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Updated July 11, 2022

The Diesel Emissions Reduction Act (DERA) Program

Emissions from diesel engines—especially particulate matter (PM), nitrogen oxides (NO_x), sulfur oxides, and air toxics—have been shown to contribute to air pollution that adversely impacts public health and welfare in the United States. Since 1970, the Clean Air Act (42 U.S.C. §7401 et seq.) has required the federal government to limit these emissions, among others, from new stationary (industrial) sources and new mobile sources. In the decades since, the U.S. Environmental Protection Agency (EPA) has promulgated emission standards for a variety of source categories, including new heavy duty highway and nonroad diesel engines.

EPA's most recent set of emission standards for newly manufactured heavy duty highway and nonroad diesel engines took effect in 2007 and 2008, respectively. At the time, the standards required a 90% and 95% reduction in emission levels for PM and NO_x, respectively, over the previous standards. However, because of the long operational lives of diesel engines, millions of pre-2007 engines remain in use. According to EPA's estimates in 2016, 10 million pre-2007 diesel engines remain in use in the United States, and 1 million of those engines could still be in use in 2030. The Clean Air Act does not provide EPA the authority to set new emission standards on existing, or "legacy," diesel engines. To address concerns over legacy diesel engines, EPA began a Voluntary Diesel Retrofit Program in 2000 and a Clean School Bus Initiative in 2003, among other programs.

Congress enacted the "Diesel Emissions Reduction" program in the Energy Policy Act of 2005 (EPAct 2005, P.L. 109-58, Title VII, Subtitle G §§791-797; 42 U.S.C. §§16131-16137). It authorized EPA to administer a national and state-level grant and loan program to promote emissions reductions from legacy diesel engines. Through the Diesel Emissions Reduction program (as amended), EPA has provided loans, grants, and rebates to projects that use certified engine configurations and verified technologies, or that develop and commercialize emerging technologies, in order to replace legacy diesel engines.

Energy Policy Act of 2005

EPAct 2005 authorized $200.0 million annually for FY2007-FY2011 for the Diesel Emissions Reduction program. Of the funds appropriated, 70% were to be used for national competitive grants and low-cost loans administered by EPA, and 30% were to support loan and grant programs administered by states. Of the funds administered by EPA, the majority was to be provided for the benefit of public fleets, with not less than 90% going to projects using a certified engine configuration or verified technology and not more than 10% for the development and commercialization of emerging technologies. Of the funds administered by the states, a portion was to be allocated in equal shares to each state if all 50 states qualified. If fewer than 50 states qualified, the remaining funds were to be allocated among the qualifying states proportionally based on their population.

Under EPAct 2005, EPA was to prioritize projects that (1) maximize public health benefits; (2) are cost-effective; (3) serve areas with the highest population density and the poorest air quality; (4) include a certified engine configuration, verified technology, or emerging technology that has a long expected useful life; (5) maximize the engine's expected useful life; (6) conserve diesel fuel; and (7) use diesel fuel with a sulfur content of 15 parts per million or less.

Diesel Emissions Reduction Act of 2010

The Diesel Emissions Reduction Act (DERA) of 2010 (P.L. 111-364) amended EPAct 2005 to authorize $100.0 million annually through FY2016 and modify provisions related to the program. DERA 2010 defined *state* to include the District of Columbia and the U.S. territories. The act authorized EPA to offer rebates in addition to grants and loans to eligible entities, including any private individual or entity that owns a diesel vehicle or fleet. The distribution of funds was revised to provide not less than 95% of funds to projects using a certified engine configuration or verified technology and not more than 5% of funds for development and commercialization of emerging technologies. Under the act, EPA was to develop a simplified application process to expedite provision of funds, taking into consideration special circumstances affecting small fleet owners. The act expanded the priority given to applications that serve areas receiving a disproportionate quantity of air pollution from diesel fleets to include construction sites and schools in addition to truck stops, ports, rail yards, terminals, and distribution centers.

In 2020, the DERA program was reauthorized through FY2024, with no other changes, under Division S, Section 101, of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

DERA Program Implementation

EPA's National Clean Diesel Campaign within the Office of Transportation and Air Quality administers the DERA program. In its *DERA Fourth Report to Congress* (July 2019), EPA reports that it awarded more than $629.0 million between FY2008 and FY2016 to retrofit or replace 67,300 engines in vehicles, vessels, locomotives, and other equipment. EPA estimates that the program has resulted in the reduction of emissions of NO_x by 474,700 tons, PM by 15,490 tons, and hydrocarbons by 17,700 tons over the lifetime of the affected engines. Further, EPA estimates the total present value of monetized health benefits over the lifetime of the affected engines as $19.0 billion, including up to 2,300 fewer premature deaths. EPA reports that since the inception of the program, DERA funding requests have exceeded availability by as much as 35:1 for the rebate program and 7:1 for the national grant competition.

Appropriations

Table 1 presents requested and enacted EPA appropriations for the DERA program—adjusted and not adjusted for inflation (FY2021$)—for FY2007-FY2023. Funding for DERA is provided within EPA's State and Tribal Assistance Grants appropriations account.

As indicated in **Table 1**, FY2009 enacted includes $60.0 million plus additional $300.0 million in Title VII of Division A of P.L. 111-5, the American Recovery and Reinvestment Act of 2009. Following the $60.0 million requested for FY2011, the Obama Administration requested no funding for FY2012, citing limitations associated with budget constraints. Reduced funding was requested for FY2013 and FY2014. No funding was requested for FY2015. EPA's 2015 *Justification of Appropriation Estimates for the Committee on Appropriations* stated that "while DERA accelerates the pace at which dirty engines are retired or retrofitted, pollution emissions from the legacy fleet will be reduced over time without additional DERA funding as portions of the fleet turnover and are replaced with new engines that meet modern emissions standards." From FY2016 to FY2021, the Obama and the Trump Administrations requested $10.0 million annually.

In FY2022, the incoming Biden Administration increased the request for the DERA program substantially—to $150.0 million—in order to support efforts "in advancing environmental justice and tackling the climate crisis." Under these objectives, EPA is to "look for ways to help expedite [the] transition [to more zero emissions options] as part of its DERA implementation effort," and to "target 40 percent of the benefits of climate investments to disadvantaged communities." The Administration stated the increased funding would "focus on priority areas including school buses, ports, and disproportionately affected communities."

Title II of Division G of the Consolidated Appropriations Act, 2022 (P.L. 117-103) appropriated $92.0 million for the DERA program for FY2022.

The Biden Administration's FY2023 budget request for the DERA program is $150.0 million.

Infrastructure Investment and Jobs Act

As part of the Infrastructure Investment and Jobs Act of 2021 (P.L. 117-58), Title XI of Division G included a Clean School Bus Program, which provides $5 billion for the replacement of existing school buses with clean and zero-emission school buses and eligible fueling and charging infrastructure for FY2022 to FY2026. Of this funding, $500 million annually is available to fund only zero-emission school buses, and $500 million annually is available to fund zero-emission and clean school buses ("clean" is defined as a vehicle that "reduces emissions and is operated entirely or in part using an alternative fuel"). EPA administers the funding for the Clean School Bus Program through the National Clean Diesel Campaign. This funding is not reflected in **Table 1**.

Table 1. DERA Appropriations: Requested and Enacted, FY2007-FY2023

($ millions; not adjusted and adjusted for inflation [FY2021$])

	Requested		Enacted	
Fiscal Year	Not Adjusted	Inflation Adjusted	Not Adjusted	Inflation Adjusted
2007	$49.50	$62.80	[a]	[a]
2008	$35.00	$43.50	$49.22	$61.17
2009[b]	$49.22	$60.56	$360.00	$442.92
2010	$60.00	$73.18	$60.00	$73.18
2011	$60.00	$71.74	$49.90	$59.66
2012	$0.00	$0.00	$29.95	$35.16
2013	$15.00	$17.30	$18.91	$21.80
2014	$6.00	$6.79	$20.00	$22.62
2015	$0.00	$0.00	$30.00	$33.55
2016	$10.00	$11.09	$50.00	$55.46
2017	$10.00	$10.90	$60.00	$65.38
2018	$10.00	$10.65	$75.00	$79.86
2019	$10.00	$10.44	$87.00	$90.87
2020	$10.00	$10.31	$87.00	$89.67
2021	$10.00	$10.00	$90.00	$90.00
2022[c]	$150.00	$144.36	$92.00	$88.54
2023	$150.00	$141.28	n/a	n/a

Source: CRS, with data from the *Congressional Record*; House, Senate, conference committee reports and tables, and EPA's FY2013 Operating Plan (reflects rescissions and the sequestration).

Notes: Inflation adjusted with Bureau of Labor Statistics CPI in FY2021$. Inflation adjustments for FY2022 and FY2023 are estimated.

a. $6.90 million appropriated for Clean School Bus Initiative in FY2007.

b. FY2009 enacted includes $60.0 million plus additional $300.0 million in Title VII of Division A of P.L. 111-5, the American Recovery and Reinvestment Act of 2009.

c. Beginning in FY2022 and continuing through FY2026, the Infrastructure Investment and Jobs Act of 2021 (P.L. 117-58) provided $1 billion annually for a Clean School Bus Program to be administered by EPA. This funding is not reflected in this table.

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