



**Fiscal Year 2020 Implementation Guidelines:
Government Trucks**

Government-owned truck engine replacements (repowers) and vehicle replacements (replacements) will help achieve several goals of the Missouri Beneficiary Mitigation Plan (BMP). The main goal of this program is to maximize Nitrogen Oxide (NO_x) emission reductions by replacing diesel trucks that operate on a regular basis with newer, more efficient trucks to reduce diesel-related pollution. Owners of eligible vehicles may submit an application to request funds for repower and replacement projects. The Missouri Department of Natural Resources (department) will award Volkswagen Trust (VW) funds to projects with the most cost-efficient method of reducing NO_x emissions (i.e. projects with the lowest price per pound of NO_x reduction). The purpose of these guidelines is to provide information for applicants in developing a competitive project.

Eligible Trucks:

To qualify for this award category, a project must meet **all** of the following criteria:

- Vehicle is owned by a local Missouri government¹.
- Vehicle is class 4-8 with a Gross Vehicle Weight Rating (GVWR) of more than 14,000 lbs.
- Vehicle spends a minimum of 50% operating time in Missouri.
- Engine is diesel-powered and is a model year between 1992 and 2009.
- Project's price per pound of NO_x reduction must be less than \$30 per pound.

Projects are ineligible for funding if:

- Project receives funding from other sources such as other states' shares of the VW Trust, Diesel Emissions Reduction Act (DERA) grant, or Congestion Mitigation and Air Quality (CMAQ) grant, without prior approval from the air program.
- Project applications are missing any of the following pieces of information:
 - Funding Requested .
 - Vehicle GVWR.
 - Vehicle Type.
 - Old and New Truck Fuel Type.
 - Old and New Engine Model Year
 - Usage data: Annual Fuel Gallons, Annual Miles Driven, and Annual Idle Hours
 - Engine NO_x Certification (in grams/braking horsepower hour) for new non-diesel engines

¹ For the purposes of this award category, government means State of Missouri, a local government agency within the State of Missouri, or a tribal government or native village. Examples of local government agencies include, but are not limited to, a school district, municipality, city, county, special district, transit district, joint powers authority, or port authority, owning fleets purchased with government funds.

The new replacement vehicle or engine must also meet the following requirements:

- Must be powered by a Diesel, Biodiesel, Compressed Natural Gas (CNG), Liquid Natural Gas (LNG), Propane, Diesel-Electric Hybrid engine, or All-electric motor.
 - Per the federal consent decree the new replacement vehicle or engine cannot be powered by gasoline, and such vehicles will not be considered.
- Must be the same GVWR class as the old vehicle, or a lower class and must have a similar use and vehicle type.

Applicants may request several vehicles to be replaced or repowered. Applicants may request up to \$1million in VW funds in a single application during the same application period. Individual vehicle replacement/repower projects on an application may request up to 75% of the cost of a repower or up to 50% of the cost of a replacement. The department may choose to fund one or more projects included in an application.

Ranking Process:

This award category is competitive. The department will determine each project's price per pound of NO_x emissions reduced. Projects will be ranked from lowest price per pound to highest. Projects will be considered individually, and those with the lowest price per pound will be awarded funds. A project's price per pound is measured in dollars per pound (\$/lb) and is calculated as follows:

$$\text{Price Per Pound} = \frac{\text{Amount of Funding Requested}}{\text{Lifetime pounds of NO}_x \text{ Reduced by Project}}$$

Price per pound represents the amount of money the VW Trust pays for each pound of NO_x reduced by a project. To maximize the efficiency of the program, the department will fund projects with the lowest cost to reduce NO_x emissions. Only projects with a cost effectiveness below \$30 per pound will be considered. The department determined \$30 per pound as the threshold to achieve the specific NO_x reduction goals laid out by the department, with consideration for emission reductions achieved by projects funded in past funding cycles.

To compare projects in a uniform way, the department has set the eligible diesel truck's useful lifetime to 25 years based on stakeholder feedback. Vehicles in use at the time of application are assumed to have a minimum two years of useful life remaining. The remaining lifetime is used to determine a project's lifetime emission reductions, and is listed below by engine model years.

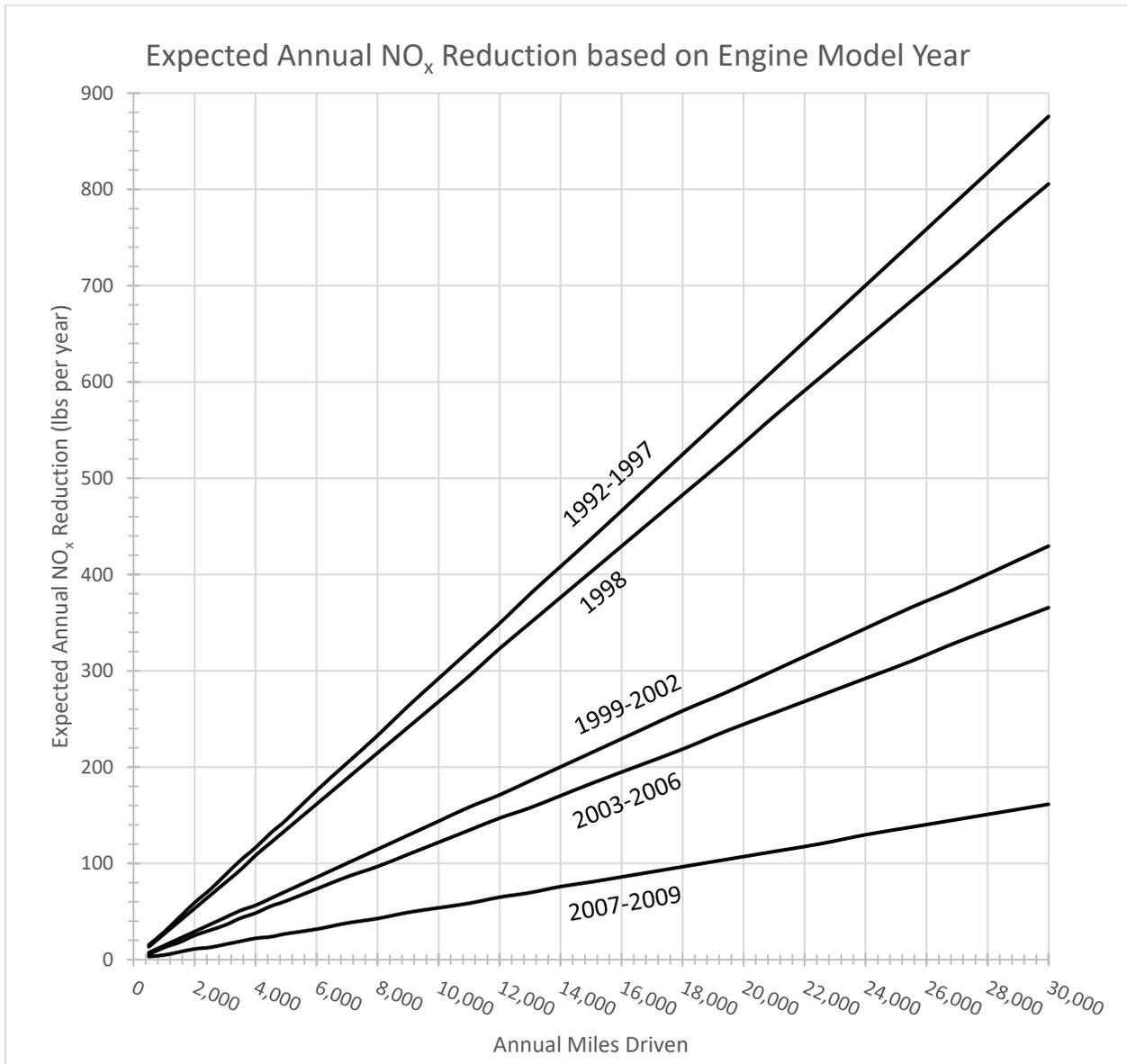
Table 1: Remaining Lifetime by Engine Model Year

Model Year	Remaining Lifetime	Model Year	Remaining Lifetime	Model Year	Remaining Lifetime
1992	2 Years	1998	3 Years	2004	9 Years
1993	2 Years	1999	4 Years	2005	10 Years
1994	2 Years	2000	5 Years	2006	11 Years
1995	2 Years	2001	6 Years	2007	12 Years
1996	2 Years	2002	7 Years	2008	13 Years
1997	2 Years	2003	8 Years	2009	14 Years

The air program will use EPA’s Diesel Emissions Quantifier (DEQ) to calculate a project’s emission reductions. This is a publicly-available tool that applicants are highly encouraged to use to quantify their own projects before submission to ensure completeness and determine the competitiveness of their project. Applicants can find EPA’s DEQ at <https://cfpub.epa.gov/quantifier/>.

EPA’s DEQ requires specific project information to determine actual emission reductions. To provide general information to help applicants evaluate their projects, the department has developed the following graph to illustrate the estimated annual NO_x reduction of a project based on a vehicle’s annual miles driven and engine model year. This graph only provides an estimate of a project’s emission reductions potential and may not accurately reflect every project. Results from this graph are estimates and do not entitle any project to be funded by the department. The department will use EPA’s DEQ with specifics from the project application to calculate the emission reductions of a project when ranking applications. Applicants are encouraged to use this tool to determine the emission reductions from their specific project prior to submitting an application.

Chart 1: Estimated Annual NO_x Reduction



To use this graph, find the intersection of the project's annual miles driven and model year. The left axis at that intersection will give an estimation of the annual NO_x emission reductions. To get the expected lifetime emission reductions, multiply this number by the vehicle's remaining lifetime. A project's price per pound can then be calculated by dividing the requested VW funding by the lifetime emission reductions.

Although the graph will help applicants determine an estimated cost effectiveness, the department recommends applicants use the EPA's DEQ to estimate project emission reductions.

Area-Specific Ranking of Projects:

As outlined in the BMP, the department plans to target specific areas of the state which bear a disproportionate amount of NO_x-related environmental burden. The department will lower a project's price per pound based on a project's area of operation to make it more competitive as detailed below:

- For every 10% operating time spent in the boundaries of the City of St. Louis or St. Louis County, the department will reduce a project's price per pound by \$0.10.
- For every 10% operating time spent in the boundaries of Jackson or St. Charles counties, the department will reduce a project's price per pound by \$0.08.
- For every 10% operating time spent in the boundaries of Jefferson or Franklin counties, the department will reduce a project's price per pound by \$0.06.
- For every 10% operating time spent in the boundaries of Clay or Platte counties, the department will reduce a project's price per pound by \$0.04.
- For every 10% operating time spent in the boundaries of Boone or Greene counties, the department will reduce a project's price per pound by \$0.02.

Additionally, every 10% operating time spent outside the State of Missouri will **increase** a project's price per pound by \$0.10 to make engines operating outside the state less favorable.

Award Category Funding Details:

The BMP has dedicated \$6 million to this award category to be distributed to government truck projects across the state. As determined through stakeholder input, the department set aside \$3 million to be spread across funding pools in three areas of the state: the Kansas City area, the St. Louis area, and the rest of the state. Dedicating funding to each of these funding pools ensured that each area was able to claim some of the VW Trust Fund. The department accepted applications for the three dedicated areas during three application periods. All remaining funds were rolled into the statewide funding pool and are now available to any eligible project throughout the state. Local governments in Missouri will compete in a single funding pool and be awarded as described previously in this document.