construction equipment retrofitted with the best available passive control technology.</p>	<p>1) <u>Short-term:</u> Successful installation of 141 retrofits, furthering the widespread adoption of the retrofits – especially in the private construction sector.</p> <p>2) <u>Medium-term:</u> Reduce emissions from municipal and contractor fleets:</p> <ul style="list-style-type: none"> – 4 tons/year of PM – 25 tons/year of CO – 4 tons/year of HC – 5 tons/year of NOx – 267 tons/year of CO2 <p>3) <u>Long-term:</u> Environmental and health benefits achieved, including avoided public health impacts and costs associated with exposure diesel emissions.</p>	<p>1) The number of retrofitted pieces of equipment, including breakdown by equipment type, retrofit date and emission control technology.</p> <p>2) Emission reduction estimates (from the <i>EPA Diesel Emissions Quantifier</i>) based on completed retrofits on various pieces of equipment, and annual usage hours. For pilot projects, estimates will also be based on usage hours on the specific construction project.</p> <p>3) Environmental and public health benefits in terms of savings from avoided impacts based on estimated diesel PM reductions from retrofitting municipal and contractor fleet, multiplied by <i>Oregon DEQ</i> estimates of public health costs per ton of PM (\$398,425 per ton per year).</p>
<p>III. Install fuel operated heaters on Portland and Multnomah County diesel vehicles and equipment to reduce fuel consumption and associated greenhouse gas emissions.</p>	<p>C. Evaluation of the completion status of the project, ultimately resulting in 237 pieces of equipment with fuel operated heaters installed.</p>	<p>1) <u>Short-term:</u> Successful installation of 237 fuel operated heaters, furthering the widespread adoption of idle reduction technologies.</p> <p>2) <u>Medium-term:</u> Reduced idle times by ~22,000 hours (estimated) and ~24,000 gallons of fuel saved (estimated).</p> <p>3) <u>Long-term:</u> Reduced emissions, including avoided release of greenhouse gas emissions.</p>	<p>1) Number of fuel operated heaters installed including breakdown by equipment type, installation date and heater size.</p> <p>2) Reduced idle time estimates in hours, and associated fuel savings and avoided emissions, based on extrapolation of available fleet fuel management and other data as available.</p> <p>3) Tons of CO2 equivalents reduced, estimated from reduced idle times and fuel gallons saved.</p>

Activities	Outputs	Outcomes	Tracking and Reporting
IV. Commence expenditures for emission and idle reduction technologies as quickly as prudently possible to create and preserve jobs in the Motor Vehicle and Parts Sector in Oregon and beyond.	D. Evaluation of the completion status of the project, including the status of vendor selection(s) and procurement(s), and amount of funds expended on the project and dispersed to sub-recipients. E. Number of individual jobs preserved and/or created working directly on the project.	1) <u>Short-term:</u> Complete project and spend nearly \$1.62 million in grant funding by September 2010. 2) <u>Medium-term:</u> Cost effectiveness of the project leads to an increased understanding of the environmental and economic benefits of the implemented technologies. 3) <u>Long-term:</u> Preservation and/or creation of jobs and the promotion of economic recovery.	1) Itemized summary of total project dollars spent, by quarter, including amount of those funds dispersed to sub-recipients. 2) Dollars spent per ton of PM and other air emission reductions. 3) Number of jobs created or preserved from the install of diesel emission and idle reduction equipment and economic impact from increased spending, estimated using current and future information and resources, including the jobs calculation formula from MECA, employment information from OECCD, and employment information provided by suppliers and vendors hired to do the work.

SECTION 8: LEVERAGED RESOURCES AND PROJECT PARTNERS

Project partners include the City of Portland, the City of Salem, Multnomah County and private construction contractors. The project will leverage the continued use of cleaner fuels by the municipalities, which began using biodiesel blended (Portland B20-B99, Multnomah B20 and Salem B5) with ultra-low sulfur diesel (ULSD) in both their on- and off-road diesel fleets years ago, meeting EPA’s ULSD mandate for non-road projects well ahead of the anticipated schedule. These fuel practices will continue, and the use of ULSD will be a requirement for private sector construction contractors working on publicly funded projects through the piloting, and eventual implementation, of the clean diesel contracting policy.

In addition, the City of Portland proposes to leverage this funding as part of an expansion and enhancement of the project recently awarded grant funding from the EPA (EPA Grant ID: DE-960848-01). Portland and Multnomah County will also coordinate the use of EPA funding with expected diesel retrofit grant monies from the Oregon DEQ (anticipated \$295,000 divided between Portland and Multnomah County). Collectively, this funding will result in the successful and cost effective retrofit of 164 Portland diesel vehicles and equipment, 63 Multnomah diesel vehicles and equipment, and 28 Salem diesel vehicles. The City of Portland will soon (May 2009) issue a competitive Request for Proposals for the retrofit devices, which will enable the quick expenditure of the funds and completion of the project. The bulk purchase of equipment for Portland, Salem and Multnomah County will significantly reduce the project cost for each jurisdiction, enhancing cost effectiveness of the project. The purchasing contract(s) will contain cooperative purchasing language, allowing other jurisdictions in the Portland area to buy off the resulting price agreement(s) and enabling the expenditure of funds to commence as quickly as possible. The Oregon DEQ will support this project, including the development of the clean diesel contracting policy, with technical assistance.

SECTION 9: BUDGET DETAIL

Personnel	Federal	Match	Leverage
City of Portland Management Assistant @ \$53,040 annually .25 FTE Spent on Project - Grant/Sub-Award Administration	\$13,260		
City of Portland Program Manager @ \$68,536 annually .10 FTE Spent on Project – Project Oversight	\$6,854		

City of Portland Fleet Services Supervisor @ \$73,611 annually 1 FTE Spent on Project – Procurement, Installation, Data Tracking	\$73,611		
Personnel Sub Total	\$93,725	\$0	\$0
Fringe Benefits – Including leave, retirement, health benefits.			
Management Assistant @ 39% of Annual Full time Salary	\$5,171		
Program Manager @ 39% of Annual Full time Salary	\$2,673		
Fleet Services Supervisor @ 39% of Annual Full time Salary	\$28,708		
Fringe Sub Total	\$36,552	\$0	\$0
Travel			
N/A			
Equipment			
One Diesel Particulate Filter Cleaning Equipment System @ \$46,000, including the following components: <i>Pneumatic Cleaner, SootSucker with HEPA, Airflow Test Bench, Thermal Cleaner, TrapTongs, Extension Ring & 2 Filter Rack</i>	\$46,000		
Equipment Sub Total	\$46,000	\$0	\$0
Supplies			
N/A			
Contractual			
City of Portland Fleet Retrofits:			
16 Partial Flow Filters @ \$7,750/each	\$124,000		
37 Diesel Particulate Filters @ \$10,250/each	\$379,250		
4 Diesel Oxidation Catalysts @ \$2,250/each	\$9,000		
203 Fuel Operated Heaters @ 35 M8 \$2,975/each	\$104,125		
168 D5 \$1,095/each	\$183,960		
Multnomah County Fleet Retrofits:			
8 Partial Flow Filters @ \$7,750/each	\$62,000		
2 Diesel Particulate Filters @ \$10,250/each	\$20,500		
26 Diesel Oxidation Catalysts @ \$2,250/each	\$58,500		
34 Fuel Operated Heaters @ \$1,095/each	\$37,230		
City of Salem Fleet Retrofits:			
24 Diesel Particulate Filters @ \$10,250/each	\$246,000		
4 Diesel Oxidation Catalysts @ \$2,250/each	\$9,000		
Targeted Private Contractor Equipment Retrofits:			
~15 Diesel Particulate Filters @ \$10,250/each	\$153,750		
~5 Diesel Oxidation Catalysts @ \$2,250/each	\$11,250		
Contractual Sub Total	\$1,398,565	\$0	\$0
Other			
Installation of DPF cleaning equipment:			
Freight to Portland	\$800		
Electrical hookup	\$2,500		
On Site Installation Assistance	\$800		
On Site Training	\$800		
Install fuel operated heaters @ \$85/hr			
35 M8- 25% in 5hrs, 75% in 3 hrs	\$10,412		
202 D5- 25% in 3 hrs, 75% in 1.5 hrs	\$32,194		
Other Sub Total	\$47,506		
Total Direct Cost	\$1,622,348	\$0	\$0

SECTION 10: CLEAR DESCRIPTION OF TARGET FLEET: See Attached

SECTION 11: OPTIONAL ATTACHMENTS: See attached letters of support from Multnomah County, City of Salem and the Oregon Department of Environmental Quality.