

Shuman, Justin

From: James Paluf <jpaluf@gmail.com>
Sent: Wednesday, February 07, 2018 3:09 PM
To: EPA DERG
Subject: Team 88: Call to Action!

James Paluf
1183 Brainard Rd
Lyndhurst, OH 44124

February 7, 2018

Dear EPA Representative,

I am writing to you today to encourage your support of the trucking industry by delegating funds from the Volkswagen Emissions Grant to over-the-road trucking.

In the state of Ohio, trucking provides 1 out of every 15 jobs. Trucks transport 75% of the total manufactured tonnage in the state, and 82.2% of Ohio communities depend exclusively on trucks to move their goods. This sheer volume of product and impact that the industry has on daily life warrants support from multiple communities, as without trucks, all Ohioans would be greatly impacted in every aspect of their world. While other industries claim their need for this money over trucking's need for these funds is essential, the simple fact is that, without trucking, many of these other industries would simply cease to be productive because of the absence of the supplies of materials and services they need that would be carried by trucks, but may not be if not given adequate funding.

Trucking also already supports other industries by supporting the roads that they use with passenger vehicles every day: the trucking industry pays 37% of all taxes owed by Ohio motorists, but trucks only represent 10% of vehicle miles traveled within the state. Since trucking is carrying its weight three times over, it is not unreasonable to ask for support of the industry so that it can better serve all industries. The trucking industry also participates in the SmartWay Transport Partnership, which works with government and businesses to quantify greenhouse gas emissions, taking steps to reduce them. The trucking industry supports the environmental industry and wishes that, through continued financial collaboration, both industries can continue to improve environmental conditions for all citizens within the state of Ohio.

In continued support of the environment, trucks continue to improve energy and environmental efficiency, even while increasing mileage. In 2014, trucks used 97 billion fewer gallons of fuel than passenger cars, and through advancements in engine technology and fuel refinements, new diesel truck engines produce 98% fewer particulate matter and nitrogen oxides emissions than a similar manufactured engine.

If you have any questions, please feel free to contact me. I want to thank you for your continued support of this very important industry.

Sincerely,
James Paluf

Shuman, Justin

From: Sam Spofforth <sam@cleanfuelsohio.org>
Sent: Wednesday, February 07, 2018 3:12 PM
To: EPA DERG
Subject: VW Comment

Dear Ohio EPA,

Please accept our comments on the Ohio Environmental Protection Agency Draft Mitigation Plan for Volkswagen Settlement:

Vehicle Replacements:

- **Prioritize Alternative Fuels:** Ohio EPA should prioritize alternative fuels, such as CNG, LNG, propane, efficiency technologies, plug-in electric and hydrogen, and use of biodiesel in diesel vehicles above diesel to diesel replacements. This should be reflected in a point system that assigns additional points for scoring of these projects. The rationale for this is these alternatives are inherently cleaner than petroleum diesel or gasoline, and this program presents an opportunity to leverage the market to increase current and future utilization.
- **School Bus Carve Out:** We support the \$15 million proposed carve out for school buses and continue to support the proposed \$3 million carve out for electric school buses. However, we are opposed to any additional carve out for EV school buses or any other higher-cost technologies, since this will detract from overall health basis of program and reduce opportunities for positively impacting public health.
- **Cargo Handling:** We strongly support the emphasis on cargo handling and airport electrification. However, we also encourage Ohio EPA to set parameters to avoid providing funding that would be far outside of other categories on a per vehicle basis or based on ton of emissions reduction per grant dollar spent.
- **Local Government Fleet Eligibility:** In the draft plan, local government is part of a category that includes "local freight." This language does not clearly communicate that local government fleets, such as refuse and other heavy duty vehicles are eligible. We encourage Ohio EPA to press the trustee for this clarification, and to make these municipal and other local government heavy-duty categories fully eligible.
- **Cost Effectiveness Metric:** We support Ohio EPA's use of cost-effectiveness based on ton of NOx reduction per grant dollar.
- **Support funding for local governments, pending clarification from federal trustee**
- **Evaluation Tool:** We'd like to note that Ohio EPA's proposed tool for evaluation and scoring of diesel replacement projects, the USEPA Diesel Emission Quantifier (DEQ) has in the past and possibly still has not been usable or has rendered inaccurate results for alternative fuels such as CNG and propane. In previous comments related to the DERG program, Clean Fuels Ohio (CFO) has documented this undervaluing and underestimating of emissions reductions from alternative fuel vehicle replacements compared with diesel to diesel. CFO further notes that other tools and methodologies to measure impacts exist. These include a new tool from Argonne Laboratory. We have not yet vetted this tool but will be doing so in the near future. We also note that examination of CARB and EPA engine certification data is an option.

Infrastructure: Zero Emission Vehicles:

- **15% for Zero Emission Vehicle Infrastructure:** CFO agrees with Ohio EPA's proposal to include 15% for zero emissions infrastructure and focus on funding for electric vehicle supply equipment (EVSE). CFO disagrees with postponing any funding for infrastructure for one year. We believe that funding can and should be made available on a faster timeframe. We suggest fall 2018.
- **Planning and Consultation with Other EVSE Funding Sources:** We understand that Ohio EPA is planning to consult with potential sources of funding for additional EVSE investments, including Electrify America and AEP

Ohio (pending PUCO decision). We agree with this plan and would note that consultation should still provide an opportunity for some funding decisions to be made in 2018.

- **Criteria for Public EVSE Sites:** For EVSE 15% carve out, we suggest development of the following criteria for awards: traffic volumes, EV ownership by zip code (Polk or BMW data), consumer amenities, site footprint, and utility service/power supply. For any DC fast charging projects, sites should be capable of providing 150K, with built-in capacity to expand to 350 KWh, but the ability to limit charging flow, when needed, to 50 kWh, for certain vehicles. We recommend four plugs per DC fast charging site.
- **Additional Site Types:** We continue to encourage Ohio EPA to consider other Trust-eligible categories for EVSE, including workplaces, multi-unit dwellings and some public level two, especially parking garages and high-traffic commercial sites.
- **Demand Charges:** Ohio EPA should develop a dialogue with all utilities and agree on plan to mitigate potential extreme negative impact of demand charges for charging stations/sites.

Thank you for the opportunity to comment.

Sam Spofforth
Executive Director
Clean Fuels Ohio
530 West Spring Street, Suite 250
Columbus, OH 43215
(614) 884-7336
Sam@CleanFuelsOhio.org

Visit CleanFuelsOhio.org
Learn more about our fleet analysis, planning and certification services.

Plan), Ohio plans to use mitigation trust funds to support projects that will do the following:

- Improve air quality by providing cost-effective reduction of NOx emissions in counties Ohio EPA has designated as first or second priority;
- Maximize emission reductions where they are most needed, while also considering environmental justice considerations associated with historical emission levels and concentrations;
- Expedite deployment and widespread adoption of zero-emission and near-zero emission vehicles and engines; and
- Support Ohio's statewide energy, environmental and economic development goals, including, but not limited to, reducing other significant pollutants, promoting infrastructure development, and advancing the market for clean fuels and technologies eligible for Mitigation Trust funding.

II. COMMENTS

IGS supports the stated goals of the EPA's Draft Plan; however, IGS believes that the Draft Plan does not give enough credit to CNG engines and vehicles for meeting these goals.

Natural gas can be one of the cleanest alternative transportation fuel available today that can economically power light-, medium-, and heavy-duty vehicle applications as well as many non-road applications, such as rail and marine vehicles. A truck powered solely by natural gas emits 28 percent less CO₂ than a comparable diesel vehicle.¹ Further CNG vehicles reduce carbon monoxide (CO) emissions up to 75%, nitrogen oxide (NO_x) emissions by approximately 50%,

¹ <http://www.angpinc.com/why-natural-gas/>

and up to 95% for particle matter (PM) emissions.²

Meanwhile, new technologies have allowed the capture of renewable natural gas (RNG) from landfills and other sources. RNG advances have allowed for near zero Greenhouse Gas (GHG) emissions. RNG is sustainable year-over-year and requires no additional infrastructure or engine changes, simply put, RNG makes CNG vehicles one of the cleanest on the road.³ Generally, CNG can assist with Ohio's emissions reductions goals because natural gas is the cleanest of the fossil fuels, and has played an instrumental role in the nation's emissions reductions.

It is also worth noting that the environmental benefits of electric vehicles are dependent on the sources of electric generation. In Ohio, the Public Utilities Commission of Ohio (PUCO) estimates that the state generates nearly 60 percent of its electricity using coal.⁴ While electric vehicles can be cleaner than traditional petroleum fuels, Ohio still generates the majority of its electricity using coal meaning that Ohio EVs will receive the majority of their electricity through coal-fired generation.

Despite the clear emission reduction benefits of CNG, the Draft Plan allows for a much smaller amount of dollars that can be allocated to CNG engines and vehicles. For instance, for Class 8 Trucks the Draft Plan would award up to 75% of the cost to purchase a new All-Electric vehicle truck. However, the Draft Plan would only award up to 25% of the cost to purchase a new CNG Class 8 truck. This discrepancy is not warranted given the clear emissions reduction benefits of CNG.

IGS believes the allocation of funds for engine and vehicle replacements, regardless of

² <http://www.cngnow.com/what-is-cng/clean/Pages/information.aspx>

³ <http://energy-vision.org/fact-sheets/EV-RNG-Fact-Sheet.pdf>

⁴ <https://www.puco.ohio.gov/be-informed/consumer-topics/how-does-ohio-generate-electricity/>

transportation type or whether intended for private or public sector entities, should be consistent across fuel types so as to not unfairly promote one fuel type source over another. With this in mind, IGS respectfully requests that the Ohio EPA revisit the funding levels for alternate fuel types and electric vehicles, and make the necessary adjustments to ensure that each source, including EVs, receives an equal allocation of funds in the final Ohio EPA Beneficiary Mitigation Plan.

Respectfully Submitted,

Mike Gatt

Vice President
IGS CNG Services & Distributed Generation

Shuman, Justin

From: Wali Shariff <walishariff92@gmail.com>
Sent: Wednesday, February 07, 2018 3:51 PM
To: EPA DERG
Subject: VW Comment

To: Craig Butler, Director of Ohio Environmental Protection Agency

Mr. Butler,

I am writing in regards to the Volkswagen Mitigation Trust Fund. As the Ohio EPA is now determining how to use the money for nitrogen oxide reduction, I highly urge the Ohio EPA to spend a considerable portion of the trust fund money towards transit buses, especially for the Greater Cleveland Regional Transit Authority. As an everyday commuter on the #251 from Strongsville to downtown Cleveland, I am always pleased to take transit as it is cost-effective and stress free for my commute. I have noticed however, that our transit buses are fairly old and will need replacement soon. I believe it is in the best interest of the Ohio EPA, GCRTA, and the environment to use money from the trust fund towards replacement of old buses. Doing this will help the agency save money (already in a financial crunch), provide quality transportation for customers, and reduce diesel use and nitrogen oxide, the end goal for all involved. I truly hope you take GCRTA transit buses into account when conducting your final analysis, and feel free to contact me for any questions. Thank you.

Sincerely,

Wali Ahmed Shariff
20753 Belhaven Pl
Strongsville, OH 44149
440-840-7511
walishariff92@gmail.com

February 7, 2018

The Honorable Craig Butler
Director
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216

RE: Maximizing Settlement Fund Allocation for Charging and Hydrogen Refueling Infrastructure

Dear Director Butler:

The Association of Global Automakers (Global Automakers) represents the U.S. operations of international motor vehicle manufacturers, original equipment suppliers, and other automotive-related trade associations. In 2016, member companies manufactured 41% of all new motor vehicles and 71% of green technology vehicles sold in Ohio.

Global Automakers and our members have a longstanding commitment to improving air quality, reducing greenhouse gas emissions, and increasing fuel efficiency. Our members are investing heavily in alternative fuel and green technologies, including being the first to successfully launch hybrid electric vehicles 28 years ago and since then plug-in and fuel cell electric vehicles. We are proud that the number of electric-drive vehicles, in a variety of options and price points, are increasing every year.

Under Appendix D of the Volkswagen settlement, Ohio is due to receive \$75 million, which can be used for a variety of environmental-based projects. A maximum of 15% of this money, or \$11.3 million, can be used for the acquisition, installation, operation, and maintenance of electric vehicle infrastructure.

Global Automakers urges the State of Ohio to allocate the full 15% towards this effort and to support all electric vehicle infrastructure – charging stations *and* hydrogen refueling stations. The state needs to establish a strong foundation for electric vehicles by expanding its network of charging and building out a network of hydrogen refueling stations to support sales of electric vehicles. Increasing available infrastructure is critical to the state's ability to advance electrification. Range anxiety is a significant impediment to sale of electric vehicles. Investment in electric vehicle infrastructure responds to this problem while furthering air quality and supporting customers in your state that choose to buy an electric vehicle.

Should you have any questions, please do not hesitate to contact us. Thank you for your consideration of our request, and your continued support of electrification.

Sincerely,



Damon Shelby Porter
Director
State Government Affairs



Julia M. Rege
Director
Environment and Energy



February 7, 2018

Carolyn Watkins
Office Chief, Ohio EPA
50 W. Town Street, Suite 700
Columbus, OH 43216

RE: Volkswagen Mitigation Trust Fund: Draft Ohio Beneficiary Mitigation Plan

Dear Ms. Watkins:

On behalf of the Ohio-Kentucky-Indiana Regional Council of Governments (OKI), we are writing in strong support of the Ohio Beneficiary Mitigation Plan and offer our assistance in its swift and efficient implementation.

For over 50 years, OKI has been designated as the Metropolitan Planning Organization serving the Cincinnati Metropolitan Planning Area, which includes the counties of Butler, Clermont, Hamilton and the majority of Warren in Ohio. Our agency represents 118 governmental, social and civic group members from nearly 200 communities. OKI works collaboratively with stakeholders to solve interstate dilemmas, create far-reaching development plans, break through political bureaucracy, provide services to the public and advocate for federal funding.

Through these collaborative partnerships, the OKI region has dramatically improved air quality. Effective June 3, 2016, EPA reclassified the entire Cincinnati OH-KY-IN nonattainment area as having attained the 2008 ozone standard. With the exception of a portion of Clermont County, the OKI region is also in attainment for coarse particulate matter 10 (PM10), carbon dioxide (CO) nitrogen dioxide (NO2) and sulfur dioxide (SO2).

OKI supports Ohio EPA's implementation strategy and timeline included in the Draft Beneficiary Mitigation Plan to continue the progress being made in our region to enhance air quality for the health and well-being of all our citizens.

Sincerely,

A handwritten signature in black ink that reads "Mark R. Policinski". The signature is written in a cursive, flowing style.

Mark R. Policinski
CEO

T.C. Rogers *President* | **Mark R. Policinski** *CEO/Executive Director*

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February 7, 2018

Carolyn Watkins
Chief
Ohio EPA-OEE
P.O. Box 1049
Columbus, OH 43216-1049

RE: Comments on Draft VW Mitigation Plan

Dear Carolyn Watkins:

We appreciate the opportunity to provide comments on the Draft VW Mitigation Plan from the Office of Environmental Education of the Ohio Environmental Protection Agency. We appreciate all of the work your office has invested while preparing the State of Ohio to be able to access the allocated funds from the *Environmental Mitigation Trust Agreement for State Beneficiaries* to mitigate air quality degradation from diesel emissions of VW vehicles. As a city within a first priority county, we hope these comments and questions will help finalize your plan development for both Central Ohio and the remainder of the state in order to have a lasting impact on improving air quality for many years to come. Comments and questions are included as **Attachment A**.

Should you have any questions or require clarification, please do not hesitate to contact Mandy K. Bishop, Smart Columbus Program Manager at 614-645-7723 or mkbishop@columbus.gov.

Sincerely,

A handwritten signature in cursive script that reads 'Michael H. Stevens'.

Michael H. Stevens
Chief Innovation Officer



February 7, 2018

Carolyn Watkins
Ohio Environmental Protection Agency
50 West Town Street, Suite 700
Columbus, Ohio 43215

RE: Comments on the Draft Beneficiary Plan

Dear Carolyn,

Greenlots appreciates the opportunity to comment on the Ohio Environmental Protection Agency's Draft Beneficiary Mitigation Plan (BMP) and provides the following recommendations for funds disbursement.

Greenlots is a leading provider of grid-focused electric vehicle (EV) charging software and services. The Greenlots network supports a significant percentage of the DC fast charging infrastructure in North America, including a modest deployment in Ohio. Greenlots' smart charging solutions are built around an open standards-based focus on future-proofing while helping site hosts, cities, utilities, and grid operators manage dynamic EV charging loads.

The draft plan by the Environmental Protection Agency (EPA) to invest the full 15% allowable for light-duty EV charging infrastructure is very encouraging and critical to supporting the growth of EV adoption across the state. From a NOx reduction standpoint, this is the most effective emissions segment to address with Mitigation Trust funds.

Greenlots strongly encourages the EPA to sharpen its support for light-duty DC fast charging infrastructure. This is a critical gap in the (deficient) overall infrastructure deployment to date. Unfortunately, this gap will not be filled, and indeed, will be exacerbated outside Columbus by the investment resulting from the Smart Columbus activities. There has also not yet been a regulatory pathway for utilities to invest in and support this deployment. The Mitigation Trust is an excellent opportunity to involve utilities in the deployment of intercity and possibly intracity DC fast charging.

Greenlots encourages EPA to devote the remaining 85% of Mitigation Trust funds toward electrification of the heavy-duty sector, particularly school and transit buses. This suggestion aligns with recommendations the EPA received during the informal comment period. Some of the many benefits of heavy-duty transportation electrification include: reduced operating costs from fuel and maintenance; increased vehicle longevity resulting from the electric motor; reduction of criteria air pollutants; health benefits for workers, passengers/schoolchildren, and

Ohio Environmental Protection Agency

February 7, 2018

RE: Draft Beneficiary Mitigation Plan

Page 2

community members; and reduction of greenhouse gases.¹ It will be important for EPA to dedicate funds to transportation electrification and avoid stranded assets in the future that do not comply with increasingly stringent air quality standards.

Greenlots encourages the EPA to invest funds in full-scale heavy-duty transportation electrification projects, rather than pilot projects. Battery electric school bus technology is viable and in use from Minnesota to California;² this technology has been proven to be successful at meeting school district needs and can even provide energy storage benefits when not in use. The \$15 million allocated to school buses in the BMP should be for electrification alone. Furthermore, transit districts are also going fully electric. The \$15 million allocated to transit bus replacements should be for electrification—including associated charging infrastructure.

It will be important for EPA to outline a strategy in the BMP that leads to long-term NOx emission reductions—this objective can only be achieved with wide-scale transportation electrification. As national emissions standards for NOx and other criteria pollutants continue to become more stringent, any delays in implementing an electrified transportation system increases the likelihood that Ohio could slip into non-attainment. Rigorous and costly maintenance of diesel emission prevention equipment would be necessary to meet these baseline objectives. When analyzed over the vehicle lifetime and necessary maintenance for fossil fuel-based equipment, electric transportation is more cost effective in terms of dollars spent per pound of NOx emission reductions.

Thank you for your consideration. Greenlots will be available as a resource to the EPA through the finalization and implementation of the Beneficiary Mitigation Plan. Please do not hesitate to contact me should you have any questions.

Sincerely,



Thomas Ashley
Vice President, Policy

¹ Edison Electric Institute. 2014.

http://www.eei.org/issuesandpolicy/electrictransportation/fleetvehicles/documents/eei_utilityfleetsleadingthearchive.pdf

² <https://www.districtadministration.com/article/school-districts-cut-bus-costs-going-electric>



February 7, 2018

Carolyn Watkins
 Ohio EPA-OEE
 P.O. Box 1049
 Columbus, OH 43216-1049

RE: Ohio Draft Beneficiary Mitigation Plan Comments

Dear Ms. Watkins,

On behalf of Dayton Power and Light Company (DP&L), thank you for this opportunity to comment on the Draft Beneficiary Mitigation Plan (VW Plan) prepared by the Ohio EPA Office of Environmental Education. DP&L is supportive of Ohio EPA’s approach to constructing a grant program that reduces NOx emissions in Ohio. We recognize that vehicles powered mostly or solely by electricity are a major new way to reduce NOx emissions from highways. Our following comments encourage Ohio EPA to revise Priority Counties, encourage DC fast charging stations, and allow for land to match grant funds for DC fast charging stations.

Priority Counties

In the DP&L service territory the smog/ozone challenge over the years has been in Montgomery and Clark Counties. The heavy traffic of I-75 and I-70 is a major factor. Our local air agency, RAPCA, has made a strong case that Montgomery and Clark Counties should be a “First Priority” for the Volkswagen Mitigation Trust Fund Program. And we agree with the Ohio EPA proposal that Greene County should be emphasized with a “Second Priority”. The remainder of this section of our comments includes a partial/edited extract of information from RAPCA comments. This information assists us in making our case for Montgomery and Clark counties.

Clark, Greene, Madison, and Montgomery counties are listed in the table below along with data extracted by RAPCA from sources including the 2010 Census, AQS database, National Emission Inventory 2014, and EJScreen. These are some of the same criteria that were employed in the Draft VW Plan to identify priority counties.

Comparison of counties

County	Population 2010 Census	2017 ozone DV ppb ^{Note1}	2014 NEI total NOx emissions, tons	EJScreen Index State Percentile ^{Note2}	Proposed VW mitigation priority
Clark	138,333	70	3,621	62	None
Greene	161,573	68	4,305	34	Second
Madison	43,435	67	1,978	27	First
Montgomery	535,153 ^{Note3}	70	12,580	65	Second

Note 1 – 2015 ozone NAAQS is 70 ppb

Note 2 – average of county EJ Indexes for air pollution: PM2.5, ozone, diesel PM, inhalation cancer risk, respiratory hazard index, and traffic proximity/volume (higher value = higher impact)

Note 3 – fifth most populous county in Ohio

Further, the pie charts below (similar to Figure 1 in the Ohio EPA Draft Beneficiary Mitigation Plan), show that mobile sources are dominant sources of NOx emissions in each of these four counties. Much more dominant than the statewide NOx emissions apportionment shown in Figure 1. Our focus is on Montgomery and Clark Counties, as we discuss below these charts.



Another criterion used by Ohio EPA in the Draft VW Plan is “the location of concentrated sources of air pollution such as distribution centers, multimodal centers, ports, rail and bus terminals and airports.” Clark County hosts at least one such multimodal center – a large grain terminal elevator that handles both rail and truck traffic. Montgomery County hosts the Dayton International Airport, the Cargill Inc. corn processing facility, two pipeline fuel terminals, and a large public transit center in downtown Dayton, which are all listed in the ODOT TIMS database.

DP&L feels that a county like Montgomery with around 10,000 annual tons of Mobile NOx emissions and a history of ozone exceedances certainly should be a Priority 1 county. A neighboring/downwind county (Clark) with an ozone design factor of 70 ppb also warrants the Priority 1 designation.

Light-Duty Zero Emission Vehicle (ZEV) Supply Equipment

DP&L is especially interested in Section 3 of the Plan (beginning page 14 of 24). We fully support the maximum allowable ZEV supply equipment funding of 15% and understand that this might total to more than \$11 million for Ohio. DP&L has consulted with the Miami Valley Regional Planning Commission

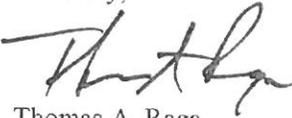
(MVRPC) in the past and recently regarding Electric Vehicle Service Equipment (EVSE). We look forward to working with Ohio EPA and MVRPC in support of Electric Vehicle Corridors. The Ohio EPA corridor map on page 17 of 24 is appropriate for SW Ohio. We agree that it is a good idea and good public policy for Ohio EPA to consult with local metropolitan planning organizations and electric utilities to determine priority locations for DC fast charging stations along Ohio's major highway corridors in SW Ohio.

Private Matches for Funds

We notice that on page 24 of 24 Ohio EPA mentions DP&L as a potential industry partner. We look forward to those discussions. DP&L asks that Ohio EPA at the outset consider the major expense of the land associated with a DC fast charging station. We raise as an example a new DC Fast Charge site where the land cost/value is \$40,000 and the total project cost is \$200,000. We recommend that relative to Ohio EPA grants that the land would represent a 20% match for the DC Fast Charge project and the Ohio EPA \$160,000 grant. Properties near Interstate highways are expensive to purchase or lease. They are key to a successful project and should qualify as a grant match.

Please contact Angelique Collier at 317-261-5852 or angelique.collier@aes.com, if you would like to discuss these comments in greater detail. DP&L appreciates this opportunity to participate in the development of this important program.

Sincerely,



Thomas A. Raga
President and CEO
The Dayton Power and Light Company

Shuman, Justin

From: Nathan Alley <nathan.alley@sierraclub.org>
Sent: Wednesday, February 07, 2018 5:01 PM
To: EPA DERG
Subject: Ohio Sierra Club VW Comment

Dear Ohio EPA,

The Ohio Chapter of the Sierra Club encourages the State to use Volkswagen settlement money to pay for electric vehicle infrastructure and electric buses for school and transit fleets. We do not want to see any of the money go to so-called "clean diesel" or compressed natural gas (CNG) projects. Your scoring criteria should be adjusted to preference electric buses, given that they are often employed in areas with historic concentrations of environmental pollutants. This is an issue of equity.

Thank you for your attention.

--

Nathan Alley
Legislative & Policy Coordinator

Ms. Carolyn Watkins
Ohio EPA-OEE
P.O. Box 1049
Columbus, OH
43216-1049

Submitted via email to derg@epa.ohio.gov

RE: Collective comments of Ohio School Districts on Volkswagen Mitigation Plan

February 7, 2018

Dear Ms. Watkins,

We are writing to you collectively as 6 school officials across Ohio that would like to see more money dedicated to electric school buses in Ohio's Volkswagen Mitigation Plan.

Transforming Ohio school bus fleets to all electric could prevent many unnecessary hospitalizations and deaths from respiratory illnesses exacerbated by diesel school bus pollution like asthma, the most common chronic condition among children in the United States. Through the Volkswagen Settlement, Ohio has the opportunity to safeguard those most vulnerable to diesel pollution by instigating the transition of Ohio's school bus fleet to zero emissions.

Over 800,000 children across Ohio ride diesel school buses each year, and school buses idle on average over 100 hours a year. Children, school employees and members of the community are exposed to unnecessary levels of NOx producing ozone and numerous additional toxins that spread around school buildings and into surrounding neighborhoods. The actions Ohio takes in the coming months regarding the use of the Volkswagen Mitigation Funds have the potential to protect our children who represent the future of Ohio's state economy.

We appreciate that Ohio's draft plan includes three million dollars for electric school buses. We hope that Ohio's Environmental Protection Agency recognizes what a transformational opportunity the VW settlement presents to get Ohio on a zero emissions school bus track. Our school districts would like to be part of that change and for additional funds to be similarly allocated so that more Ohio school children can ride to school in zero emission buses in the future.

Respectfully,

Michael Bower
Transportation Supervisor
Cleveland Metropolitan
School District

Randy Drewyor
Treasurer/CFO
Bright Local School District

Mark K. Fritz
Director of Operations/Business Manager
Stow-Munroe Falls City School District

Steve Switzer
Superintendent
Pettisville Schools

Scott Libert
Director of School Improvement
& State/Federal Programs
Niles City Schools

Jeff Layton
Superintendent
Northwestern Local Schools

Model School Board Resolution in Support of Establishing an Electric School Bus Program

The Problem: Diesel School Buses and Children's Health

Diesel exhaust contains over forty toxic chemicals, including NOx and small particulate matter such as soot.¹ This pollution aggravates respiratory diseases such as asthma, with soot being particularly lethal as it penetrates the lungs and enters the bloodstream. The danger of diesel exhaust is so great that EPA considers it one of the greatest public health risks.² Children are especially vulnerable to the adverse health effects of diesel fumes, since they have a faster breathing rate than adults and their lungs are still developing.³

School buses are the largest form of mass transit in the United States, carrying 26 million children to school each day.⁴ Over 90 percent of school buses are powered by diesel fuel.⁵ For those students on diesel buses, their exposure to exhaust exacerbates and can cause childhood asthma, which is a leading chronic illness among American children and a leading cause of school absenteeism.⁶ In Ohio, approximately 10 percent of children suffer from this chronic illness.⁷

The Opportunity: Zero Emissions Electric School Buses

The Volkswagen Settlement provides the opportunity for Ohio to host an electric school bus demonstration project. This demonstration project will confirm the commercial viability of zero emissions electric school buses in Ohio. Through this demonstration project, school officials, parents, students and community members will become familiar with zero emissions electric school buses. The demonstration project will set the stage for Ohio school districts to begin the transition to a zero emissions future for pupil transportation. Establishing a zero emissions electric school bus program that sets target dates and goals will protect our children's health and help Ohio meet its environmental goals.

Resolution of Ohio School District to Establish an Electric School Bus Program

WHEREAS—Diesel exhaust contains over forty toxic chemicals, including NOx and small particulate matter such as soot, which can penetrate the lungs and enter the bloodstream.⁸

WHEREAS—Health risks from diesel fumes include cancer, lung damage, and respiratory diseases such as asthma.⁹

WHEREAS—Children breathe 50 percent more air per pound of body weight than adults and their lungs are still developing, making them particularly vulnerable to cancer and respiratory diseases caused by NOx and soot exposure.¹⁰

WHEREAS—Children riding, waiting, and boarding diesel school buses are exposed to diesel fumes. A child sitting in the back of the bus with windows closed is exposed to four times more diesel exhaust than a child riding in a car immediately in front of the same bus.¹¹

WHEREAS—Diesel pollution exacerbates and can cause childhood asthma, which is a leading chronic illness among Ohio children.¹²

WHEREAS—Asthma directly interferes with students' productivity and success in the classroom. Nearly 60% of children with asthma missed at least one day of school in the past 12 months, with asthmatic children ages 5–17 years missing 10.5 million school days in the past year.¹³

WHEREAS—Ohio school buses transport 815,000 children to school every day.¹⁴ Nationally, the American School Bus Council (ASBC) estimates that school buses carry 26 million children daily, making it the largest form of mass transit in both Ohio and the United States.¹⁵

WHEREAS—There are 17,500 school buses in Ohio that each make an average of 85 stops each day leading to significant idling that releases toxic fumes from tailpipes at young children's height.¹⁶

WHEREAS—Schools can safeguard children from the harmful effects of diesel school bus pollution by transitioning school bus fleets to electric.

WHEREAS—Switching to an electric bus eliminates over 20,000 pounds of NOx and over 350 pounds of diesel particulate matter over a 12 year bus lifecycle.¹⁷

WHEREAS—Switching to cleaner school bus technology can reduce inflammation in children's lungs and improve their health, resulting in as many as 14 million fewer missed school days per year.¹⁸

WHEREAS—Transitioning one diesel school bus to electric is the equivalent of taking 27 new cars off the road in terms of pollution reduction.¹⁹

WHEREAS—Electric school buses have lower fuel, operating and maintenance costs than diesel school buses.²⁰

WHEREAS—Electric school buses with vehicle to grid (V2G) technology hold potential to be revenue generating for school districts.²¹

WHEREAS—VW mitigation trust fund allocations towards electric school bus purchases will help catalyze the market for electric school buses and drive down costs, making them more affordable for school districts in the long-term. The experience curve shows that costs typically decline by 20-30% each time production is doubled.²²

WHEREAS—Ohio’s electric school bus demonstration project will help prepare school districts to purchase electric school buses once the total cost of ownership is competitive.

WHEREAS—Ohio School Districts have the opportunity to protect the health and welfare of school children while advancing Ohio’s clean energy goals.

Recognizing that establishing an electric school bus fleet will help prevent children from developing respiratory diseases such as childhood asthma, while protecting those who already suffer.

Further recognizing that electric school buses can uniquely support renewable integration with the electric grid, therefore an electric school bus program can help Ohio achieve its renewable portfolio standard of 12.5% by 2027 and beyond.²³

Further recognizing that transitioning school bus fleets from diesel to electric will take time and require several stages.

THEREFORE, BE IT RESOLVED that to promote a healthier environment for its students and enable Ohio School Districts to become cleaner and healthier communities, the Ohio School Board Association hereby:

1. Adopts a program to transition the district’s school bus fleet from diesel to electric, relying on the research and expertise developed through Ohio’s electric school bus demonstration project.
2. Adopts the following transition plan to implement its zero-emissions school bus fleet.
 - 2.1. By 2025, 15% of new school bus purchases are EVs.
 - 2.2. By 2030, 25% of new school bus purchases are EVs.
 - 2.3. By 2035, 50% of new school bus purchases are EVs.
 - 2.4. By 2040, 100% of new school bus purchases are EVs.

¹ Environmental Law & Policy Center, ELPC Webinar— Electric School Buses: A VW Settlement Opportunity (Mar. 14, 2017), <http://elpc.org/issues/clean-air/elpc-webinar-electric-school-buses-a-vw-settlement-opportunity/>.

² U.S. Environmental Protection Agency, *What you should know about diesel exhaust and school bus idling* (June 2003), <https://nepis.epa.gov/Exe/tiff2png.cgi/P100304H.PNG?-r+75+-g+7+D%3A%5CZYFILES%5CINDEX%20DATA%5C00THRU05%5CTIFF%5C00001280%5CP100304H.TIF>.

³ U.S. Environmental Protection Agency, *Clean Diesel: Clean School Bus* (last updated Oct. 24, 2016), <https://www.epa.gov/cleandiesel/clean-school-bus>.

⁴ American School Bus Council, *Environmental Benefits* (last visited Jan. 2, 2018), <http://www.americanschoolbuscouncil.org/issues/environmental-benefits>.

⁵ <http://www.schoolbusfleet.com/article/717302/diesel-buses-still-dominate-but-some-see-bright-future-for-alt-fuels>

⁶ U.S. Center for Disease Control and Prevention, *Healthy Schools: Asthma in Schools* (last updated May 9, 2017), <https://www.cdc.gov/healthyschools/asthma/>.

⁷ The CDC breaks down asthma rates by state. These statistics are particularly helpful for showing racial disparity for asthma sufferers: <https://www.cdc.gov/asthma/stateprofiles.htm>.

⁸ Environmental Law & Policy Center, *supra* n. 1.

⁹ Natural Resources Defense Council and Coalition for Clean Air, *No Breathing in the Aisles: Diesel Exhaust Inside School Buses* 12, 14 (Jan. 2001), <https://www.nrdc.org/sites/default/files/schoolbus.pdf>.

⁹ U.S. CDC, *supra* n. 5.

¹⁰ EPA, *supra* n. 2.

¹¹ NRDC, *supra* n. 12, at 8.

¹² "Diesel Exhaust and Asthma: Hypotheses and Molecular Mechanisms of Action," "Environmental Health Perspectives," Volume 110, Supplement 1, February 2002.
The Natural Resources Defense Council

¹³ Center for Disease Control, *Racial Disparities in Childhood Asthma* 19 (April 2016), [https://www.cdc.gov/asthma/pdfs/Racial Disparities in Childhood Asthma.pdf](https://www.cdc.gov/asthma/pdfs/Racial_Disparities_in_Childhood_Asthma.pdf).

¹⁴ <https://mi-psc.force.com/sfc/servlet.shepherd/version/download/068t0000001UY4w?casenum=18368>

¹⁵ ASBC, *supra* n. 4.

¹⁶ *Id.*

¹⁷ <https://www.transportation.gov/r2ze/benefits-zero-emission-buses>

¹⁸ <https://www.ncbi.nlm.nih.gov/pubmed/25867003>

¹⁹ ELPC internal analysis using US EPA Diesel Emissions Quantifier

²⁰ ELPC, *supra* n. 1.

²¹ <https://www.veic.org/docs/resourcelibrary/veic-electric-school-bus-feasibility-study.pdf>

²² <http://www.economist.com/node/14298944>

²³ https://www.naseo.org/Data/Sites/1/03-27-17_naseo-vw-beneficiary-mitigation-plan-toolkit-final.pdf

February 7, 2018

Carolyn Watkins
Ohio EPA-OEE
P.O. Box 1049
Columbus, OH 43216-1049

Ohio EPA headquarters
50 W. Town Street, Suite 700
Columbus, OH 43215

Submitted via email to derg@epa.ohio.gov, Carolyn.Watkins@epa.ohio.gov

Re: VW Comment- Proposal to Increase Electric School Bus Carve-out in Ohio's Volkswagen Mitigation Plan

We thank the Ohio Environmental Protection Agency for the opportunity to provide comments on its Volkswagen Beneficiary Mitigation Draft Plan. We are encouraged by the state's commitment to protecting the health of those most vulnerable by getting Ohio on a zero emissions track for school transportation. However, we believe a larger allocation towards electric school buses is necessary to achieve this outcome.

School buses represent the largest category of mass transportation in our country.¹ Emissions from fossil fuel school bus engines contribute to significant negative health outcomes in children. Electrification of school buses thus provides a key opportunity to improve children's health, reduce school absenteeism, strengthen the resiliency of the grid and support the integration of renewables.

We have compiled information regarding air quality benefits, objectives, costs and charging infrastructure requirements below for your consideration to increase the allocation for electric school buses in Ohio's final Beneficiary Mitigation Plan.

Air Quality Benefits:

Transitioning to a zero emissions future for Ohio's pupil transportation will protect children's health by reducing lifetime NOx emissions from Ohio's school bus fleet² by more than **7.6 million pounds** compared to a clean diesel school bus fleet and by more than **7 million pounds** compared to a propane school bus fleet.³ In actuality, the reductions will be even larger since the current fleet is predominantly neither clean diesel nor propane.

The federal government has recognized the importance of jump-starting the transition towards electrification through the Low-To-No Emission Vehicle Program which offers funding to purchase zero-emissions transit buses.⁴ No such federal program exists for the purchase of zero-emissions school buses. The Volkswagen Mitigation Trust offers Ohio the opportunity to take state-level action to jump-

¹ <https://s3-us-west-2.amazonaws.com/nsta/6571/Yellow-School-Bus-Industry-White-Paper.pdf>

² Ohio Association for Pupil Transportation data

³ Argonne National Laboratory's 2017 GREET model (<https://greet.es.anl.gov/>)

⁴ <https://www.transit.dot.gov/funding/grants/lowno>

start the transition towards electrification for school buses. This is important because transitioning to a zero tailpipe emissions future for pupil transportation will protect children's health as asthma is the most common chronic condition among children and exposure to fossil fuel exhaust can both cause and exacerbate asthma.⁵ This is especially important because special needs children who are the most vulnerable are also the most exposed to fossil fuel exhaust as the wheel chair lift on school buses is located in the rear of the bus next to the exhaust pipe.⁶

Objectives:

Increasing the allotment within the On-Road Fleet and Equipment Projects for electric school buses in Ohio's draft Beneficiary Mitigation Plan to **\$10 million** would jumpstart the transition of Ohio's school bus fleets to zero emissions. Starting with a successful demonstration project, Ohio school districts will gain exposure to and experience with electric school buses. This will give districts confidence to adopt school board resolutions committing to target dates and goals for a percentage of new school bus purchases to be electric. A draft school board resolution outlining a plan to transition school bus fleets to zero emissions is attached as Appendix A and currently under review by the Ohio School Board Association's Legal Department.

The larger carve-out would enable the purchase of 45 electric school buses with school district in-kind contributions of 1/3rd. This would:

- 1) Enable a state-wide electric school bus demonstration project in at least three school districts that demonstrate a commitment to participate.
- 2) Get Ohio on track to achieve 15% fleet electrification by 2025 per the draft resolution, thus contributing to zero emissions school buses being both the standard and affordable.

The carve-out would also help Ohio meet its environmental goals. Electric school buses can uniquely support renewable integration with the electric grid. This is because the 100-mile range of electric school buses exceeds the daily mileage requirements of the average Ohio school bus route.⁷ This enables non-peak, night-time charging of the buses when wind resources are abundant. For schools with longer routes, solar-powered charging stations could provide supplemental power when buses sit idle during the school day. Therefore, they can contribute to Ohio achieving its Renewable Portfolio Standard.

The carve-out would build local and regional familiarity with the technology as schools serve as learning centers for communities. The National Energy Education Development Project could create STEM curriculum for Ohio schools focused on electric school buses.⁸ Community residents' exposure to the buses traveling local routes and to regional sporting and musical events as well as student learnings from the STEM curriculum would disseminate throughout Ohio.

Lastly, the carve-out would contribute to market transformation. With all major domestic school bus manufacturers developing electric models and the recent availability of Volkswagen Mitigation Funding, now is the time for state leadership to help drive costs down. The experience curve shows that costs

⁵ U.S. Center for Disease Control and Prevention, *Healthy Schools: Asthma in Schools* (last updated May 9, 2017), <https://www.cdc.gov/healthyschools/asthma/>

⁶ <http://www.schoolbusfleet.com/article/611999/simplifying-wheelchair-lifts>

⁷ *Supra* 1

⁸ <http://www.need.org/>

typically decline by 20-30% when production is doubled.⁹ Blue Bird, the largest domestic school bus manufacturer, predicts that costs for its electric model could decline by 40% with quantity, driving the purchase price towards cost-parity.¹⁰ This is in line with the decline in costs in electric transit buses since 2010 when that technology was in a similarly nascent phase.¹¹ This would make the total cost of ownership of an electric school bus the lowest given the annual operational savings of approximately \$10,000 per bus.¹² As the purchase price of electric school buses reach cost-parity, the operational savings attributable with the technology can result in more resources being allocated towards essential classroom activities.

Partners:

We have identified the following partners to collect and analyze critical data from the first deployment of buses to inform future program design:

- Dr. Sara Adar from the University of Michigan¹³ is willing to test, record and analyze emissions data. This data could also be used to update a public health study she published in 2015 which concluded that using cleaner fuels in school transportation could prevent 14 million school day absences each year.¹⁴
Sara D. Adar, ScD
Associate Professor
Department of Epidemiology
1415 Washington Heights
Ann Arbor, MI 48109-2029
734-615-9207
sadar@umich.edu
- Kenneth Kelly, Team Leader of Commercial Vehicle Technologies at the National Renewable Energy Laboratory (NREL), is conducting an electric school bus evaluation¹⁵ and is willing to place NREL's dataloggers on the buses to track vehicle performance, including operational and maintenance savings. This would inform the evaluation and contribute to NREL's fleet DNA clearinghouse.¹⁶
Ken Kelly
Team Leader – Commercial Vehicle Technologies
Transportation and Hydrogen Systems Center
National Renewable Energy Laboratory
15013 Denver West Parkway, MS 1633
Golden, CO 80401
303-275-4465
kenneth.kelly@nrel.gov

⁹ <http://www.economist.com/node/14298944>

¹⁰ <http://www.schoolbusfleet.com/article/722681/golden-opportunities-to-go-for-green-taking-advantage-of-alt-fuel-school-bus-funding>

¹¹ <http://www.govtech.com/fs/transportation/Electric-Buses-Are-Gradually-Replacing-Older-Fossil-Fuel-Models.html>

¹² ADOMANI, Inc.'s Comments to Ohio and its Volkswagen Funds

¹³ <https://sph.umich.edu/faculty-profiles/adar-sara.html>

¹⁴ <http://ns.umich.edu/new/releases/22829-reducing-school-bus-pollution-improves-children-s-health>

¹⁵ <https://www.nrel.gov/transportation/fleetttest-electric-school-bus.html>

¹⁶ <https://www.nrel.gov/transportation/fleetttest-fleet-dna.html>

- Regina McCormack, a former University of Delaware researcher, published a *Cost-Benefit Analysis of a V2G-Capable Electric School Bus Compared to a Traditional Diesel School Bus* in 2014 and is working on an updated cost-benefit analysis specific to the aforementioned Ohio school districts.¹⁷

Resources on costs, technical specifications and other related information:

- Electric School Bus Models and Associated Charging Equipment Currently Available For Purchase - [link](#) and attached as Appendix B
- Draft RFP with Technical Specifications For Electric School Buses - [link](#) and attached as Appendix C
- Electric School Bus Charging Equipment Installation Guide - [link](#) and attached as Appendix D
- Electric School Bus Planning and Lessons Learned Webinar - [link](#)

Respectfully,

Susan Mudd
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Laura Burns
Organizer
Moms Clean Air Force in Ohio
Tel: 419-989-0936
Email: Lburns@momscleanairforce.org

¹⁷ <https://www1.udel.edu/V2G/resources/V2G-Cost-Benefit-Analysis-Noel-McCormack-Applied-Energy-As-Accepted.pdf>



February 7, 2018

Ohio EPA-OEE
Attn: Carolyn Watkins
P.O.Box 1049
Columbus, OH 43216-1049

derg@epa.ohio.gov

**RE: Introduction of EV Connect and
Comments on VW Settlement Appendix D Environmental Mitigation Trust**

EV Connect thanks you for this opportunity to provide comments on the Environmental Mitigation Trust funding allocated to Ohio under Appendix D of the VW Settlement. We commend the State of Ohio in taking the opportunity to make a major investment in the public health of its residents by investing in clean transportation and improving overall air quality. EV Connect believes that by taking advantage of the full 15% of eligible funding to develop EV (Electric Vehicle) infrastructure will garnish the largest emissions reduction benefit to the State of Ohio. However, it is crucial for Ohio to make prudent decisions on the type of EV infrastructure that it invests in.

EV Connect is a leading provider of **open, standards-based** electric vehicle (EV) charging solutions for commercial, enterprise, hospitality, university and government facilities. EV Connect developed and operates the industry's most robust, open, and flexible cloud-based platform for the management of the entire EV ecosystem -- charging stations, the drivers that use them, the hosts that own them and the electric utilities that feed them. The EV Connect platform provides **charge station agnostic** command & control; enterprise and energy systems integration via an open API; driver communications and support; and demand-response functionality across multiple charging stations and networks. This approach maximizes investment dollars into a variety of EV charging solutions by preventing host sites within Ohio from being locked into a proprietary network and hardware relationship.

EV Connect's focus on providing a Software-as-a-Service (SaaS) solution to the EV charging industry enables it to manage across multiple charging station networks; provide integration between disparate charging station hardware; and increase feature/functionality to the charging eco-system.

The market has seen over 650,000 new EVs hit the road in the United States, since 2010—and growing. Every major automaker has announced substantial investments in electrification of light duty vehicles, with over 20 EV models already available. Transit and medium duty vehicle products are now competitive with combustion engine counterparts and major fleets across the country have announced plans for full electrification. EV Connect currently manages over 2,500 EV charging stations and is prepared to work in collaboration with Ohio offering the ability



to provide a range of partnerships from simple charging management solutions to full turn-key development abilities.

EV Connect makes the following recommendations needed to **necessitate a robust EV charging infrastructure for Ohio**:

Light Duty EV Supply Equipment (EVSE)

- EV Connect recommends that Ohio commit its full 15% allowance towards the implementation of an open, robust charging infrastructure throughout the State.
- Incentives should be structured through competitive programs;
- Insist upon an open, standards-based platform, as opposed to a proprietary, closed system where participants are restricted to one vendor/manufacturer;
- Promote public-private partnerships that support industry competition and allow a variety of business models to participate in the program;
- Seek a balanced approach between highway (DC Fast Charging) and residential/workplace and public (Level 2) charging infrastructure;
- Encourage cooperation with the local electric utility

All of these will encourage the adoption of environmentally-friendly electric vehicles; contribute to an efficient EV ecosystem within your state, and provide your citizens with reliable fueling capabilities.

Non-EVSE Appendix D Funding

EV Connect has experience providing charging infrastructure within the medium and heavy-duty sector including both fleet and transit and therefore believe that a large portion of the remaining 85% of Environmental Mitigation Trust funding available to your state can be fulfilled with EVs. As the largest emitters, the greatest relief in transportation emissions can be gained by through the electrification of the fleet and truck sectors. **EV Connect encourages Ohio to prioritize electrification over other alternative fuel sources.** EV Connect has already begun working in many U.S. cities on possible projects include regional, municipal and school bus fleets.

We hope you have found this letter informative, and thank you for considering our recommendations. As you work toward finalizing the Beneficiary Mitigation Plan, please consider EV Connect not only as an experienced, well-qualified supplier for your EV charging infrastructure needs, but also as a resource for insight into both the EV charging industry and the broader EV industry. We welcome a continuing partnership to usher in an era of transportation innovation in Ohio.

Sincerely,

A handwritten signature in black ink, appearing to read "Jordan Ramer".

Jordan Ramer, CEO

Jordan Ramer, CEO
615 North Nash Street, Suite 203, El Segundo, CA 90245
310.961.2096 • jordan@evconnect.com



Ohio Edison • The Illuminating Company • Toledo Edison

341 White Pond Drive,
Akron, OH 44320

Raymond L. Evans
Vice President, Environmental and Technologies

February 7, 2018

Ms. Carolyn Watkins
Office Chief, Ohio EPA-OEE
P.O. Box 1049
Columbus, OH 43216-1049
derg@epa.ohio.gov

Dear Ms. Watkins:

RE: Ohio Environmental Protection Agency's Draft Volkswagen Beneficiary Mitigation Plan

Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison, collectively referred to herein as the "Companies," would like to thank the Ohio Environmental Protection Agency (OEPA) for the opportunity to comment on Ohio's Draft Beneficiary Mitigation Plan (Plan). The Companies look forward to working with the OEPA and others on the opportunities presented to Ohio by the Volkswagen settlement fundings.

The Companies are dedicated to providing safe, reliable and operationally excellent electric service to the more than 2 million customers they serve across their three respective territories in Ohio. Of those 2 million customers, Ohio Edison Company serves more than 1 million customers across 34 Ohio counties, The Cleveland Electric Illuminating Company serves more than 750,000 customers across Ashtabula, Cuyahoga, Geauga, Lake and Lorain counties, and The Toledo Edison serves more than 300,000 customers in northwest Ohio.

The Companies support the increased deployment of electric vehicles and electric vehicle supply equipment, including electric vehicle (EV) charging infrastructure development and Plug-in Electric Vehicle (PEV) readiness plans across our service territories. The Companies support a Plan that focuses on investments that promote a sustainable, reliable program, and where the opportunities and challenges for infrastructure build out are identified and understood. Industry and policymakers must recognize and support that distribution enhancements are necessary to enable increased penetration of PEVs on the electric utilities' systems while maintaining reliability and resiliency. A well-planned buildout of EV and PEV infrastructure will foster economic development, and support the economic and environmental benefits of PEVs for the state, the industry, the state's utilities and their customers.

The Companies support the Plan's proposed allocation of the over \$75,000,000 in funds dedicated to Ohio to begin building the infrastructure necessary to support future, wider adoption of low- or zero-emitting electric transportation technologies across all sectors. We believe the Plan lays out a balanced approach that appropriately weighs cost effectiveness and emission reductions, while expediting deployment and facilitating wider adoption of these technologies.

The Companies also support the Plan's designation of first and second priority counties. These designations provide clear guidance on where deployment can have the greatest impact from an environmental and mitigation perspective. Portions of 19 of the priority counties designated are within the Companies' service territories, 9 of which have been designated as first priority counties. While it is important to direct the funds to places where it will have the most impact, the Companies also agree with the Plan's proposal to require a 25% local cost share on all funded projects. This will help maximize the availability of funds for various projects across the state.

Regarding EV charging stations specifically, the Plan states that the OEPA will work with local metropolitan planning organizations and electric utilities to determine priority locations and avoid duplicative efforts. Additionally, the Plan proposes to dedicate the maximum allowable for Zero Emission Vehicle (ZEV) supply equipment – 15% of the total state allocation, or \$11,295,378. The Companies agree with this approach, and reiterate the importance of electric utility involvement to ensure the effective, safe deployment of these technologies.

Electric utilities should be involved early and often in these efforts. They are in the best position to identify optimal locations for EV charging stations sites, develop public electric infrastructure, plan and manage regular maintenance to avoid EV infrastructure downtime, and plan for long-term infrastructure rollouts that are not subject to short-term profitability goals. The Companies also firmly believe that utilities should receive full and timely cost recovery for any costs incurred by the utilities to implement the settlement, including ownership of EV charging stations.

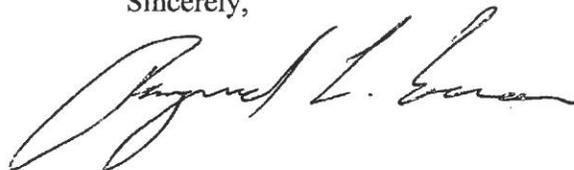
As the operators of the electrical system, electric utilities are in the best position to plan for and install public infrastructure where it is most suitable to enable greater EV adoption, maximizing deployment and environmental benefits. As one of the Plan's named business and industry partners, we believe utility assistance and engagement is vital to ensuring the most effective use of the funds and deployment of these technologies.

The Companies also agree with the OEPA's position that addressing non-road or off-road projects tend to result in the most cost-effective and largest emission nitrogen oxides (NOx) reductions. Over the years, FirstEnergy has supported various initiatives to explore clean electric alternatives to these mobile diesel emission sources. We have worked with our customers and EPRI to quantify the benefits of electrifying various non-road equipment including electric forklifts, airport ground support equipment, port shorepower, truck stop and distribution center electrification, electric switcher locomotives and electric transport

refrigeration units (eTRU's). We are pleased that Ohio's Mitigation Plan includes these categories, aligning with the VW Settlement guidelines.

Thank you again for the opportunity to provide comments on the Plan. The Companies welcome the opportunity to be active partners in this process with OEPA, our local communities, state agencies, and our customers.

Sincerely,

A handwritten signature in black ink, appearing to read "Raymond L. Egan". The signature is fluid and cursive, with a large initial "R" and a long, sweeping underline.



January 31, 2018

Ms. Carolyn Watkins
Ohio EPA-Office of Environmental Education
P.O. Box 1049
Columbus, OH 43216-1049

Dear Ms. Watkins:

My name is Alison Goebel and I am the Executive Director of the Greater Ohio Policy Center (GOPC), a nonpartisan, nonprofit with a mission to champion revitalization and sustainable growth in Ohio. Thank you for accepting formal comments on the state mitigation plan for the Mitigation Trust Fund association with the Volkswagen Consent Decree.

You may recall that GOPC submitted a recommendation in December 2016 during the first public comment period requesting that Ohio EPA provide 50% of the proceeds from the settlement be spent to repower and replace diesel vehicles in Ohio's public transportation fleet. As we noted at the time, public transportation in Ohio has been severely underfunded for years. Currently the state allocates approximately \$0.63 per Ohioan to transit, while Ohio's peers, such as Pennsylvania and Michigan, invest over \$24.00 per capita. Half of Ohio's allotment (\$35.7 million) of the Mitigation Trust Fund could replace more than 125 diesel-powered city buses, or repower more than 700 buses with alternative fuel engines.

GOPC has had the opportunity to review the Draft Beneficiary Mitigation Plan and a representative of our organization attended the public information session hosted in Columbus on January 11. We wholeheartedly endorse the draft plan recommendation that 45-50% of the settlement be spent on on-road fleet and equipment projects, with 20% of the total settlement (\$15 million) allocated for the replacement of transit buses and 20% for school bus replacement.

GOPC believes that using the settlement funds for transit vehicles is the highest and best use of the Mitigation Trust Fund dollars.

The eight largest public transportation systems serving Ohio EPA's possible priority counties provided more than 105 million rides in 2015. If transit ridership rates remain the same over the ten year life of the Mitigation Trust Fund, Ohio will potentially avoid more than 1.05 billion automobile rides.

Eliminating emissions from outdated diesel transit engines and substantially contributing to the reduction of individual automobile emissions will have extraordinary and compounding benefits for Ohio's air quality.

Greater Ohio is pleased to support the Draft Beneficiary Mitigation Plan and is encouraged to hear that there may exist an opportunity for additional funds available under the draft plan to be reallocated towards on-road fleet and equipment projects in the future.

Thank you for the work that you have put in to developing this draft plan. GOPC fully supports this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read "A. D. Goebel". The signature is fluid and cursive, with the first letter of each name being capitalized and prominent.

Alison D. Goebel, PhD
Executive Director
Greater Ohio Policy Center

COMMISSIONERS OFFICE

February 6, 2018

IN THE MATTER OF: RESOLUTION – RECOMMENDING THE OHIO ENVIRONMENTAL PROTECTION AGENCY CREATE A COMPETITIVE FUNDING ROUND FOR RURAL COUNTIES WITH TEN PERCENT OF THE MITIGATION FUND

Mrs. Stacy offered the following resolution and moved the adoption of the same, which was duly seconded by Mr. Thomas

WHEREAS, The Seneca County Commissioners, Michael J. Kerschner, Holly M. Stacy and Shayne Thomas met in open and regular session on this 6th day of February, 2018, and

WHEREAS, Seneca County is a forward leaning county that evaluates progressive ideas and opportunities, and

WHEREAS, A cooperative parking committee has been formed with local municipal, judicial, and business representative, and

WHEREAS, this committee has contemplated the future of parking in the county seat in the vicinity of vital county offices,

WHEREAS, it has been noted that emerging technology in the automotive industry may impact parking. It has been resolved that we should evaluate these forces for the future including autonomous vehicles and Electric vehicles. In the spirit of a forward leaning county it has been resolved to evaluate all grant opportunities for these emerging technologies.

WHEREAS, Volkswagen has entered into a settlement agreement to mitigate emissions violations in the United States. With this settlement the State of Ohio is set to receive approximately seventy five million dollars (\$75,000,000.00). The Ohio Environmental Protection agency has proposed a draft plan that would primarily use the mitigation funds in metropolitan areas of Ohio to the exclusion of almost all of rural Ohio, and

RESOLVED, That this Board of County Commissioners, Seneca County, Ohio, be and it does hereby object to the Ohio Environmental Protection Agency’s proposed mitigation plan because it prohibits many counties from applying for funds from the plan. Funds that would provide clean air infrastructure like electric vehicle charging stations. The Seneca County Commissioners would recommend that the OEPA create a competitive funding round for rural counties with ten percent of the mitigation fund, and be it further,

RESOLVED, That the Clerk to the Board be and she is hereby authorized and instructed a certified copy of this resolution with the any offices or parties in line with this action, and be it further

RESOLVED, that it is found and determined that all formal actions of this Board concerning and related to the adoption of this resolution were so adopted in an open meeting of this Board and that all deliberations of this Board and of any of it communities that resulted in such formal actions, were in meeting open to the public and in compliance with all legal requirements.

Mr. Thomas- yes

Mrs. Stacy- yes

Mr. Kerschner- yes

Shayne Thomas
Holly M. Stacy
MJ Kerschner

Attest: Yvonne Smith
Clerk to the Board

I, the undersigned, Clerk to the Board, Seneca County, Ohio, do hereby certify that the foregoing is a true and correct copy from the official record of said Board of County Commissioners as recorded in Resolution 2018 - 51
Yvonne Smith
Clerk to the Board



Kim Pittel
Group Vice President
Sustainability, Environment & Safety Engineering
Ford Motor Company

Ford World Headquarters
One American Road
Dearborn, MI 48126-2738 USA

February 15, 2018

Carolyn Watkins
Ohio Environmental Protection Agency
Office of Environmental Education
50 West Town Street, Suite 700
Columbus, Ohio 43215

Subject: Ford Motor Company's Input on VW Draft Beneficiary Mitigation Plan Appendix D

Dear Ms. Watkins:

Thank you for this opportunity for Ford Motor Company to provide input on the use of your state's Environmental Mitigation Trust (EMT) funds.

Vehicle electrification is core to Ford Motor Company. We introduced the Escape Hybrid nearly 20 years ago; our Hybrid and Plug-in vehicles are among the best sellers in the industry, and we recently announced plans to invest more than \$11 billion in electrification by 2022. Ford believes that the future of transportation is electrified, and this future will benefit both our customers and the environment.

Substantial challenges must be overcome before this future can be realized. A principal challenge is the significant shortfall in publicly available EV charging.¹ For this reason, **we encourage Ohio to utilize the maximum allowable 15% toward light duty electric vehicle charging infrastructure.**

CHARGER SITING RECOMMENDATIONS

Charging infrastructure must meet both daily driving and long distance travel needs.

Daily Driving: Charge While Parked

While high-speed DC Fast Charging (DCFC) is essential for EVs driving long distance, this 'while you wait' model is a poor solution for day-to-day EV usage. A common 50 kW DC Fast Charger requires **nearly 45 minutes** to add 100 miles of range, significantly affecting the driver's daily routine. Meanwhile, the average vehicle is parked for 22 hours a day.² **Charging while parked** is the superior solution.

Charging while parked at home, work, or destinations conveniently incorporates charging into daily routines. It also allows use of lower power Level 2 (L2) AC chargers, which, compared to DCFC, are cheaper to install and operate³ and provide lower priced electricity to consumers.

Ford recommends that Ohio fund L2 charging **where vehicles park on a routine basis**. While there are several options for more L2 charging, such as on-street charging (e.g., lamppost retrofits) in high density

¹ US DOE. National Plug-In Electric Vehicle Infrastructure Analysis (<https://www.nrel.gov/docs/fv17osti/69031.pdf>).

² Source: AAA and Ford Analytics.

³ https://www.afdc.energy.gov/uploads/publication/evse_cost_report_2015.pdf

neighborhoods, Ford believes that chargers at workplaces will provide the greatest impact. Therefore, funding of **workplace charging** should be prioritized.

The unique benefits of **workplace charging** include the following:

- **Increased EV adoption.** Workplaces become EV showcases. US DOE data suggests that employees with workplace charging are 6 times more likely to purchase an EV. Ford's own experience installing over 200 L2 chargers at our offices and manufacturing plants demonstrated a clear increase in EV adoption and increased electric vehicle miles driven for plug-in hybrids.⁴
- **Routine.** The majority of drivers park at their workplace for 4-10 hours on Monday through Friday. This parking time is sufficient to meet most drivers' range needs with L2 chargers.
- **Alternative for Multi-Unit Dwelling (MUD) Residents.** Workplace charging gives those with limited 'home charging' options an affordable place to charge, expanding the EV market.

Long Distance Travel: Highway Corridor Charging

While there are several solutions for routine charging, long distance travel is impossible without a 'while you wait' model of DCFC along major highway corridors. A complete intercity DCFC network is required for most drivers to adopt an EV as their only vehicle. Therefore, EMT funds should also be directed towards **highway DCFC fast chargers**. To prevent long lines and impractical charge times, highway DCFC stations should have 100-150 kW capability or greater.

POLICY RECOMMENDATIONS

In addition to our funding allocation recommendations, Ford recommends the following policy items.

Coordinate Efforts

In order to ensure the most cost effective and grid responsible build out of charging infrastructure, Ford encourages Ohio to coordinate with local utilities and other key stakeholders in strategic planning efforts. We encourage Ohio to consider related programs like the VW National ZEV Investment Plan.

Ohio is also in a unique position to increase the impact of EMT funds through concurrent development of EV-friendly policy, including:

- **Building Code** modifications to require new or modified residential and commercial parking be charger 'make ready,' including conduit installation and service panel upgrades.
- **Complementary Incentives** like utility charger installation support (e.g., transformer upgrades) or free permitting.

Ensure a Positive Consumer Experience

In addition to intelligent siting, deploying easy-to-use equipment maximizes the impact of new public chargers. As such, projects should meet the following customer protection principles⁵:

- **Payment Interoperability.** Public chargers should accept a standard method of payment (credit card or mobile app like ApplePay) rather than a dedicated card or key, which can leave drivers stranded.

⁴ <https://www.slideshare.net/emmaline742/stephanie-janczakcharging-up-at-work-november-2017>

⁵ Similar comments were provided to Connecticut DEEP by Plug-In America, a non-profit organization that bills itself as the "national consumer voice for plug-in electric vehicles."

- **Transparency.** The price of a charge should be clear to the driver, both at the point of sale and also via any charger locator apps.
- **Mapping Data.** All electric vehicle service providers (EVSPs) should make mapping data for charging locations readily available, including, as noted above, charging costs.
- **Signage.** Even when shown in a mapping app, chargers can be difficult to locate. Charging stations should have adequate signage, from highway visibility down to the last few feet. Signage provides the additional benefit of increasing charger visibility for non-EV drivers considering EV adoption.
- **Accessibility.** Charger installation projects should be designed in accordance with Title III of the Americans with Disabilities Act (ADA), giving people with disabilities the option to 'go electric.'⁶

Provide Competitive Bidding

Ohio can best accelerate sustainable growth of public charging infrastructure by funding a diverse cross-section of the charging industry. To this end, the state should support competition and allow multiple vendors and business models to participate.

In summary, Ford recommends that a **full 15%** of EMT funds be allocated towards light duty charging and be spent primarily on **workplaces** and **highway** corridors. Ford also recommends a number of policy items to support the coordination of efforts to deploy chargers. If you would like to discuss further, please contact Gabby Bruno, Ford's Government Relations Representative for Ohio, at gbruno1@ford.com or 313-317-4764.

Sincerely,



Kim Pittel
Group Vice President
Sustainability, Environment & Safety Engineering
Ford Motor Company

⁶ Resource: *ADA Requirements to Consider for Workplace Charging Installation* (<http://vwclearinghouse.org/resource/ada-requirements-for-workplace-charging-installation/>).

Shuman, Justin

From: Watkins, Carolyn
Sent: Thursday, March 01, 2018 2:00 PM
To: Shuman, Justin
Subject: another VW comment
Attachments: HPCD TESTING FINAL REPORT%2c 5_16_16_Revised_10_13.pdf; Eco Chem report Dublin cover letter-1.pdf; CMSD letter.jpg; Patent1.jpg; Patent2.jpg; obama.jpg; download.jpg; SmartPump.pdf

Please log this as another VW comment, and save the files. I've forwarded to Alan for a determination as to whether this is VW eligible before we will respond. We may also see if it's DERG eligible.

From: Mike Brennan [mailto:mbrennan@ecochem.us]
Sent: Thursday, March 01, 2018 1:52 PM
To: Watkins, Carolyn <Carolyn.Watkins@epa.ohio.gov>
Subject: Our phone call this week

Hello Carolyn,

Thank you for speaking with me about Ohio EPA's Draft Beneficiary Mitigation Plan for our state's share of the Volkswagen emissions rigging settlement. I understand Ohio EPA will present its final recommendations on how to allocate the funds to Gov. Kasich in just a few weeks.

The draft plan states that projects that receive funding are likely to reduce ozone (smog) concentrations and emissions of carbon dioxide and other pollutants, and produce the greatest air quality benefit in terms of NOx emission reductions, reduced public exposure to the pollutants in diesel exhaust, and the promotion of clean vehicle technologies. Ohio EPA will use "a variety of funding mechanisms" including \$15 million in competitive grants in each of the first three years of the program (2018-2020) and Sole-source grants awarded based on restrictions of location, product, service or time.

As you are aware, diesel--powered vehicles are the mainstay of our mass transportation system and our freight delivery system in North American. Diesel fuel will not soon be replaced by CNG, electric, or any other "green technologies" anytime soon. However, the US fueling infrastructure is broken and in need of repair. The World Fuel Charter estimates that half of the diesel dispensed in the United States does not meet ISO standards for quality and cleanliness. So I bring your attention to EcoChem Alternative Fuels (EAF), a Dublin, Ohio company that invented and holds patent rights to a cleaner-burning, more efficient fuel called *High Performance Clean Diesel (HPCD)*. I also bring your attention to our client and potential beneficiary Cleveland Metropolitan School District (CMSD), one of 24 Ohio municipalities and public school districts that have substantially reduced their carbon footprint by switching from commercial diesel to HPCD. *HPCD* has been proven in multiple studies to increase fuel economy by over 10% vs commercial diesel, improve the performance of Emissions Control Systems, and according to 2017 tests by a lab using EPA prescribed protocols, *HPCD* cut carbon emissions by over 27%.

Currently, Cleveland schools take delivery of *HPCD* via specialized tanker or mobile refinery equipment. But like many other Ohio school districts, Cleveland has a big infrastructure problem -- aging underground storage tanks and dispensers over 60 years old are contaminating the fuel supply, and offsetting the benefits of *HPCD*. Therefore, CMSD has an urgent and immediate need to replace its obsolete infrastructure with the *Smart Fuel & Fleet Station*, the only commercially-available fueling system that converts ULSD # 2 commercial diesel into *HPCD*. The *Smart Fuel & Fleet Station* (attachments 3 and 4) was developed by EAF in cooperation with Ohio State University Center for Design and

Manufacturing Excellence, and EcoChem was awarded US patent protection for the system last year (Attachments 4 and 5). This technology is now available for commercial application as a sustainable, environmentally-friendly replacement for aging fossil fueling infrastructure.

EcoChem has achieved market penetration and acceptance solely with private financing, some earned media (attachment 6) and some institutional support. I seek your counsel and future guidance in helping CMSD apply for and secure funding for this important pilot project. Insofar as HPCD and the *Smart Fuel & Fleet Stations* are proprietary technology developed right here in the state of Ohio and available from just one source, we propose that the sole source funding guidelines be used by Ohio EPA to fund the purchase or defray some of the cost differential between the *Smart Fuel & Fleet Station* and conventional fueling technology for Cleveland schools.

Thank you again for your time and interest. I hope we can discuss this matter further at your convenience.

Sincerely,

Mike Brennan

EcoChem Alternative Fuels

Phone: (614) 679-1434

Fax: (614) 568-7704

mbrennan@ecochem.us

<http://www.hpcdfuel.com>



The Next Generation of Fuel – High Performance Clean Diesel
"Because Better Fuel Burns Cleaner"

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We would like to support public demand urging that Volkswagen Settlement funds be invested in all-electric zero-emission trucks and buses. This settlement has provided your state with a unique opportunity to improve air quality and the environment, while propelling advanced technology deployment in the transportation industry. As a US based small business and manufacturer, Motiv Power Systems knows first-hand how effective energy policy can promote sustainable solutions and clean transportation.

Motiv has developed all-electric vehicle technology, available for a wide range of medium-duty body applications including: walk-in vans, box trucks, school buses, shuttle buses, work trucks, and specialty vehicles. Our technology is approved by Ford and we have partnered with several industry leading organizations to deploy these vehicles in California and New York so far. Heavy-duty commercial vehicles consume considerably more fuel than light duty passenger vehicles, so the environmental benefits of replacing conventionally fueled commercial vehicles with electric vehicles include substantially reduced emissions and improved air quality. Heavy-duty freight trucks disproportionately contribute to pollution and represent less than one-tenth of all vehicles, yet account for roughly 40% of carbon emissions, and this figure continues to grow. Current cutting-edge diesel technologies offer only a 40% reduction in carbon emissions at best, whereas Motiv Power Systems' fleet of electric vehicles can achieve over double that reduction (over an 80% decrease in fuel life-cycle emissions).

In developing a plan to administer your Volkswagen Settlement funds, Motiv urges your state agency to consider California's successful market-based program for commercial vehicles: The Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP). The HVIP program takes a first-come, first-served approach by encouraging fleets to apply to receive funding for cleaner vehicle technologies. HVIP focuses on medium to heavy duty vehicles. Eligible vehicles include shuttle buses, school buses, work trucks, delivery trucks, and more. This accessible program is easier to administer, customer friendly, and significantly reduces emission pollutants. The HVIP program could be used as a model to administer your state agencies Volkswagen settlement funds as it has been proven to lessen the administrative red tape of lengthy grant processes and ease fleet operator's transition to electric vehicles in turn enabling a simpler, faster solution to poor air quality.

To show how a voucher program can help fleets go electric, we have included a sample total cost of ownership (TCO) model with and without a voucher.

Sincerely,

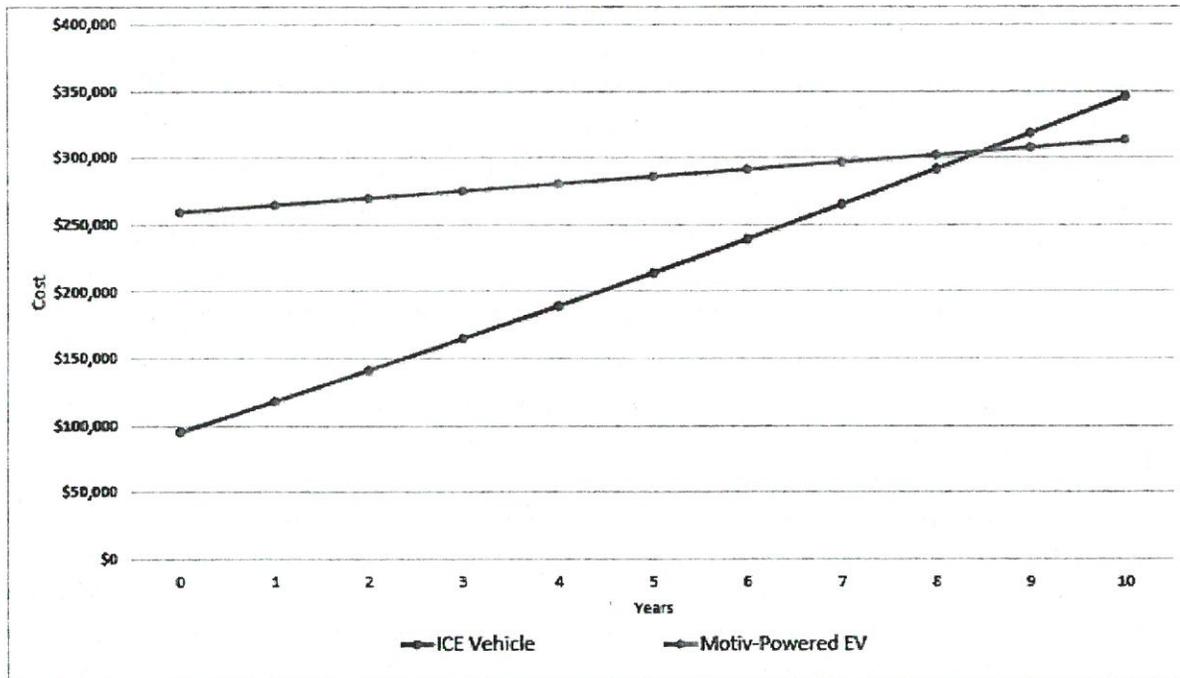
Jillian Solomon

Sales Associate at Motiv Power Systems

650- 292-2393

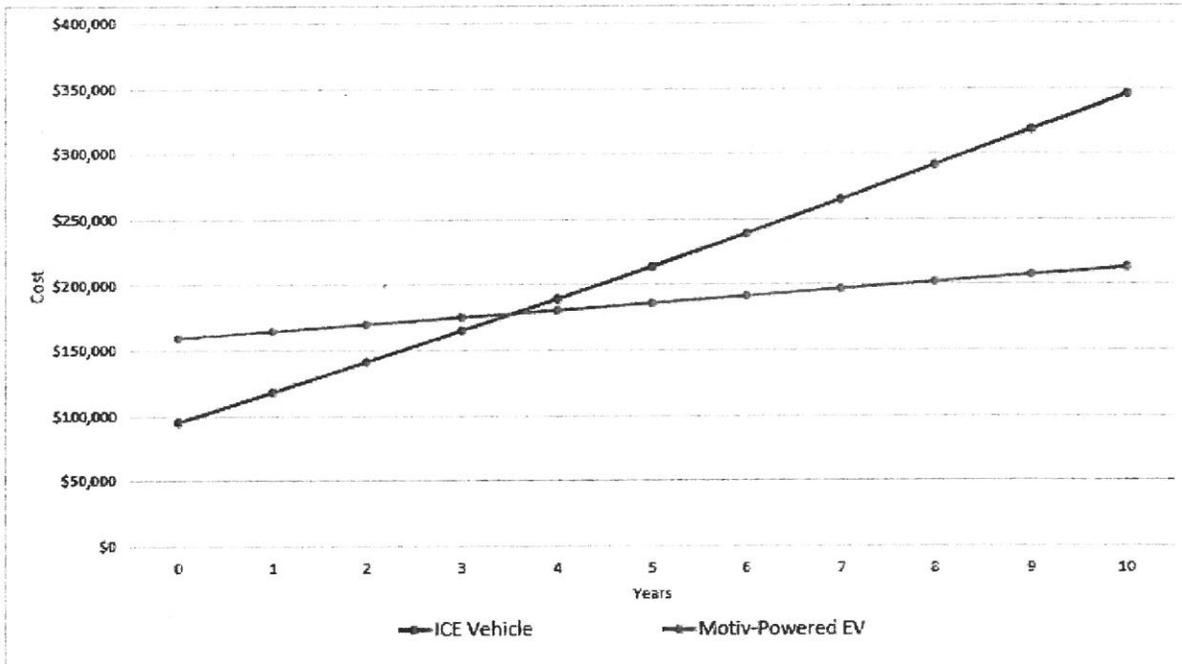
Jillian.solomon@motivps.com

	ICE VEHICLE	MOTIV-POWERED EV	SAVINGS
Average Annual Fuel Costs	\$17,884	\$2,938	\$14,946
Annual Maintenance Costs	\$7,200	\$2,448	\$4,752
Annual Carbon Emissions (tons)	42.90	0	42.9
Annual PM10 Emissions (lbs)	11.45	0	11.5
Annual NOx Emissions (lbs)	351.31	0	351.3
Total Cost of Ownership	\$345,837	\$313,108	\$32,729
Payback Period	8.33 years		



ASSUMPTIONS			
Comparable ICE Vehicle Price	\$95,000	EV Purchase Price - Before Incentives	\$259,250
ICE Efficiency (mpg)	5	EV Incentives	\$0
ICE Fuel Price (\$/gal)	\$4.00	EV Price - After Incentives	\$259,250
Electricity Price (\$/kWh)	\$0.12	Miles per Day	75
Lifetime (years)	10	In-Use Days per Year	260

	ICE VEHICLE	MOTIV-POWERED EV	SAVINGS
Average Annual Fuel Costs	\$17,884	\$2,938	\$14,946
Annual Maintenance Costs	\$7,200	\$2,448	\$4,752
Annual Carbon Emissions (tons)	42.90	0	42.9
Annual PM10 Emissions (lbs)	11.45	0	11.5
Annual NOx Emissions (lbs)	351.31	0	351.3
Total Cost of Ownership	\$345,837	\$213,108	\$132,729
Payback Period	3.26 years		



ASSUMPTIONS			
Comparable ICE Vehicle Price	\$95,000	EV Purchase Price - Before Incentives	\$259,250
ICE Efficiency (mpg)	5	EV Incentives	\$100,000
ICE Fuel Price (\$/gal)	\$4.00	EV Price - After Incentives	\$159,250
Electricity Price (\$/kWh)	\$0.12	Miles per Day	75
Lifetime (years)	10	In-Use Days per Year	260

The first table and graph illustrates the approximate time a medium-duty Motiv EV will breakeven without a state-provided voucher incentive compared to a conventional, medium-duty diesel vehicle. The second table and graph uses the same comparison, but accounts for a state-provided voucher incentive of \$100,000. This amount is comparable to what California's HVIP offers fleets today. As you can see, with a \$100,000 voucher, the payback period and total cost of ownership becomes significantly more attractive. This will help fleets take the plunge and clean up air in your state!

We hope you will consider our recommendations. We are available to provide more information as needed.

