2021 PROGRAM GUIDE

Revised 2/19/21

Table of Contents

1. Program overview

The Colorado Clean Diesel Program (CCDP) makes grants to spur the adoption and demonstration of new technologies that significantly reduce diesel emissions in the state of Colorado. Diesel emissions contribute to global greenhouse gas emissions and local air pollution that harm public health.

Businesses or other entities that own certain types of diesel equipment may apply for a grant to help offset the cost of replacing it with all-electric or hybrid-electric equivalents. Grants of up to 25-45% of the project cost will be awarded, depending on the type of equipment.

Because the Program's goal is to replace old, polluting machines with cleaner, new ones, there is a requirement for most equipment types that a corresponding existing diesel vehicle, engine, or piece of equipment be scrapped.

The CCDP has up to $2 million in funding to distribute via competitive grants in 2021. Program funding comes from two sources: Colorado's state allocation under the Diesel Emissions Reduction Act (DERA), via the United States Environmental Protection Agency; and Colorado's Beneficiary Mitigation Plan (BMP), our state's share of funding resulting from the legal settlement of the Volkswagen emissions scandal. In order to comply with Executive Order B 2019 002, the portion of the CCDP Funding coming from Colorado's BMP must go toward zero-emissions technology solutions. Therefore, strong preference will be given to applications proposing zero-emissions technology.

Clean Energy Economy for the Region (CLEER), a Carbondale-based nonprofit, manages the CCDP under contract to the Colorado Department of Public Health and Environment.

2. Contact information

Our staff is available to help you submit a successful grant application. If you have questions or would like to discuss your proposal, please contact:

Stefan Johnson
Program Manager, Colorado Clean Diesel Program
(970) 704-9200 x 1100
sjohnson@cleanenergyeconomy.net

3. Application instructions

Applications are accepted and reviewed on a rolling basis, but funding is limited so interested organizations are encouraged to apply as soon as possible.

Applications must be submitted via the CCDP website at http://cocleandiesel.org/apply/. All applications must include:

- **Project worksheet.** This Excel worksheet (downloadable from the application page) is where you will enter specific information about the equipment to be purchased, the equipment to be replaced/scrapped, costs, and your funding request.
- **Supporting documentation.** This will include cost quotes for the new equipment and photos of the old equipment, if applicable. These must be digital files.
- **Online application.** This form is the "cover sheet" for your application. It includes a list of application requirements that you must certify, and it's where you will upload your completed worksheet and documentation.

4. Applicant eligibility

In order to be eligible to apply for a CCDP grant, applicants must meet all the following requirements:

- The applicant must be a business or entity that owns and operates diesel vehicles or diesel equipment in Colorado.
- The applicant must own the vehicle/equipment being replaced.
- The vehicle/equipment being replaced must be registered in the State of Colorado.
- The new vehicle/equipment must also be registered in the State of Colorado.

5. Eligible technologies

In 2021, the CCDP will make grants to fund the technologies described below. All-electric (zero-emissions) types will be given preference and will qualify for grants that cover a higher percentage of costs because they completely eliminate diesel emissions.

Hybrid-electric types qualify for lower-percentage grants because they don't cut emissions as much. (Grant percentages are detailed in the Funding and Cost Share Requirements section.)

For more detail about these technologies, please see the Technology Decision Support page of the CCDP website.

Transportation refrigeration units (TRUs)

These technologies replace traditional all-diesel-powered transportation refrigeration units (TRUs) on refrigerated trailers (reefers).

All-electric TRUs have compressors that are driven by an electric motor all of the time. While parked or being loaded, the TRU is plugged into shore power (i.e., the grid) via a standard plug-in connection. In transit, the TRU may be powered by an onboard battery pack and/or solar panels. More commonly, reefers with all-electric TRUs are confined to shore-powered stationary operations, such as to increase holiday and summer season cold storage capacity at grocery stores.

Reminder: You will be required to scrap one existing piece of comparable equipment from your fleet for each new one funded by this program. See the Scrappage Requirements section on page 9.

Hybrid TRUs (also called plug-in eTRUs or standby electric TRUs) can also be plugged into shore power when stationary, but they're powered by diesel when moving. The compressor is driven by electric power supplied by an integral diesel genset located within the TRU housing, or else mechanically driven by an integral diesel engine.

Applicants seeking funding for all-electric or hybrid TRUs must demonstrate that adequate electrical infrastructure to support the units currently exists or will exist on site. The CCDP also funds the installation of this electrical infrastructure. See the Electrical Infrastructure section, below, for advice on maximizing a combined grant award.

Bucket trucks

This category includes not only traditional bucket trucks but also other similar vehicles with integrated power take-off (PTO) equipment such as digger derricks, boom cranes, cable placers, spray equipment, etc. Eligible trucks must be Class 5-8, which are defined as follows: Class 5 (16,001-19,500 lbs. GVWR); Class 6 (19,501-26,000 lbs.

GVWR); Class 7 (26,001-33,000 lbs. GVWR); Class 8a (33,001-60,000 lbs. GVWR); Class 8b (60,001 lbs. & over GVWR).

In an **all-electric bucket truck**, both the vehicle and the PTO are powered exclusively by onboard batteries. The batteries must be recharged by plugging them in when the vehicle is not in use. Applicants seeking funding for this technology must demonstrate that adequate electrical infrastructure to support the units currently exists or will exist on site. The CCDP also funds certain expenses associated with this electrical infrastructure (see the Electrical Infrastructure section, below).

Reminder: You will be required to scrap one existing piece of comparable equipment from your fleet for each new one funded by this program. See the Scrappage Requirements section on page 9.

A **hybrid-electric bucket truck** has a conventional internal combustion engine to run the vehicle, but its PTO equipment is powered by electricity from an onboard battery pack. This allows the operator to turn the vehicle engine off instead of idling while the truck is stationary.

Construction equipment

Applicants seeking funding for all-electric construction equipment must demonstrate that adequate electrical infrastructure to support the equipment either currently exists or will exist on site. The CCDP also funds certain expenses associated with this electrical infrastructure (see the Electrical Infrastructure section, below).

Material handlers

All-electric material handlers or cranes are powered by electricity rather than diesel fuel. They may be powered by onboard batteries or shore power (i.e., plugged into the grid). Those that are battery powered have the advantage of being mobile, but running time between charging is limited. Those that use shore power are generally confined to stationary uses.

Mini-excavators and backhoes

All-electric mini-excavators and backhoes are powered entirely by electricity stored in an onboard high-voltage battery. Electricity runs the motors and all hydraulics. The machine is fully mobile, but run time is limited and it must generally be recharged by being plugged in when not in use.

Farm tractors

All-electric tractors are starting to become available, offering an alternative to diesel machines at the compact end of the market. The onboard battery delivers power to electric motors and to the PTO. The battery must be recharged by plugging the machine in when not in use, but it's possible to buy extra batteries and swap them to extend run time.

Reminder: You will be required to scrap one existing piece of comparable equipment from your fleet for each new one funded by this program. See the Scrappage Requirements section on page 9.

Applicants seeking funding for this technology must demonstrate that adequate electrical infrastructure to support the equipment currently exists or will exist on site. The CCDP also funds certain expenses associated with this electrical infrastructure (see the Electrical Infrastructure section, below).

Snowcats

A **hybrid-electric snowcat** has a diesel engine that powers an onboard generator and also the hydraulic pumps. The generator charges a high-voltage battery, which is what runs the drive motors. In downhill operation, the electric motors recover energy to help recharge the battery and power the hydraulics, reducing overall fuel consumption. Hybrid cats don't require a plug-in charging station because they generate their electricity onboard with the diesel engine.

There are currently no **all-electric snowcats** on the market, but at least one manufacturer is developing one.

Electrical infrastructure

All of the technologies funded by the CCDP replace diesel power with electrical power, and most of them require additional (or modified) **electrical infrastructure** to plug into. For example, transportation refrigeration units typically need loading bays or parking spaces with dedicated wiring and plug-in cables (these are generally known by the term **Electrified Parking Spaces, or EPS's**). Similarly, all-electric bucket trucks need access to a charging station at their overnight facility.

The CCDP requires that applicants demonstrate that the appropriate electrical infrastructure exists or will be installed to support certain funded technologies, as noted in the previous sections. Infrastructure projects are site-specific, and we strongly recommend engaging the services of a licensed electrical contractor to assess your existing facility and planned modifications. Program staff can provide general advice.

Moreover, the Program will make grants for such infrastructure projects.

Eligible costs for EPS's include the purchase and installation of the EPS unit, mount, pedestal, plug-in cable or other equipment required for power delivery directly related to the new equipment. Eligible costs also include design and engineering, electrical panels, upgrades to existing electrical panels or electrical service, transformers, wiring/conduit, and installation. Ineligible costs include power distribution to the property line, electricity, operation and maintenance, stationary energy storage systems that power the equipment (e.g. batteries) and their installation, and on-site power generation systems that power the equipment (e.g., solar and wind power generation equipment) and their installation.

Eligible infrastructure costs associated with a vehicle/equipment replacement include the cost of modifications, attachments, accessories, or auxiliary apparatus necessary to make the equipment functional. The cost of additional "optional" components or "add-ons" that significantly increase the cost of the vehicle may not be eligible for funding under the grant; the replacement vehicle should resemble the replaced vehicle in form and function. For grid-electric-powered equipment replacements, examples of eligible replacement costs include, but are not limited to, the purchase and installation of electrical infrastructure or equipment to enable the use of power. Examples of ineligible costs include, but are not limited to, electricity, and operation and maintenance costs.

To maximize your grant award, please note:

- If you are submitting a combined grant request for all-electric TRUs and the electrical infrastructure to support them, it will be to your advantage to select the "Infrastructure with eTRU" option in Section 3 of the project worksheet, as this will apply a higher funding percentage (45% instead of 30%) to the infrastructure costs you enter in Section 4.
- If you are applying for hybrid TRUs, select the "Infrastructure - other" option, and be sure to enter all infrastructure-related costs in Section 4. This will qualify the infrastructure costs for 30% grant funding (as opposed to 25% for the TRUs).
- For all other requests that include electrical infrastructure, select the "Infrastructure - other" option in Section 3.

6. Funding request requirements

Applicants are required to provide specifications about each piece of equipment or electrical infrastructure project for which they are requesting a grant. The required specs are listed in the project worksheet, which is downloadable from the Apply for a Grant page.

In Section 1 of the project worksheet, please list each vehicle or piece of equipment being purchased in its own column (Project 1, Project 2, etc.). Details about the corresponding vehicle/equipment to be replaced will then be entered in the same column in Section 2. Specs on proposed electrical infrastructure are entered as a separate project (Project 5) in Section 3, if applicable.

Project costs, entered in Section 4, must be based on written quotes or estimates. Vehicle/equipment costs may include the purchase price of equipment or costs directly associated with putting the vehicle/equipment into service. Allowable costs for electrical infrastructure projects are listed in the previous section.

Applicants are required to upload quotes or estimates to substantiate all project costs in their funding request. If uploading multiple documents, you will need to combine them into a single pdf file or zipped folder. Please name the file or folder using this format: [Applicant Name]-new equipment-[date of upload].

7. Scrappage requirements

For each vehicle or piece of equipment approved for CCDP funding, a corresponding vehicle or piece of equipment in the applicant's existing fleet must be scrapped. (This requirement does not apply to electrical infrastructure.)

For a vehicle or piece of equipment to be eligible for scrappage, it must:

- Be currently registered in the State of Colorado.
- Be operable and have a minimum of 3 years remaining in its useful life at the time of replacement.
- Be of the same type and similar GVWR or horsepower, and perform the same function and operation, as the vehicle/equipment that is replacing it.
- Meet the criteria for engine of model year (EMY) and horsepower in Table 1:

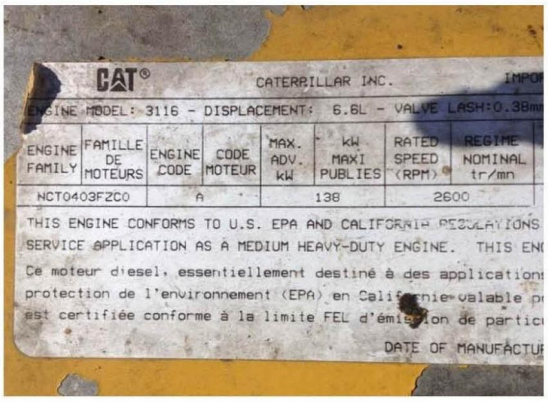
Table 1

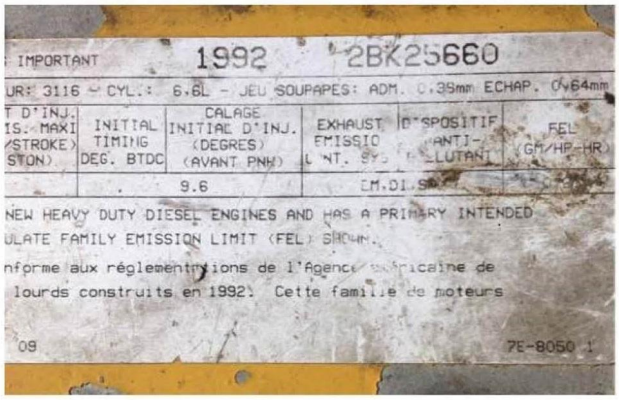
Technology category	Horsepower	Engine Model Year
All TRU's, construction equipment & tractors	0-50	2006 or newer
	51-300	1996 or newer
	301+	1986 or newer
Electric bucket trucks	NA	1996-2016
Hybrid bucket trucks	NA	1996-2009

The CCDP application form requires the applicant to certify that their existing equipment meets the scrappage requirements.

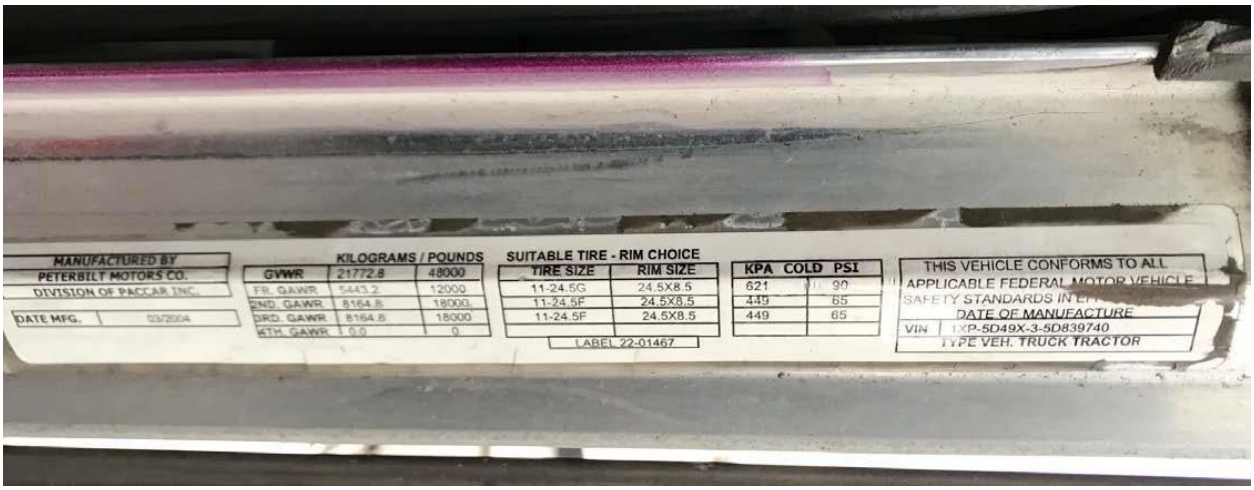
In addition, the applicant must submit supporting documentation in the form of digital photos of the engine's emissions label, VIN plate, and manufacturer plate showing the GVWR (if not captured on VIN plate). The photo(s) must be clear, legible, and capture the full label. This may require two to three photos of the left, center, and right sides of the engine label. If uploading multiple photos, you will need to combine them into a single pdf file or zipped folder. Please name the file or folder using this format: [Applicant Name]-old equipment-[date of upload].

Examples of engine label photos:





Example of VIN plate photo:



The vehicle/equipment must be scrapped or permanently disabled within 90 days of receiving the new vehicle/equipment funded by a CCDP grant. The CCDP will require photographic documentation that a 3”x3” hole has been drilled in the engine block and the chassis rails have been cut on both sides.

8. Funding and cost share requirements

Table 2 shows the maximum funding and minimum applicant cost share requirements available for the eligible technologies.

Table 2

Technology	Maximum CCDP Grant Funding	Minimum Applicant Cost Share
All-electric TRU	45%	55%
Electric Construction Equipment	45%	55%
Electric Bucket-Truck	45%	55%
Electric Tractor	45%	55%
Hybrid TRU	25%	75%
Hybrid Snowcat	25%	75%
Hybrid Bucket Truck	25%	75%
Electrical infrastructure (combined with all-elec TRU)	45%	55%
Electrical infrastructure (all other projects)	30%	70%

Table 3 gives a cost breakdown of a hypothetical CCDP-funded project.

Table 3

Technology	Total Project Cost	Maximum CCDP Grant	Minimum Applicant Cost Share
Electric Material Handler	$900,000	$405,000 (45%)	$495,000 (55%)

Applicants are encouraged to propose a cost share larger than the minimum figure indicated in the table. If the number of applications exceeds the funding available, applicants' proposed cost share will be an evaluation criterion.

9. Evaluation criteria

Funding will be competitively awarded based on the applications received. If grant applications exceed available funding, priority will be given to projects based on the following criteria:

- Estimated emissions reductions per dollar.
- Location of service area of equipment, with priority given to non-attainment zone locations. For a map showing non-attainment zone areas, click here.
- Innovation (e.g., first time technology is deployed in Colorado).
- Applicant cost share.

CLEER reserves the right to award partial grants if requests exceed the amount of funding available.

10. Grant award process and timeline

Successful applicants will be notified of their grant award within 30 days of application submission. At that time they will also receive an End-User Agreement that, upon execution, binds the grant recipient to all applicable federal and state requirements associated with the grant award. Recipients will be expected to sign the agreement within 15 days.

After signing the End-User Agreement, grant recipients will work with their technology vendor to purchase the new technology. *No purchases can be made until the End-User Agreement is executed.*

After completing the installation or putting the technology into service, and after completing the scrappage requirements, the grant recipient will submit a Payment Form to CLEER. The accompanying documentation will be:

- W-9 IRS form
- Paid Invoice from the vendor
- Scrappage documentation

The Payment Form and documentation will be forwarded to CDPHE and VW Trust for review and approval. Payment will be issued within 90 days of submission.