

APPENDIX D-4
Beneficiary Eligible Mitigation Action Certification
MN Phase 2 Heavy Duty On Road Class 8

BENEFICIARY ELIGIBLE MITIGATION ACTION CERTIFICATION

Beneficiary _____

Lead Agency Authorized to Act on Behalf of the Beneficiary _____
(Any authorized person with delegation of such authority to direct the Trustee delivered to the Trustee pursuant to a Delegation of Authority and Certificate of Incumbency)

Action Title:	
Beneficiary's Project ID:	
Funding Request No.	<i>(sequential)</i>
Request Type: (select one or more)	<input type="checkbox"/> Reimbursement <input type="checkbox"/> Advance <input type="checkbox"/> Other (specify): _____
Payment to be made to: (select one or more)	<input type="checkbox"/> Beneficiary <input type="checkbox"/> Other (specify): _____
Funding Request & Direction (Attachment A)	<input type="checkbox"/> Attached to this Certification <input type="checkbox"/> To be Provided Separately

SUMMARY

Eligible Mitigation Action	<input type="checkbox"/> Appendix D-2 item (specify): _____
Action Type	<input type="checkbox"/> Item 10 - DERA Option (5.2.12) (specify and attach DERA Proposal): _____
Explanation of how funding request fits into Beneficiary's Mitigation Plan (5.2.1):	
Detailed Description of Mitigation Action Item Including Community and Air Quality Benefits (5.2.2):	
Estimate of Anticipated NOx Reductions (5.2.3):	
Identification of Governmental Entity Responsible for Reviewing and Auditing Expenditures of Eligible Mitigation Action Funds to Ensure Compliance with Applicable Law (5.2.7.1):	
Describe how the Beneficiary will make documentation publicly available (5.2.7.2).	
Describe any cost share requirement to be placed on each NOx source proposed to be mitigated (5.2.8).	
Describe how the Beneficiary complied with subparagraph 4.2.8, related to notice to U.S. Government Agencies (5.2.9).	

If applicable, describe how the mitigation action will mitigate the impacts of NOx emissions on communities that have historically borne a disproportionate share of the adverse impacts of such emissions (5.2.10).

ATTACHMENTS
(CHECK BOX IF ATTACHED)

- Attachment A Funding Request and Direction.
- Attachment B Eligible Mitigation Action Management Plan Including Detailed Budget and Implementation and Expenditures Timeline (5.2.4).
- Attachment C Detailed Plan for Reporting on Eligible Mitigation Action Implementation (5.2.11).
- Attachment D Detailed cost estimates from selected or potential vendors for each proposed expenditure exceeding \$25,000 (5.2.6). [Attach only if project involves vendor expenditures exceeding \$25,000.]
- Attachment E DERA Option (5.2.12). [Attach only if using DERA option.]
- Attachment F Attachment specifying amount of requested funding to be debited against each beneficiary's allocation (5.2.13). [Attach only if this is a joint application involving multiple beneficiaries.]

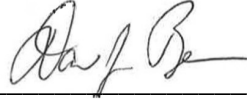
CERTIFICATIONS

By submitting this application, the Lead Agency makes the following certifications:

1. This application is submitted on behalf of Beneficiary _____, and the person executing this certification has authority to make this certification on behalf of the Lead Agency and Beneficiary, pursuant to the Certification for Beneficiary Status filed with the Court.
2. Beneficiary requests and directs that the Trustee make the payments described in this application and Attachment A to this Form.
3. This application contains all information and certifications required by Paragraph 5.2 of the Trust Agreement, and the Trustee may rely on this application, Attachment A, and related certifications in making disbursements of trust funds for the aforementioned Project ID.
4. Any vendors were or will be selected in accordance with a jurisdiction's public contracting law as applicable. (5.2.5)
5. Beneficiary will maintain and make publicly available all documentation submitted in

support of this funding request and all records supporting all expenditures of eligible mitigation action funds subject to applicable laws governing the publication of confidential business information and personally identifiable information. (5.2.7.2)

DATED: _____



David J. Benke
Division Director

[LEAD AGENCY]

for

[BENEFICIARY]

ATTACHMENT B
 Minnesota Funding Application 19 – Phase 2 MN HD Class 8 Truck
PROJECT MANAGEMENT PLAN
PROJECT SCHEDULE AND MILESTONES

Milestone	Date
Request for Proposals announced (Phase 2 MN HD Class 8 Truck)	July 27,2021
Request for Proposal Closing – Application Deadline	August 9 ,2021
MPCA selects potential grant recipients from eligible application pool	January 2022
MPCA submits Funding Request to Trustee – Appendix D-4: Beneficiary Eligible Mitigation Action Certification including Attachments	February 2022
Trustee Acknowledges Receipt of Funding Request	Receipt from Trustee
Trustee Allocates Share of State Funds	Transfer date
Grant agreements signed with selected entities	CY 2022, Q2
Grantee provides proof of destruction, invoices and other documents required for reimbursement	CY 2022, Q2 – CY 2024, Q2
MPCA reviews, requests corrections if necessary, certifies project completion, and provides reimbursement	CY 2022, Q2 – CY 2024, Q4
MPCA Reports to the Trustee on the status of and expenditures with Mitigation Actions completed and underway.	Within 6 months of first disbursement: January 30 and July 30 thereafter

Budget Category	Total Project Budget	Share of Total Budget to be Funded by the Trust	Cost-Share, paid by bus owners
1. Equipment Expenditure	\$7,025,625	\$1,194,975	\$5,830,650
2. Contractor Support (Provide List of Approved Contractors as Attachment with approved funding ceilings)	\$0	\$0	\$0
3. Sub recipient Support	\$0	\$0	\$0
4. Administrative ¹	\$132,775	\$132,775	\$0
Project Totals	\$7,158,400	\$1,327,750	\$5,830,650
Percentage	100%	18.6%	81.4%

PROJECT BUDGET

¹ Subject to Appendix D-2 15% administrative cap

PROJECTED TRUST ALLOCATIONS

	2018	2019	2020	2021	2022
1. Anticipated Annual Project Funding Request to be paid through the Trust					\$1,327,750
2. Anticipated Annual Cost Share					\$5,830,650
3. Anticipated Total Project Funding by Year (line 1 plus line 2)					\$7,158,400
4. Cumulative Trustee Payments Made to Date Against Cumulative Approved Beneficiary Allocation	\$2,350,000	\$7,401,110	\$1,871,242	\$6,664,286	\$0
5. Current Outstanding Trustee Payments Made to Date Against Cumulative Approved Beneficiary Allocation					\$2,223,550
6. Current Beneficiary Project Funding to be paid through the Trust (line 1)				\$1,778,000	\$1,327,750
7. Total Funding Approved (plus pending) for Beneficiary Eligible Mitigation Actions, inclusive of Current Action (sum of line 4, 5 and 6)	\$2,350,000	\$7,401,110	\$7,401,110	\$8,442,286	\$3,551,300
8. Beneficiary Share of Estimated Funds Remaining in Trust (Market Value of last statement date from Online Portfolio)	\$47,133,334	\$38,437,993	\$38,812,777	\$31,187,040	\$31,794,815
9. Net Beneficiary Funds Remaining in Trust, net of cumulative Beneficiary Funding Actions (line 8 minus lines 5 and 6)	\$44,864,077	\$38,437,993	\$36,941,535	\$29,409,040	\$28,243,515

ATTACHMENT C DETAILED PLAN FOR REPORTING ON ELIGIBLE MITIGATION ACTION IMPLEMENTATION

The Minnesota Pollution Control Agency (MPCA) will provide detailed reporting on this Environmental Mitigation Trust project in 2 ways:

1. Timely updates to MPCA's Volkswagen (VW) Environmental Mitigation Trust webpage (www.pca.state.mn.us/vw) ;
2. Minnesota's semiannual reporting obligation to Wilmington Trust (the "Trustee")

MPCA maintains a VW Environmental Mitigation Trust specific webpage that has been designed to support public access and limit burden for the general public. The MPCA's VW specific webpage can be found at www.pca.state.mn.us/vw. Timely updates to the webpage will inform the general public on the projects' status as well as when these projects have been completed.

Subparagraph 5.3 of the Environmental Mitigation Trust Agreement for State Beneficiaries details Minnesota's Reporting Obligations: "For each Eligible Mitigation Action, no later than six months after receiving its first disbursement of Trust Assets, and thereafter no later than January 30 (for the preceding six-month period of July 1 to December 31) and July 30 (for the preceding six-month period of January 1 to June 30) of each year, each Beneficiary shall submit to the Trustee a semiannual report describing the progress implementing each Eligible Mitigation Action during the six-month period leading up to the reporting date (including a summary of all costs expended on the Eligible Mitigation Action through the reporting date). Such reports shall include a complete description of the status (including actual or projected termination date), development, implementation, and any modification of each approved Eligible Mitigation Action. Beneficiaries may group multiple Eligible Mitigation Actions and multiple sub-beneficiaries into a single report. These reports shall be signed by an official with the authority to submit the report for the Beneficiary and must contain an attestation that the information is true and correct and that the submission is made under penalty of perjury. To the extent a Beneficiary avails itself of the DERA Option described in Appendix D-2, that Beneficiary may submit its DERA Quarterly Programmatic Reports in satisfaction of its obligations under this Paragraph as to those Eligible Mitigation Actions funded through the DERA Option. The Trustee shall post each semiannual report on the State Trust's public-facing website upon receipt."

MPCA shall, in the next semiannual report following the Trustee's approval of this project, describe the progress implementing this Eligible Mitigation Action that will include a summary of all costs expended on the Eligible Mitigation Action through the reporting date. The report will also include a complete description of the status, development, implementation (including project schedule and milestone updates), and any modification to this Eligible Mitigation Action.

Attachment D

DETAILED COST ESTIMATES FROM SELECTED OR POTENTIAL VENDORS FOR EACH PROPOSED EXPENDITURE EXCEEDING \$25,000

Project owners were asked to submit the total cost for each new project in their grant application. Listed below are detailed cost estimates for the class 8 truck projects that are projected to be above \$25,000 and the potential vendor. Note: Projects are reimbursement based on the final invoice with a 40% grant maximum on engine replacements and 25% grant max on vehicle replacements so these are not final costs.

Project	Project ID	VW Grant Amount	Total Project Cost
New Diesel Refuse truck	3	\$50,000.00	\$294,033.15
New Diesel Refuse truck	9	\$49,375.00	\$197,501.54
New Diesel Haul truck	11	\$32,965.25	\$131,861.00
New Diesel Refuse truck	16	\$50,000.00	\$205,489.00
New Diesel Refuse truck	17	\$50,000.00	\$205,489.00
New Diesel Haul truck	22	\$35,000.00	\$140,000.00
New Diesel Refuse truck	25	\$50,000.00	\$290,000.00
New Diesel Refuse truck	26	\$50,000.00	\$290,000.00
New Diesel Refuse truck	24	\$50,000.00	\$290,000.00
New Diesel Refuse truck	27	\$50,000.00	\$290,000.00
New Diesel Refuse truck	28	\$50,000.00	\$290,000.00
New Diesel Refuse truck	41	\$45,000.00	\$200,000.00
New Diesel Refuse truck	40	\$45,000.00	\$200,000.00
New Diesel Refuse truck	43	\$50,000.00	\$325,000.00
New Diesel Refuse truck	44	\$50,000.00	\$335,000.00
New Diesel Refuse truck	42	\$50,000.00	\$260,000.00
New Diesel Haul truck	38	\$30,035.00	\$120,138.00
New Diesel Haul truck	36	\$30,035.00	\$120,138.00
New Diesel Haul truck	46	\$38,299.96	\$153,199.83
New Diesel Haul truck	47	\$38,299.96	\$153,199.83
New Diesel Delivery truck	52	\$50,000.00	\$244,743.00
New Diesel Bucket truck	53	\$50,000.00	\$213,062.00
New Diesel Delivery truck	56	\$37,500.00	\$150,000.00
New Diesel Delivery truck	57	\$37,500.00	\$150,000.00
New Diesel Delivery truck	58	\$37,500.00	\$150,000.00

Appendix D-4– Supplemental Information Beneficiary Eligible Mitigation Action Certification

Beneficiary: Minnesota

Lead Agency: Minnesota Pollution Control Agency

In support of funding request no. 19

MN Phase 2 Heavy Duty On Road Class 8 Grant Program

Appendix D4 - Summary

Explanation of how funding request fits into Beneficiary’s Mitigation Plan (5.2.1):

A detailed description of this project is described on page 10 of Minnesota’s Beneficiary Mitigation Plan (see attached excerpt). This funding request will support the diesel bus replacement program.

Detailed Description of Mitigation Action Item Including Community and Air Quality Benefits (5.2.2):

This Truck replacement project will permanently remove from service an expected 30 1992-2009 model year diesel class 8 trucks, and replace them with new, 2021 or 2022 model year diesel, natural gas, electric or propane trucks. This program will provide grants for the replacement of class 8 up to 25% of the total vehicle cost, or \$50,000.00, whichever is less.

We anticipate more than 40% of these projects will be located in areas disproportionately impacted by air pollution.

The Minnesota Pollution Control Agency anticipates the following emissions reductions as a result of this truck replacement project:

Pollutant	NOx	PM 2.5	GHG
Lifetime Tons of Pollution Reduced	139	7.3	2,066

Estimate of Anticipated NOx Reductions (5.2.3):

Lifetime NOx reductions will be 139 Tons

Identification of Governmental Entity Responsible for Reviewing and Auditing Expenditures of Eligible Mitigation Action Funds to Ensure Compliance with Applicable Law (5.2.7.1):

The Minnesota Pollution Control Agency (MPCA) is responsible for all Volkswagen projects in MN.

Describe how the Beneficiary will make documentation publicly available (5.2.7.2):

- All non-private documents will be publicly available through Minnesota’s public facing website: www.pca.state.mn.us/vw.

The Minnesota Government Data Practices Act (MGDPA), found in [Chapter 13 of Minnesota statutes](#), is a Minnesota state law that regulates the handling of all governmental data that are collected, created, disseminated, maintained, received and stored by a political subdivision, state agency or statewide system regardless of their physical form, how they are stored or how they are used. The Minnesota Pollution Control Agency (MPCA) is a state agency and, therefore, subject to the requirements of the MGDPA.

There is a general presumption in the MGDPA that all governmental data are public unless there is a federal law, state statute or temporary classification that allows the data to be classified as not public. Some of the not public data types that may be included within the MPCA's grant application and award documentation include, but are not limited to, business data, personal information, security information, social security numbers, trade secret information etc.

The MPCA is statutorily obligated to maintain such data types as not public and, therefore, will not provide them when requested or present them on our public facing website. The MPCA will provide requesters with notification that the not public data are not being provided and will cite the federal law, state statute or temporary classification that allows for this not public classification.

Describe any cost share requirements to be placed on each NOx source proposed to be mitigated (5.2.8):

This program is a specific grant for each eligible truck being replaced. The grant amount is either 25% of the cost of the new truck, or \$50,000.00, whichever is less. Each truck owner is responsible for funding the remainder of the replacement cost for each truck.

Describe how the Beneficiary complied with subparagraph 4.2.8, related to notice to U.S. Government Agencies (5.2.9):

The Minnesota Pollution Control Agency contacted all necessary US Government agencies on Monday, Feb 12, 2018 as described in 4.2.8. The MPCA received replies from National Park Service and US Forest Service on Wed, Feb 14, 2018 acknowledging receipt of all necessary documents.

If applicable, describe how the mitigation action will mitigate the impacts of NOx emissions on communities that have historically borne a disproportionate share of the adverse impacts of such emissions (5.2.10):

The MPCA is using our Environmental Justice and Department of Health mapping tools to help choose projects in areas that have historically borne a disproportionate share of the adverse impacts of NOx emissions.

Excerpt: MN Beneficiary Mitigation Plan

Funding process

Projects will be funded through a competitive grant application process. MPCA has developed a set of criteria for scoring projects and selecting those that best align with the program goals. The agency will continue to adapt and improve these criteria throughout Phase 2.

In most cases, the settlement requires that most of the funds for vehicle and equipment replacement be provided by equipment owners; the smaller portion of the total cost of the new vehicle will be covered by VW settlement funds (see next section for allowable matches). Eligible applicants are people and organizations who either own heavy-duty diesel vehicles and equipment or install EV charging infrastructure. Applicants may include, but are not limited to, local governments, tribes, school districts, state government agencies, metropolitan planning organizations, transit authorities, private businesses, and non-profit organizations.

As in Phase 1, selected applicants will receive their funding as a reimbursement after the new equipment has been delivered and MPCA has received confirmation that their old equipment has been destroyed. Settlement funds cannot be used for vehicles, engines, or electric vehicle charging stations that are purchased before a grant agreement is signed between the owner and the MPCA.

Under the clean heavy-duty off-road grant program, vehicle or equipment owners can work with third parties to submit aggregated applications for multiple vehicles owned by different organizations. In Phase 1, aggregated applications through grant contractors were allowed for all grant programs; however, based on applications received and input from stakeholders, in Phase 2 aggregated applications eligible for administrative costs will be eligible solely in the clean heavy-duty off-road grant program. The agency may re-evaluate this policy as needed for specific projects.

Phase 2 grant programs

Below are descriptions of the six grant programs the MPCA will administer during Phase 2.

Clean heavy-duty on-road vehicles grant program – 15% (\$3,525,000)

Estimated emissions reductions: NO_x: 142-187 tons; PM_{2.5}: 6-9 tons; GHGs 4,467-9,616 tons

There are approximately 200,000 heavy-duty diesel class 4-8 delivery trucks in Minnesota. Heavy-duty diesel trucks have an estimated lifespan of 25 years, making replacements of older trucks a very cost-effective investment in terms of total pollution reduced per dollar spent. This program will fund the replacement of transit buses and large and medium-sized (class 4-8) delivery trucks, up to 25% of the overall cost of the vehicle. MPCA may use a maximum funding cap to reflect that vehicles in this category vary greatly in size and that some can cost 2-3 times more than others, yet emission reductions may not be greater. During project selection, we will score additional points for GHG reductions and consider higher cap amounts or grant percentages for hybrid, ultra-low NO_x compressed natural gas (CNG), and ultra-low NO_x propane engines which cost more than clean diesel engines, but achieve greater emission reductions.

Eligibility: Public and private organizations with eligible diesel trucks and transit buses operating 75% or more of their miles in Minnesota. Eligible fuel types include diesel, propane, natural gas, and fuel/electric hybrid. Gasoline vehicles are not eligible for funding under the terms of the settlement.

Why heavy-duty on-road vehicles? This category represents the largest on-road opportunity for emissions reductions, including GHG reductions. The heavy-duty on-road category contains diesel equipment that emit the most nitrogen oxides in Minnesota, and also offers some of the most cost-effective vehicle replacements. Compared with school bus replacements, heavy-duty on-road projects achieve greater NO_x, PM_{2.5}, and GHG reductions because delivery trucks and transit buses travel two to six times further per year than school buses, and their estimated lifespan is 10 years longer (see Appendix 7).

Clean heavy-duty off-road equipment grant program – 10% (\$2,350,000)

Estimated emissions reductions: NO_x: 3,707-6,368 tons; PM_{2.5}: 132-385 tons; GHGs: 22,292-31,567 tons

This program will fund the replacement or improvement of heavy-duty off-road equipment that is eligible under the Diesel Emission Reduction Act (DERA), such as marine engines, locomotives, trailer refrigeration units, terminal tractors, drayage trucks, and off-road engines, and equipment or vehicles used in construction, handling of cargo, agriculture, mining, or energy production. On-road idle reduction and other eligible technology under DERA may also be eligible.

This program will fund projects up to the following levels, based on the matching levels allowed by DERA. Table 3 gives limits as of 2019, which are subject to change annually:

Table 3: DERA funding limits

DERA eligible activities	Grant funding limits	Minimum mandatory cost-share (Fleet owner contribution)
Exhaust control retrofit	100%	0%
Engine upgrade / remanufacture	40%	60%
Locomotive idle reduction	40%	60%
Marine shore power	25%	75%
Engine replacement – diesel or alternative fuel	40%	60%
Engine replacement – zero emission	60%	40%
Vehicle/equipment replacement – diesel or alternative fuel	25%	75%
Vehicle/equipment replacement – zero emission	45%	55%
Vehicle replacement – drayage	50%	50%

Note: DERA funding levels and equipment eligibility change every year. This program will follow the most recent rules as provided by the U.S. Environmental Protection Agency (EPA).

Eligibility: Public and private organizations across the state. Eligible fuel types include diesel, propane, natural gas, and electric. Gasoline equipment is not eligible for funding under the terms of the settlement. Groups of equipment owners may work with third parties to submit aggregated applications.

Aggregated applications: Aggregated applications/grant contractors are eligible under this program. Eligible contractors may request up to 10% for administrative costs above the grant amount requested per equipment with a maximum of up to \$10,000 per piece of awarded equipment.

Why heavy-duty off-road equipment? Among the equipment types eligible for VW settlement funding, heavy-duty off-road equipment can be some of the largest emitters of air pollution and provide the most cost-effective emissions reductions (see Appendix 1). Through MPCA’s experience with DERA and conversations with equipment owners, we know that many of these engines are rarely upgraded without financial incentive. There are many old diesels in this category in Minnesota that have no pollution controls at all.

School bus (non-electric) grant program – 10% (\$2,350,000)

Estimated emissions reductions: NO_x: 26-30 tons; PM_{2.5}: 1.8-2.2 tons; GHGs: 1,985-2,643 tons

This program will provide grants for the replacement of eligible Class 4-8 school buses up to \$15,000 each, or \$20,000 each for operators serving school districts where 40% of students are eligible for free or reduced-cost lunch. MPCA will provide a list of districts eligible for additional funding.

Eligibility: All Minnesota school bus operators, both public and private. Eligible replacement fuel types include diesel, propane, and natural gas. Gasoline vehicles are not eligible for funding under the terms of the settlement. Bus owners intending to replace their diesel bus with an electric school bus are eligible to apply under the electric school bus grant program.

Why school buses? During the MPCA public engagement efforts for both Phase 1 and Phase 2, prioritizing projects that reduce pollution exposures for children and replacing aging school buses emerged as a main theme. Minnesota previously invested more than \$3 million in Project Green Fleet, retrofitting 3,500 diesel school buses with diesel oxidation catalysts, which reduced fine particle emissions by 20% on buses model years 2006 and older. Replacing those buses with new ones now would provide a 95% reduction in emissions.

Phase 1 Supplemental Bus Program: Late in Phase 1, MPCA released an additional school bus request for proposals to increase the number of replacement projects funded in Greater Minnesota. This supplemental school bus funding came out of the Phase 2 school bus grant program. The total amount for the Phase 2 school bus grant program will still be \$2,350,000; however, \$645,000 has already been released to accommodate the additional school bus needs in Greater Minnesota. (See Appendix 11)

Electric school bus grant program – 20% (\$4,700,000)

Estimated emissions reductions: NO_x: 4-10 tons; PM_{2.5}: 0.194-0.542 tons; GHGs: 554-1,405 tons

This program will provide grants for the purchase of new electric school buses to replace older, Class 4-8, diesel school buses. Funding electric buses was the most common comment received throughout the comment period.

Using a portion of the funds, in 2020 the MPCA will create a pilot project to fund a limited number of electric school buses throughout MN. The pilot project will provide information on the electric vehicle technology for school buses and their practical application across Minnesota. Investment and implementation of new technology can present financial risk and variables that MPCA would like to learn about and report on to increase interest in future electric school bus grant opportunities.

Once we have analyzed the data from the pilot project, the MPCA intends to release an additional RFP with the remainder of the funds for electric school bus adoption in MN. The maximum grant amount will be 50-95% of the cost of a new electric bus. The exact amount will be determined after we have analyzed the data from our pilot project. The agency intends to offer increased grant amounts for school districts with 40% of students eligible for free or reduced-cost lunch.

Eligibility: All Minnesota school bus operators, both public and private. Vehicle owners must replace a diesel bus with an electric bus.

Why electric school buses? During our Phase 2 public engagement, we received many comments encouraging more dedicated funding for electric school buses. The purchase price of an electric bus is considerably higher than that of a diesel one. However, compared to diesel units, electric buses can achieve operational savings in both maintenance and fuel costs over the life of the vehicle. They also generate fewer GHG emissions and other pollutants, making them a good choice for the environment and for children's health (see Figure 5).

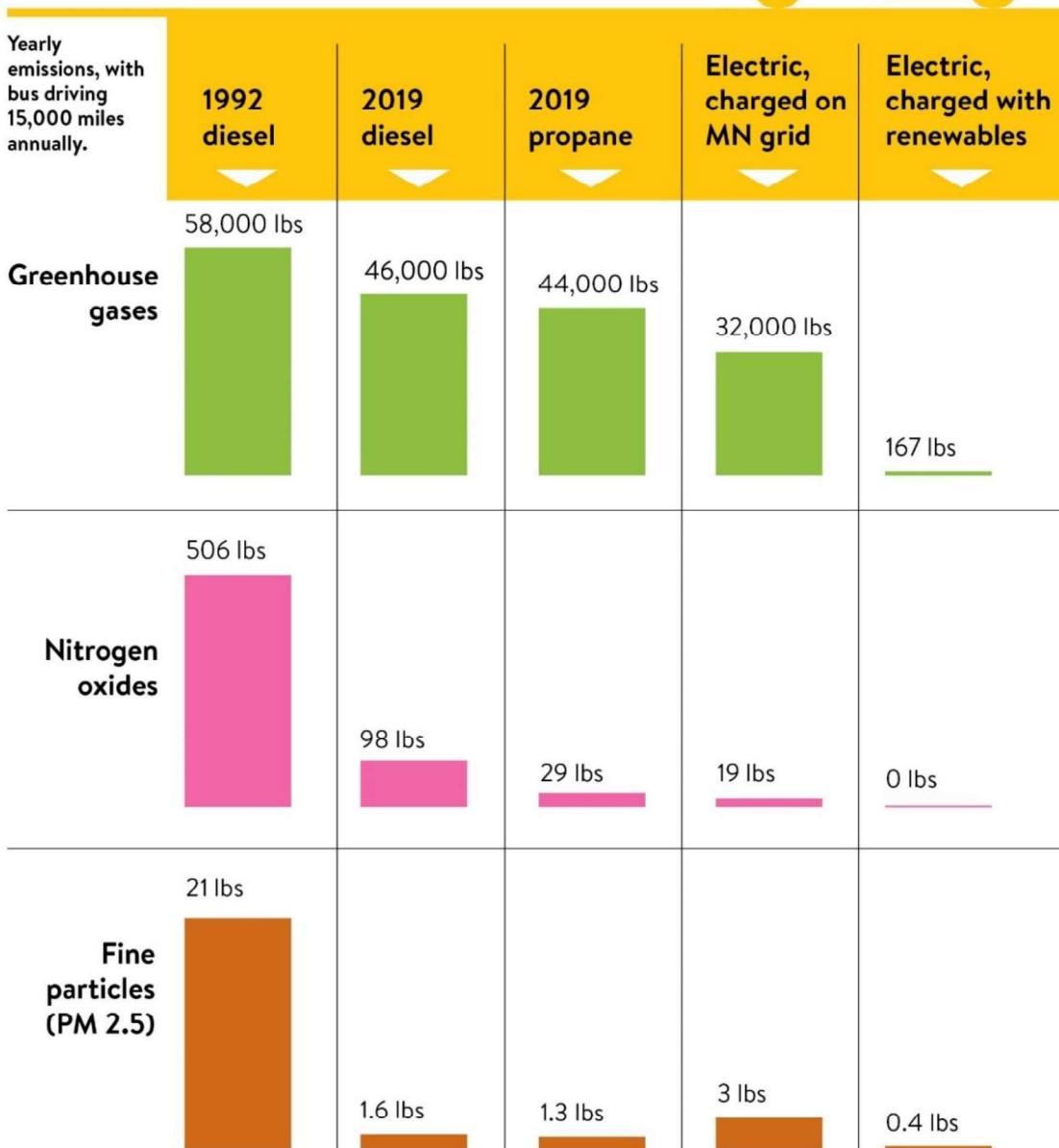
MPCA recognizes and values the positive long-term, transformational results from funding an emerging clean technology. We also wish to balance that view with the awareness and understanding that the technology is still developing and improving as more data, especially on the operational side, is generated and made available.

The travel range of electric buses is increasing, but may present potential challenges for rural and other high-mileage route areas. The MN pilot project as well as additional pilot projects from other cold-weather states like North Dakota, Massachusetts, and Vermont will provide much-needed information on electric school bus implementation, including operator training needs, cost-effectiveness, and geographical considerations. MPCA anticipates using results from these pilots as data become available to help hone and improve our grant opportunities for electric buses. Future electric school bus requests for proposals may encourage partnerships with local utilities and other interested parties to help fund the adoption of electric buses.

Figure 5: Electric buses offer a cleaner alternative

School buses: Cleaning up the fleet

Old school buses are very polluting.
Newer, cleaner options exist.



Heavy-duty electric vehicle grant program – 30% (\$7,050,000)

Estimated emissions reductions: nitrogen oxides (NO_x): 229-378 tons; fine particles (PM_{2.5}): 5-47 tons; greenhouse gases (GHGs): 24,427-39,268 tons

This program provides funds for electric alternatives to heavy-duty vehicles and equipment. We anticipate particular interest in replacing transit buses and shuttles, delivery trucks, and airport ground support equipment. Heavy-duty electric vehicles (EVs) are newer technology and significantly more expensive than other diesel alternatives; organizations may therefore need more financial assistance to begin to adopt EV technology. With a larger investment in Phase 2, this grant program will provide a greater opportunity for our state to adopt and learn about this technology.

Eligibility: Public and private organizations across the state. All heavy-duty vehicles (except school buses) and equipment eligible for replacement with an electric alternative are eligible to apply for funding. Airport ground support equipment and forklifts will also be considered in this category, as they are only eligible for electric replacements under the terms of the settlement. Vehicle or equipment replacements must be all-electric.

Why heavy-duty electric vehicles? Support for more EVs was the most common comment we received during our public engagement. Public transit providers, trucking companies, and Minnesotans across the state all said the MPCA should invest in this technology. EVs have no tailpipe emissions, and putting more of them on the road supports Minnesota's Next Generation Energy Act goals for reducing greenhouse gas emissions. Public input and survey results from Minnesota Department of Transportation's "Pathways to Decarbonizing Transportation in Minnesota" 2019 report demonstrated strong support for electric trucks and buses (as well as passenger vehicles) to meet the low-carbon goals for Minnesota's transportation sector.

Electric vehicle charging station grant program – 15% (\$3,525,000)

Estimated emissions reductions: NO_x: 2.4 tons; PM_{2.5}: 0.1 tons; GHGs: 10,349 tons

Minnesota will spend the bulk of the funds in this grant program on EV direct current (DC) fast-charging stations along highway corridors in Greater Minnesota for public use. Approximately, ninety percent (\$3.17 million dollars) will be spent on an estimated 43 new DC fast-charging locations, reimbursed up to 80% of total eligible project costs or up to \$65,000 per 50 kilowatt (kW) charging station installation. In order to build a statewide EV charging network across Minnesota, MPCA has identified preliminary roadways for funding (see Figure 6). Table 4 describes the proposed roadways. Some locations have been proposed for installation of a DC fast-charging station while others are left open for selection by the grant recipient. These pre-selected locations are not mandatory as they were in Phase 1, merely possibilities based on traffic volume and location in proximity to existing and proposed EV charging stations. This flexibility is designed to create a complete EV charging network across MN. These roadways will be grouped into corridors similarly to Phase 1. Applicants will be required to apply for installation of the entire corridor with multiple DC fast charging stations. MPCA will consider the location of newly installed DC fast-charging stations when writing the request for proposals in an attempt to not be duplicative. 39 of the possible 43 chargers are currently proposed, to leave flexibility for future planning within Phase 2.

Approximately, ten percent (\$352,500) will fund Level 2 stations (which offer slower charging) at public locations, mobility hubs, workplaces, and multi-unit dwellings. MPCA estimates that 52 dual-port Level 2 EV charging stations will be funded, reimbursing up to \$7,500 per unit. Grant funding will not exceed 60% of cost for private electric vehicle charging installations or 80% of the cost for public charging installations. The request for proposals for Level 2 charging stations may require or incentivize applicants to apply for no less than four dual-port Level 2 charging stations in mobility hubs, workplaces, multi-unit housing, and public parking lots. Those stations will not need to be co-located. With any remaining funds from the initial Phase 2 fast charging and level 2 RFPs, MPCA will assess the present charging infrastructure at that time and offer a third RFP later in Phase 2 to meet the needs of the anticipated growth of EV ownership in Minnesota. That RFP may include additional 50 kW fast chargers, 150 kW super chargers or Level 2 charging stations. Total funds for EV charging will not exceed the 15% limit set forth in the settlement.

Eligibility: Applicants will be required to apply for installation of the entire corridor including DC fast charging stations on multiple roadways . Grantees building fast-charging stations along corridors shall install them at approximately 15- to 70-mile increments along identified roadways approximately two miles or less from the exit. Fast-charging stations must be a minimum of 50 kW. MPCA may require the installation to include adequate electrical conduit at each station for future upgrades up to 350 kW and space for extending the parking pad. To maximize emission reductions, we will encourage charging stations be powered by electricity generated from renewable sources (wind, solar) through either a utility renewable energy program or by purchasing renewable energy credits. Solar directly connected to EV charging may be encouraged for Level 2 charging stations.

Why electric vehicle charging stations? Support for more EVs was the most common comment we received during our public engagement. Minnesotans strongly advocated for using the maximum amount allowed for EV charging stations (15%) under the terms of the settlement. Survey and comment data indicate support for a fast-charging network across the state to expand EV access for all Minnesotans and reduce range anxiety. Based on public comments received, MPCA plans to continue to install 50 kW chargers with necessary conduits for future upgrades along highway corridors. Funding 50 kW chargers will allow Minnesota to extend our fast-charging network more rapidly than if we were to require higher-cost 150 kW chargers. 50kW charging also aligns with current vehicle technology.

Stakeholders also told us that fast-charging is harder to finance without subsidy; slower Level 2 chargers are lower cost and easier to fund. A funding distribution of 90% for fast-charging stations and 10% for Level 2 charging creates opportunities for both investments.

Figure 6: Proposed electric vehicles charging corridors for funding in Phase 2



The MPCA has identified preliminary roadways for funding. Some cities identified here are receiving a DC fast-charging station from Phase 1. Some locations have been chosen as preferred locations for a DC fast-charging station based on location. MPCA is not proposing to fund any DC fast-charging stations within the seven-county Twin Cities metro area due to the present publically available options for charging.

Table 4: Proposed electric vehicles charging roadways for Phase 2 funding. Roadways will be grouped into corridors with multiple roads and DC Fast chargers within the RFP.

Highway	Description	Length (mi)	Possible charging station locations	Total # per corridor
Hwy 210	Brainerd to Duluth	125 mi	No location specified	1
Hwy 210, Hwy 169	Brainerd to Northwest corner of Twin Cities metro area	94 mi	No location specified	2
Hwy 15	St. Cloud to New Ulm to Fairmont	141 mi	New Ulm, Fairmont	3
Hwy 212	Granite Falls to western border of Twin Cities metro area	71 mi	Granite Falls	2
Hwy 23	St. Cloud to Willmar , to Granite Falls to Marshall to Pipestone	43 mi	Pipestone	1
Hwy 61	Duluth to Grand Portage	145 mi	No location specified	2
Hwy 14	Rochester to Owatonna to Mankato	85 mi	Owatonna	1
Hwy 61	Red Wing to Winona to La Crescent	88 mi	Red Wing, Winona, La Crescent	3
Hwy 89 to Hwy 2 to Hwy 71, Hwy 200	Red Lake to Bemidji to Park Rapids to Willmar to Jackson	335 mi	Red Lake, Park Rapids	4
Hwy 65 Hwy 2	Grand Rapids to Northern border of Twin Cities metro area	146 mi	No location specified	2
Hwy 1	Ely to Thief River Falls	225 mi	Ely, Thief River Falls	3
Hwy 11 Hwy 71	International Falls to Karlstad	198 mi	International Falls, Warroad, Karlstad	4
Hwy 53	International Falls to Eveleth	105 mi	No location specified	1
Hwy 2 Hwy 71	East Grand Forks to Bemidji to International Falls	220 mi	Crookston	3
I-90	Albert Lea to Western border	155 mi	Luverne, Worthington	2
Hwy 59, Hwy 212	Karlstad to Thief River Falls to Detroit Lakes to Granite Falls	292 mi	No location specified	3
Hwy 12	Willmar to Benson to Ortonville	73 mi	Benson, Ortonville	2
	Total	2,541 mi	Total new charging stations	39

*Cities that are in **bold** will have one built as part of phase 1 Volkswagen DC Fast charging corridors.

Core application criteria

As in Phase 1, our 10-year goals will guide the application and project selection process. The process will consider the location of each replacement vehicle to meet our 60% Twin Cities metropolitan area and 40% Greater Minnesota investment goals, as well as our goals to invest in vulnerable communities. Each program’s application process may have specific criteria based on the purpose of the program, but we plan to include the following core criteria in all applications for diesel replacement projects.

- Emissions reduction: Reducing NO_x, PM_{2.5}, and GHG
- Cost-per-ton: Cost-effectiveness of NO_x reductions based on cost paid with VW funds (not total project cost). Additionally, GHG reductions may be used to evaluate cost-effectiveness of certain projects