

# CHAPTER 7:

## Energy and Assistance Division

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With the enactment of LB302, on July 1, 2019 the Nebraska Department of Environmental Quality and the Nebraska Energy Office (NEO) merged into the Nebraska Department of Environment and Energy (NDEE). The functions and programs of NEO are now primarily the responsibility of NDEE's Energy and Assistance Division (EAD). The EAD provides information and assistance to the public and the regulated community and partners with other agency programs to manage specific projects. EAD assistance-based programs are focused on



*NDEQ cosponsored a Nebraska Electric Vehicle (EV) Charging Conference in York in March 2019 in advance of an EV Charging funding program.*

making compliance easy for the regulated community. Related programs include Small Business and Public Assistance – including serving the Small Business Compliance Advisory Panel, coordination of the Grow Nebraska Team, the One-Stop Permit Assistance Program, and the Public Advocate. The primary energy-related activities include conduct of the overall State Energy Program, administration of the Dollar and Energy Saving Loan Program, and administration of the federally-funded state Weatherization program. A comprehensive annual report on energy activities is required by statute and will be included in a separate report submitted to the Governor and the Clerk of the Legislature by February 15, 2020. The NEO annual report for 2018 may be found at <http://neo.ne.gov/info/pubs/ar/pdf/NEOAnnualReport.pdf>.

### **Small Business and Public Assistance Program**

The Small Business and Public Assistance program and associated Small Business Compliance Advisory Panel (SBCAP) were created as required by the Clean Air Act Amendments of 1990 to assist businesses in complying with air quality regulations. However, the Department has provided the same compliance assistance services and support to Water Quality and Land Management Division stakeholders as well.

Key activities of the program include developing guidance and outreach materials; responding to outside requests for information; hosting information workshops and one-stop meetings to assist new businesses determine their permit applicability; expanding partnerships; helping the regulated community understand their obligations under state and federal law; and promoting compliance and permit assistance visits to small businesses and municipalities.

## Grow Nebraska Team

The NDEQ Grow Nebraska Team (GNT) was launched in July 2018 to work within and outside of the Department to support and assist the regulated community in a clear, timely, and efficient manner. The Grow Nebraska Team includes and expands upon the One-Stop Permit Assistance Program to offer information and permit application assistance to the regulated community. The team seeks to make compliance easy for the regulated community and to provide the public with clear and understandable explanations of environmental regulations, policies, and processes. The core members of the team include the Division's Environmental Assistance Coordinator, staff of the Air Division permitting section, the Water Permit Division's NPDES section, the Land Management Division's compliance unit, and the NDEQ Public Information Office, as well as representatives from the Department of Economic Development. One additional member representing Energy Programs joined the team after the merger in 2019. In 2018 and 2019, the team hosted 13 total meetings for new concepts and businesses.

NDEQ's Grow Nebraska Team meets quarterly and also conducts special project meetings. Accomplishments during the past year include:

- Developed the Permit Matrix (see 2018 Annual Report)
- Formalized the team mission and charter
- Hosted seven internal training events (NDEQ University) for all agency staff
- Conducted a public outreach survey in spring of 2019
- Developed the first formal Outreach Plan for NDEQ

The Outreach Plan was developed and implemented with key monthly goals and action items. Outreach will include training webinars, promoting compliance and permit assistance visits, measuring baseline compliance understanding of the regulated community, and listing of community partnership organizations or events that staff work with. One final area that has helped our public presence and outreach has been the recent launch of the Department's social media accounts and associated metrics. Agency social media pages include Twitter, Facebook, and LinkedIn. The team has agreed to capture metrics and demographics from our social media followers, which is already allowing NDEQ to have a better understanding of our stakeholders.

## Smoke Awareness Program

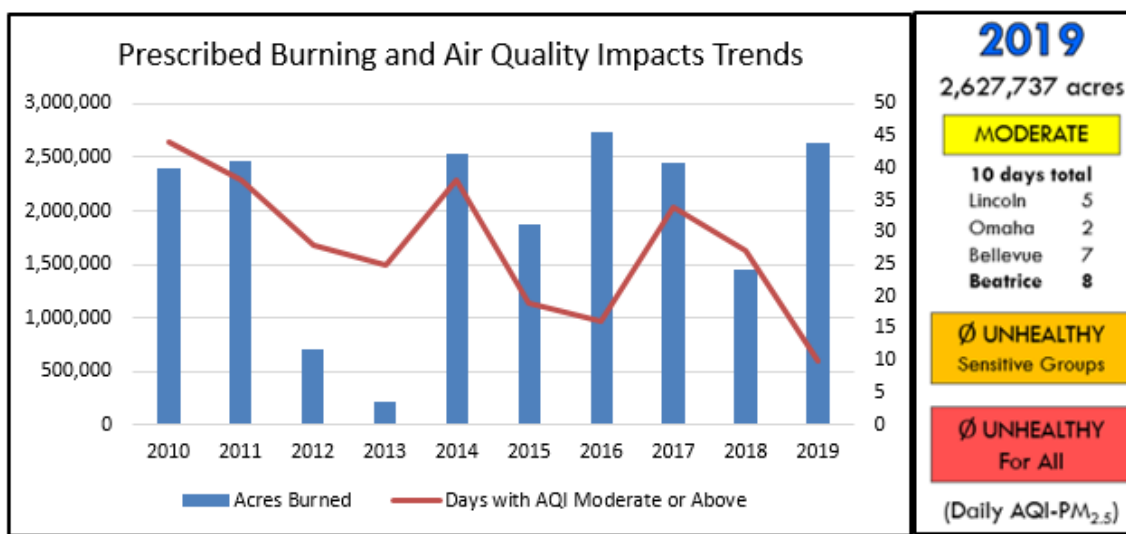
Prescribed fires and wildfires have impacted Nebraska's air quality and have received increased attention over the last several years. In early to mid-spring, ranchers and land managers burn an average of 2.3 million acres of tallgrass prairie in the Flint Hills of Kansas to control invasive plant species and to encourage growth of pasture grass. Unpredictable spring weather conditions may provide only a few days of optimal weather for burning, which can result in widespread burning and large amounts of smoke on those days. Wind from the south is typical during the spring season and Nebraska can experience air quality impacts (elevated fine particulates – PM<sub>2.5</sub> – and ozone) for 24-48 hours following these events. Rangeland prescribed burning and wildfires also occur in Nebraska, though fewer acres are burned.

Collaborative efforts with key stakeholder agencies continued in 2019 and included a meeting in March 2019 with a number of local health departments, the Nebraska Game and Parks Department, University of Nebraska researchers, and landowners and land managers that rely on prescribed fire as a management practice. Other activities included communication regarding potential smoke and air quality impacts, generation of smoke advisories, and planning for future burn seasons.

Daily tasks performed by Assistance Division staff during the 2019 burn season included:

- Monitoring air quality (PM<sub>2.5</sub> and ozone levels)
- Generating maps showing fire locations and smoke plumes
- Reviewing weather and smoke forecasts, prescribed fire and smoke updates from Kansas, and smoke prediction models
- Updating the NDEQ Smoke Awareness webpage with current information on smoke impacts and pollutant monitoring
- Conducting conference calls with stakeholders to determine the likelihood for smoke impacts and generating advisories for the public.

Division staff coordinated and consulted with other stakeholder agencies on days when heavy burning was predicted. If a health advisory was warranted, staff coordinated with the Nebraska Department of Health and Human Services (DHHS) to generate a Smoke Advisory for release to the public. Smoke Advisories were issued in 2019 on April 2, 5, 9, and 15, with an update advisory issued on April 16.



During the 2019 burn season, Nebraska experienced a total of 10 days with an Air Quality Index (AQI) for fine particulates (PM<sub>2.5</sub>) in the *Moderate* range (19% of days) and two days with an AQI for ozone in the *Moderate* range (see chart above). The *Moderate* range is characterized by pollutant levels at or above the National Ambient Air Quality Standards for a 24-hour period, which may induce health effects in those who are unusually sensitive to fine particulates or ozone. In comparison, Nebraska experiences daily AQI levels in the *Moderate* category for PM<sub>2.5</sub> on about 24% of days outside of the burn season.

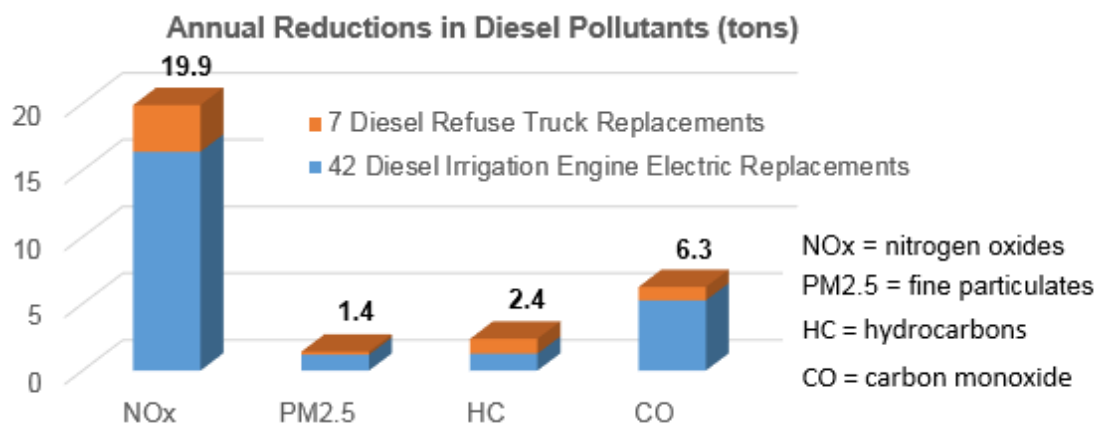
There were no days during the 2019 burn season in which the AQI values in Nebraska were in the *Unhealthy for Sensitive Groups* or *Unhealthy for All* categories, as was the case in 2018. Burn seasons in previous years (2010-2017) averaged about one day per year in the *Unhealthy for Sensitive Groups* category.

The activities conducted with other agencies in 2019 resulted in timely health advisories and notification to the public of potential air quality impacts from prescribed burning. Predictions of potential impacts, while guarded, were fairly accurate. The flow of information continues to improve, and a standardized process for dissemination of advisories is in place.

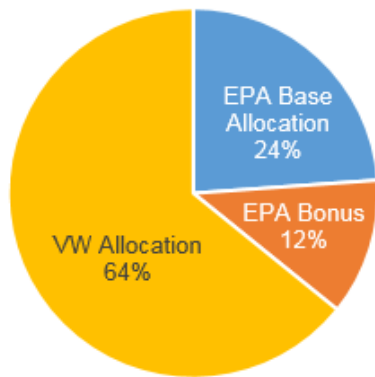
## Nebraska Clean Diesel Rebate Program

The Department established the Nebraska Clean Diesel Program in 2008 to distribute federal funding received from the EPA to reduce diesel emissions, as authorized by Congress in the Diesel Emissions Reduction Act (DERA). The DERA program provides annual funding to states for the establishment of grant, rebate, and loan programs for the early replacement of diesel engines and vehicles and the installation of diesel emission controls. Starting in 2017, NDEQ has elected to supplement the federal grant with funds from Nebraska's portion of the *Volkswagen Diesel Emissions Environmental Mitigation Trust (VW Trust)*; see next section), which earns bonus EPA funding.

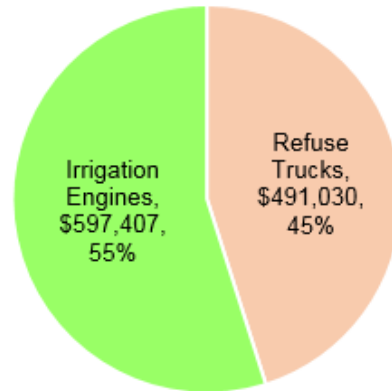
For the Clean Diesel Rebate Program annual funding cycle that opened in October 2018, NDEQ has awarded or expects to award \$1,088,438 in rebates to 48 projects. The two types of projects funded are diesel refuse truck replacements (seven trucks) and all-electric replacements of 42 diesel irrigation engines. The refuse truck replacement rebates reimburse 25% of the cost (maximum \$70,000) of a new diesel vehicle or 35% (up to \$110,000) for a new compressed natural gas (CNG) vehicle meeting emission standards for nitrogen oxides that are stricter than the current EPA standard. The irrigation engine rebates are for replacement of a diesel irrigation engine with an electric motor (to power a surface pump) or for connecting an existing submersible pump directly to the electric grid. The rebate reimburses up to 60% of the cost of the electric equipment, installation, and required extension of electric service lines. All replaced diesel vehicles and engines must be scrapped in order to eliminate their emissions. Estimated annual reductions in diesel pollutants as a result of these replacement projects are shown below.



**Funding for  
2018 Clean Diesel Rebate Program  
\$1,150,181**



**2018 Clean Diesel Rebates  
\$1,088,438**



**2018-2019 Refuse Truck Replacement Rebates: \$491,030**

| Name                                   | Location    | Replacement            | Rebate Amount |
|--|-------------|------------------------|---------------|
| Gretna Sanitation                      | Gretna      | 1 CNG Refuse Truck     | \$110,000     |
| Soil Dynamics Composting Farm          | Springfield | 1 Diesel Truck Cab     | \$40,406      |
| Waste Connections dba J & J Sanitation | O'Neill     | 1 Diesel Refuse Truck  | \$51,250      |
| S2 Rolloffs                            | Fremont     | 2 Diesel Refuse Trucks | \$110,000     |
| Gretna Sanitation 2                    | Gretna      | 1 CNG Refuse Truck     | \$140,000     |
| Niederhaus Brothers Refuse Inc.        | Lincoln     | 1 Diesel Refuse Truck  | \$56,288      |



*Left: Old refuse truck being scrapped. Right: new replacement refuse truck. Photos courtesy of Waste Connections of Nebraska dba J & J Sanitation, O'Neill*

**2018-2019 Irrigation Engine Replacement Rebates: \$597,407**

| <b>Name</b>                        | <b>County</b> | <b>Replacement</b> | <b>Rebate Amount</b> |
|------------------------------------|---------------|--------------------|----------------------|
| 4A Farms LLC                       | Hamilton      | Electric motor     | \$20,000             |
| 4P Farms                           | Polk          | Electric motor     | \$12,699             |
| Allen, Loren                       | Holt          | Electric motor     | \$9,750              |
| Anson Farms Inc                    | Antelope      | Electric motor     | \$20,000             |
| Beelaert, Robert                   | Holt          | Electric motor     | \$7,452              |
| Carpenter Farms Inc.               | Antelope      | Electric motor     | \$12,257             |
| Carpenter, Garrett                 | Antelope      | Electric motor     | \$20,000             |
| Central Agency Farms % Austin Co   | Chase         | Electric motor     | \$8,749              |
| Cheney Farm                        | Antelope      | Electric motor     | \$7,020              |
| Collins, Rick                      | Hamilton      | Electric motor     | \$7,550              |
| Creutzberg, Mark                   | Polk          | Electric motor     | \$18,407             |
| Danielski Harvesting & Farming LLC | Holt          | Electric motor     | \$8,157              |
| Dickerson, John                    | Holt          | Electric motor     | \$10,778             |
| Dougherty-Ruther Farm              | Holt          | Electric motor     | \$10,485             |
| Drayton, Terry                     | Antelope      | Electric motor     | \$10,840             |
| Dunn, William                      | Blaine        | Electric motor     | \$20,000             |
| H Corporation                      | Holt          | Electric motor     | \$19,806             |
| JSK LLC                            | Boone         | Electric motor     | \$9,818              |
| Kelly, Barry                       | Holt          | Electric motor     | \$10,723             |
| Koenig, Kevin J.                   | Holt          | Electric motor     | \$20,000             |
| Lee, Deloris A.                    | Perkins       | Electric motor     | \$8,058              |
| LT Farms, Inc.                     | Holt          | Electric motor     | \$14,722             |
| Mueller Family Trust               | Jefferson     | Electric motor     | \$11,014             |
| O & W Dairy Farm Inc               | Antelope      | Electric motor     | \$18,248             |
| Oberhauser, Karen                  | Platte        | Electric motor     | \$20,000             |
| OBrien, Dale                       | Hayes         | Electric motor     | \$20,000             |
| Oertwich, Douglas                  | Stanton       | Electric motor     | \$14,346             |
| Pearson, Erik                      | Jefferson     | Electric motor     | \$18,806             |
| Peterson, Mick                     | Custer        | Electric motor     | \$15,630             |
| Pfeifer, Dean John                 | Madison       | Electric motor     | \$16,573             |
| Phillips, Mike                     | Morrill       | Electric motor     | \$17,262             |
| Probst, Lyle                       | Gage          | Electric motor     | \$17,149             |
| Riley, James                       | Buffalo       | Electric motor     | \$15,888             |
| Schmidt Brothers Farms             | Madison       | Electric motor     | \$17,431             |

|                         |         |                   |          |
|-------------------------|---------|-------------------|----------|
| Schmidt Family Trust    | Madison | Electric motor    | \$12,000 |
| Simonson, Gordon        | Blaine  | Electric motor    | \$11,335 |
| SRI2 LLC                | Holt    | Electric motor    | \$10,372 |
| Stagemeyer, Brent M.    | Holt    | Electric motor    | \$14,812 |
| Stauffer Ag Enterprises | Holt    | Electric motor    | \$17,492 |
| Taake, Brian            | Madison | Electric motor    | \$11,092 |
| Thiele, Fred J.         | Holt    | Electric motor    | \$20,000 |
| Thies Farms Central LLC | Merrick | Submersible Power | \$20,000 |



*Diesel irrigation engine removal. Torch cutting hole in engine block. New electric motor in place.*

*Photos courtesy of Mike Phillips, Lisco*

## Volkswagen State Trust Activities

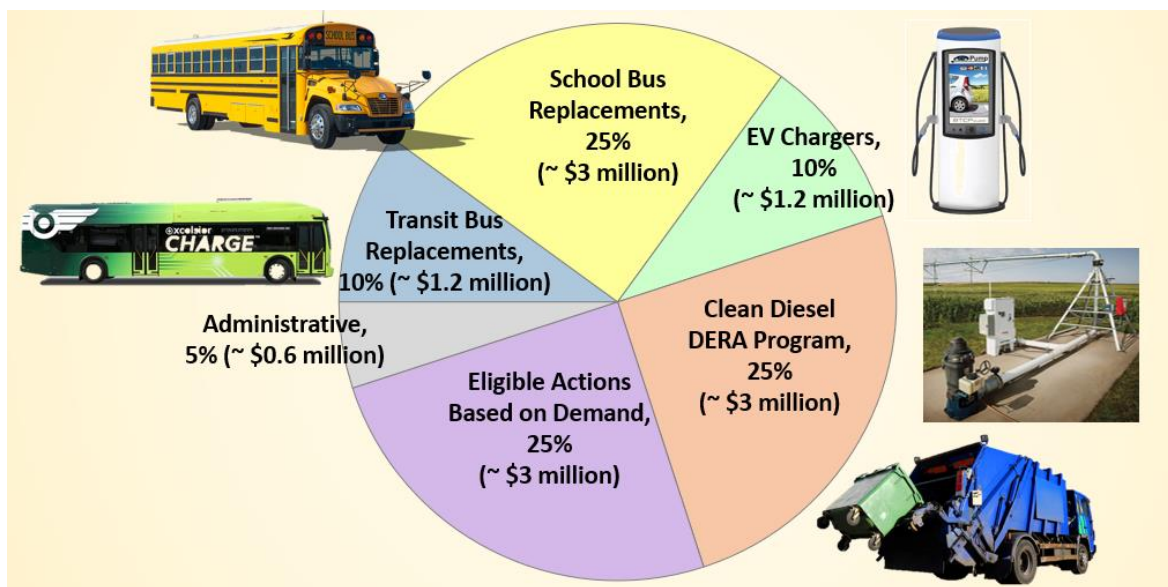
NDEQ is the lead agency administering funds allocated to Nebraska from the *Volkswagen Environmental Mitigation Trust for State Beneficiaries, Puerto Rico, and the District of Columbia* (“VW State Trust”). The VW State Trust was established in 2017 as part of court settlements with Volkswagen AG and its subsidiaries to resolve charges that their diesel passenger vehicles were equipped with devices to circumvent emissions testing and allow them to emit excess nitrogen oxide gases in normal operation, in violation of the Clean Air Act. The initial allocation to Nebraska from the VW State Trust is approximately \$12.25 million. As directed by the Trust Agreement, these funds are to be used to undertake authorized actions to reduce nitrogen oxide (NOx) emissions in Nebraska.

### Beneficiary Mitigation Plan

As mandated by the Trust Agreement, in 2018 NDEQ submitted a Beneficiary Mitigation Plan that summarizes how Nebraska intends to use the funds allocated to it under the Trust. The table

and figure below present the project types initially selected for funding in Nebraska and the percentage of funds expected to be allocated to each type.

**Initial Planned Allocations of VW State Trust Funds by Mitigation Action**



| Action  | Percent     | Dollars                |
|---|-------------|------------------------|
| Transit Bus Alternative Fuel Replacements           | 10%         | \$1,224,834.75         |
| School Bus Diesel & Propane Replacements            | 25%         | \$3,062,086.87         |
| Zero Emission Vehicle (ZEV) Charging Infrastructure | 10%         | \$1,224,834.75         |
| DERA: Irrigation engine & refuse Truck Replacements | 25%         | \$3,062,086.87         |
| Eligible Actions Based on Demand                    | 25%         | \$3,062,086.87         |
| Administrative Costs*                               | 5%          | \$612,417.37           |
| <b>TOTAL</b>  | <b>100%</b> | <b>\$12,248,347.48</b> |

\* The State Mitigation Trust agreement allows reimbursement of administrative costs up to 15% of each funded project.

Nebraska’s Beneficiary Mitigation Plan is intended to provide the public with insight into the Department’s intentions for the use of the mitigation funds and information about the specific uses for which funding is expected to be requested. Nothing in the plan is binding, and Nebraska may adjust its goals and specific spending plans at its discretion by providing an updated Beneficiary Mitigation Plan to the Trustee. Each state beneficiary must expend at least 80% of its initial allocation by October 2, 2027; otherwise, the unexpended funds will be reallocated to other beneficiaries that have complied with that guideline. The Department has set a goal of expending Nebraska’s share of the funds in five to six years.

**Nebraska Diesel Emission Mitigation Program**

NDEQ has established the Nebraska Diesel Emission Mitigation Program to use funds from the VW State Trust to undertake projects to mitigate NOx emissions in addition to the Clean Diesel Program described above. Projects in two categories were in progress during the fiscal year: Transit Bus Alternative Fuel Replacements and School Bus Replacements.

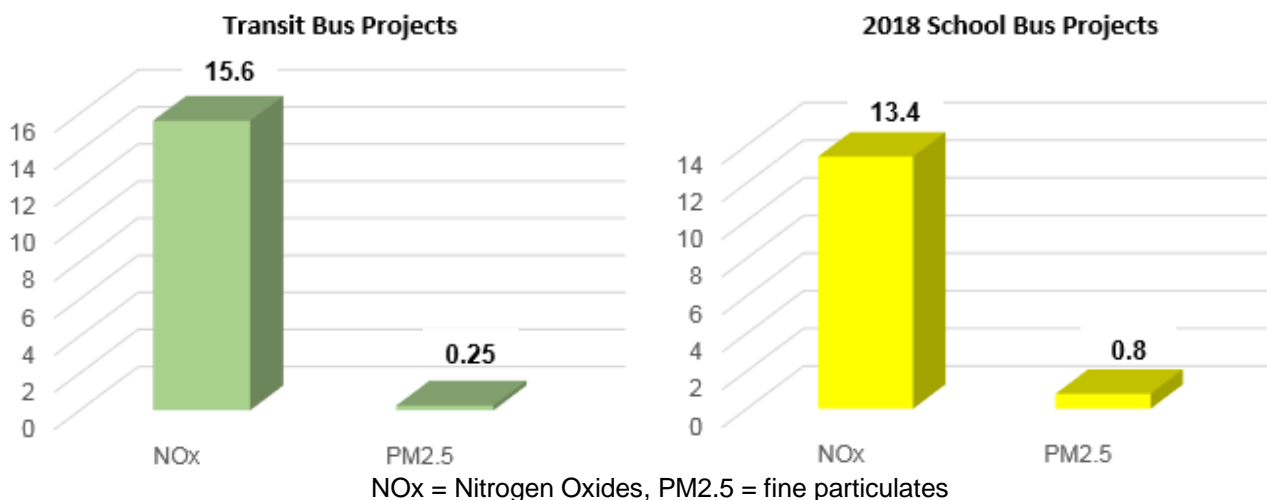


### Transit Bus Alternative Fuel Replacements

In 2018, NDEQ awarded VW funds to Lincoln StarTran and the Transit Authority of Omaha (Metro) as supplements to other grant funds. Each agency will replace and scrap two older diesel transit buses. These projects are expected to be complete in the fall of 2019. Expected lifetime reductions in diesel emissions as a result of these projects are shown in the chart below.

| Transit Bus Alternative Fuel Replacements |  |             |
|---|--|-------------|
| Lincoln StarTran                          | Replace 2 diesel buses w/ battery electric buses         | \$489,934   |
| Omaha Metro                               | Replace 2 diesel buses w/ CNG-fueled rapid transit buses | \$734,901   |
| TOTAL                                     |  | \$1,224,835 |

### Estimated Lifetime Diesel Emission Reductions for Current VW-Funded Projects (tons)



### School Bus Replacement Rebates

In SFY2019, the Nebraska Diesel Emission Mitigation Program awarded a total of \$1,703,651 for the replacement and scrapping of 40 older diesel school buses. School districts were eligible for a 50% reimbursement (up to \$42,000) for a new diesel public school bus or 60% of the cost (up to \$57,000) for a new propane-fueled public school bus meeting NOx emission standards stricter than the federal standard. All projects were completed by the end of summer 2019. Expected lifetime reductions in diesel emissions as a result of these projects are shown in the chart above.

| 2018 School Bus Replacement Rebates |          |                                   |          |
|-------------------------------------|----------|-----------------------------------|----------|
| Alma Public Schools                 | \$42,000 | Heartland Schools                 | \$40,350 |
| Anselmo-Merna Public Sch.           | \$42,000 | HTRS Public Schools               | \$42,000 |
| Bayard Public Schools               | \$42,000 | Kearney Public Schools            | \$57,000 |
| Beatrice Public Schools             | \$42,000 | Lewiston Consolidated Schools     | \$42,000 |
| Bellevue Public Schools             | \$42,000 | Lexington Public Schools          | \$42,000 |
| Bertrand Public Schools             | \$42,000 | Loomis Public Schools             | \$55,890 |
| Blair Community Schools             | \$42,000 | Louisville Public School District | \$41,743 |
| Brady Public Schools                | \$42,000 | Neligh-Oakdale Public Schools     | \$44,742 |
| Bridgeport Public Schools           | \$39,225 | North Bend Central Public Schools | \$42,000 |
| Centennial Public School            | \$42,000 | Ogallala Public Schools           | \$41,125 |

|                                     |          |                             |          |
|-------------------------------------|----------|-----------------------------|----------|
| Cozad Community Schools             | \$42,000 | Osmond Community Schools    | \$41,794 |
| Elkhorn Valley Schools              | \$41,650 | Overton Public Schools      | \$42,000 |
| Elm Creek Public Schools            | \$42,000 | Paxton Consolidated Schools | \$42,000 |
| Fillmore Central Schools            | \$42,000 | Ravenna Public Schools      | \$42,000 |
| Fort Calhoun Community Schools      | \$42,000 | Seward School District      | \$41,510 |
| Fremont Public Schools              | \$42,000 | Stanton Community Schools   | \$41,175 |
| Giltner Public Schools              | \$42,000 | Stapleton Public Schools    | \$46,259 |
| Gordon-Rushville Public Schools     | \$42,000 | Tri County Public Schools   | \$42,000 |
| Hampton Public School               | \$42,000 | Wallace School District     | \$42,000 |
| Hartington-Newcastle Public Schools | \$40,188 | York Public Schools         | \$42,000 |



*Above, chassis and engine of old school bus being scrapped.*

*Left, new replacement school bus.  
Photos courtesy of Centennial Public Schools.*

In May 2019, NDEQ opened the application period for a second round of school bus rebate projects. During the coming year, the Department anticipates providing an additional \$2,698,981 in rebates for 62 projects. These projects will utilize the remainder of the Volkswagen State Trusts initially allocated to school bus replacement projects with an additional \$1,297,348 drawn from the funds initially set aside for Eligible Actions Based on Demand.

### **Planning for Additional Mitigation Actions**

Nebraska has allocated 10% of its VW State Trust funds, or approximately \$1.2 million, to partially fund Electric Vehicle (EV) Charging Infrastructure that will be available to the public. During the past year, NDEQ staff have conducted ongoing discussions with representatives of electric utilities (Nebraska Public Power District, Lincoln Electric System, and Omaha Public Power District),

the Nebraska Department of Transportation, and other stakeholders in order to learn about the technical and economic issues surrounding electric vehicle charging and to determine the types of charging infrastructure that would do the most to encourage adoption of battery-electric and plug-in hybrid vehicles in the state. In March 2019, NDEQ and the Nebraska Power Association co-sponsored a stakeholder conference held in York to provide information to the public about EV charging and potential grant opportunities from Nebraska’s VW State Trust. The conference also provided an opportunity for the Department to receive public input on the type of charging infrastructure that should be supported using the limited available funds.

In August 2019, the Department opened the application period for the Nebraska Electric Vehicle Charging Infrastructure program. The Department will fund both Direct Current Fast Chargers and slower Level 2 (240-volt AC) chargers along highway corridors, community and destination locations, and workplaces. The application period closes November 15, and awards are expected to be announced in early January 2020.

**Current Status of Nebraska’s Volkswagen State Trust Funds**

As of the summer of 2019, NDEQ has expended or committed \$6,767,169 in funds from the Volkswagen State Trust in five funding categories, as shown in the figure below.

