



National Clean Diesel Emerging Technologies Program

www.epa.gov/cleandiesel

Funding Available!

For fiscal year 2008, Congress appropriated funds for the first time under the Energy Policy Act (2005) to help reduce emissions from heavy-duty diesel engines. Through the National Clean Diesel Campaign, the Environmental Protection Agency (EPA) will award grants to assist its eligible partners in building diesel emissions reduction programs across the country that improve air quality and protect public health. For fiscal year 2008, the amount of funding for the Emerging Technologies Program is approximately \$3.4 million.

Clean Diesel Emerging Technologies Program

The Clean Diesel Emerging Technologies Program is an opportunity to advance new technologies to reduce diesel emissions from the existing fleet. EPA is providing funding assistance to eligible entities to deploy diesel emission reduction technologies which are not yet verified or certified by the EPA or the California Air Resources Board (CARB). To qualify as an emerging technology, the manufacturer of the technology must be in the initial stages of the verification process with EPA or CARB and listed on EPA's Emerging Technology web page.

Reducing emissions from diesel engines is one of the most important air quality challenges facing the country. Even with EPA's more stringent heavy-duty highway and nonroad engine standards set to take effect over the next decade, millions of diesel engines already in use will continue to emit large amounts of nitrogen oxides, particulate matter and air toxics, which contribute to serious public health problems.

What is an Emerging Technology?

By law, an emerging technology is defined as a technology that is not certified nor verified by EPA or CARB but for which an approvable application and test plan have been submitted for verification. Funds will be used for the deployment of the technology in a project and not for manufacturers' research, development, or testing. Technologies that have previously been verified or certified by EPA or CARB for a particular category of engines do not qualify as emerging, but may be eligible under the National Clean Diesel Funding Assistance Programs.

Getting Involved

If You are a Manufacturer

- Submit a verification application and technical specifications
- Explain why the technology should be considered an emerging technology
- Work with EPA and/or CARB to develop a test plan
- Seek placement on EPA's Emerging Technology list once the application and test plan is approved by EPA
- Partner with eligible entities to apply for funding
- Complete testing and obtain full verification within two years

If You are an Eligible Entity

- Assess your target fleet and determine the best technology available
- Partner with a manufacturer that has a qualified emerging technology
- Apply for funds under EPA's Emerging Technology Request for Proposals
- If funded, manage the project to completion

Application Process for Verification

The National Clean Diesel Campaign's technology verification application is available at www.epa.gov/cleandiesel (select 'Verification Program' from the Quick Finder list). The application outlines the minimum information required. Information on CARB's verification process is available at www.arb.ca.gov/diesel/verdev/verdev.htm.

Test Plan for Verification

For EPA verification, test plans must be developed in consultation with EPA and in accordance with existing verification protocols. However, if there are no existing protocols applicable to a specific technology, a unique test plan may be developed. For CARB verification, manufacturers must comply with applicable California regulations. An approvable test plan will detail the following:

- the specific technology to be tested
- test procedures, sequences, and documentation requirements
- the testing organization's quality control procedures
- test engine(s) and fuels
- analytical methods
- instrument calibration and traceability
- record keeping requirements
- other related information

It is recommended that the test plan reflect the verification protocols where appropriate. In some cases, if the engine is unique (i.e., large or difficult to remove), a special test program may be necessary.

Emerging Technology List

Prior to obtaining emerging technology status, the required application and test plan must be approved by EPA. Once a technology gains EPA approval it will be listed on EPA's website. EPA expects that a technology may remain on the Emerging Technology list for approximately two years. During that two-year window, a manufacturer should be able to complete the necessary steps to obtain full verification. For the purpose of this program, once a technology is verified or certified, it will no longer be considered emerging.

Partnership

Only eligible entities may compete for funding assistance under EPA's National Clean Diesel Program. Eligible entities are U.S. regional, State, local, tribal or port agencies or nonprofits related to transportation or air quality. Manufacturers of an emerging technology must partner with an eligible entity which is able to receive these Federal funds. EPA recommends that manufacturers establish this partnership early in the process, prior to the release of any EPA Request for Proposals, in order to complete the necessary steps in a timely manner.

Possible Project Examples*

- Hydraulic hybrid vehicles - This type of vehicle (which would likely save fuel, reduce CO₂, and other emissions) could be used in "stop and go" operations, such as in delivery trucks or yard activities at ports.
- Selective Catalytic Reduction (SCR) - This technology, along with an engine rebuild, will reduce nitrogen oxides as well as particulate matter. Although this technology has been in use in stationary applications for some time, it is new to mobile source applications such as marine vessels.

*Note - These are only examples and will not be considered emerging technologies without an approvable test plan and application for verification.



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For more information visit our website at www.epa.gov/cleandiesel