



## Connecticut Department of Energy & Environmental Protection

### 2019 Guidance for State DERA Project Proposals

Mobile sources account for 36% of the carbon pollution and 67% of the smog-forming air pollution in Connecticut. To address this pollution, the Department of Energy and Environmental Protection (DEEP) is committed to supporting projects that reduce emissions from diesel and other vehicles. This year, the U.S. Environmental Protection Agency (EPA) is allocating to Connecticut a minimum of \$320,000.00, authorized under the federal Diesel Emissions Reduction Act (DERA), for projects to reduce diesel pollution in the state. In addition, DEEP has reserved the opportunity to more than double its DERA allocation using funds available through the “DERA Option” under Connecticut’s Volkswagen Mitigation Program (VW Program); this could increase the total to as much as \$728,000. DEEP is seeking grant proposals from municipalities, organizations, and businesses for diesel emissions reduction projects that are environmentally and economically-beneficial, can be initiated promptly, and will be completed by August 31, 2020.

Applicants should be aware that DEEP has completed two rounds of project solicitations under Connecticut’s Volkswagen Mitigation Program<sup>1</sup> (VW Program) and will be seeking additional proposals for VW funding in the future. Over \$55 million will be available through the VW Program to fund nitrogen oxide (NO<sub>x</sub>) mitigation projects, including diesel emission reduction projects, over the next ten years. Incentives under the VW Program are potentially more generous than under the DERA Program, however many clean diesel projects that are eligible for the State DERA Program, are not eligible for VW funding.

### Clean Diesel Projects Eligible for State DERA Funding

While the maximum incentives available under the DERA<sup>2</sup> Program have not changed significantly since the FY 2018 program, a number of eligibility guidelines are new. The biggest change is that replacement projects no longer have to be “early replacements;” this is discussed below under Program Requirements & Restrictions. Some funding level information is provided below to highlight eligibility differences between the DERA and VW programs. The italicized text below identifies State DERA-eligible projects that are either limited or not eligible under the VW Program.

- **Replacement:** *(The eligibility of nonroad equipment replacement projects under the State DERA Program is very broad, while nonroad equipment replacements under the VW Program are limited to replacing large forklifts, cargo-handling port equipment and airport ground support equipment with electric equivalents.)*

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<sup>1</sup> Information is available on DEEP’s Volkswagen Settlement website at [http://www.ct.gov/deep/cwp/view.asp?a=2684&q=587294&deepNav\\_GID=1619](http://www.ct.gov/deep/cwp/view.asp?a=2684&q=587294&deepNav_GID=1619)

<sup>2</sup> Additional information regarding DERA, including definitions for key terms used, may be found at <https://www.epa.gov/cleandiesel> and in the FY 2018 State Clean Diesel Grant Program Information Guide, which is available at <https://www.epa.gov/sites/production/files/2018-04/documents/fy17-18-state-program-guide.pdf>.

- Reimbursement for replacement of highway diesel trucks and buses with 2016 engine model year (EMY) or newer diesel or clean alternative fuel vehicles and equipment can be funded up to 25%.
- Reimbursement for replacement of a drayage truck<sup>3</sup> with a newer drayage truck powered by a 2013 model year or newer certified engine can be funded up to 50%. *In addition, for the duration of the project period (October 1, 2019 through September 30, 2020), drayage truck replacement grants are allowed to cover required/scheduled maintenance, as specified in the owner's manual, which is necessary to meet the warranty requirements for diesel particulate filters installed on the trucks.*
- Reimbursement for replacement with a vehicle powered by a 2017 EMY or newer engine certified to meet the California Air Resources Board's (CARB's) Optional Low-NO<sub>x</sub> Standards of 0.1 g/bhp-hr, 0.05 g/bhp-hr, or 0.02 g/bhp-hr NO<sub>x</sub> can be funded up to 35%.<sup>4</sup>
- Reimbursement for replacement of locomotives, marine vessels, and non-road vehicles and equipment with 2019 EMY or newer equivalents (25% of the cost),
- Reimbursement for replacement with new, all-electric replacement vehicles can be funded up to 45% of the cost. The purchase and installation of electric vehicle (EV) charging infrastructure can be included in an EV replacement project.
- **Repower / Engine Replacement:** *(The eligibility of nonroad equipment repower projects under the State DERA Program is very broad, while nonroad repowers under the VW Program are limited to repowering the previously-mentioned port and airport equipment, as well as tugboats and ferries.)*
  - Reimbursement for repowering a highway diesel truck or bus with EMY 2016 or newer diesel or clean alternative fuel engine configurations certified by EPA or CARB can be funded up to 40%.
  - Reimbursement for replacement of diesel engines on locomotives, marine vessels, and non-road vehicles and equipment with 2019 EMY or newer equivalents (40% of the cost),
  - Reimbursement for replacement with a 2017 EMY or newer engine certified to meet CARB's Optional Low-NO<sub>x</sub> Standards can be funded up to 50%.
  - Reimbursement for replacing a diesel engine with an electric motor or electric power source can be funded up to 60% of the cost (labor and equipment).
- **Engine upgrades** *(a.k.a. engine rebuilds) that are verified or certified by EPA or CARB can be funded up to 40% of the cost of the eligible upgrade.*<sup>5</sup>

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<sup>3</sup> A "drayage truck" means any Class 8b in-use on-road vehicle with a gross vehicle weight rating of greater than 33,000 pounds operating on or transgressing through port or intermodal rail yard property for the purpose of loading, unloading or transporting cargo, such as containerized, bulk or break-bulk goods.

<sup>4</sup> Engines certified to CARB's Optional Low NO<sub>x</sub> Standards may be found by searching CARB's Executive Orders for Heavy-duty Engines and Vehicles, found at: [www.arb.ca.gov/msprog/onroad/cert/cert.php](http://www.arb.ca.gov/msprog/onroad/cert/cert.php).

<sup>5</sup> A list of eligible, EPA-verified engine upgrade technologies is available at: [www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel](http://www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel). Lists of certified remanufacture systems for locomotives and marine engines are available at: [www.epa.gov/compliance-and-fuel-economy-data/engine-certification-data](http://www.epa.gov/compliance-and-fuel-economy-data/engine-certification-data), and additional information on remanufacture systems is available at: [www.epa.gov/vehicle-and-engine-certification/remanufacture-systems-category-1-and-2-marine-diesel-engines](http://www.epa.gov/vehicle-and-engine-certification/remanufacture-systems-category-1-and-2-marine-diesel-engines). The actual engine upgrades or remanufacture systems used by the grant recipient must be specifically named on EPA's list of certified remanufacture systems or EPA or CARB's Verified Exhaust Control Technologies lists at the time of acquisition, and used only for the vehicle/engine applications specified on the lists, to be eligible for funding.

- **Clean Alternative Fuel Conversions** are original equipment manufacturer highway diesel vehicles and engines that are altered to operate on alternative fuels such as propane or natural gas; these can be funded up to 40%. Aftermarket alternative fuel conversion systems must be certified for the specific vehicle or engine family that is being converted, whether they are CARB or EPA-certified, provided the vehicle being converted is CARB or 50-state certified and is otherwise eligible for sale in Connecticut.<sup>6</sup> Additionally, conversions must be consistent with any applicable Connecticut Department of Motor Vehicles safety policies for alternatively-fueled vehicles so as to ensure public safety.
- **EPA-Verified Idle Reduction Technologies:**<sup>7</sup>
  - *Stationary idle reduction technologies, such as electrified parking spaces (truck stop electrification), power sources for hybrid transport refrigeration units (TRUs), and auxiliary power systems at distribution centers, intermodal facilities, and other places where trucks congregate, can be funded up to 30%.*
  - *Idle reduction technologies for locomotives can be funded up to 40%.*
  - **Marine Shorepower:** Reimbursement for eligible marine shorepower connection systems, including the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional can be funded up to 25% of the cost (labor and equipment).
  - *Funding for auxiliary power units and other idle reduction technologies for long haul trucks and school buses can be funded up to 25% or up to 100% if combined with installation of emission controls.*
- **Exhaust emission control technologies** (a.k.a. emission system retrofits) that are verified or certified by EPA or CARB can be funded up to 100%.
- **EPA-Verified Aerodynamic Technologies and Low Rolling Resistance Tires:** Funding for installation on long haul Class 8 trucks is available up to 100%, but only if combined with EPA or CARB-verified exhaust emission control technologies.<sup>8</sup>
- **Not Eligible:** Projects initiated prior to filing an application for the program are not eligible for funding. Project initiation activities that can disqualify an application include initiating an RFP, selecting a Vendor, ordering vehicles or equipment, or hiring an installation contractor.

## Evaluation Criteria

Proposed projects will be evaluated based on diesel emission reductions, cost effectiveness (including the applicant's ability to provide matching funds) and the potential for completion by August 31, 2020.

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<sup>6</sup> EPA's lists of "Certified Conversion Systems for New Vehicles and Engines" and "Conversion Systems for Intermediate-Age Vehicles and Engines" are available at [www.epa.gov/vehicle-and-engine-certification/lists-epa-compliant-alternative-fuel-conversion-systems](http://www.epa.gov/vehicle-and-engine-certification/lists-epa-compliant-alternative-fuel-conversion-systems); CARB's list of "Approved Alternate Fuel Retrofit Systems" is available at: [www.arb.ca.gov/msprog/aftermkt/altfuel/altfuel.htm](http://www.arb.ca.gov/msprog/aftermkt/altfuel/altfuel.htm).

<sup>7</sup> Lists of eligible, EPA verified idle reduction technologies are available at: [www.epa.gov/verified-diesel-tech/smartway-technology](http://www.epa.gov/verified-diesel-tech/smartway-technology).

<sup>8</sup> A list of eligible, EPA-verified aerodynamic technologies is available at: [www.epa.gov/verified-diesel-tech/smartway-verified-list-aerodynamic-devices](http://www.epa.gov/verified-diesel-tech/smartway-verified-list-aerodynamic-devices). It includes: a) gap fairings that reduce turbulence by decreasing the gap between the tractor and the trailer; b) trailer side skirts that minimize wind under the trailer; and c) trailer rear fairings that reduce turbulence and pressure drop at the rear of the trailer.

Proposed projects will also be selected for funding based on a set of preferential criteria developed to be consistent with EPA's priorities for this grant program and with the transportation section of the 2018 Comprehensive Energy Strategy for Connecticut.<sup>9</sup> The project location is the primary area where the affected vehicles/engines operate, or the primary area where the emissions benefits of the project will be realized; this may not be the same as the applicant's address. These criteria include, but are not limited to:

- Vehicle/equipment operates in an EPA-designated maintenance area for particulate matter (Fairfield, Middlesex or New Haven Counties);
- Vehicle/equipment operates in an environmental justice (EJ) community;<sup>10</sup>
- Vehicle/equipment operates near transportation hubs or corridors;
- Vehicle/equipment operates in a U.S. Census-defined urban area;<sup>11</sup>
- Vehicle/equipment operates in an area that receives a disproportionate quantity of air pollution from diesel fleets, including ports, rail yards, terminals, construction sites, school bus depots/yards, and distribution centers;
- Applicant has or project includes motor vehicle anti-idling education and outreach; and
- Project is consistent with the transportation section of the Comprehensive Energy Strategy for Connecticut and the state's Clean Fuels/Clean Vehicles initiative.<sup>12</sup>

## Program Requirements & Restrictions

The 2019 State DERA Program has eliminated its early replacement requirement; you no longer have to demonstrate that engine and equipment replacement projects would not have occurred through normal attrition within three years of the project start date. However, DEEP has some funds left from the 2018 program, for which early replacement is still a requirement. Only projects that can demonstrate early replacement will be eligible for both the 2019 and 2018 DERA funds. To be eligible as an early replacement project for the 2018 funds, an application must specifically identify the vehicle(s) or equipment to be replaced and must include a copy of the vehicle or fleet owner's budget plan, operating plan, standard procedures or retirement schedule to confirm that any vehicle, equipment or engine to be replaced is eligible for the program.

For projects involving locomotives, marine engines and stationary engines, no funds awarded under this program shall be used to fund the costs of emissions reductions that are mandated under federal law. The restriction applies when the mandate takes effect (the effective date) for any affected vehicles, engines or equipment. DEEP may request additional information from applicants to determine whether this restriction is applicable.

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<sup>9</sup> See the 2018 Comprehensive Energy Strategy at

[http://www.ct.gov/deep/cwp/view.asp?a=4405&Q=500752&deepNav\\_GID=2183](http://www.ct.gov/deep/cwp/view.asp?a=4405&Q=500752&deepNav_GID=2183).

<sup>10</sup> Connecticut EJ communities are listed at [http://www.ct.gov/deep/cwp/view.asp?a=2688&Q=432364&deepNav\\_GID=1511](http://www.ct.gov/deep/cwp/view.asp?a=2688&Q=432364&deepNav_GID=1511) and Connecticut's DECD distressed communities at <http://www.ct.gov/ecd/cwp/view.asp?a=1105&q=251248>.

<sup>11</sup> See Connecticut: 2010 *Population and Housing Unit Counts*, Page 67 at

<https://www2.census.gov/library/publications/decennial/2010/cph-2/cph-2-8.pdf>

<sup>12</sup> See a presentation of the Draft Clean Fuels / Clean Vehicles Plan at

[http://www.ct.gov/deep/lib/deep/air/siprac/2014/zev\\_implementation\\_plan\\_meeting.pdf](http://www.ct.gov/deep/lib/deep/air/siprac/2014/zev_implementation_plan_meeting.pdf).

This year, DERA funding will be allowed for the replacement of EMY 2010 or newer vehicles with Zero-Emission or CARB Low-NOx vehicles. Under the 2019 guidelines, the owner may retain or sell the 2010 EMY or newer vehicle provided that a 1996-2009 EMY vehicle will be scrapped in its place. Selling the 2010 EMY or newer vehicle would provide more funding to offset the increased cost of the electric or low NOx replacement. EPA prefers that the scrapped unit currently operates within the same project location(s) as the 2010 EMY or newer vehicle currently operates, however alternative scenarios will be considered. The term “project location” as used in this program refers to the primary area where the affected vehicles/engines operate, or the primary area where the emissions benefits of the project will be realized. Under this scenario, a detailed scrappage plan must be submitted and will require prior EPA approval.

For all replacement projects, the replacement vehicle, engine, or equipment will continue to perform the same function and operation as the vehicle, engine, or equipment that is being replaced. The replacement vehicle, engine, or equipment should be of the same type and similar gross vehicle weight rating or horsepower as the vehicle, engine, or equipment being replaced. Replaced vehicles, equipment and engines must be rendered inoperable (scrapped). Any income from the sale of the scrap metal must be reported, but will not impact the amount of the grant.

Because this is a rebate program, DERA rules no longer require that replacement vehicles/equipment, contractual services, and/or technologies used on the project be selected through an open and competitive process. However, all recipients must comply with state and federal contracting requirements and Non-Government award recipients must enter into a contract with the State of Connecticut. Applicants should verify that there are no prohibitions or restrictions on the use of federal funds for the proposed project. This is a rebate program; award recipients will be required to demonstrate payment for the project before receiving awarded funds.

**On Highway Vehicles:** On-highway vehicles must be Class 5 or above.<sup>13</sup> Most on-highway projects are limited to EMY 1996-2009 vehicles. However, repower or replacement with electric or clean alternative engines and vehicles is allowed for vehicles from EMY 1996 to EMY 2010 and newer. **The addition of emission controls (DOCs & DPFs) cannot be funded on EMY 2007 and newer trucks; SCR installation cannot be funded for EMY2009 and newer trucks.** Auxiliary Power Units and generators are not eligible on vehicles with EMY 2007 or newer.

Drayage truck replacement proposals must establish that any existing truck replaced with grant funds has a history of operating on a frequent basis over the prior year as a drayage truck; its replacement, purchased with grant funds, must operate in a manner consistent with the definition of a drayage truck.

**Nonroad Equipment:** EPA’s eligibility standard for replacing nonroad equipment, such as agricultural or construction equipment, is based on remaining useful life, which has been calculated and compiled in Table 1 below. In addition, no funds awarded under the State DERA program shall be used to retrofit, replace or upgrade a nonroad engine that has been operating fewer than 500 hours in the past year.

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<sup>13</sup> This means a Gross Vehicle Weight Rating (GVWR) greater than 16,001 lb. GVWR is the maximum weight of the vehicle, as specified by the manufacturer including total vehicle weight plus fluids, passengers, and cargo.

**Table 1: EPA Funding Restrictions for Nonroad Vehicles, Equipment and Engines**

Current Engine Horsepower	Current Engine Model Year (EMY) and Tier	Vehicle/Equipment Replacement: EMY 2019+					Verified Exhaust Control
		Compression Ignition			Spark Ignition	Zero Emission	
		Tier 0 - 2	Tier 3 - 4i	Tier 4	Tier 2		
0-50	2006 and Newer; Unregulated – Tier 2	No	No	Yes	Yes	Yes	Yes
51-300	1996 and Newer; Tier 0 – Tier 2	No	Yes*	Yes	Yes	Yes	Yes
51-300	1996 and Newer; Tier 3	No	No	Yes	Yes	Yes	Yes
301+	1986 and Newer; Tier 0 – Tier 2	No	Yes*	Yes	Yes	Yes	Yes
301+	1986 and Newer; Tier 3	No	No	Yes	Yes	Yes	Yes
Current Engine Horsepower	Current EMY and Tier*	Engine Replacement: EMY 2019+**				Verified Exhaust Control	
		Compression Ignition		Spark Ignition	Zero Emission		
		Tier 0 - 3	Tier 4	Tier 2			
0-50	2006 and Newer; Unregulated – Tier 2	No	Yes	Yes	Yes	Yes	Yes
51-300	1996 and Newer; Tier 0 – Tier 3	No	Yes	Yes	Yes	Yes	Yes
301-750	1986 and Newer; Tier 0-Tier 3	No	Yes	Yes	Yes	Yes	Yes
751+	1986 and Newer; Tier 0 – Tier 2	No	Yes	Yes	Yes	Yes	Yes

\*Tier 3 and Tier 4 interim (4i) allowed for vehicle/equipment replacement only when Tier 4 final is not yet available from OEM for 2019 model year equipment under the Transition Program for Equipment Manufacturers (TPEM).

\*\*Previous engine model year engines may be used for engine replacement if the engine is certified to the same emission standards applicable to EMY 2019.

If a Tier 2 or Tier 3 locomotive, marine, or nonroad vehicle, equipment and/or engine is replaced, the units may be retained or sold if they will replace a similar, lower Tiered unit, and the lower Tiered unit will be scrapped. It is preferred that the scrapped unit currently operates within the same project location(s) as the original Tier 2 or 3 unit currently operates, however alternative scenarios will be considered. The term “project location” as used in this program guide refers to the primary area where the affected vehicles/engines operate, or the primary area where the emissions benefits of the project will be realized. Under this scenario, a detailed scrappage plan must be submitted and will require prior EPA approval.

**Marine & Locomotive Operating Hours:** No funds awarded under the Program shall be used to replace upgrade or install idle reduction technologies on locomotive or marine engines that have been operating fewer than 1000 hours in the past year. Engine hours may be combined to reach the 1000-hour threshold where two engines will be scrapped and replaced with a single engine.

**Marine Engine Tier:** No funds awarded under this program shall be used to replace or upgrade Tier 3 and Tier 4 marine engines and vessels with other than zero tailpipe emission technology, or to replace marine engines with a Tier 2 or lower CI marine engine.

**Marine Shore Connection:** No funds awarded under this program shall be used for marine shore connection system projects that are expected to be utilized less than 1,000 MW-hr/year.

**Locomotives Engine Tier:** No funds awarded under this program shall be used to replace any locomotive or locomotive engine with a Tier 3 or lower locomotive or engine. No funds awarded under this program shall be used to replace Tier 2+ line-haul locomotives or locomotive engines. No funds awarded under this program shall be used to install Automatic Engine Start-Stop technologies on locomotives currently certified to Tier 0+ or higher. Refer to Table 5 for further explanation.

**Locomotive Shore Connection:** No funds awarded under this program shall be used for locomotive shore connection system projects that are expected to be utilized less than 1,000 hours/year.

## **Proposal Submission**

Proposal forms are available on DEEP's Diesel Grants & Funding web page at [http://www.ct.gov/deep/cwp/view.asp?a=2684&q=322100&deepNav\\_GID=1619](http://www.ct.gov/deep/cwp/view.asp?a=2684&q=322100&deepNav_GID=1619). Proposals should be submitted to the attention of Patrice Kelly, at DEEP, via e-mail at [Patrice.Kelly@ct.gov](mailto:Patrice.Kelly@ct.gov). She can also be contacted at (860) 424-3410. All proposals must be received by the **deadline of Monday, November 25, 2019, at 5:00 p.m.**, to be considered.