
From: Brianna Lawrence <brianna.lawrence@gladstein.org>
Sent: Monday, November 13, 2017 3:52 PM
To: IDEM VWTrust
Subject: Penske Comments for VW Funding Plan
Attachments: Penske VW EMT Comments, Indiana 11.13.2017.pdf

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To Whom It May Concern -

Please see attached for comments from Penske Truck Leasing regarding the proposed VW Beneficiary Mitigation Plan.

Please do not hesitate to reach out to us should you have any questions or need any additional information.

Sincerely,

Brianna Lawrence (Consultant to Penske Truck Leasing in Alternative Fuels)

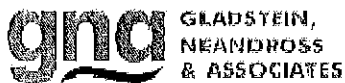
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CLEAN TRANSPORTATION & ENERGY CONSULTANTS

High Horsepower "HHP" Summit | November 6-9, 2017 – Jacksonville, FL

Advanced Clean Transportation "ACT" Expo | April 30 - May 3, 2018 – Long Beach, CA



November 13, 2017

Indiana Department of Environmental Management
100 N. Senate Ave.
Indianapolis, IN 46204

Re: Penske Comments on VW Funding Planning

To Whom It May Concern:

Penske would like to thank the Indiana Department of Environmental Management (IDEM) for the opportunity to provide comments on the Volkswagen settlement funding plan for the state. IDEM has consistently provided an opportunity for stakeholder engagement and feedback to shape and refine programs to ensure they are meeting their intended purposes—a process we strongly respect and admire.

Penske remains committed to reducing vehicular emissions and accelerating deployment of cleaner vehicle technology and can be a natural partner with the state in achieving some of its goals to reduce emissions from transportation. Penske's average customer size is between 8 and 12 trucks and is able to provide comprehensive vehicle services to companies that do not have the financial capital and necessary experience to purchase and maintain alternative fueled vehicles. Leasing with Penske provides the following benefits to fleets:

- No upfront purchase costs and concerns about vehicle residual/resale
- No costs to modify maintenance facilities
- No maintenance training costs and investment in special tools
- No fueling anxiety as Penske will help with vehicle routing and fueling contracts
- 24/7 Roadside assistance & nationwide service network
- Cost savings from Penske's purchasing power for fuels and vehicles that can be passed onto customers

In order to provide alternative fuel vehicles at competitive rates with their diesel and gasoline counterparts, Penske leverages incentives, such as grant programs and tax credits. Since Penske accesses these programs throughout the U.S., we have come to understand the programs that work best to incentivize clean vehicle deployment for small, mid-sized and large fleets alike. We are providing this insight to you so that you may consider it as you work to create funding programs from the VW settlement but also in your efforts to create future incentive programs to deploy cleaner and more advanced vehicle technology within the state. Specifically, we would recommend the following:

1. **Treat vehicle leasing like any other financing mechanism and allow fleets the opportunity to have equal access to program funding regardless of the financing mechanism.** Programs can be created in ways that allow you to achieve your objectives in terms of the certain number of years in operation; requirements to hold onto the vehicle for a certain length of time; and targets on mileage/area operation. This can all be done with leasing—just like it can be done with vehicle loans directly by the fleet. We would encourage that you develop programs that do not differentiate between the financing mechanisms used and instead focus on the specific objectives you are trying to achieve, regardless of the financing mechanism utilized to get there.



2. **Create a priority list** versus a wait list that will allow for you to rank projects that achieve better emissions reductions through replacement of vehicle miles travelled of traditional diesel or gasoline.
3. If you do create a waiting list mechanism for an ongoing program, **provide waiting list and application funding transparency**. Funds for clean vehicle programs frequently become oversubscribed almost immediately upon program opening for popular funding programs. A simple email list that lets people know weeks before the date it will open will allow for transparency in the program.
4. **Ability to move between weight classes and increase number of vehicles** once awarded. From the period of application to award, things change. Maintaining programmatic flexibility while ensuring that projects are still held to their allocated dollar amount and program effectiveness (e.g., meeting emissions requirements) is key.
5. **Simple contracting mechanisms** are key to ensure faster deployment. We have seen that purchase order formats with terms and conditions in a 1-2 page format on the back of a purchase order, such as that in Colorado, work really well and are easy to understand and follow.
6. **Simple reporting templates** are key to encourage and receive timely reporting. We recommend 2-4 times a year and have it specific to fuel use, mileage and listing of any project challenges encountered.
7. **Quick payment periods** are essential, especially for smaller fleets, so they do not have to carry expenses for too long without reimbursement.
8. **Scrappage alternatives** are very helpful as frequently companies will see this as a barrier to entry. Many fleets know that their 10 year old truck, for example, carries more value than what can be achieved when just sending it to a dismantler and collecting scrap value. Yet we recognize the state might not want these vehicles to reenter the state. Allow for flexibility here to dispose of the vehicles in ways other than outright scrappage—perhaps an export option like that allowed in Texas or even the opportunity to sell the vehicle to a fleet who has much older units in operation as a 10 year diesel vehicle would be cleaner than a 20 or 30 year old unit that is in operation. Another key opportunity area is to provide a way for an entity like Penske to apply for the funding but for the end user (the actual fleet) to turn in one of their vehicles.

We are eager to work with you and your team to advance cleaner vehicle technology and to reduce emissions in the state. When fleets choose Penske for their clean vehicle needs, it is analogous to hiring an experienced in-house alternative fuel team, and the fleets we work with in your state are eager to replace some of their older vehicles with cleaner and more fuel efficient, less polluting options.

Sincerely,

A handwritten signature in black ink, appearing to read "D Stapleton", with a horizontal line extending to the right.

Dean Stapleton, Senior Manager of Alternative Fuels
Penske Truck Leasing

From: Peter Wilkin
Sent: Wednesday, November 08, 2017 6:57 PM
To: IDEM VWTrust
Subject: VW Trust settlement funds: what to do with the money

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Idem,
I have lived in Valparaiso, IN for 30 years.
I bicycle everywhere that I can, almost every day
In all those years I have never smelled or seen black smoke coming from a VW!

Every day cycling or walking I smell and see smoke coming from almost all trucks and buses that are pickup size and larger, and to a lesser extent SUVs. Diesel or gas. A few turbo diesel pickup truck drivers have covered me in black smoke

To me the answers to what to do with the funds are obvious:

- 1) rules governing all truck emissions are inadequate, so work getting legislated stricter rules
- 2) base your clean-it-up decisions not on the worst polluters (that may be farm tractors) but on vehicles that are used everyday, eg semi-trailer trucks and pickup trucks, utility vehicles, school buses, UPS vans and so on
- 3) ban all truck, van and bus idling. Where trucks are stopped on the road with flashers in use, instead require
the motor be turned off and cones be placed as a warning

If you do these things air pollution will be much reduced. I realize that a legislation that is stupid enough to raise the fuel tax on diesel by barely more than half that on gasoline is a formidable obstacle.

Sincerely
Peter J. Wilkin

From: Caitlin Marquis <cmarquis@aee.net>
Sent: Wednesday, October 04, 2017 10:57 AM
To: IDEM VWTrust
Cc: Matt Stanberry; Vincent Griffin; SEALS, SHAWN
Subject: Fwd: AEE Input on Indiana's VW Beneficiary Mitigation Plan
Attachments: AEE Comments - Indiana VW Mitigation Trust Plan - 10-3-17.pdf

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Shawn,

As you lead Indiana in developing a Beneficiary Mitigation Plan under the Volkswagen settlement, I am pleased to send along the attached recommendations on behalf of Advanced Energy Economy (AEE), a national business association working toward a global energy system that is secure, clean, and affordable.

In the advanced transportation sector, members of AEE include manufacturers of different vehicle sizes, from small, low-speed vehicles to large, heavy-duty vehicles, operated on electric and hydrogen fuels, as well as charging infrastructure providers, grid integration solution firms, and companies providing supporting technologies and software services.

AEE and our member companies look forward to helping Indiana in its transition to a 21st century transportation system—please reach out if we can assist in any way as you continue to develop a Beneficiary Mitigation Plan.

Best,

Caitlin

Caitlin Marquis
Manager, Federal and State Policy
Advanced Energy Economy
The business voice of advanced energy

Email: cmarquis@aee.net
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Web: www.AEE.net | Twitter: [@AEEenet](https://twitter.com/AEEenet)

Use PowerSuite to identify and manage energy policy risks and opportunities. Legislative and Regulatory. State and Federal. One tool. [Learn more >](#)



**ADVANCED
ENERGY
ECONOMY**

the business voice of advanced energy

Shawn Seals
Indiana Department of Environmental Management
Office of Air Quality

October 3, 2017

Dear Mr. Seals,

Advanced Energy Economy (AEE) is pleased to submit recommendations to inform the development of Indiana's Beneficiary Mitigation Plan under the Volkswagen (VW) settlement. Funding available through the VW Mitigation Trust presents a rare opportunity for states to make investments in transportation infrastructure and equipment that can unlock a range of benefits, including cost savings for vehicle and fleet owners, increased competition in the transportation sector, reduced dependence on conventional fuels, economic and employment growth, grid and electricity market benefits, and significant reductions in air pollution.

The potential impact of this funding is even greater because it has come at a pivotal time when advanced vehicle models such as electric, hybrid-electric, and hydrogen fuel cell vehicles have reached technological maturity but have not yet achieved widespread deployment. Several challenges preventing adoption—including fueling and infrastructure needs, range anxiety, and consumer awareness—can be addressed through careful deployment of funding under the VW Mitigation Trust, in coordination with other state and federal efforts.

In developing a Beneficiary Mitigation Plan, states face key choices that will mark the difference between simply achieving emission reductions, or doing so while also laying the groundwork for a transformative shift in the transportation landscape that can produce much deeper reductions in emissions over time while delivering other societal benefits. AEE's comments provide recommendations for the Indiana Department of Environmental Management to make best use of the Mitigation Trust to achieve not only direct, immediate emission reductions, but also lasting and indirect benefits.

As a national association of business leaders who are making the global energy system more secure, clean, and affordable, AEE supports a transition to a 21st century transportation system. In the advanced transportation sector, AEE's membership includes manufacturers of different vehicle sizes, from small, low-speed vehicles to large, heavy-duty vehicles, operated on electric and hydrogen fuels, as well as charging infrastructure providers, grid integration solution firms, and companies providing supporting technologies and software services.

As Indiana DEM continues to develop its Beneficiary Mitigation Plan, please consider AEE as a resource for recommendations and information on both technology and policy issues. AEE and its members look forward to helping Indiana in its transition to a 21st century transportation system.

Sincerely,

Matt Stanberry
Vice President
Advanced Energy Economy
Email: mstanberry@aee.net | Phone: [919.423.8897](tel:919.423.8897)

ADVANCED ENERGY ECONOMY COMMENTS

Indiana Beneficiary Mitigation Plan

In re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation, No. 3:15-md-02672-CRB (N.D. Cal.) (MDL 2672)

Introduction

AEE's perspective on the Beneficiary Mitigation Trust

Innovations in the transportation sector over the past decades have resulted in a wide range of advanced vehicle options, including plug-in electric, hybrid-electric, hydrogen fuel-cell electric, natural gas, and propane-fueled vehicles. These options are market-ready, in some cases widely deployed, and increasingly cost-competitive. Properly managed deployment of these advanced vehicles can deliver multiple benefits, including cost savings for vehicle and fleet owners, increased competition in the transportation sector, reduced dependence on conventional fuels that are frequently imported and subject to price volatility, economic and employment growth, reduced costs for ratepayers and improvements in the electric grid, and reductions in air pollution.

However, despite significant progress, the transportation sector is still overwhelmingly dominated by conventional gasoline- and diesel-fueled internal combustion engine (ICE) technology. Insufficient fueling infrastructure, range anxiety, higher upfront vehicle costs, slow fleet turnover, lack of model availability, regulatory hurdles, and lack of consumer awareness are all slowing the transition to an advanced vehicle future. Given the readiness of advanced vehicle and fueling technology, one of the most effective means to facilitate a transition to an advanced vehicle future is to increase funding for deployment of vehicles and infrastructure. These investments can create a virtuous cycle, with rising deployment of vehicles and infrastructure leading to economies of scale that drive down prices so that deployment continues to rise.

As such, the Volkswagen "Clean Diesel" settlement presents a rare opportunity at an opportune time (albeit one that has come at a significant environmental price). Through careful investment of the Mitigation Trust, states can fund projects that not only reduce emissions but also increase consumer awareness and confidence, help close crucial fueling infrastructure gaps to address range anxiety, support or incent improvements in grid integration of electric vehicles, and help bring advanced vehicles down the technology learning curve, leading to improvements in cost and performance. By making progress on these challenges, states can ultimately unlock opportunities for emission reductions in the transportation sector far beyond the immediate reach of the Mitigation Trust, leveraging limited funds for maximum impact.

In deciding how to allocate funds and prioritize projects under the Mitigation Trust, states face key choices that will mark the difference between simply achieving emission reductions, or doing so while also laying the groundwork for a transformative shift in the transportation landscape that can produce much deeper reductions in emissions along with a number of other societal benefits. Advanced Energy Economy (AEE) is pleased to submit comments in support of a Mitigation Trust Plan that will put Indiana on a path to a 21st century transportation system.

About Advanced Energy Economy

AEE is a national association of business leaders who are making the global energy system more secure, clean, and affordable. Advanced energy encompasses a broad range of products and services that constitute the best available technologies for meeting energy needs today and tomorrow. Among these are energy efficiency,



demand response, energy storage, natural gas electric generation, solar, wind, hydro, nuclear, advanced vehicles, biofuels, and smart grid—innovations that make the energy we use more secure, clean, and affordable.

In the advanced transportation sector, AEE's membership includes manufacturers of different vehicle sizes, from small, low-speed vehicles to large, heavy-duty vehicles, operated on electric and hydrogen fuels, as well as charging infrastructure providers, grid integration solution firms, and companies providing supporting technologies and software services.

Comments

Principles to guide Mitigation Trust Plan development

AEE's comments focus on opportunities for states to leverage the significant yet finite funding available through the VW Mitigation Trust to catalyze lasting, transformative change. With this goal in mind, our comments are guided by three important principles. Specifically, in its Beneficiary Mitigation Plan, AEE recommends that Indiana:

- **Focus on the big picture** by adopting an integrated and long-term view of the transportation landscape and its emissions profile and avoiding a narrow focus on the near-term cost-effectiveness of emission reductions;
- **Consider a range of goals and project benefits** by accounting for both direct and indirect emission reduction impacts and by looking for opportunities to overcome both price and non-price barriers to the level of advanced vehicle adoption that will transform transportation; and
- **Encourage innovative solutions** that stretch the impact of Mitigation Trust funding by engaging utilities, government agencies, industry representatives, and other key stakeholders, and by exploring opportunities to integrate Mitigation Trust projects with other incentives, programs, and projects.

By following these guiding principles and the recommendations that follow from them, Indiana will not only achieve emission reductions in the near-term, but will also accelerate the broader transformation of the transportation sector, driving much deeper emission reductions over the medium- and long-term.

Goals for the use of the funds should reflect the full suite of potential benefits

AEE urges states to consider an expansive list of goals and priorities under the Mitigation Trust Plan. Specifically, states should give significant weight to benefits that will contribute to energy, environmental, and economic development goals. These goals and benefits include diversifying the state's transportation sector and fuel mix, accelerating cost declines in advanced vehicle and fueling technology by expanding deployment, reducing co-pollutants beyond NO_x, building infrastructure that will accelerate voluntary adoption of advanced vehicles, increasing consumer awareness of advanced vehicles, growing the state's advanced transportation industry, and improving the electric grid through electric vehicle adoption.

When setting parameters for project selection, AEE further urges states to focus on these and other energy and economic development goals rather than placing a primary focus on direct and near-term emission reductions. AEE supports prioritization of cost-effective projects, but assessing cost-effectiveness on the basis of near term and direct emission reductions achieved would put states at risk of overlooking more transformational opportunities. Some projects with a higher upfront cost or a smaller near-term or direct emission reduction impact, such as investment in fueling or charging infrastructure, will ultimately enable much larger emission reductions along with other benefits. By adopting a more inclusive set of parameters for project assessment,



states can achieve (a) near-term and direct emission reductions by replacing diesel vehicles with lower- or zero-emission vehicles; (b) long-term and indirect emission reductions by accelerating a transformation of the transportation sector and enabling future voluntary emission reductions; and (c) non-emission benefits such as electric grid improvements and reduced fleet maintenance and operations costs.

A plan that achieves emission reductions while failing to support and incent projects that move the state toward an advanced transportation future will have squandered a rare opportunity—even more so because this opportunity comes at a crucial time when advanced transportation technologies are ready for widespread deployment, but face significant institutional barriers. The Mitigation Trust Plan should instead focus on projects, such as targeted infrastructure buildout, that address current barriers to advanced vehicle adoption, resulting not only in near-term emission reductions but also long-term emission reductions and other benefits that may dwarf the potential impact of the near-term emission reductions.

Eligible Mitigation Actions should be prioritized on the basis of need and opportunity

AEE does not have a prescriptive recommendation with regard to the breakdown of funding that should be allocated to each of the Eligible Mitigation Actions, but rather encourages an assessment based on the principles and goals described above. Specifically, states should first consider their current transportation landscape, then target investment in Eligible Mitigation Actions that will fill crucial gaps or address key barriers to transportation sector transformation, reducing emissions in the near-term while also unlocking additional emission reductions and other energy and economic benefits in the future.

AEE also encourages states to take advantage of the potential to secure additional funding through the Diesel Emission Reduction Act (DERA) by using funds from the Mitigation Trust as its non-federal voluntary match. However, AEE encourages states to ensure that Mitigation Trust funds applied to DERA projects will be used to stretch and extend the state's anticipated investment in mobile source emission reductions, rather than to free up funds for other purposes.

Indiana should allocate the maximum allowable funds to light-duty zero emission vehicle supply equipment

Increasing electric, hybrid-electric, and hydrogen-electric vehicle adoption through the Mitigation Trust will help address several challenges that currently hamper deployment; namely, a lack of charging infrastructure (which addresses range anxiety), upfront cost premiums (which will continue to fall as deployment ramps up), and consumer awareness. By addressing these challenges through the Mitigation Trust in parallel with other efforts, states will unlock additional opportunities for voluntary adoption of electric vehicles and the associated further reductions in emissions.

AEE therefore encourages states to request the maximum Mitigation Trust funding available for light-duty zero emission vehicle supply equipment (EVSE), which is set at 15% of a state's total funds. To get the most benefit from this limited investment, states should carefully prioritize projects.

With regard to charging stations, AEE encourages states to make investments in new and existing public charging stations that will be accessible all day, every day, and will meet current and future needs by requiring that they:



- Support multiple types of charging standards, including fast charging (CHAdeMO and SAE Combo at a minimum) as well as AC Level 2 charging (SAE J1772 compliant) for vehicles that are not compatible with fast charging;
- Use open standards for communication between the charge points and the central system such as those of the Open Charge Point Protocol (OCPP) so that any charge point installed can connect with any central system;
- Include universal or open standard payment systems to assure consumers that they will be able to pay for charging at any public charging station;
- Allow for third-party access to charging data to improve service and increase customer offerings;
- For fast charging equipment, ensure they are 50 kW minimum and 150 kW ready;
- Ensure charging points are set up so that they enable the potential addition of more charge points at a later date; and
- Encourage the use of chargers with smart metering capability such that the electric vehicles can serve as effective grid assets while lowering rates for consumers.

To maximize the impact of the limited funds available for investment in EVSE, when prioritizing spending on vehicle charging stations and equipment, AEE encourages states to:

- Identify and focus on filling gaps in existing charging infrastructure, including stations with limited charging options (e.g., those only with only CHAdeMO but not SAE Combo), highways with long gaps between fast charging stations, urban fringe areas, and dense urban areas with high vehicle use and insufficient charging options;
- Support charging infrastructure installed at workplaces and multi-family dwellings, with a focus on high population density areas where charging facilities are most likely to be used;
- Identify ways to integrate with and incent the expansion or creation of complementary efforts, such as utility programs, fleet electrification efforts that include infrastructure buildout, and the VW National ZEV Investment plan, so that Indiana can leverage other pools of capital; and
- Work with utilities to explore opportunities to maximize the potential benefits to the electric grid of integrating the charging infrastructure.

By starting with an assessment of current gaps in infrastructure and prioritizing new buildout along highways and in high-use areas, states can make significant progress toward a robust infrastructure network that will enable more widespread adoption of electric vehicles.

Indiana should prioritize projects that promote vehicle electrification

With regard to the remaining Eligible Mitigation Actions, the Mitigation Trust gives states options to support a range of different fuel sources and vehicle technologies, including plug-in electric, hybrid-electric, hydrogen fuel-cell electric, natural gas, clean diesel, and propane. While each of these options has a potential role in the future, states should prioritize projects that will have a lasting, transformative impact. As such, AEE recommends a strong focus on vehicle electrification and electric and hydrogen fueling infrastructure buildout. Electric, hybrid-electric, and hydrogen fuel-cell electric vehicles are proven technologies all at a relatively early stage of deployment with unmet infrastructure needs and a significant (but rapidly decreasing) upfront cost premium.

Electric vehicle options (including hybrid and hydrogen fuel-cell vehicles) exist in all vehicle segments from small, low-speed neighborhood and utility vehicles to large, heavy-duty vehicles. The larger medium-duty and heavy-duty electric vehicles, primarily transit busses, have seen less deployment than light-duty models despite the availability of these larger vehicles, making them a particularly good target for projects to increase deployment. After maximizing the funds available to support light-duty EVSE, as recommended above, states should utilize the remaining 85% of Mitigation Trust funds to prioritize vehicle repower or replacement with electric vehicles



and engines (including hydrogen and hybrid-electric vehicles) and related infrastructure. There are several opportunities for states to facilitate transportation electrification through relatively small but strategic investments that will have a significant and lasting impact.

In ports, Mitigation Trust funding can be applied to switch from diesel drayage trucks, yard trucks, and delivery trucks to electric alternatives, with infrastructure built in to support the transition. Similarly, with adequate infrastructure, airports can also transition to electric vehicles for ground transport, tarmac operations, and freight transport. Additional projects for states to consider include the installation of electric infrastructure at ports to allow ships to plug in while in port rather than running their diesel engines, electrification of roadways, and installation of catenary lines that enable on-travel charging of electrified medium- or heavy-duty vehicles.

Similarly, investing in electric school bus fleets and electric public transit bus fleets will yield benefits that go far beyond the initial emission reductions by supporting infrastructure buildout and delivering savings over time from reduced fuel and maintenance costs, benefitting the communities where they operate. Furthermore, converting highly visible and widely used fleets such as school bus fleets and public transit bus fleets to electric vehicles will increase public awareness of their reliability and performance benefits. Public perception of advanced vehicles has been a significant barrier to adoption, with issues such as basic awareness that these vehicle options exist, range anxiety, and lack of knowledge about vehicle capabilities standing in the way of more widespread adoption. Perhaps most importantly, these fleets generally operate in areas with high population density, and often in communities disproportionately impacted by local air pollution.

In addition, investing in electric and hydrogen vehicles and supporting infrastructure to serve government fleets can deliver significant benefits to the state with lasting impact, providing direct emission reductions while also delivering savings over time due to reduced fuel and maintenance costs. These savings can be used by the state, city, municipality, or other fleet owner to invest in further emission reductions, or for other purposes.

To support investments in electric vehicles across these Eligible Mitigation Actions, as noted above with respect to setting goals for state plans, AEE encourages states to avoid evaluating projects primarily on the basis of the cost-effectiveness of direct and near-term emission reductions. It is important to recognize that cost effectiveness evaluations should include the operations and maintenance costs for the lifetime of the investment, at least for those owned by government agencies or funded by public monies. Beyond that, the benefits of installing EVSE and charging infrastructure are difficult to quantify, and cost-effectiveness of such investments will improve as vehicle adoption increases. As stated above, investments in infrastructure and in zero emission vehicles will accelerate the state's transition to a zero emission transportation future through a virtuous cycle. These investments will help to address range anxiety, increase public awareness, and increase vehicle adoption. The increased adoption will lead to further decreases in price, encourage more investments in infrastructure, and spur regulatory changes to facilitate vehicle charging. In turn, these changes will drive further adoption and initiating the cycle again.

The transformative shift sparked by investments in zero emission vehicles and infrastructure cannot be compared on the same timescale or by the same metrics as the incremental but immediate impacts of a vehicle repower or replacement investment. States' assessment of Eligible Mitigation Actions should reflect the fundamental differences between project types and account for the impossibility of direct cost-effectiveness comparisons.

Indiana should engage a range of stakeholders and encourage integrated and innovative solutions

In addition to the considerations above, AEE urges states to take an integrated and strategic approach when setting parameters for project eligibility. Doing so will not only lead to better outcomes through stronger



integration of efforts, but may also lower costs under the Mitigation Trust Plan, allowing the budget under the Plan to stretch farther than expected. For example, states should consider:

- Involving additional relevant government agencies, lawmakers, municipalities, and other stakeholders beyond those already engaged in the Mitigation Trust planning process to identify areas for collaboration across existing efforts, or opportunities for new initiatives where such overlap does not already exist;
- Working with utilities, regulators, and industry representatives to explore regulatory barriers and solutions to increase electric vehicle adoption and lower costs of electric vehicle ownership;
- Taking a consumer-centric approach that recognizes that transformation of the transportation sector rests in large part on the choices of consumers and as such, prioritizes projects that eliminate market barriers, making it as easy as possible for individuals to research and purchase clean vehicles and access related incentives and services;
- Incenting innovative solutions such as tying fleet replacement or repowering to other modernization efforts such as more efficient fleet management and use;¹
- Looking to successful funding programs that have accelerated adoption of heavy-duty electric vehicles, including the Federal Transit Administration's Low or No Emission Program and the Hybrid & Zero-Emission Truck and Bus Voucher Incentive Program (HVIP);²
- Prioritizing projects that make use of innovative financing options (e.g., a battery lease for electric busses), to lower upfront costs and enable more efficient spending of the Mitigation Trust funds; and
- Supporting projects that make use of public-private partnerships to bring in private investment dollars that can further stretch the Mitigation Trust funds.

These are just a few examples of ideas for Indiana to incorporate into its planning and outreach process and its Mitigation Trust Plan eligibility and evaluation guidelines to lower costs and increase the total impact of the available funds. By encouraging creative and integrated solutions, states will, over the long term, see greater benefits from the Mitigation Trust funds.

CONCLUSION

The Mitigation Trust fund provides a unique opportunity for Indiana to invest in projects that will reduce transportation emissions across the state. Carefully targeted investment of these funds will not only directly reduce emissions, but also lay the groundwork for a more transformative shift, putting Indiana on track to develop a 21st century transportation system. AEE recommends a strong focus on vehicle electrification and electric and hydrogen fueling infrastructure buildout to deliver on a wide range of potential benefits, from increased resource and fuel diversity and cost savings for vehicle and fleet owners to reduced emissions and increased public awareness and adoption of advanced vehicle options.

¹ For example, General Electric has launched a pilot project at the Port of Los Angeles to improve shipping logistics and lower costs through shipping data digitization. See General Electric, Port of LA: Port Information Portal., <http://www.getransportation.com/port-of-la>.

² These programs have also been replicated at the state level with great success; the CA Zero-Emission Truck and Bus Program, modeled after the Federal Transit Administration's Low or No Emission Program, allows transit agencies to partner with manufacturers to compete for grants for vehicles and EVSE. Similarly, the New York Truck Voucher Incentive Program and Chicago's Drive Clean Truck Voucher Program, both modeled after the HVIP, provide first-come, first-served funding to offset the upfront cost premium of a zero-emission vehicle as compared to a fossil fuel vehicle.



From: Allie Wurtz <awurtz@kewconsultants.com>
Sent: Wednesday, October 04, 2017 3:09 PM
To: IDEM VWTrust
Cc: Katherine Wurtz; Jim Wurtz
Subject: VW Freight Switchers

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

At KEW Grant Services LLC, our mission is to present and procure federal, state and municipal grant funding opportunities for companies who design and manufacture products that make a difference in our nation's air quality. We believe strongly that our environmental tax dollars need to be directed, in large measure, toward advanced technology solutions that provide the greatest benefit to the public. To date, our greatest success has been in securing funding for the advancement of emissions reductions technology in the transportation sector, with a particular focus on rail-road technology and, more specifically, **freight switching locomotives**. As this is one of the eligible mitigation trust activities, we wanted to express a **strong interest** on behalf of private sector operators in participating in locomotive replacement or re-power projects. We understand your timeframe of 3-10 years to administer this funding and, with our experience in drafting successful EPA mitigation plans, a locomotive replacement or re-power project such as a freight switcher locomotive provides the **greatest emissions reductions per dollar spent**. It is also a great way to ease the administrative burden for your staff as one locomotive project would be much easier to administer in terms of paperwork and reporting requirements, as opposed to many different truck or bus projects, especially in small quantities to achieve significant emissions reductions.

Traditionally, locomotive replacement packages and related diesel engine repowers offer the most cost-effective return on grant investment dollars when comparing capital equipment procurement costs (grant dollars expended) to annualized tonnage reduction of NOx and PM emitted to the atmosphere. We can provide the data sheet with calculations that proves an unregulated locomotive re-powered to tier 4 will result in more **than 60 tons of annualized reductions in NOx + PM**. Grant dollars expended for locomotive re-power projects range from \$750,000 to \$3,500,000 each, dependent on funding eligibility and the horsepower rating of the locomotive.

Freight Switcher Locomotives are defined by EPA as having 1,006 hp to 2300 hp in four or six axle configurations. KLR is one of the only manufacturers to have EPA Tier 4 certifications in those horsepower classes. Finally, there are a wide variety of end-users in Indiana who would use freight switchers and here are some of the markets identified.

Markets

- Government freight transport facilities (federal, state and local)
- Department of Defense
- U.S. Army arsenals
- U.S. Navy arsenals
- Port Authorities
- State docks
- Class 1 railroads
- Short line railroads
- Industrial operations

- Switch yards
- Rail car switching providers
- Lease equipment providers

Our administrative and grant management experience allows us to provide relevant and compelling project proposals for eligible end users as well as assist in post-award contracts and reporting requirements. KEW Grant Services offers cradle to grave services, beginning with the research and discovery of available funds, end-user applications, and post-award contracts and disbursements. We work closely and in conjunction with federal and state environmental and air quality agencies. Our employees have assisted in the development of incentive projects, guidelines, and applications for the Air Resources Board of California, the Texas Commission on Environmental Quality, the Environmental Protection Agency, the U.S. Department of Transportation, the Federal Railroad Administration and the Department of Energy. End user applicants include both small and large companies and corporations throughout the North American transportation industries.

KEW Grant Services LLC and Knoxville Locomotive Works would like to set up a conference call with your office to further explore the VW Mitigation Trust Fund and how we may fit into your draft mitigation plan. We are aware of numerous locomotive Tier 4 repower opportunities which would significantly reduce NOx emissions from freight switcher locomotives within the state of Indiana.

Please contact us at your earliest convenience to set up a time that best fits your schedule.

Thanks in advance for your consideration.

Allison Wurtz

Principal Grant Writer & Partner

e: awurtz@kewconsultants.com

c: 815.530.3083



From: Wolf, Tara
Sent: Tuesday, October 10, 2017 4:51 PM
To: SEALS, SHAWN; IDEM VWTrust
Subject: FW: VW Settlement comments - TEMPO #76722

FYI this came to info mail.

Thanks,
Tara

From: INFO
Sent: Tuesday, October 10, 2017 11:31 AM
To: Wolf, Tara <TWolf@idem.IN.gov>
Subject: FW: VW Settlement comments - TEMPO #76722

Here is the VW fund correspondence.

From: frank@medicaire.net [<mailto:frank@medicaire.net>]
Sent: Sunday, October 08, 2017 2:28 PM
To: INFO <INFO@idem.IN.gov>
Subject: VW Settlement comments

Comments or Questions:

Indiana Department of Environmental Management Beneficiary Mitigation Plan for Volkswagen Settlement
Comments: October 8, 2017 Use of Volkswagen settlement funds for Medidocks to advance
Ambulance/Emergency Vehicle Idle Reduction: Idling of ambulances is a significant contributor to air
pollution, particularly as the majority of the idling occurs adjacent to healthcare facilities with their sensitive
populations exposed. Reducing this idling provides a direct air quality improvement. Problematic to not idling
the ambulance is the fact that interior temperatures and medical equipment must be maintained in a state of
readiness, requiring power. My firm's product, the Medidock, provides a real solution to this problem by
allowing an ambulance to remain 'mission-ready' without idling. Our system is a kiosk, installed at Emergency
Departments and other medical facilities and at remote locations where ambulances are 'posted' to improve
response times and improve air quality. The Medidock requires no special equipment to be installed onboard the
vehicle – any & all ambulances can use it. In addition to electrical power for the onboard emergency medical
equipment it also provides vehicle interior climate control - without the need to run the engine. Our units ease of
operation encourages EMT's to actually use the machines, resulting in fuel and maintenance savings for the
vehicle operators and environmental benefits for everyone. On our website www.medicare.net you will find a
study done by the Ozone Transport Commission (OTC) which indicates a significant NOx reduction as noted
from sites in VT & NH. Medidocks are presently successfully operating in northern New England and locations
in the Midwest. While vehicle idle reduction is not specifically indicated in the settlement, augmentation of
DERA is, allowing a pathway for funding this important public health/air quality improvement. I urge you to
consider earmarking funding for the Medidock in the final Beneficiary Mitigation Plan. Thank you for your
consideration. Frank Podgwaite MedicAire, LLC Medidock North Haven, CT 06473 203-887-0209 cell

frank@medicaire.net www.medicare.net "The ambulance idle reduction solution" "Exclusive Distributors of the Medidock"

Name:

Frank Podgwaite

Affiliation:

Medicaire, LLC / Medidock

Occupation:

Street Address:

75 Heathridge Rd

City:

Hamden

State:

CT

County:

ZIP/Postal Code:

06514

Phone:

203-887-0209

Fax:

E-mail:

frank@medicaire.net

How did you find out about IDEM?

Other

From: frank@medicaire.net
Sent: Friday, December 15, 2017 12:38 PM
To: IDEM VWTrust
Cc: SEALS, SHAWN
Subject: FW: VW Settlement Comments

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

From: frank@medicaire.net [<mailto:frank@medicaire.net>]
Subject: VW Settlement Comments

Comments: December 15, 2017

Use of Volkswagen settlement funds for Ambulance/Emergency Vehicle Idle Reduction:

Idling of ambulances is a significant contributor to air pollution, particularly as the majority of the idling occurs adjacent to healthcare facilities with their sensitive populations exposed. Reducing this idling provides a direct air quality improvement. Problematic to not idling the ambulance is the fact that interior temperatures and medical equipment must be maintained in a state of readiness, requiring power. My firm's product, the Medidock, provides a real solution to this problem by allowing an ambulance to remain 'mission-ready' without idling.

Our system is a kiosk, installed at Emergency Departments and other medical facilities and at remote locations where ambulances are 'posted' to improve response times and improve air quality. The Medidock requires no special equipment to be installed onboard the vehicle – any & all ambulances can use it. In addition to electrical power for the onboard emergency medical equipment it also provides vehicle interior climate control - without the need to run the engine. Our units ease of operation encourages EMT's to actually use the machines, resulting in fuel and maintenance savings for the vehicle operators and environmental benefits for everyone. On our website www.medicaire.net you will find a study done by the Ozone Transport Commission (OTC) which indicates a significant NOx reduction as noted from sites in VT & NH.

Medidocks are presently successfully operating in northern New England and locations in the Midwest.

While vehicle idle reduction is not specifically indicated in the settlement, augmentation of DERA is, allowing a pathway for funding this important public health/air quality improvement.

I urge you to consider earmarking funding for the Medidock in the final Beneficiary Mitigation Plan. Thank you for your consideration.

Frank Podgwaite
MedicAire, LLC
Medidock
North Haven, CT 06473
203-887-0209 cell
frank@medicaire.net
www.medicaire.net

"The ambulance idle reduction solution"
"Exclusive Distributors of the Medidock"

From: Austin Gibble
Sent: Tuesday, October 17, 2017 9:50 AM
To: IDEM VWTrust
Subject: Volkswagen Settlement Comment

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Hi, there!

I'm submitting a comment relating to the \$41 million awarded to the State of Indiana in the Volkswagen settlement. I would very much like to see the funds prioritized for transportation programs that can tackle health, congestion, and air pollution in one fell swoop. The primarily includes pedestrian and bicycle infrastructure in Indiana's cities. The cost for quality sidewalks and protected bike lanes/trails is relatively low and can have a big impact on getting people moving and out of their cars.

Quality protected bike lanes with physical barriers in an urban environment will cost an average of \$130,000 per mile ([source](#)). If the \$41 million were spent exclusively on protected bicycling facilities in Indiana's cities, Indiana could construct approximately 315 miles of safe bicycling lanes that can accommodate users of all ages and abilities. Given that INDOT controls many main streets of towns in Indiana (sans Indianapolis), the funds would need to be divided between local grants and the State DOT.

Naturally, expecting these funds to be spent exclusively on bike lanes isn't reasonable, but I was using that as an example. Indiana's cities and towns are also sorely lacking in sidewalks. Where sidewalks do exist, many have fallen into disrepair. This is especially a problem in our largest city, Indianapolis-Marion County, where cheap suburbanization was historically encouraged and focused only on one mode of transportation: automotive travel. Sidewalks, where they already exist, need to be repaired and widened.

An additional recommendation I have for the funds is for INDOT to develop a new set of design standards based on urban, suburban, and rural environments. As of right now, INDOT only has one design standard based on level-of-service (LOS). This works fine for rural areas, but causes major problems in Indiana's urban areas, as the design and performance standards do not account for other road users. Recently, the State of Florida developed a [statewide complete streets policy](#), creating [design classifications](#) based on the surrounding built environment.

Thank you for your time and I hope my comments are taken into consideration!

Warm Regards,
Austin Gibble

From: John Lurkins
Sent: Wednesday, October 18, 2017 10:20 AM
To: IDEM VWTrust
Subject: Ideas

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

John Lurkins
5563 N. Pennsylvania Street
Indianapolis, IN 46220

To Whom It May Concern:

I feel that my family was personally affected by the recall as we were owners of two of the diesel engines in the Volkswagen recall. I would like to propose two ideas that the state of Indiana could implement. These options will not only assist with lowering emissions but also support hard-working Hoosier employees and business.

1.) Research products that are being manufactured in the State of Indiana that are being used for low or zero-emission mobility. For example, if a company makes electric motors for the Chevy Bolt or another company makes regenerative braking systems for the Toyota Prius. Make a list of these products and then give in-state buyers rebates on those specific products. Therefore, supporting Indiana employees, employers, and consumers.

2) My second thought would be to install DC fast charging stations throughout the state at highway rest stops. This could be done where the trust pays a percentage of the initial installation cost to the local utility to install and maintain the station. The utility could keep the charging rates reasonable to support low-cost transportation throughout the state.

Thank for your time and consideration,

John Lurkins

From: INFO
Sent: Thursday, October 19, 2017 11:16 AM
To: IDEM VWTrust
Subject: FW: Volkswagen Settlement Funds

From: mwatersmilne@gmail.com [mailto:mwatersmilne@gmail.com]
Sent: Thursday, October 19, 2017 10:04 AM
To: INFO <INFO@idem.IN.gov>
Subject: Volkswagen Settlement Funds

Comments or Questions:

My suggestion re: Volkswagen settlement funds are that inter-city, inter-county, Indiana state-wide rail system be built. Use of funds in such a way would a) provide transportation to individuals who do not have means of transportation to/from work b) reduce traffic congestion c) reduce pollution d) enhance environment The longer Indiana state and local government leaders wait to transition to rail systems for public transit, the less competitive state and local industry remains. Industry needs workers who can get to work. People who want to work needs a means to get to work. Roads will have less need of ongoing management if traffic is reduced due to rail systems that keep cars off the road. Please spend the Volkswagen settlement funds to move forward in terms of transportation advances and environmental protection. It is time; past time.

Name:

Maggie Milne

Affiliation:

IN Resident

Occupation:

Other

Street Address:

1250 Sheridan Court

City:

Fort Wayne

State:

IN

County:

Allen

ZIP/Postal Code:

46807

Phone:

260-760-1432

Fax:

E-mail:

mwatersmilne@gmail.com

How did you find out about IDEM?

Press Release

GENERAL MOTORS

Britta K. Gross Director
Advanced Vehicle Commercialization Policy
Environment, Energy & Safety Policy

General Motors Global Headquarters
MC: 482-C30-C76
300 Renaissance Center
Detroit, MI 48265-3000
Dept. of Environmental Management
Commissioner's Office

13 October, 2017

OCT 20 2017

Indiana Department of Environmental Management (IDEM)

Subject: GM Comments relative to Indiana's VW Environmental Mitigation Trust (EMT) Fund

Attention: IDEM

General Motors LLC (GM) appreciates the opportunity to provide input on the use of funding in the state's Environmental/Beneficiary Mitigation Plan and would like to encourage Indiana to use the maximum allowed 15% of the fund (equating to approximately \$6mil) to increase the availability of critically-needed electric vehicle (EV) charging stations. There are currently over 3,500 EVs registered in Indiana, and in order to grow the EV market and attract even more advanced transportation technologies to the state, such as self-driving EVs, Indiana needs to invest in a charging infrastructure network that addresses consumer and industry concerns.

Automakers have made enormous investments in the electrification of transportation – GM alone has invested billions of dollars to develop electrification technologies, including the state-of-the-art Chevrolet Volt and Chevrolet Bolt EV, which has swept the industry's most prestigious car awards, including North America Car of the Year, Motor Trend's® 2017 Car of the Year, MotorWeek's 2017 Drivers' Choice "Best of the Year" Award, and Green Car Journal's Green Car of the Year. The Bolt EV is the industry's first affordable, long-range EV with an EPA estimated range of 238 miles-per-charge, and is rolling out now to Chevrolet dealers across Indiana. This advanced technology will require more widespread charging infrastructure to convince consumers that EVs can be driven anywhere they need to go. Thus the urgency to rapidly expand EV charging infrastructure in Indiana.

While the majority of all EV charging today is done at the home, there are still critical infrastructure needs not met by single-family home charging. And to maximize the impact of limited state funds, it is important to invest strategically. GM would prioritize today's key infrastructure needs as follows:

1. **Highway corridor DC fast-charging** most visibly inspires consumer confidence in the driving range, and practicality, of EVs. A 2016 survey of 2,500 consumers by Altman Vilandrie & Company found the top reason customers gave for not wanting to purchase a plug-in electric

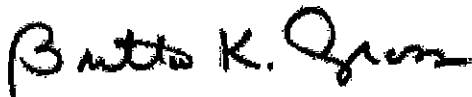
vehicle was a perceived lack of charging stations (85%). Highly visible corridor EV charging (SAE industry standard) can help address this consumer perception issue.

2. **Workplace EV charging** creates an EV "showroom" that very effectively grows EV awareness among corporations, and employees of these corporations. According to US DOE data, workplace charging results in employees 6X more likely to purchase an EV than employees at companies not offering workplace charging.
3. **Multi-unit dwelling EV charging** provides an important opportunity to expand EV adoption to consumers residing in townhomes, condominiums, and apartments, who may not have access to a "home" charger every evening. This is currently an untapped segment of potential EV buyers. This need can be met by Level 1 or Level 2 charging directly at the multi-unit dwellings, or by neighborhood DC fast-charge hubs that can serve these residents.
4. **Public EV charging at key destinations** is also important to increase the practicality of EVs and the number of places an EV can go, with a special focus on destinations typically outside a consumer's normal daily driving patterns (e.g. airports, beaches, hotels, resorts, etc.).

EV charging infrastructure is vital to the growth of the EV market and will lead to long-lasting emissions reductions that increase over time as the market expands. And Indiana's low electricity prices mean that electric vehicles are an important economic driver for Indiana. Finally, we encourage the state to directly engage all electric utilities in the strategic planning of EV infrastructure to ensure the most cost-effective and grid-responsible EV charging solutions.

The VW Environmental Mitigation Trust is an opportunity to invest in forward-looking infrastructure that lays a much-needed foundation for EV market growth and will help attract even more advanced transportation technologies to Indiana. GM greatly appreciates Indiana's commitment to support the strategic transition to transportation electrification and all efforts to help drive this emerging market.

Sincerely,



Britta K. Gross, Director
Advanced Vehicle Commercialization Policy
britta.gross@gm.com
(586) 596-0382

From: Julie Brooks <julieb@orangeev.com>
Sent: Monday, October 23, 2017 12:08 PM
To: IDEM VWTrust
Cc: Mike Saxton
Subject: New comments from Orange EV regarding the IN VW Beneficiary Mitigation Plan
Attachments: Comments from Orange EV re Indiana VW Beneficiary Mitigation Plan 10-23-17.pdf

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Please see the attached letter for comments from Orange EV regarding the development of Indiana's Volkswagen Beneficiary Mitigation Plan.

This is a new letter (different from previous Orange EV submissions) with sections covering: Guiding Principles, Process for Administering Projects, Benefits to Low-Income and Disadvantaged Communities, and Eligible Mitigation Action Categories to Consider.

We provide general comments/recommendations along with detailed cost tables (to determine cost parity with diesel heavy duty yard trucks) and new information regarding emissions reduction estimates.

Thank you for your consideration and continued partnership to improve air quality. Please contact us if we can be of assistance.

Respectfully,

Julie Brooks

Orange EV, Pure Electric Terminal Trucks

"Spend 90% Less in Fuel to Haul the Same Load with No Diesel and No Emissions"

Address: 500 NW Business Park Lane, Riverside, Missouri 64150 (10 minutes from Kansas City)

Phone: 503-544-8694 **Office:** 866-688-5223 x720 **eMail:** JulieB@OrangeEV.com

Website: www.OrangeEV.com



October 23, 2017

Subject: Developing Indiana's Volkswagen Beneficiary Mitigation Plan

Thank you for requesting and considering these comments regarding the development of your Volkswagen Beneficiary Mitigation Plan (VW BMP).

The detailed comments in this document are grouped into four main sections: Guiding Principles, Process for Administering Projects, Benefits to Low-Income and Disadvantaged Communities, and Eligible Mitigation Action Categories to Consider.

In this letter we provide broadly applicable recommendations and emissions information, along with data and requests that are specific to yard trucks. When developing the VW BMP, please ensure that:

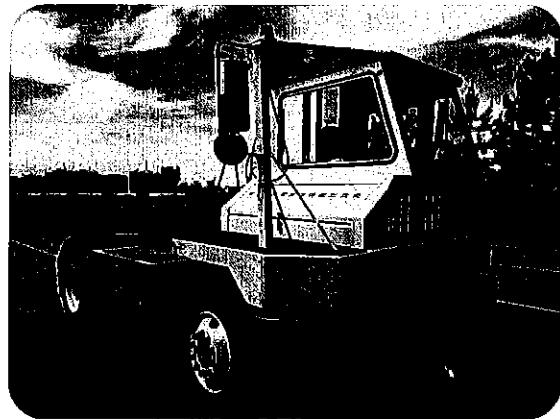
- 1) All components of yard truck projects (trucks, charging, and infrastructure) are individually eligible for funding under one project umbrella,
- 2) Electric yard truck projects are funded at the maximum allowable, and
- 3) Yard trucks in all operating environments are eligible for funding.

Thank you for your consideration and partnership in the mission to deploy emission-free technologies.

Respectfully,

A handwritten signature in cursive script that reads "Michael R. Saxton".

Mike Saxton
Orange EV, Chief Commercial Officer
MikeS@OrangeEV.com
816-210-9669





Background

Orange EV manufactures heavy-duty (Class 8) pure-electric terminal trucks also known as yard trucks, drayage trucks, hostlers, spotters, and more - they can all refer to the same vehicle. Yard truck replacements/repowers are ideal VW mitigation projects given that retiring just one diesel engine typically results in calculated NOx emissions reductions of 1-2 tons per year depending on usage, and real-world reductions may be far greater. New studies have shown that diesel emissions control devices do not operate as designed at lower speeds; since yard trucks operate under 25 mph and often 10-15 mph, they lie squarely in the worst-case scenario for diesel emissions control systems.

Orange EV provides the first - and still only - commercially deployed Class 8, 100%-electric vehicles. The trucks have been commercially deployed since 2015, and most fleet customers have required incentive funding to offset higher up-front capital costs and to overcome the perceived "risk premium" associated with newer technology and the cost of change that comes with testing and deploying new equipment. Orange EV trucks meet the demands of even the harshest environments (e.g. Chicago rail intermodal) and 75% of fleet customers have re-ordered within 6 months of receiving their first truck. The hurdles remain, however, and to accelerate deployment of heavy duty electrics, significant incentives are required.

Guiding Principles

The following list is not exhaustive but provides a framework for the decision and planning processes. We respectfully request that the VW BMP:

- 1) Supports projects to accelerate and/or enhance commercial adoption of zero-emission vehicles.
- 2) Augments existing private and public incentives and grants at a project level.
- 3) Focuses investment in locations to benefit disadvantaged communities.
- 4) Demonstrates sustainability of zero emission fleets and projects.
- 5) Avoids interfering with or undermining emerging and existing businesses.
- 6) Encourages innovation and speed-to-market for additional zero emission vehicles.
- 7) Incentivizes users to transition fleets more quickly.

Process for Administering Projects

The VW BMP provides a rare opportunity to fund projects in a way that is complementary and additional to current state and federal incentive programs. Currently even the most successful programs for heavy duty yard trucks (such as California's Carl Moyer program which funds up to 85% of truck cost) have limitations in that they cannot address the complex tapestry of ownership and operations associated with third party logistics and yard management companies.

Fund multiple projects under one umbrella

Due to the typical business models utilized in freight handling, there are frequently several parties paying for different aspects of one project. Quite often, yard trucks are owned by a yard management company who has a contract to move freight at a customer site. When moving to all-electric, the yard management company purchases the vehicles, while the facility



or site owner is responsible for utility costs as well as the cost of installing infrastructure and charging equipment. For a project to move forward, all parties must work together and agree to individual costs. For the business case to make sense for all parties, all components of the project - vehicle acquisition, charging, and infrastructure - must be eligible for incentive funding.

To address this all-too-common scenario, please develop a funding structure that allows for multiple contracts (with multiple entities) under one project umbrella. This unique approach will remove roadblocks, incent all parties who shoulder project costs, and speed adoption of zero emission vehicles.

Fund electric projects at the maximum allowable

For Class 8 all-electric solutions, the Volkswagen trust agreement allows up to 75% of the project to be funded for private fleets and 100% for public; this funding applies to repower or replacement projects and includes charging and infrastructure. To accelerate deployments of heavy duty electrics and to achieve cost parity, incentive amounts should be set at this maximum allowable. These benefits should also allow for augmentation by other private or public funding programs.

Cost parity vs. emissions parity

The following table provides a comparison of Orange EV yard truck acquisition costs vs. the cost of a Tier 4 diesel refurbishment, and also highlights the incentive level required to achieve cost parity. What the data doesn't quantify is the "emissions parity" or perhaps better the "emissions advantage" delivered with zero-emission projects. When a pure electric vehicle replaces a diesel, emissions are completely eliminated (i.e. there are no Tier 4 emissions) and the emissions advantage is permanently captured.

When analyzing the table, it's important to note that in most cases fleets are not looking to buy a new Tier 4 diesel, but rather extend the life of a current truck or buy a refurbished vehicle that meets emission standards. The purchase decision boils down to three alternatives: 1) use incentives to move quickly and purchase a pure-electric vehicle; 2) purchase an acceptable refurbished diesel; or 3) wait until the normal replacement cycle to purchase a new Tier 4 diesel.



Basic Cost Comparison: Orange EV Pure-Electric Terminal Truck Solution vs. Diesel

Costs	REPLACEMENT		REPOWER	
	NEW Extended Duty (160kWh) w/Fast Charge Cabinet	NEW Extended Duty (160kWh) w/Standard Onboard Charging	REMAN Extended Duty (160kWh) w/Fast Charge Cabinet	REMAN Standard Duty (80kWh) w/Standard Onboard Charging
Orange EV truck, base price ¹	\$284,950	\$284,950	\$239,950	\$199,950
Orange EV charging	\$49,950	\$0	\$49,950	\$0
Electrical infrastructure ²	\$20,000	\$6,000	\$20,000	\$6,000
Taxes (estimated 8%)	\$28,392	\$23,276	\$24,792	\$16,476
Total electric vehicle solution:	\$383,292	\$314,226	\$334,692	\$222,426
Comparable diesel truck w/8% tax (refurb)³:	\$54,000	\$54,000	\$54,000	\$54,000
Cost difference:	\$329,292	\$260,226	\$280,692	\$168,426
Percent incentive required to achieve cost parity:	86%	83%	84%	76%

Note 1: The costs shown are for the base price of an Orange EV yard truck. Most fleets pay additional cost to install air conditioning, trailer stops, galvanizing, etc. These are optional costs, but in many places are necessary given the operating environment and/or stipulations in union contracts. For a remanufacture, the fleet must also supply an acceptable donor vehicle.

Note 2: Infrastructure is built out and paid for by the fleet (or site owner if the fleet is contracting services to the site); costs can vary dramatically by site. Costs are typically less for "standard onboard" charging due to lower voltage and amperage, and more readily available capacity. Factors that increase the cost of infrastructure include running cabling over long distances, installing a transformer, and hiring outside contractors (not as necessary for the standard onboard charging solution).

Note 3: Cost for diesel trucks can range from \$25,000 to \$120,000 based on refurbished vs. new, and the fleet's buying power. In most cases, fleets are not looking to buy a new Tier 4 diesel, but rather extend the life of a current truck or buy a refurbished vehicle that meets emission standards.

In Orange EV's experience, fleets are making capital last as long as they can and the alternative to a pure-electric solution is usually as stated in the table above. But for the scenario where fleets must purchase a new vehicle (i.e. life extension or purchasing refurbished aren't viable options), and assuming \$100,000 per diesel with 8% taxes, fleets would still require 72%, 66%, 68%, or 51% incentive funding (respectively, left to right on the table above) to achieve cost parity.

Offering maximum incentive levels increases the likelihood of replacing diesels with zero emission vehicles, accelerating widespread adoption, and achieving statewide emission reductions targets.



Utilize max percentages, OEM product approval, and a first-come first-approved model

We request that maximum funding levels are set utilizing percentages rather than fixed dollar amounts. Infrastructure costs are site dependent and highly variable and new technology is more expensive by nature. If assigning a fixed maximum dollar amount, the state risks discouraging innovation for the larger and more expensive zero emission vehicles and stifling projects that have increased infrastructure costs. Maximum percentages create a more robust environment for developing and implementing new technologies.

In our experience, the most effective incentive programs (such as California's HVIP, Chicago's Drive Clean Chicago, and New York's NYSEV-VIF) utilize OEM product approvals and a first-come, first-approved basis. This model simplifies the application, streamlines the process, and provides greater certainty for fleet managers, site managers, and manufacturers regarding the order/manufacture/delivery timeline.

While projects will be funded across categories, allocations should be technologically neutral and support viable technologies that meet the intended NOx reduction standards.

Benefits to Low-Income and Disadvantaged Communities

Focus and priority should be given for projects at freight facilities located in non-attainment or disproportionately impacted communities. Funding projects in these locations (at least 25% across each category, as appropriate) will result in dramatically reduced emissions in disadvantaged communities, potentially much larger than current calculations estimate.

Studies show high diesel emissions at idle, low speed, and low load

Yard trucks typically operate in highly impacted areas in goods movement operations such as waste transfer stations, warehouses, distribution centers, manufacturing plants, rail intermodal yards, seaports, and more. Replacing diesel with 100% electric eliminates a calculated estimate of 1-2 tons of NOx per truck annually. Real world emissions may be significantly higher, though, according to a 2017 Wells to Wheels analysis ("Environmental implications of natural gas as a transportation fuel", Hao Cai et al).

In this analysis, multiple studies found that performance of a diesel's selective catalytic reduction (SCR) system is highly dependent on the duty cycle. In high-speed duty cycles, the SCR system performs well and diesel trucks have relatively low NOx emissions. In duty cycles with significant idling, low speeds, or low loads, however, diesel engine temperatures do not reach levels that support sustained SCR performance. This results in very high NOx emissions, up to 10x higher than the 2010 EPA NOx emission standard.

Given that yard trucks typically operate 10-15 mph, diesels may emit far more NOx than currently estimated, along with other criteria pollutants. Replacing diesels with 100% electric will eliminate yard truck emissions and improve air quality.



Eligible Mitigation Action Categories to Consider

The VW Mitigation Trust Consent Decree outlines ten eligible categories for funding. The focus of our comments will relate to Category 1 (Class 8 Local Freight Trucks and Port Drayage Trucks) and Category 8 (Forklifts and Port Cargo Handling Equipment).

Allow functionally “similar-for-similar” replacement

Allowing “similar-for-similar” replacement in Categories 1 and 8 (and perhaps others) has the potential to be transformative, focusing on the operational needs of a facility rather than strictly requiring “like-for-like” replacement. As an example, the role of a yard truck is often performed less efficiently by an over-the-road drayage truck. If the functionality of a diesel on-road drayage truck can be replaced with an all-electric yard truck, program goals are met, and the community and environment benefit.

Define “port” in broad terms

Yard trucks are specifically identified both Categories 1 and 8. Note, however, that in each Category, the word “port” is attached. In Category 1, drayage trucks are defined as “trucks hauling cargo to and from ports and intermodal rail yards” while Category 8 applies to port cargo handling equipment. Using the word “port” is potentially limiting since it evokes the image of a traditional seaport. In the broadest sense, ports are terminals which move cargo, and more and more, these terminals are clustered at inland transportation hubs in disadvantaged communities.

If mitigation fund projects under Categories 1 and 8 are limited to those located in traditional seaports, approximately 80% of yard truck operations will be eliminated; just 20% work in seaport operations. The Consent Decree does not define the word port, however, which gives states the flexibility to consider all yard truck projects that meet the overarching goal to reduce NOx emissions in impacted areas.

In discussions with other states, regulators have agreed that the Consent Decree provides leeway to define port to include all freight facilities. If a broad “port” definition is not adopted, then allocations of funds between categories should address the more restrictive number of opportunities in Categories 1 and 8, and prioritize funds to projects like these that result in greater environmental benefit.



Summary

To realize cost effective emissions reductions in Indiana's Volkswagen Beneficiary Mitigation Plan, please ensure that all aspect of yard truck projects (vehicle, charging and infrastructure) are eligible for funding in all operating environments and at the maximum level allowed.

In today's market, pure-electric yard trucks can be "gateway" vehicles to heavy-duty electrics. Although yard trucks generally operate out of the public eye, word spreads quickly between yard operators and fleet companies. Successful deployments generate interest in a way that overcomes pre-conceived notions and speeds adoption of green technologies.

Orange EV has 100% electric Class 8 terminal trucks deployed and operating in fleets from California to New York. From these deployments, we have gathered a wealth of experience and data. Please consider us a resource and contact us if we can be of assistance.

From: Paul McAfee
Sent: Wednesday, October 25, 2017 11:50 AM
To: IDEM VWTrust
Subject: Comments to VW Beneficiary Mitigation Plan

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

To whom it may concern,

Generally these sorts of plans have an Environmental Education component, which this does not. Has this been discussed and not implemented purposely? If so, why not?

Otherwise, I would like you to look into this sort of thing and include this in the final plan. It would be a small part of the overall payout, but would have great impact.

Sincerely,
Paul McAfee

From: Daniel Lyon <dlyon@cdti.com>
Sent: Wednesday, January 17, 2018 5:12 PM
To: IDEM VWTrust; SEALS, SHAWN
Cc: Campbell McConnell
Subject: CDTI Comment - Indiana VW Mitigation Settlement
Attachments: CDTI Indiana VW Settlement Comment 011718.pdf

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Mr. Seals,

After studying Indiana's Draft VW Mitigation Settlement Plan, on behalf of Clean Diesel Technologies Inc. (CDTi), I would like to respectfully submit the attached formal response. I very much appreciate you and your organizations thorough work in drafting this plan which will effectively utilize the available funding for the most cost effective emission reduction strategies available.

I look forward to working with you and the IDEM, please feel free to contact me should you have any questions.

Thanks,

Dan Lyon
National Sales Manager
SES – Heavy Duty Diesel Division
Clean Diesel Technologies Inc.
1621 Fiske Place
Oxnard Ca, 93033
Office: 805.205.1348
Cell: 805.415.0100
Fax: 805.205.1323





CDTi

1621 Fiske Place
Oxnard, California
93033

Telephone: (805) 205-1348
Fax: (805) 205-1323

January 17, 2018

Mr. Shawn M. Seals
Indiana Department of Environmental Management
Office of Air Quality
100 North Senate Avenue, Room N1003
Indianapolis, IN 46204

Dear Mr. Seals,

This letter is intended to provide comment on the prospective dispersal of the available Volkswagen Mitigation Settlement funds, on behalf of CDTi, a proven provider of diesel emission reduction devices globally for more than two decades. We would like to applaud the Indiana Department of Environmental Management (IDEM) plan to utilize VW Mitigation Settlement funding for "Category 2 – State DERA Match". The State of Indiana and the United States has been given a rare opportunity with this large settlement to make an enormous impact on air quality, and provide a healthier living environment for future generations. The DERA program has been extremely successful country wide and the funding provided to the voluntary match program will prove to be a worthwhile investment and compliment to the VW Mitigation funds.

CDTi is committed to working diligently with Indiana based fleets and IDEM to enable cost effective, reliable and functional emission reductions on fleets of vehicles, particularly in the non-attainment areas. We request that IDEM consider the maximum amount of utilization towards the Diesel Wise (DERA) programs due to the harmony of funding from both sources, and the interest this will raise with parties involved in the mobile emission reduction space. We strongly recommend that IDEM plan on utilizing this funding over the course of ten years as outlined in the Draft Mitigation Plan. This course of action will address the largest source of emissions in the impacted areas, at a cost per ton of emissions that is much more effective than Repower or Replace strategies.

Having successfully completed thousands of diesel emission reduction projects across the world, CDTi can assure you the invested funds into the Diesel Wise and DERA programs will translate into invaluable emission reductions. The need to reduce these emissions is very much prevalent, applicable equipment and vehicles are still in service and in great numbers to this day.

Thank you for your service, I look forward to working together to make a meaningful positive impact on the State of Indiana's air quality.

Regards,

Dan Lyon
National Sales Manager
CDTi

From: Kate Teodosio <KTeodosio@Proterra.com>
Sent: Friday, January 19, 2018 10:32 AM
To: IDEM VWTrust
Cc: Eric McCarthy; Kent Leacock
Subject: Proterra Response to IDEM RFI
Attachments: Indiana VW RFI Jan 2018.pdf

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Good morning,

Please find Proterra's response to the RFI attached.

Thank you,



Kate Teodosio
Executive Assistant
O: [864.438.2394](tel:864.438.2394) | M: [864.371.9200](tel:864.371.9200) | kteodosio@proterra.com
www.proterra.com | 1 Whitlee Court Greenville, SC 29607





January 19, 2018

Mr. Shawn M. Seals
Indiana Department of Environmental Management (DEM)

RE: Proterra Response to Indiana's Draft Mitigation Plan and RFI

Proterra, the leading U.S. manufacturer of electric, zero-emission transit buses, appreciates the opportunity to respond to the DEM's pending RFI, which seeks input regarding the proposal criteria outlined in Table 1, including project types, allocations and grantee match requirements.

Several states that have already published draft Beneficiary Mitigation Plans intend to allocate a substantial percentage of VW allocation funding to all-electric transit buses (eligible mitigation action category 1). The State of Georgia has committed to using 100% of its VW funding to eligible buses, including all-electric buses. And the State of Colorado has thus far set aside 25% of its VW funding to alternative-fueled buses. In both states, there was considerable public support to use the trust funds to promote electric, zero-emission vehicles. Further, there was considerable support for using the trust funds to promote public transportation.

Consistent with these sentiments, Proterra strongly urges the State of Indiana to likewise allocate a substantial percentage of its allocated \$41M in settlement funds for all-electric buses. The estimated total project cost for 10 zero-emission, battery-electric public transit buses and 10 multi-use depot charging stations is **\$8,170,000**.¹ The costs are broken down as follows:

Item	Cost	Quantity	Subtotal	Taxes 0%	Total
Proterra Bus ²	\$749,000.00	10	\$7,490,000.00		\$7,490,000.00
Depot Charger (+ install)	\$55,000.00	10	\$550,000.00		\$550,000.00
Regional Service Representative and fringe benefits	\$130,000.00	1	\$130,000.00		\$130,000.00

The above costs assume that the DEM would fund 100% of the purchase price of an all-electric bus and charger. However, the State could potentially double the number of buses funded as part of this proposed project if, like Colorado, it uses the funds from the VW trust to fund 110% of the incremental cost of a new electric bus and associated charging infrastructure.

Further, the estimated cost-effectiveness of the total project dollars per ton of combined criteria pollutant and weighted PM emissions reduced, and dollars per ton of GHG emissions reduced during a 12-year operation for all 10 vehicles are the following:

- Total Cost Effectiveness of GHG Emission Reductions
 - $(\text{Capital Recovery Factor} \times \text{Project Cost}) / \text{Annual GHG Emission reductions}$
 - $(.095 \times \$8,120,000) / 1,062 \text{ metric tons of CO}_2\text{e} = \$726.4 / \text{metric tons of CO}_2\text{e}$

¹ This cost may vary slightly depending on the applicable tax rate, if any, and how the buses are configured and optioned by the participating transit agency.

² The peak power is 220kW, which is roughly 295 hp. The continuous power is 120 kW, which is roughly 161 hp.



- Total Cost Effectiveness of Criteria Pollutants³
 - $(\text{Capital Recovery Factor} \times \text{Project Cost}) / \text{Annual criteria pollutant emissions reductions}$
 - $(.095 \times \$8,120,000) / .45 \text{ metric tons weighted criteria pollutants} = \$1,714,222.2 / \text{metric tons of weighted criteria pollutants}$

Proterra used the Carl Moyer Program Guidelines for the cost calculations.
<https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>.

The electrification of heavy duty buses offers a pathway towards achieving the numerous benefits associated with zero emission transit, including cost savings. Indeed, Park City, Utah's recent deployment of Proterra buses is the poster child for why states should emphasize the electrification of transit buses with their VW mitigation funding. In June 2017, Park City Transit deployed six battery electric buses. Since that time, the electric fleet has traveled more than 160,000 miles using 269,400 of kWh electricity, resulting in an average fuel efficiency of 1.7 kWh/mile, or just over 22 MPGe (compared to 4 MPG for Park City's diesel buses). The electric buses have displaced the use of ~ 32,000 gallons of diesel fuel in their first four months alone, while eliminating more than 801,000 lbs. of GHG emissions. Additionally, the electric buses have saved Park City Transit money through the savings in fuel and maintenance. In fact, the cost per mile of operation has dropped from a high of \$0.63 a mile using diesel to a low of \$0.30 using electricity. Not surprisingly, Park City has seen an increase in ridership on those routes utilizing zero emission buses, causing other municipalities to determine how they too can add and/or increase the number of zero emission buses on the road.

Proterra recommends the following inputs for Table 1:

- Class 4-8 buses: up to 50% total allocation, a minimum of 20% match required, \$10M maximum award per grant, Project Category #1 (highest priority)
 - Proterra recommends up to \$10M specifically for zero-emission, public transit buses
- Light duty zero emissions infrastructure: up to 15% total allocation, Project Category #2

Thank you again for the opportunity to provide comments on eligible mitigation projects that will reduce emissions of NOx from vehicles in Indiana. Please feel free to contact me directly at 864-214-2668 or emccarthy@proterra.com.

Sincerely,

Eric J. McCarthy
SVP, Government Relations, Public Policy and Legal Affairs
Proterra Inc.

³ NOx is included in the criteria pollutants and comprises the majority of those pollutants.

From: Kate Teodosio <KTeodosio@Proterra.com>
Sent: Thursday, January 04, 2018 2:06 PM
To: IDEM VWTrust
Cc: Eric McCarthy; Kent Leacock
Subject: Proterra Comments on VW Settlement
Attachments: Proterra Indiana VW Submission.pdf

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Good afternoon,

Please find Proterra's comments attached.

Thank you,



Kate Teodosio
Executive Assistant
O: 864.438.2394 | M:864.371.9200 | kteodosio@proterra.com
www.proterra.com | 1 Whitlee Court Greenville, SC 29607





January 4, 2018

Indiana Department of Environmental Management

RE: Proterra Comments on VW Settlement Partial Consent Decrees

Proterra appreciates the opportunity to provide comments on the funding allocated under Appendix D of the 2.0 Liter Partial Volkswagen (VW) Consent Decree and under the 3.0 Liter Partial Consent Decree.

Proterra designs and manufactures the world's most fuel-efficient battery electric bus and features on-route, fast-charge technology that offers functionally unlimited range, as well as an extended range version that enables transit agencies to travel 350 miles on a single charge. Proterra's CATALYST™ bus achieves 22+ MPGe performance, 500%+ better than diesel and CNG buses, eliminating toxic diesel particulate matter and reducing carbon emissions by 70% or more compared to CNG or diesel buses. In addition, the cost of maintenance differential is substantial in comparison to fossil fueled buses. Using the APTA average of 36,000 miles per year and the FTA required 12-year life, a Proterra bus will save a transit agency over \$200,000.00 per bus on average compared to a fossil fuel transit bus.

Our mission is simple: to deliver clean, quiet transportation to all communities by replacing heavy-duty, fossil-fueled transit buses with zero-emission public transit buses. The harmful effects of vehicle exhaust from medium and heavy-duty trucks are on the rise and have been for years. The EPA reports that medium and heavy duty vehicles account for 20% of GHG emissions and oil use in the United States' transportation sector, but represent only 5% of the vehicles on the road. Similarly, GHG emissions from heavy duty vehicles across the globe are growing rapidly and are expected to surpass emissions from passenger vehicles by 2030. There is thus a strong need to not only mitigate past criteria pollutant emissions, but to continue to reduce toxic air pollutants in the medium and heavy duty sector.

The Volkswagen settlement provides a much-needed opportunity to address this growing environmental concern and further demonstrate that commercially available zero-emission technologies have the lowest cost of ownership, improved maintenance and performance, and better serve a diverse range of communities' public transit needs, including the reduction of NOx and the elimination of GHG and criteria emissions.

We strongly recommend that Indiana direct a minimum of 20% of the settlement funds to incentivize the deployment of zero emission, battery electric transit buses and medium duty vehicles to help reduce GHG and NOx emissions and vehicle miles traveled, as well as provide other health and associated benefits throughout Indiana, but particularly in those areas that receive a disproportionate quantity of air pollution from diesel transit fleets. Replacing diesel buses with electric buses is simply one of the best investments the state can make to help electrify public transit.

The electrification of heavy duty vehicles offers a pathway towards achieving the numerous benefits associated with zero emission transit. Indeed, Park City, Utah's recent deployment of Proterra buses is the poster child for why states should emphasize the electrification of transit buses with their VW mitigation funding. In June 2017, Park City Transit deployed six battery electric buses. Since that time, the electric fleet has traveled more than 160,000 miles using 269,400 of kWh electricity, resulting in an average fuel efficiency of 1.7 kWh/mile, or just over 22 MPGe (compared to 4 MPG for Park City's diesel buses). The electric buses have displaced the use of ~ 32,000 gallons of diesel fuel in their first four months

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alone, while eliminating more than 801,000 lbs. of GHG emissions. Additionally, the electric buses have saved Park City Transit money through the savings in fuel and maintenance. In fact, the cost per mile of operation has dropped from a high of \$0.63 a mile using diesel to a low of \$0.30 using electricity. Not surprisingly, Park City has seen an increase in ridership on those routes utilizing zero emission buses, causing other municipalities to determine how they too can add and/or increase the number of zero emission buses on the road.

We propose that Indiana adopt two specific funding programs that have significantly accelerated the adoption of heavy duty EVs and, as a direct result, helped reduce NOx and GHG emissions. First, we urge Indiana to adopt the competitive funding programs in place in California and at the federal level. The CA Zero-Emission Truck and Bus Program is a competitive funding program that allows all manufacturers of zero-emission technology to partner with transit agencies and compete for project funding. It is very much modeled after the highly competitive Federal Transit Administration's Low or No Emission Program, which has helped fund the purchase of zero-emission transit buses across the US. The CA program is important in that it allows newcomers to receive funding for not only buses, but also chargers (EVSE). Additionally, we suggest that the state pay 110% of only the incremental costs of the buses and required charging infrastructure, much like the state of Colorado has proposed in its draft mitigation plan. This approach will help spur the adoption of a greater number of electric buses among transit agencies, airports and universities. See Exhibit A for a 10-bus project proposal.

Second, we request that the DEM adopt the successful voucher/incentive programs that are helping to accelerate the adoption of heavy-duty EV buses. California's Hybrid & Zero-Emission Truck and Bus Voucher Incentive Program (HVIP) is a pool of money that is used by transit agencies on a first come, first served basis to bridge the gap between purchasing a fossil fuel vehicle and a zero-emission vehicle. For example, the transit bus OEM can receive a voucher for up to \$160,000 per EV vehicle, which amount is then deducted from the cost of the bus. New York City (New York Truck Voucher Incentive Program) and Chicago (Drive Clean Truck Voucher Program) have implemented similar programs. These programs have proven valuable in allowing agencies (and commercial properties) to grow their fleets of zero-emission buses.

Appendix D of the VW Settlement allows each beneficiary to invest up to 15% of its allocation of Trust Funds on costs associated with deploying new, light duty EVSE. Proterra recommends that Indiana dedicate its entire 15% towards electric vehicle charging infrastructure. Proterra's newly-introduced extended range bus, the E2, supports SAE J1772 CCS charging, which is also the standard adopted by many light duty OEMs. Accordingly, the additional investment in charging infrastructure has the added benefit of accelerating EV adoption across the light duty sector as well.

Proterra encourages the DEM to promote the adoption of zero-emission technology, and not "near-zero" technology. Nationally, 7,461,458 tons of NOx, or 55% of the 13,489,110 tons of NOx emitted derive from mobile sources; 35% attributable to on-road sources.¹ In the state of Indiana, 212,371 tons of NOx, or 52% of the 410,833 tons of NOx emitted are from mobile sources.² On this basis alone, we urge DEM to use 20% of its funds to advance the electrification of transit

¹ https://www3.epa.gov/cgi-bin/broker?polchoice=NOX& debug=0& service=data& program=dataprog_national_1.sas

² https://www3.epa.gov/cgi-bin/broker? service=data& debug=0& program=dataprog_state_1.sas&pol=NOX&stflps=18



PROTERRA

buses in those areas disproportionately impacted by the VW diesel vehicle emissions. By doing so, Indiana will help achieve its program goals, including the reduction of NOx, greenhouse gases and other pollutants.

Thank you for the opportunity to provide comments on eligible mitigation projects that will reduce emissions of NOx from vehicles. Please feel free to contact me directly at 864-214-2668 or emccarthy@proterra.com.

Sincerely,

Eric J. McCarthy
SVP, Government Relations, Public Policy and Legal Affairs
Proterra Inc.

www.proterra.com

Headquarters

East Coast Manufacturing

West Coast Manufacturing

The Public Transit Electrification Project: Sustainable Mobility for Indiana

Project Application Information

Proterra Inc.

Eric J. McCarthy

Private Corporation (Non-Government)

1 Whitlee Court, Greenville, SC 29607

864-214-2668

emccarthy@proterra.com

PROJECT SUMMARY

Zero-emission public transit buses are ripe for immediate scaling and investment from the Environmental Mitigation Trust to help carry out the goals of Indiana's mitigation plan to achieve the most emissions reductions for the least cost in geographic areas that carry a disproportionate share of air pollution burden. The *Public Transit Electrification Project* will initially deploy 10 zero-emission, battery-electric transit buses and 10 multi-use depot charging stations at one or more Indiana municipalities to provide electric mobility for all Indiana residents and serve as a strong spark to accelerate the deployment of ZEVs, reduce diesel emissions and eliminate toxic air pollutants. The size of the project, however, can easily scale to accommodate other interested transit agencies and/or airports.

Proterra, the leading U.S. provider of zero-emission, all-electric transit solutions, designs and manufactures the world's most fuel-efficient battery electric bus and features on-route, fast-charge technology that offers functionally unlimited range, as well as an extended range version that enables transit agencies to travel 350 miles on a single charge. Proterra's CATALYST™ bus achieves 22+ MPGe performance, 500%+ better than diesel and CNG buses, eliminating toxic diesel particulate matter and reducing carbon emissions by 70% or more compared to CNG or diesel buses. To date, Proterra's buses have logged 3+ million miles of service in cities across the United States. With over 38 transit customers and over 400 buses on order, Proterra has become the zero-emission technology provider of choice for transit agencies nationwide.

Proterra will manufacture and deploy the commercial zero-emission buses and depot charging stations and will work closely with the participating Indiana municipality or municipalities to successfully implement *the Project*. *The Public Transit Electrification Project* will demonstrate the economic and environmental benefits of accelerating the transition to commercially available ZEV technology, increase ZEV access and education, and eliminate toxic diesel exposures – achieving the goals of Indiana's mitigation plan to improve and protect ambient air quality.

The Public Transit Electrification Project: Sustainable Mobility for Indiana

The goals of this Project are to:

- Reduce NO_x emissions to improve air quality and provide health benefits.
- Launch a zero-emission public transit bus pilot project to demonstrate concepts of sustainable mobility in one or more municipalities.
- Increase zero-emission vehicle awareness and access.
- Accelerate scaled zero-emission vehicle deployment.
- Demonstrate the economic and environmental benefits of accelerating the transition to commercially available zero-emission technology to a large cluster of transit routes.
- Provide zero-emission buses to benefit those areas and vulnerable communities that bear a disproportionate share of the State's air pollution burden, eliminating toxic emissions and providing zero-emission miles.
- Lead the transformation and technology transfer for a wide range of commercial fleets.
- Help drive down per-vehicle zero-emission bus costs with the Project's scale.

The objectives of this Project are to:

- Deploy 10 zero-emission, battery-electric transit buses and 10 multi-use depot charging stations to show that commercially available battery electric transit buses better serve communities' transit needs, substantially reduce greenhouse gas emissions, and provide substantial localized air quality benefits for disadvantaged communities.
- Reduce greenhouse gas emissions by up to ~ 1,062 metric tons CO_{2e}/year.
- Eliminate ~ .45 tons/year of weighted criteria pollutants and PM emissions.
- Provide scalable lessons learned to drive additional deployments of zero-emission heavy-duty technologies throughout Indiana.
- Deploy Proterra buses that charge using the J 1772 CCS standard.

PROJECT DETAIL

The *Public Transit Electrification Project* will deploy 10 zero-emission, battery-electric transit buses and 10 multi-use depot charging stations at the participating Indiana municipality or municipalities. To this end, Proterra is in discussions with some of the largest transit agencies in Indiana. These agencies are located in areas that receive a disproportionate quantity of air pollution from diesel fleets and from diesel NO_x.

The VW settlement provides a much-needed opportunity to further demonstrate that commercially available zero-emission technologies have the lowest cost of ownership, improved maintenance and performance, and better serve a diverse range of communities' public transit needs, including the reduction of diesel emissions and the elimination of criteria emissions.

The Public Transit Electrification Project: Sustainable Mobility for Indiana

Proterra – Technology Manufacturer and Project Coordinator

Proterra's zero-emission, battery-electric technology is being deployed in revenue service throughout the nation. Transit agency early adopters, such as Foothill Transit and San Joaquin RTD in California, have demonstrated the technology readiness of Proterra's battery all-electric solutions on urban as well as mixed suburban routes – and now major metropolitan agencies such as SEPTA (Philadelphia) and King County Metro (Seattle) are placing larger orders - 25 and 73 buses respectively. Nevertheless, there is a need for more deployments to demonstrate the economic, performance and lasting environmental benefits of deploying commercially available, cost-saving, zero-emission battery electric buses.



The *Public Transit Electrification Project* will accelerate the deployment and adoption of commercially viable, immediately scalable zero-emission public transit buses in similar fleets throughout Indiana and beyond.

For the proposed project, Proterra will offer its extensive experience and expertise in manufacturing, deploying, operating, and maintaining commercial zero-emission buses and infrastructure – working closely with one or more participating transit agencies. To date, Proterra's buses have logged 3+ million miles of service in cities across the United States. Proterra has zero-emission buses operating in revenue-generating service in the following cities: San Joaquin RTD in Stockton, CA, Foothill Transit in Pomona, CA, VIA Metropolitan in San Antonio, TX, University of Montana in Missoula, MT, WRTA in Worcester, MA, TARC in Louisville, KY, LexTran in Lexington, KY, Nashville MTA in Nashville, TN, PVTA in Springfield, MA, Star Metro in Tallahassee, FL, King County Metro, WA, RTC in Reno, NV, Jones Lang LaSalle in Chicago, IL, CATBus in Seneca, SC, Park City Transit, Park City, UT, Sportran in Shreveport, LA, DDOT in Washington, DC and soon at MTA in New York, NY and SEPTA in Philadelphia, PA.

The battery-electric buses and charging infrastructure for this project will be manufactured at Proterra's manufacturing facility in Greenville, SC. The close proximity to the transit agency partner will ensure collaboration and ease of maintenance for any needed repairs to the vehicles and charging infrastructure during the 12-year vehicle lifespan.

Eligible Technologies to be Implemented

- **Battery-Electric Bus:** Proterra will replace Class 8, diesel heavy-duty transit buses at one or more transit agencies with 10 Proterra E2 battery-electric buses. Proterra is proposing its 40-foot Catalyst E2 battery-electric bus. The proposed Catalyst E2 bus has a total of 440kWh of on-board energy storage; more than 25% more capacity than other 40' battery electric

The Public Transit Electrification Project: Sustainable Mobility for Indiana

buses on the market. Importantly, the Catalyst was designed from the start exclusively as an electric vehicle. It delivers remarkable route flexibility and has a stellar track record in operational performance. The bus body is made with advanced carbon composites that are extremely light, durable, and resistant to corrosion. The bus body is then paired with an advanced, scalable energy storage system and the most efficient drivetrain on the market. With its durability and corrosion resistance, this platform is designed to safely and to quietly withstand nearly two decades of service. The curb weight of the vehicle is 29,849 lbs. and the Gross Vehicle Weight is 39,050 lbs. The maximum speed is 65 mph (6000 RPM).

- **Plug-In Charging System:** Proterra is proposing 10 62.5 kWh depot chargers that can be combined to charge a Catalyst E2 440kWh bus from 0% to 100% State of Charge (SOC) in ~ four (4) hours.

Management/Implementation Capacities

Proterra will work directly and collaboratively with a municipality to ensure the successful planning, manufacturing, deployment, operation, and maintenance of the zero-emission public transit buses and charging infrastructure throughout the Project. Proterra will provide significant executive staff resources and a dedicated maintenance employee to ensure a successful deployment of zero-emission vehicles and charging infrastructure and proper training for all existing service and maintenance employees.

The Proterra team members have extensive backgrounds in project management, manufacturing, vehicle deployment, vehicle maintenance and operations, vehicle and infrastructure training, and permitting and other on-site operational needs. The Proterra team will ensure this project is on time and within budget.

Project Objectives and Work Plan

The Project will demonstrate that zero-emission technologies can achieve significant and sustained reductions in diesel emissions in areas that receive a disproportionate quantity of air pollution from diesel fleets - perfectly capturing one of the primary goals of Indiana's mitigation plan. The Project will also help accelerate the deployment and increase the awareness of electric vehicles, as well as provide the opportunity for all state residents to ride in an electric vehicle. It will serve as a major component of a citywide ecosystem that increases awareness of the many options for zero-emission mobility. In turn, this Project will significantly accelerate the adoption of zero-emission vehicles that will reduce greenhouse gas emissions, eliminate criteria pollutants, and provide the opportunity for all residents to go electric today and realize the many associated health benefits.

The Project tasks are divided into four major phases that are necessary to prepare for and conduct the proposed *Public Transit Electrification Project*: 1 - Project Kick-Off, 2 - Production and Delivery, 3 - Entry into Service, and 4 - Reporting and Feedback. Each phase is described below and in further detail, including identifying the entity is performing each task.

The Public Transit Electrification Project: Sustainable Mobility for Indiana

Phase 1 – Project Kick-Off [9 months]

Phase 1 lays the foundation for the success of the *Public Transit Electrification Project*, which includes finalizing all necessary documents and agreements and attending the kick-off meeting and pre-production meetings with end-users.

Phase 2 – Production and Delivery [up to 12 months]

In Phase 2 the zero-emission buses are manufactured and delivered and the charging infrastructure are ordered, delivered, and installed. This includes the site design, permitting, production and installation of each charging station, as well as the status report of the vehicle production and delivery.

Phase 3 – Entry into Service [3 months]

In Phase 3, Proterra will initiate the customer launch process that ensures that the buses are effectively and efficiently received, inspected, accepted and deployed with confidence. About 6 weeks before the delivery of the first bus, Proterra initiates the launch process, which includes providing an overview of the vehicle, the end-user training, and coordination to ensure the end-user to ready for delivery and deployment of the vehicles into service.

Phase 4 – Reporting and Feedback [ongoing]

Throughout the Project, Proterra will provide quarterly status reports to the state and the transit agency. Each vehicle is equipped with an on-board data logger that provides data on bus performance and Proterra will ensure that all necessary data is compiled and reported to both entities.

Project Vehicles, Equipment and Service

Proterra will work directly with a transit agency to ensure a successful execution and completion of the project – including vehicle operation, charging, vehicle maintenance and repair, and data collection. Proterra has worked with multiple transit agencies across the United States. This vast experience will ensure successful implementation.

Proterra will install on-board data loggers in each vehicle to provide performance data on a quarterly basis. Data will include, but not be limited to: fuel/electricity consumption, fueling/charging times, state of charge, battery and odometer readings, relevant telematics, GPS data, hours of operation, temperatures, etc.

Proterra has developed extensive driver and maintenance technician training to ensure successful execution and completion of the proposed pilot project – including, but not limited to, training for vehicle operation, charging, vehicle maintenance and repair, and data collection. The training for both drivers and maintenance technicians includes classroom instruction and hands-on/in-the-seat training. The training will be performed at each end-user location with the appropriate materials available to the participants. The training includes tests that are administered after each classroom session and a certificate of completion after the participants have successfully finished the course. All drivers, maintenance technicians, and transit managers for this proposed project will receive classroom instruction and hands-on training. In addition, Proterra has created a series of “YouTube” style videos that provide an easy reference tool and more background on procedures – such as

The Public Transit Electrification Project: Sustainable Mobility for Indiana

docking the bus successfully, towing the bus safely, using the diagnostic tool, and high-voltage safety.

The Proterra battery-electric bus and charging infrastructure that will be used in the *Public Transit Electrification Project* is the Catalyst E2 extended-range, battery electric vehicle for use on all routes. The Catalyst E2 vehicle, which offers energy capacity of 440 kWh and a nominal range of ~ 250 miles per charge, uses a 62.5 kWh Plug-in Depot Charger that is commercially available with dual charging connectors. Proterra is the only EV bus manufacturer to invest in the standard SAE J1772 CCS for depot charging. This unique offering allows transit agencies to charge their fleet of light duty electric vehicles or offer public charging when the transit buses are not utilizing the chargers.

Using a sophisticated computer model, Proterra can analyze each transit route to ensure that the infrastructure and vehicles are designed and engineered to match the specific minimum charging needs of the 10-bus fleet. The inputs to the route simulation tool include: route distance, speed, stops, layovers, duration, and grade, as well as passenger loading, ambient temperature/HVAC loads, and other accessory devices that use power for the safe and efficient operation of the vehicles. This simulation provides information on charging station needs and location planning, route performance, gradeability and feasibility, fuel savings/cost of operation evaluation, route schedule, and harmful emission reduction calculations.

Proterra has extensive experience installing depot chargers, securing necessary permits with local entities, and addressing electrical needs and grid impacts throughout the country. Proterra will work directly with the end-user in the *Public Transit Electrification Project* and associated utility to ensure that the participating municipality obtains all permits and approvals necessary for the infrastructure, as well as address any grid impacts or electrical needs at the charging location.

Potential Emission Reduction Benefits/Expected Proposed Project Benefits

At Proterra, we're continually refining designs and looking for innovative ways to reduce impact on the environment. Proterra buses produce zero tailpipe emissions and decrease dependency on fossil fuels. Emissions are reduced by an astounding ~ 200,000 lbs. of CO2 annually each time a dirty diesel vehicle is replaced by a zero-emission bus. Particulate matter from traditional transit buses contains numerous harmful gases and upwards of 40 cancer-causing substances.

A typical diesel bus emits ~ 200,000 lbs. of greenhouse gases annually, while a CNG bus emits ~ 175,000 lbs./year and a diesel hybrid emits ~140,000 lbs./year. A switch to zero-emission buses, which emit no tailpipe pollution, presents a critical opportunity to cut pollution, reduce oil dependence and make Earth a better place.

The Public Transit Electrification Project: Sustainable Mobility for Indiana

Annual Tailpipe Emissions

Criteria Pollutant	2020	2025	2030	Lifetime
CO	0	1,822	20.59	41.18
CH4	0	792	4.11	4.03
CO ₂	0	169,488	140,976	198,000
NO _x	0	46.73	92.66	92.66
VOC	0	3.82	3.82	3.82
PM (2.5+10)	0	3.52	3.52	3.52
BC	0	0.15	0.15	0.15

<https://greet.es.anl.gov/>

Assumes 36k miles driven per bus per year.

The well-to-wheel GHG emissions avoided for 10 zero-emission transit buses is approximately 1,062 metric tons CO_{2e}/year. Based on a conservative 12-year lifespan of the zero-emission, battery-electric buses – the project's lifetime well-to-wheel GHG emissions avoided is up to 12,746 metric tons CO_{2e} (for a 10-bus deployment).

All the vehicles in the proposed project are zero-emission battery-electric vehicles that do not have any tailpipe emissions; therefore, there are no additional NO_x, ROG or PM₁₀ emissions associated with the project. The total tailpipe emission reduction for 10 zero-emission transit buses is .42 tons NO_x/year, 0.0173 tons of ROG/year and .01596 of PM₁₀/year. Combined tailpipe weight emission reductions for criteria pollutants is 0.45 tons/year and 5.44 tons over the lifetime of the project. That reduction more than doubles when well-to-wheel criteria pollutants are considered, reducing ~ 1.0 tons/ year and 11.59 tons over the lifetime of the project.

The estimated cost-effectiveness of the total project dollars per ton of combined criteria pollutant and weighted PM emissions reduced, and dollars per ton of GHG emissions reduced during a 12-year operation for all 10 vehicles are the following:

- Total Cost Effectiveness of GHG Emission Reductions
 - (Capital Recovery Factor x Project Cost)/Annual GHG Emission reductions
 - (.095 x \$8,120,000)/1,062 metric tons of CO_{2e} = \$726.4/metric tons of CO_{2e}

The Public Transit Electrification Project: Sustainable Mobility for Indiana

- Total Cost Effectiveness of Criteria Pollutants¹
 - (Capital Recovery Factor x Project Cost)/Annual criteria pollutant emissions reductions
 - $(.095 \times \$8,120,000)/.45$ metric tons weighted criteria pollutants = \$1,714,222.2/metric tons of weighted criteria pollutants

Proterra used the Carl Moyer Program Guidelines for the cost calculations.
<https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>.

Economic and Environmental Benefits

The *Public Transit Electrification Project* is both located within and provides direct economic and environmental benefits to one or more municipalities. The proposed project addresses common economic needs of communities, including increasing job readiness and career opportunities, improving transit service, and creating further quality jobs. Proterra will provide on-the-job training and certifications for driver and maintenance technicians to operate, maintain and repair zero-emission heavy-duty vehicles. This will increase job readiness and career opportunities in the growing electric vehicle market and further career opportunities. In addition, Proterra's state-of-the-art zero-emission public transit vehicles will eliminate toxic diesel and other criteria pollutant exposures to passengers – improving transit service within communities. The *Project* will increase quality jobs – including a dedicated Proterra employee to oversee the project, construction jobs to deploy the electric charging stations and other indirect jobs from vehicle component suppliers.

By combining performance, efficiency and design, Proterra's zero-emission, battery-electric transit buses offer the lowest total cost of ownership as compared to conventional diesel transit buses. Proterra's zero-emission transit buses operate with fewer moving parts – reducing maintenance costs associated with oils, filters, fluids, particulate filters, and brakes. In addition, electricity is much less expensive and less volatile than traditional diesel or other petroleum fuel – helping to reduce costs and provide more certainty for operating costs. Proterra's buses have significantly higher fuel efficiency, an average of 1.7 kWh/mile or 23.4 mpg equivalency, which also helps provide significant economic benefits for the participating municipality.

These operational advantages yield at least \$135,000 savings in maintenance costs and \$290,000 in fuel savings as compared to diesel fuel. Therefore, the economic benefits are over \$400,000/bus in savings during the 12-year Federal Transit Agency (FTA) mandated lifetime of the vehicle for the transit agency or agencies participating in the *Public Transit Electrification Project*.

Lastly, we estimate that, over 12 years of operation, the 10 Proterra buses will reduce ~ 1M gallons of diesel fuel. On a per bus basis this equates to 100,000 gallons of diesel saved each year in typical transit operation (e.g., ~36,000 miles per year).

¹ NOx is included in the criteria pollutants and comprises the majority of those pollutants.

The Public Transit Electrification Project: Sustainable Mobility for Indiana

Estimated Project Cost

The estimated total project cost for 10 zero-emission, battery-electric transit buses and 10 multi-use depot charging stations is **\$8,120,000.**² Funding is needed now to further demonstrate that commercially available zero-emission technologies have the lowest cost of ownership, improved maintenance and performance, and better serve a diverse range of communities' public transit needs, including the reduction of GHG and the elimination of criteria emissions.

<u>Item</u>	<u>Cost</u>	<u>Quantity</u>	<u>Subtotal</u>	<u>Taxes</u> <u>0%</u>	<u>Total</u>
Proterra Bus	\$749,000.00	10	\$7,490,000.00		\$7,490,000.00
Depot Charger	\$50,000.00	10	\$500,000.00		\$500,000.00
Regional Service Representative and fringe benefits	\$130,000.00	1	\$130,000.00		\$130,000.00

The recipient of the VW funds would largely be the municipalities. Therefore, Proterra anticipates that 100% of the cost of the vehicles and chargers would be covered by the state, subject to whatever local match funds the municipalities could contribute.

Increase ZEV Awareness and Education

To increase the exposure of the vehicles in the *Public Transit Electrification Project*, Proterra will develop project-specific webpages that will provide information on emission savings, vehicles deployed and funding sources to showcase the environmental and air quality benefits of the *Project* as a model deployment for other regions throughout Indiana and across the nation. Additionally, Proterra will work with the transit agency or agencies to customize bus wraps to include messages that highlight the zero-emission technology and acknowledging the funding sources for the successful deployment.

In addition, Proterra will work directly with any participating municipality and its transit agency to implement an outreach strategy to the community to help raise awareness and education about the health, air quality and other benefits of zero-emission technology. In conjunction with the end-users, Proterra will launch a direct mail and email marketing campaign to generate awareness about the zero-emission transit bus technology in their communities. In addition, Proterra will provide a demonstration bus to circulate prior to the project deployment to help raise awareness and provide education about the vehicle technology. At the launch of service, Proterra will work with the local transit partner to execute a local public relations strategy – including press releases, media outreach

² This cost may vary slightly depending on the applicable tax rate, if any, and how the buses are configured and optioned by the participating transit agency. Finally, installation costs for the depot chargers are not included as they vary widely.

The Public Transit Electrification Project: Sustainable Mobility for Indiana

and a launch event. Proterra will also offer an option to publicly display emissions savings and environmental benefits information on the transit agency's website.

Other

In addition to the above, Proterra strongly recommends that Indiana direct 20% of the VW settlement funds to incentivize the deployment of zero emission, battery electric transit buses and medium duty vehicles to help reduce NOx and GHG emissions and vehicle miles traveled, as well as provide other health and associated benefits throughout Indiana. We also recommend that Indiana dedicate 15% towards EV charging infrastructure.

Beyond this specific project, we propose that Indiana adopt two specific funding programs that have significantly accelerated the adoption of heavy duty EVs and, as a direct result, helped reduce NOx and GHG emissions. First, we urge Indiana to adopt the competitive funding programs in place in California and at the federal level. The CA Zero-Emission Truck and Bus Program – administered through the Air Resources Board - is a competitive funding program that allows all manufacturers of zero-emission technology to partner with transit agencies and compete for project funding. It is very much modeled after the highly competitive Federal Transit Administration's Low or No Emission Program, which has helped fund the purchase of zero-emission transit buses across the US. The CA program is important in that it allows newcomers to receive funding for not only buses, but also chargers. Second, California's Hybrid & Zero-Emission Truck and Bus Voucher Incentive Program (HVIP) is a pool of money that is used by transit agencies on a first come, first served basis to bridge the gap between purchasing a fossil fuel vehicle and a zero-emission vehicle. For example, the transit bus OEM can receive a voucher for up to \$160,000 per EV vehicle, which amount is then deducted from the cost of the bus. New York City (New York Truck Voucher Incentive Program) and Chicago (Drive Clean Truck Voucher Program) have implemented similar programs. These programs have proven valuable in allowing agencies (and commercial properties) to grow their fleets of zero-emission buses.

Conclusion

The *Public Transit Electrification Project* will deploy 10 zero-emission, battery-electric transit buses and 10 multi-use depot charging stations at one or more municipalities to provide electric mobility and serve as a successful pilot project to accelerate the deployment of electric vehicles, reduce NOx emissions, improve air quality and provide health benefits. Proterra is excited to increase zero-emission vehicle awareness and eliminate toxic diesel exposures to both transit riders and non-transit riders throughout Indiana and beyond.

From: Jim Bernhardt <JimBernhardt@MacAllister.com>
Sent: Tuesday, December 05, 2017 10:57 AM
To: IDEM VWTrust
Cc: Ryan Campbell
Subject: NOx reduction for Propane School Buses
Attachments: Propane Advantage on NOx reduction.pdf

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Per an email from Shawn Seals on Dec 5, 2017, I am reaching out to introduce myself and also start an conversation around Propane school buses and the VW Mitigation Trust. My name is Jim Bernhardt and I am the Transportation Division Manager at MacAllister Machinery. We represent the Blue Bird school bus product line in Indiana and as part of that product line we offer several power trains including Diesel, Electric and Propane powered buses. The key benefit of Propane is that it significantly reduces NOx at a very attractive price point.

Since the goal of the VW Mitigation Trust is to reduce oxides of nitrogen (NOx), the Ford/Roush Propane powered school bus fits well with this initiative. It produces .05 grams of NOx per horsepower hour. These Ford/Roush engines are 75% cleaner than current emissions standards. And with idling around schools and the impact on children, Propane helps improve the air quality that children breathe. In summary, for these reasons and others, we believe it would be of great benefit if a significant portion of the VW funds were directed toward the school bus industry in Indiana, and specifically toward propane powered buses.

Attached you will find a comparison of Propane, Diesel, and Electric powered buses and how these products compare from an emissions and value perspective. We look forward to discussing this further with the appropriate people. Please let me know how we can help.

Sincerely,

Jim Bernhardt
Transportation Division Manager
MacAllister Machinery
Office; 317-591-9907
Mobile; 317-431-2009
www.macallistertransportation.com

Blue Bird Vision Propane

The Most Cost-Effective Solution to Reduce NOx Emissions from School Buses

School buses transport 25 million children across the U.S. to and from school each year. Because of the stop-and-go driving conditions, diesel buses emit increased exhaust emissions filled with tiny soot particles and toxic gases. Using the Volkswagen Environmental Mitigation Trust (EMT) to fund propane buses enables states to meaningfully reduce this harmful exposure, which benefits our nation's children.



PROPANE

Purchase price: \$95,000
NOx reduced: 537 lbs.

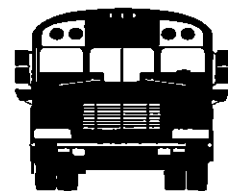
**Cost per pound of
NOx reduced: \$177**



DIESEL

Purchase price: \$90,000
NOx reduced: 331 lbs.

**Cost per pound of
NOx reduced: \$272**



ELECTRIC

Purchase price: \$300,000
NOx reduced: 593 lbs.

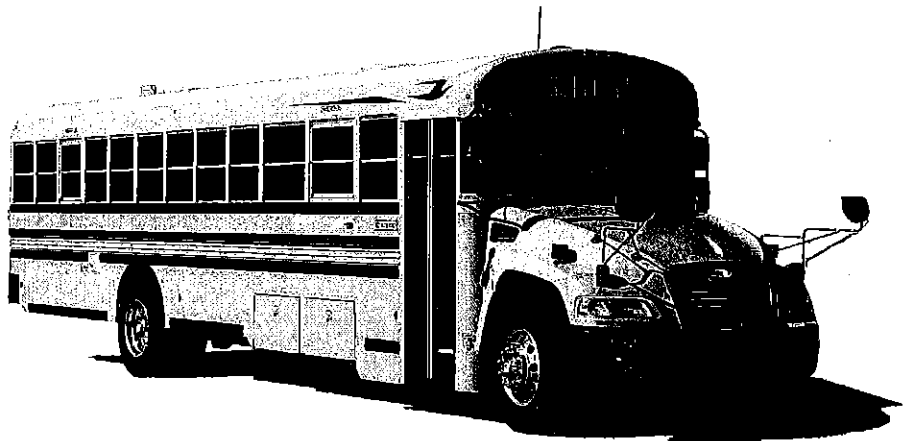
**Cost per pound of
NOx reduced: \$506**

35%

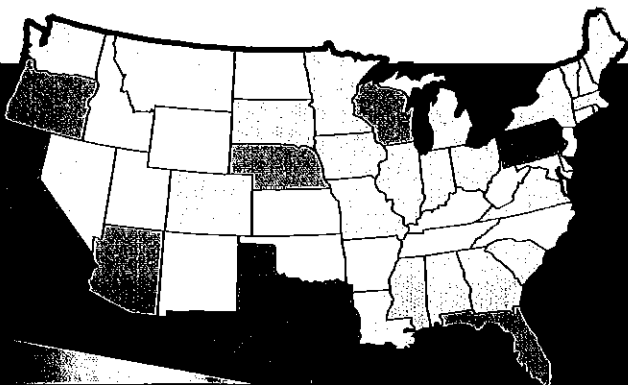
more cost-effective
than diesel school buses

65%

more cost-effective
than electric school buses



*Vehicle purchase price may vary by state. Calculations assume the full cost to deploy the cleanest commercially available Type C buses for each fuel type based on emission calculations from the 2016 ANL AFLEET Tool.



750+

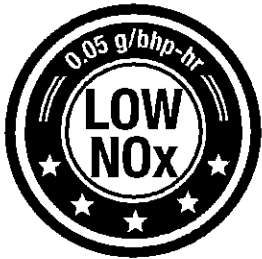
School transportation
fleets in operation

10,000+

School buses in
service across
North America

The Union of Economic and Environmental Sustainability

The Blue Bird Vision Propane offers an unmatched ROI for school transportation fleets. States can feel confident that the investments made with the Volkswagen EMT funds will lay the foundation for schools to continue deploying low-emission buses.



Low-Emission Engine

The ROUSH CleanTech engine is certified to the optional low NOx level 0.05 g/bhp-hr, making it 75% cleaner than the EPA's current emissions standard.



Best Total Cost of Ownership

By switching from diesel to propane, fleets can lower their fuel costs up to 50% and enjoy increased up-time with reduced maintenance.



Uncompromised Safety

The Blue Bird Vision Propane is noticeably quieter than a diesel bus, enabling the driver to remain focused on both the children and the road ahead.



Clean American Energy

Propane autogas burns far cleaner than diesel. And, because it is domestically sourced, fleets are protected from the fuel price fluctuations that frequently occur with diesel.

“With today's tight school budgets, using a transportation fuel like propane autogas that saves taxpayers' money, keeps the environment clean, and keeps jobs within our national borders is a win-win for everyone.”

— William Schofield, Superintendent
Hall County Schools, Gainesville, Georgia

For more information on how to successfully develop a clean school bus program in your state, contact:

Chelsea Jenkins

Executive Director of Government Affairs
chelsea.jenkins@roush.com
734.812.1965.

From: Julia Herrera <julia@enervee.com>
Sent: Monday, December 04, 2017 1:06 PM
To: IDEM VWTrust
Cc: Anne Arquit Niederberger
Subject: Re: Enervee Comments- Indiana Volkswagen Settlement
Attachments: Indiana (2).pdf

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Enervee would like to submit the attached comments to Indiana for their Volkswagen Beneficiary Mitigation Plan, as they follow-up on recommendations submitted previously by Advanced Energy Economy. Our comments provide information on technology and behavioral Insights that can help lay the foundation for a self-sustaining market for clean cars.

Sincerely,

Julia Herrera
Outreach Intern
Enervee



Learn about [Enervee for Business](#) and gain insights from the [Enervee Blog](#).



2114 Narcissus Court
Venice, CA 90291
+1 844.363.7833
Enervee.com/business

4 December 2017

**Enervee Comments to the attention of the Indiana Dept of Environmental Management
VW Settlement – Beneficiary Mitigation Plan**

Enervee appreciates the opportunity to contribute to the Beneficiary Mitigation Plan that the Indiana Department of Environmental Management is developing under the Volkswagen (VW) settlement.

In previously submitted comments, Advanced Energy Economy (AEE) highlighted the fact that transformation of the transportation sector rests in large part on the choices of consumers.

Picking up on that thought, we wish to highlight technological advances and behavioral science insights that can help the Indiana Department of Environmental Management lay the groundwork for a self-sustaining market for clean vehicles in Indiana and across the country.

Enervee is a cleantech company with a mission to make it simple and compelling for people to shop energy smart. We operate a cloud-based data and engagement platform that analyzes consumer product markets in real time – and makes use of that and other sources and types of data to engage shoppers, activate clean energy markets and drive energy savings and pollution reductions. Published academic research has proven that making the energy attributes of consumer products visible – in the form of a zero to 100 Energy Score, within a market-based platform – shifts people’s product choices towards significantly more efficient models¹. Further behavioral insights can be found on the

¹ Arquit Niederberger, A. & Champniss, G. *Energy Efficiency* (2017).
<https://doi.org/10.1007/s12053-017-9542-3>

Enervee Blog. This unique platform can be invaluable to empower all car shoppers to make more eco-efficient choices that suit their needs.

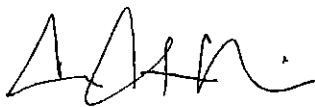
Enervee currently operates white-labelled online marketplaces for leading utilities and statewide clean energy programs, serving over 11% of all US households, and this will increase significantly by the end of 2017².

Autovee is Enervee's latest evolution – our mobile-first online energy-smart marketplace for passenger vehicles – which is fully integrated with our Level 2 EV charger marketplace, EV charger installation service and rooftop solar concierge service, offering the type of seamless user experience that can give consumers confidence and make the unfamiliar task of purchasing an electric vehicle much simpler.

Enervee agrees with Advanced Energy Economy that it will be important for Indiana Department of Environmental Management to take a consumer-centric approach that prioritizes projects that eliminate market barriers, making it as easy as possible for individuals to research and purchase clean vehicles and access related incentives and services.

The Indiana Department of Environmental Management can rest assured that the technology is available, and we hope to have the opportunity to provide further information on and ultimately deploy Autovee to speed transportation emissions reductions in Indiana.

Sincerely,



Anne Arquit Niederberger, Ph.D.

VP, Market Development

707.590.8660 | anne@enervee.com

² The California Public Utilities Commission, for example, has mandated all investor-owned utilities in the State have such public marketplaces online by the end of 2017. See [SDG&E Marketplace](#) for an example.

From: Brett Barry <Brett.Barry@cleanenergyfuels.com>
Sent: Thursday, November 16, 2017 12:25 PM
To: IDEM VWTrust
Subject: VW Settlement Coalition Comments
Attachments: VW Coalition Letter Indiana.pdf

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Good afternoon,

Attached is a letter with two recommendations regarding the development of an effective and equitable mitigation plan under the Volkswagen Settlement. The coalition represents over a dozen various nationwide companies and organizations dedicated to lowering on-road emissions. We would be more than happy to further discuss these comments in person should the opportunity arise. At your convenience, please confirm receipt.

Regards,

Brett Barry
Senior Policy Advisor



(562) 522-7427
bbarry@cleanenergyfuels.com



November 15, 2017

Commissioner Bruno Pigott
Indiana Department of Environmental Management
100 North Senate Avenue, Room N1255
Indianapolis, IN 46204

RE: Volkswagen Settlement Emissions Mitigation Plan

Dear Commissioner Pigott:

We the undersigned represent an array of alternative fuel vehicle and renewable fuel stakeholders united by a common desire for the development of an effective and equitable emissions mitigation plan under the Volkswagen Settlement (Settlement) in the State of Indiana. We submit the following two recommendations for your consideration.

- 1. All vehicles that are certified to one of CARB's low NOx emissions standards, CARB's near-zero emission standard or have zero tailpipe emissions should be eligible for an equal percentage of funding per vehicle.**

The main directive of the mitigation plan is to reduce NOx emissions. Vehicles certified to CARB's standards produce 50 to 100 percent fewer NOx tailpipe emissions than the current federal standard and thus 50-100 percent less than new diesel vehicles. One of the newest engines in this class of certifications is the low-NOx 6.8 liter propane engine from Roush announced in June of this year. Given the significant improvement that all vehicles with these certifications present and the varying needs of both public and private fleets, which require different sizes and engine capabilities, we encourage equal treatment in terms of funding.

Under the Settlement all private sector vehicle grants are capped at 25 percent of the total vehicle cost, except those for electric vehicles (EVs), which can receive up to 75 percent.

There is no basis for skewing the funding in favor of EVs. While EVs have zero tailpipe emissions, emissions are created in generating the electricity which powers them. Let us be clear; we are not against electric vehicles. Rather, the array of technologies and fuels deserve equal treatment given the clear goal of the mitigation plan to reduce NOx emissions.

The South Coast Air Quality Management District of California views the new heavy duty near-zero natural gas engines from Cummins-Westport to be zero-emission equivalent based on the district's mix of electric generation supplying their grid. It is important to note that they have one of the cleanest grids in the country. Therefore, the new near-zero natural gas engine is likely even cleaner than an EV in Indiana since the overwhelming majority of electricity produced in the state comes from coal.

We encourage Indiana to create a level playing field for all sources of alternative fuel by funding all private sector low-NOx, near-zero and zero tailpipe emission vehicles at 25 percent of the total vehicle cost under the Settlement.

2. A majority of Indiana's mitigation funds should be used for low NOx, near-zero and zero-emission vehicle grants.

Out of all the eligibility categories under the Settlement, Class 4-8 vehicles are the largest contributors of NOx emissions. Furthermore, unlike rail and marine applications, medium and heavy-duty vehicles operate throughout Indiana. Therefore, reduction of emissions in vehicles will provide a benefit for all areas: urban, suburban and rural alike. Concentrating funding in this category will accelerate the transition by a wide variety of fleets to these cleaner lower NOx engines, thereby multiplying the positive effect well beyond the grant program.

Thank you for considering our recommendations and we look forward to continuing the conversation.

Phil Squair, Senior Vice-President
Public and Government Affairs
National Propane Association
psquair@npgra.org

Marcus Gillette
Director of Public and Government Affairs
Coalition for Renewable Natural Gas
marcus@rngcoalition.com

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Kathryn Clay
Vice-President, Policy Strategy
American Gas Association
KClay@aga.org

Dan Jameson, Vice President
Government and Regulatory Affairs
Republic Services
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Susan Robinson
Federal Public Affairs Director
Waste Management
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William A. Zobel, Vice President
Market Development and Strategy
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Chelsea Jenkins
Executive Director, Government Affairs
Roush
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Brett Barry
Senior Policy Advisor
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Mike Goscinski
Director, Government Relations
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Bill Bliem
Senior Vice President Fleet Services
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bill.bliem@nfiindustries.com

Charles Musgrove
Vice-President
Dillon Transport, Inc.
cmusgrove@dillontransport.com

Gary Maresca
Senior Director-Transportation Services
Bimbo Bakeries USA
gmaresca@bbumail.com

From: Kenny, John P <jkenny@mccsc.edu>
Sent: Tuesday, November 14, 2017 1:57 PM
To: IDEM VWTrust
Subject: FW: Letter to Members of the IN Volkswagen Mitigation Trust Fund Committee
Attachments: Volkswage Mitigation Funds.pdf

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Forwarded email at request of Mr. Shawn Seals. Thank you.

John

John Kenny
Associate Director of Business and Operations
Monroe County Community School Corp.
315 E. North Dr., Bloomington, IN 47401
(812) 330-7700 ext. 53516

From: Kenny, John P
Sent: Tuesday, November 14, 2017 1:12 PM
To: 'bpiggott@idem.in.gov' <bpiggott@idem.in.gov>; 'bevjgard@gmail.com' <bevjgard@gmail.com>; 'knelson@nwiforum.org' <knelson@nwiforum.org>; 'brent.dickson@courts.in.gov' <brent.dickson@courts.in.gov>; 'jmcguinness@indot.in.gov' <jmcguinness@indot.in.gov>; 'tvance1@oed.in.gov' <tvance1@oed.in.gov>; 'dmcgrath@iedc.in.gov' <dmcgrath@iedc.in.gov>; 'mrekeweg@isda.in.gov' <mrekeweg@isda.in.gov>; 'inenviro@iquest.net' <inenviro@iquest.net>; 'jpeacock@portsofindiana.com' <jpeacock@portsofindiana.com>
Cc: 'nking@idem.in.gov' <nking@idem.in.gov>; 'badmire@idem.in.gov' <badmire@idem.in.gov>; 'vtachtiris@idem.in.gov' <vtachtiris@idem.in.gov>; 'brockensuess@idem.in.gov' <brockensuess@idem.in.gov>; 'MFields@idem.in.gov' <MFields@idem.in.gov>; 'sseals@idem.in.gov' <sseals@idem.in.gov>; 'briles@delphi.k12.in.us' <briles@delphi.k12.in.us>; 'dan.foster@epulaski.k12.in.us' <dan.foster@epulaski.k12.in.us>; 'dhaas@nn.k12.in.us' <dhaas@nn.k12.in.us>; 'sdarnell@swraiders.com' <sdarnell@swraiders.com>; 'byates@bhmsd.org' <byates@bhmsd.org>
Subject: Letter to Members of the IN Volkswagen Mitigation Trust Fund Committee

Good afternoon,

Please find attached a letter indicating interest in allocating funds from the IN Volkswagen Mitigation Trust Fund for electric school buses. Thank you for your consideration.

Sincerely,

John Kenny

Director of Business and Operations
Monroe County Community School Corp.
315 E. North Dr., Bloomington, IN 47401
(812) 330-7700 ext. 53516



MONROE COUNTY
COMMUNITY SCHOOL CORPORATION
ENGAGE. EMPOWER. EDUCATE.

Indiana "A" School Corporation
2012, 2013, 2014, 2015, 2017

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Mr. John Kenny, Director of Business Operations
Mr. Tim Pritchett, Director of eLearning Strategies

Commissioner Bruno Pigott
Indiana Department of Environmental Management
100 N Senate Ave Rm N1255
Indianapolis, IN 46204

RE: Collective comments of Indiana School Districts on use of Volkswagen Settlement Mitigation Funds

November 8, 2017

Dear Commissioner Pigott,

We are writing to you collectively as 6 school superintendents and business directors throughout the state of Indiana who would like to see a portion of Indiana's Volkswagen Mitigation Funds dedicated to electric school buses.

Research shows that children are exposed to significant levels of air pollution while riding diesel school buses. Children, school employees and members of the community are also exposed to these pollutants from the diesel exhaust around the school buildings and in surrounding neighborhoods. This exposure can trigger asthma, the most common chronic condition among children in the United States, leading to less learning and more school absences. The Volkswagen Settlement provides an unexpected, but very welcome, opportunity to safeguard those most vulnerable to diesel pollution by helping jumpstart the transition of Indiana's school bus fleet to zero emissions.

650,000 children across the state of Indiana ride diesel school buses each day, and school buses idle on average over 100 hours a year. Riding on and waiting for these buses exposes children, staff, parents and neighbors to unnecessary levels of pollution. The actions Indiana takes regarding the use of the Volkswagen Mitigation Funds have the potential to protect our children who represent the future of Indiana's state economy.

Governor Holcomb has indicated his interest in VW funds being invested in actions with transformational and lasting impact. We hope that Indiana Department of Environmental Management recognizes what a transformational opportunity the VW settlement presents to get Indiana on a zero emissions school bus track. With Cummins and Navistar both electrifying their transmissions, Indiana is uniquely positioned to lead this electric school bus charge.

Respectfully,

John Kenny
Director of Business and Operations
Monroe County Community School Corp.

Greg Briles
Superintendent of Schools
Delphi Community School Corporation

Steve Darnell
Superintendent
Southern Wells Community Schools

Dan Foster
Superintendent of Schools
Eastern Pulaski Community School Corporation

Destin L. Haas
Superintendent
North Newton School Corporation

Brad Yates
Assistant Superintendent
Bluffton-Harrison MSD

From: Bedford Enterprise
Sent: Saturday, October 28, 2017 7:08 PM
To: IDEM VWTrust
Subject: VW settlements funds

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All These funds should go to support state parks, management and improvements for all Hoosiers!

Sent from my iPad

From: Andrew Brenner
Sent: Friday, October 27, 2017 10:15 PM
To: IDEM VWTrust
Subject: Indiana Beneficiary Mitigation Plan Draft comments

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I find it deplorable that a fund established by a manufacturer and retailer of vehicles for personal use by individual consumers has private and/or commercial interests as nearly all of the planned mitigation beneficiaries.

A fair, representative distribution of settlement funds would benefit victims of VW's fraudulent actions while working toward the goal of reducing emissions.

Since VW is dealing separately with their customers, Indiana should be focused on reducing personal, non-corporate registered vehicle emissions.

Grants or subsidies to individual consumers purchasing zero-emission vehicles should be the cornerstone of any plan, and should account for at least 75% of the plan.

The remainder of fund distributions should go as grants or subsidies to municipalities and/or county government units in the heavy-pollution areas of the state, to grow refueling infrastructure for zero-emission and hybrid electric vehicles.

Again, the plan focus should bear heavily in mind that VW is a personal vehicle retailer, and that emissions to be negated came from personal vehicles. Any reasonable solution would focus on personal vehicles and not industrial and corporate interests!

Andrew Brenner

From: Bradley, Veronica <vbradley@airlines.org>
Sent: Monday, November 06, 2017 3:14 PM
To: IDEM VWTrust
Cc: Blake, Martin
Subject: Indiana's Draft Framework for the VW Mitigation Trust Beneficiary Mitigation Plan
Attachments: A4A Letter re VW CD & Mitigation Plan_IN.pdf

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Dear Mr. Seals:

Please find attached comments from Airlines for America regarding Indiana's Beneficiary Mitigation Plan Draft Framework. Please let us know if you have any questions or would like to discuss our comments in further detail. Thank you .

Best,
Veronica

Veronica C.K. Bradley
Manager, Environmental Affairs
Airlines for America
We Connect the World
1275 Pennsylvania Ave. NW, Suite 1300
Washington, DC 20004
(p) 202.626.4152 | (e) vbradley@airlines.org
airlines.org | [Facebook](#) | [Twitter](#) | [Instagram](#) | [LinkedIn](#)



Airlines for America®

We Connect the World

November 6, 2017

Submitted via email to VWTrust@idem.IN.gov

Shawn M. Seals
Indiana Department of Environmental Management
100 N Senate Ave
Indianapolis, IN 46204

Re: Volkswagen Consent Decree Environmental Mitigation Trust Beneficiary Mitigation Plan

Dear Mr. Seals:

Airlines for America® ("A4A") would like to thank the Indiana Department of Environmental Management ("IDEM") for the opportunity to comment on the State's use of the Volkswagen Consent Decree Environmental Mitigation Trust funds and to commend the State for including projects that replace or repower airport ground support equipment with all-electric forms ("GSE projects") as an eligible mitigation action in its Draft Beneficiary Mitigation Plan.

A4A is the principal trade and service organization of the U.S. airline industry.¹ A4A and its airline members have a strong record of advancing environmental goals, including actively supporting efforts to achieve and maintain clean air, while also driving economic growth. For example, emissions from the commercial aviation sector constitute less than two percent of domestic greenhouse gas emissions nationally and have had much slower growth from 1990 levels (5%) compared to the transportation sector overall (17%) and on-road sources in particular (24%).² At the same time, our industry drives the national and state economies. In Indiana, commercial aviation contributed over \$8.2 billion in economic output and supported over 36,000 jobs in 2012,³ in addition to the approximately 4,000 jobs and associated economic output from Rolls-Royce's Indianapolis factory which manufactures a variety of aircraft engines.⁴

¹ A4A's members are: Alaska Airlines, Inc., American Airlines, Inc., Atlas Air, Inc., Federal Express Corporation, Hawaiian Airlines, JetBlue Airways Corp., Southwest Airlines Co., United Continental Holdings, Inc., and United Parcel Service Co. Air Canada, Inc. is an associate member.

² See U.S. Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014 (April 2016), Table A-115. Moreover, this lower rate of growth is from a much smaller base.

³ Indiana Airports' Economic Impact Study 2012: Executive Summary, available at <http://www.nasao.org/resources/economic-impact-library/>. Nationally, commercial aviation drives 10.2 million U.S. jobs, \$1.5 trillion per year in economic activity and 5 percent of U.S. gross domestic product. Federal Aviation Administration, The Economic Impact of Civil Aviation on the U.S. Economy: Economic Impact of Civil Aviation by State (2015).

⁴ Roll-Royce in North America: Rolls-Royce in the US: Rolls-Royce Indianapolis, <https://www.rolls-royce.com/country-sites/northamerica/rolls-royce-in-the-us/rolls-royce-indianapolis.aspx> (last visited Nov. 6, 2017).

U.S. airlines have achieved this level of simultaneous economic and environmental performance because we have relentlessly pursued and implemented technology, operational, and infrastructure measures to minimize our environmental impact. Among these measures, A4A member airlines have proactively worked with airports around the country to reduce emissions through cost-effective electrification of GSE. The United States and California have recognized the significant contribution GSE electrification can provide by naming it as an "Eligible Mitigation Action" ("EMA") that qualifies for funding from the Environmental Mitigation Trust ("Trust") established under the Volkswagen Consent Decree.

In accordance with the Consent Decree, A4A member airlines are well positioned to assist the State in making cost-effective, sustained emissions reductions in areas that bear a disproportionate share of the air pollution burden in Indiana. GSE projects are often located in areas that receive a disproportionate quantity of air pollution from diesel fleets simply because airports are major hubs of economic activity. In fact, Indianapolis International Airport is located in Marion County, which is estimated to be a nonattainment area for the 2015 ozone National Ambient Air Quality Standards ("NAAQS").⁵ And, IDEM has identified nonattainment areas for ozone NAAQS as priority areas for projects.⁶ Diesel emissions, and nitrogen oxides ("NOx") in particular, contribute to the formation of ozone. Therefore, funding GSE projects at Indianapolis International will bring emissions benefits for this priority area.

Moreover, because GSE are only operated on airport grounds, the State will have confidence in knowing that when it funds GSE projects the emissions benefits will be realized exclusively in that priority area. Additionally, emissions reductions from GSE projects will improve air quality not only for the surrounding residents but also for workers on airport grounds.

GSE projects are also cost-effective. Member airlines have unlocked state grant funds with cost-effectiveness thresholds in the past,⁷ and that experience readies them to propose equally cost-effective projects to make real differences in the local air quality surrounding airports in Indiana.

Similarly, member airlines and the airports they partner with have demonstrated experience and programmatic structures in place to effectively and efficiently implement GSE projects to reduce emissions. Member airlines have experience with the Federal Aviation Administration's Voluntary Aircraft Low Emissions ("VALE") Program, the Carl Moyer Program, and other state and local programs, and have implemented their qualifying projects effectively and efficiently. In fact, the VALE Program has provided funding for ground power and preconditioned air equipment at 16 gates at airports in Indiana in the past. Securing funding from the Trust for GSE electrification will allow the airlines to realize additional air quality benefits for communities in Indiana.

More specifically, our member airlines have expressed interest to repower or replace at least 21 pieces of equipment at Indianapolis International Airport at an estimated cost of \$1.4 million. While we have been unable to calculate emissions savings associated with these projects at this stage, our members are eager to assist IDEM further to determine the potential emissions reductions from their proposed projects, knowing these projects are cost effective. Implementing GSE projects at Indianapolis International will improve air quality for the Hoosiers living in nearby communities.

Given this close alignment between the benefits projects to electrify GSE bring and the priorities suggested by IDEM, A4A commends it and the State for including all-electric GSE as an option in its mitigation plan.

⁵ https://ozoneairqualitystandards.epa.gov/OAR_OAQPS/OzoneSliderApp/index.htm#.

⁶ IDEM, Request for Information: Volkswagen Consent Decree Environmental Mitigation Trust: Beneficiary Mitigation Plan (Draft Framework), Appendix at 2.

⁷ See e.g., Carl Moyer Program Guidelines (2011), Appendix G, available at <https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm>.

Our member airlines recognize that as non-government entities they will have to share the capital costs of replacing airline-owned GSE with all-electric alternatives. To be sure, electric GSE cannot be deployed without supporting infrastructure such as onsite power distribution and sufficient point of use recharging equipment, which typically is owned and operated by airport operators. As such, airlines envision partnering with airport operators in integrated GSE electrification projects that will enable cost-effective investments in electric GSE. Considering airports in Indiana are usually owned by local governments, A4A encourages IDEM to incorporate clear funding mechanisms and programs to accommodate this real-life scenario, as airports will not likely invest in infrastructure without demand and airlines will not purchase electric GSE without guaranteed supporting infrastructure.

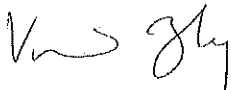
A4A also recommends that Indiana use non-competitive funding programs to disburse the Trust funds to the various categories of projects. GSE projects are a cost-effective, long-term solution to mitigate NOx emissions in these areas, but competitive grant processes are often prohibitively risky for GSE projects. Airline budgetary plans require higher levels of certainty throughout the planning process than competitive grants can guarantee. On the other hand, vouchers and rebates provide airlines the certainty necessary to invest resources in planning for equipment acquisition and in coordinating with airports to secure associated infrastructure. Reducing risk and streamlining the disbursement of Trust funds are especially important for our members who intend to continue to promote emissions reductions across the nation through investment in GSE projects under the Trust.

Lastly, A4A urges Indiana to carefully consider allocation of funds to the DERA Option. The requirements projects must meet to fulfill program requirements under DERA decrease the scope of projects that could possibly be funded through the Trust. Projects that may not fit within the project criteria of DERA may nonetheless effectively reduce emissions. Indiana should not limit the types of projects applicants can use by over-allocating funds to the DERA Option.

* * * * *

Thank you for your consideration. Please let us know if you have any questions regarding our comments, and we look forward to working with IDEM and the State moving forward.

Sincerely,



Veronica Bradley
Manager
Environmental Affairs
Airlines for America

CC: Martin Blake, Manager, Office of Aviation, Indiana Department of Transportation,
mablake@indot.in.gov

From:
Sent: Tuesday, November 07, 2017 7:18 AM
To: IDEM VWTrust
Subject: FW: Hoosier Energy Meeting Request Regarding Volkswagen Settlement Funds

For record...

From: PIGOTT, BRUNO
Sent: Tuesday, October 31, 2017 2:42 PM
To: SEALS, SHAWN <SSEALS@idem.IN.gov>; Tachtiris, Valerie <VTachtir@idem.IN.gov>; ADMIRE, BETH <BADMIRE@idem.IN.gov>
Subject: Fwd: Hoosier Energy Meeting Request Regarding Volkswagen Settlement Funds

FYI

Bruno Pigott
IDEM | Commissioner
317-902-9377 (C)
317-232-8611 (O)
Bpigott@idem.in.gov

Begin forwarded message:

From: Bob Richhart <richhart@HEPN.com>
Date: October 31, 2017 at 1:58:25 PM EDT
To: "PIGOTT, BRUNO" <BPIGOTT@idem.IN.gov>
Cc: "Fields, Mary" <MFields@idem.IN.gov>, "Rockensuess, Brian" <BRockens@idem.IN.gov>
Subject: RE: Hoosier Energy Meeting Request Regarding Volkswagen Settlement Funds

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Bruno Pigott
IDEM | Commissioner

Bruno,

First, I would like to thank you for keeping us in the loop regarding the listening sessions for the VW Mitigation Trust funds. Hoosier Energy is very interested in providing assistance to the state in maximizing the value of these funds to reducing emissions and provide beneficial advancements in technology and use of energy that can improve the lives of Hoosiers across the state.

We are developing a comprehensive recommendation for your board that could effectively reduce NOx and other emissions, and advance technology across the state in the use of energy in the transportation sector and other areas in an efficient and forward thinking manner. Randy Haymaker from Hoosier Energy will be reaching out to others on the board about opportunities to assist the state regarding this program as well. It would be extremely helpful if you could share any information regarding the timeline or other milestones that you and the board overseeing the VW Mitigation Trust funds are working to meet. We would respectfully request an opportunity to share

our thoughts and recommendations on how Hoosier Energy and its cooperative members could help the state in accomplishing its goals with the VW Mitigation Trust funds. Our mission as a non-profit cooperative energy provider in Indiana is to provide innovative and effective solutions for Hoosiers in serving our cooperative members and their consumer-owners, while demonstrating solid environmental stewardship, a focus on employee and public safety, and meeting these goals in a cost effective manner.

I also wanted to be sure you were aware that Hoosier Energy helped the state leverage funds such as these in the past to maximize the value delivered to Hoosiers. In 2009 and 2010, Hoosier Energy received two ARRA weatherization grant awards totaling \$10.9 million. We received an initial grant of \$5.1 million in 2009 for low income housing weatherization work in 13 counties and received a second grant for \$5.8 million in 2010 for low income weatherization in 23 counties because we were effective and efficient in completing the work. Funds were provided to us through the Indiana Housing and Community Development Authority or IHEDA. Our contact there was Mr. Ray July, Community Programs Manager. We worked closely, and successfully, with local Community Action agencies to qualify low income residents for participation in the weatherization program. The initial grant was to weatherize 824 low income homes, and a second grant was to weatherize an additional 935 for a total of 1,759 homes. We were able to exceed that goal and effectively weatherized 2,038 homes with those funds. That program enabled homeowners to reduce electric energy usage by about 6.5 million kWh annually. A significant savings in gas usage was realized as well. The program spanned across energy customers from the REMCs, Investor-Owned Utilities, and Municipalities.

We look forward to discussing how we could be helpful to you and the state in achieving its goals for this program.

Respectfully,
Bob

Robert Richhart
VP of Management Services
Hoosier Energy Rural Electric Cooperative
2501 S Cooperative Way
Bloomington, IN 47403
Ph: 812-876-0236
Cell: 812-322-0250
Email: richhart@hepn.com

From: PIGOTT, BRUNO [<mailto:BPIGOTT@idem.IN.gov>]
Sent: Monday, October 16, 2017 5:55 PM
To: Angie Lee <ALee@HEPN.com>
Cc: Bob Richhart <richhart@HEPN.com>; Fields, Mary <MFields@idem.IN.gov>; Rockensuess, Brian <BRockens@idem.IN.gov>
Subject: RE: Hoosier Energy Meeting Request Regarding Volkswagen Settlement Funds

Angie,

Thanks so much for your email. At this point, since the Governor established a board to oversee the distribution of funds from the VW mitigation trust and since the board will be conducting outreach sessions throughout the state to receive feedback on a draft plan, I think it would be best if instead of meeting with me, you attended one of the listening sessions. Those sessions will be critical places for people to provide feedback on the different ways to allocate the money under the VW settlement. Since the Governor's announcement was just last week, the outreach sessions have not yet been set up. But I will be sure to let you know the dates so you can participate!

Bruno Pigott
IDEM | Commissioner
100 N. Senate Avenue
Indianapolis, IN 46204
bpigott@idem.in.gov
317-232-8611

From: Angie Lee [<mailto:ALee@HEPN.com>]
Sent: Wednesday, October 04, 2017 9:54 AM
To: PIGOTT, BRUNO <BPIGOTT@idem.IN.gov>
Cc: Bob Richhart <richhart@HEPN.com>; Fields, Mary <MFields@idem.IN.gov>
Subject: Hoosier Energy Meeting Request Regarding Volkswagen Settlement Funds

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Hi Bruno,

Hope you are having a great week so far. Hoosier Energy Senior Staff asked me to reach out to you regarding the Volkswagen settlement funds article in the Bloomington Herald Times newspaper. Hoosier Energy would like to set up a meeting with you at your earliest convenience to discuss possible opportunities for those funds. Electric vehicles (EV) including residential and commercial charging station incentives, electric school bus pilot projects, electric truck pilot projects, EV vehicle promotions including "special rebates" are just a few examples. In addition, it is our understanding that there are other "beneficial electrification" opportunities that might be consistent with federal guidelines for using the money (reduction of fossil fuel air emissions).

Thank you for your time and we look forward to the opportunity to meet with you.

Angie Lee
Manager, Environmental Services
Hoosier Energy REC, Inc.
2501 South Cooperative Way
P.O. Box 908
Bloomington, IN 47402-0908
alee@hepn.com
812-935-4715
812-322-9930 cell
812-935-4728 fax

Indiana undecided on how to spend \$41M Volkswagen settlement

Oct 1, 2017 Updated Oct 1, 2017 (0)

INDIANAPOLIS (AP) — Indiana officials have yet to decide how to use the \$41 million the state will receive from a settlement federal regulators reached with Volkswagen, which cheated on emissions tests. Department of Environmental Management spokeswoman Tara Wolf told the Indianapolis Star that department Commissioner Bruno Pigott is holding one-on-one meetings with interested parties to gather thoughts on how the funds should be spent. The commissioner's approach is "more personal," Wolf said.

The department declined to list groups or individuals who've met with the agency on the matter. Other states have accepted public comments through online websites. Some states began gathering public feedback in fall 2016 and some have already published drafts of their proposals online. Indiana residents will be able to comment on a draft plan, Wolf said.

The settlement requires states to go through a lengthy and technical process before submitting their plans. States are required to first announce which agencies will manage the funds. Indiana has yet to announce which agencies will oversee the money. Volkswagen violated the Clean Air Act by tampering with emissions testing to allow cars to emit more pollutants than the Environmental Protection Agency level allows. The mitigation trust fund aims to address the increase in nitrogen oxides.

Warning: This email is from an external source. Opening attachments or clicking links from untrusted sources may cause damage to you and Hoosier Energy.

From: John Lurkins
Sent: Tuesday, February 27, 2018 10:37 AM
To: IDEM VWTrust
Subject: Light duty zero emission vehicle supply equipment

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

John Lurkins

Committee Members:

I would like to start off by thanking you for the time and energy it took to host the 5 public meetings over the past couple of months.

As a previous owner of 2 of Volkswagen's engines I feel compelled to advocate for the consumers of these vehicles. These funds would not have been awarded to the state if it was not for the consumers of these vehicles. I believe that the majority of the individuals that purchased these vehicles were simply looking for a low cost form of transportation.

Therefore, the committee has an opportunity to shape the States low cost transportation of its citizens. By utilizing the full 15% of the funds to install light duty DC fast charging supply equipment strategically located along our interstate system the state of Indiana could provide its citizens with another low cost alternative to its transportation needs.

Thank you for your consideration,

John Lurkins

From: Briles, Greg <brilesg@delphi.k12.in.us>
Sent: Tuesday, February 27, 2018 3:04 PM
To: IDEM VWTrust
Subject: Commitment Letter
Attachments: VW Commitment Letter.pdf

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I have attached a letter that touches on a number of advantages that point out the advantages of electric school buses and how the state might support the Delphi Community School Corporation moving forward. Thank you for your support.

--

Gregory G. Briles
Superintendent of Schools
Delphi Community School Corporation
501 Armory Road
Delphi, IN 46923
Office (765)564-2100
Cell (574)952-1868

"people with goals succeed because they know where they are going."

- Earl Nightingale



DELPHI COMMUNITY SCHOOL CORPORATION

February 27, 2018

Dear Mr. Shawn Seals,
Indiana Department of Environmental Management

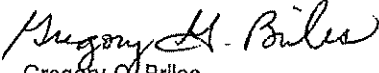
The Delphi Community School Corporation is committed to supporting new transportation initiatives that modernize and promote clean transportation projects that benefit school districts, our school children and the community we serve. Therefore, we support Indiana dedicating a significant portion of the VW Trust Funds to programs that promote the adoption of electric school buses and help reduce the higher initial cost and infrastructure investment of this new and cleaner transportation option.

VW Trust Funds could lead to the eventual transformation of school bus fleets in Indiana to zero-emissions which is especially important since school children are particularly vulnerable to the negative health impacts of tail pipe emissions. We would support Indiana using VW funds to prioritize school bus replacements based on consideration of the emissions reduction to children while on-board and while idling in school parking lots. According to the U.S. DOT, switching from a diesel bus to an electric bus eliminates thousands of pounds of nitrogen dioxides and diesel particulate matter over a 12-year lifecycle.. Electric school buses are also much quieter than current diesel internal combustion engines.

In addition, a single electric bus could save thousands of dollars annually in fuel and maintenance savings. Electric school bus pilot projects currently underway in a few leading states also suggest additional cost saving opportunities such as the ability to serve as a backup source of power (vehicle-to-building technology). Our recommendation that a portion of such funds be used to support Zero Emitting Vehicle technologies like electric buses can thus lead to reducing long term costs for our school district..

The purchase price of any new technology, like the current generation of electric school buses, will be significantly higher than conventional buses (\$300,000 versus \$100,000). However, the purchase price of these buses will continue to fall in future years as vehicle and battery prices drop whereas diesel bus prices could continue to rise due to future requirements to improve emissions. The opportunity to use VW settlement money towards phasing in electric school bus pilot projects means that school districts would have the time to test the technology now while the purchase price is higher and potentially be ready to purchase when the technology becomes cost competitive. Thus the state plan can help school districts like ours to leverage state mitigation funds, assuming they are available over a sufficient number of years, to cover the difference between the purchase price of electric school buses and conventional vehicles for districts that are planning for upcoming vehicle replacements in their budgets.

Thank you for this opportunity to comment on Indiana's Mitigation Trust Fund draft framework.


Gregory G. Briles
Superintendent of Schools

501 Armory Road
DELPHI, INDIANA 46923
765-564-2100
Fax: 765-564-6919

From: Goodnight, Anthony <anthony.goodnight@huntington.in.us>
Sent: Friday, February 23, 2018 9:03 AM
To: IDEM VWTrust
Subject: Volkswagen Trust Program Comment

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Good morning,

I wanted to formally submit a comment on Volkswagen Mitigation Trust Plan. I would encourage IDEM to make at least 75% of the available money available to tax supported entities. As a windfall for the State, this is your opportunity to have the greatest impact on both the environment and in our communities. By offering a majority of the money to local municipalities, counties or school corporations, you will not only be reducing emissions, but you will be offsetting taxes, which is always a popular and desired way to function. As both an employee of a municipality and a taxpayer myself, I believe that as a public servant of funds geared to reduce NOx emissions, you have an obligation to make sure that the money you have been entrusted with, will be used to further the reduced emission agenda and support economic development. What better way to do that then to get tax supported entities equipment that will further reduce maintenance and replacement costs, which directly affects taxpayers.

I heard at the meeting that the proposed plan is to reimburse government entities at 100% and private entities at 75%. I strongly encourage a larger private match. As my comments state above, I am all for economic development, however I also feel that the private sector has many more opportunities afforded to them to raise the capital necessary to fund replacement projects while government, tax supported entities do not. What better way to create economic development then to reduce tax rates, because you don't have to purchase new equipment or maintain old outdated equipment?

I also support an application that allows for leverage funds to score higher. I believe that this will be a highly competitive process and those that are serious will put additional money, above and beyond any match. This allows the most bang for the buck and allows IDEM to show that they took \$41M and made it a significant amount more.

I would implore IDEM to make the application process simple. Too often applications start off easy, and by the end of the long-term program the necessary information needed and the ongoing tracking doesn't even make the money worth it. Let's get the money into organization's hands and let them do what they say they will do and start reducing emissions quickly and efficiently.

Thank you for the opportunity to voice my comments. We appreciate all of the work that you do and look forward to seeing the final document and submitting an application in the near future.



Anthony Goodnight | Director of Public Works and Engineering Services
City of Huntington | 300 Cherry Street | Huntington, IN 46750
Phone (260)356-1400 x2020 | Fax (260)356-0344 | Email: Anthony.goodnight@huntington.in.us



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

Indiana Department of Environmental Management
Office of Air Quality
100 North Senate Avenue, Room N1003
Indianapolis, IN 46204

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

Dear Sir or Madam:

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

¹ US DOE. National Plug-In Electric Vehicle Infrastructure Analysis (<https://www.nrel.gov/docs/ty17/esli/69031.pdf>).

² Source: AAA and Ford Analytics.

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

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 Indiana to coordinate with local utilities and other key stakeholders in strategic planning efforts. We encourage Indiana to consider related programs like the VW National ZEV Investment Plan.

Indiana 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.
- **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.

⁴ <https://www.silideshare.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."

- **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

Indiana 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 Indiana, 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://vwcclearinghouse.org/resource/ada-requirements-for-workplace-charging-installation/>).

From: tkoontz@ambs.edu
Sent: Tuesday, February 13, 2018 7:16 PM
To: IDEM VWTrust
Subject: Electric vehicle charging stations

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My wife and I are strongly committed to reduce climate change, having installed much extra insulation in the house we own, driving a Prius since 2005 and recently installing solar panels at our home. We would like to see a switch to electric vehicles sooner rather than later and encourage you to use some of these funds to help install charging stations, as this would make driving all electric vehicles much more feasible for many of us.

Thank you,

Ted Koontz

Sent from [Mail](#) for Windows 10



Submitted via email

March 29, 2018

Mr. Shawn M. Seals
Indiana Department of Environmental Management
100 N. Senate Avenue
Indianapolis, IN 46204

Re: BYD Comments on Indiana's Use of Volkswagen Settlement Funds

Dear Mr. Seals,

BYD America ("BYD") appreciates the opportunity to submit the following comments that align with and build upon the state's priorities of achieving broad, multi-sector deployments of zero-emission vehicles and equipment. Such deployments will take advantage of this unprecedented opportunity to reduce mobile source emissions and, in particular, provide both near- and long-term nitrogen oxide (NOx) emissions reductions in those areas that bear a disproportionate share of the state's air pollution burden.

BYD is a global company that is changing what is possible in zero-emission transportation. Our commitment to "solve the whole problem" has made BYD an industry pioneer and leader in not only the transportation sector, but also high-efficiency energy storage, solar power, LED lighting, and information technology. BYD and its shareholders, including Warren Buffett's Berkshire Hathaway, see these environmentally and economically forward products as the way of the future.

While our North American headquarters and manufacturing facilities are located in Southern California, many of the vendors for our buses are actually based in Indiana. We are vertically integrated in order to better control the quality and costs throughout the manufacturing chain – we produce every major vehicle component, including our 100% recyclable batteries, inverters, and traction motors. This business structure ensures seamless communication and efficiency across components, which creates a better operational experience and competitive pricing.

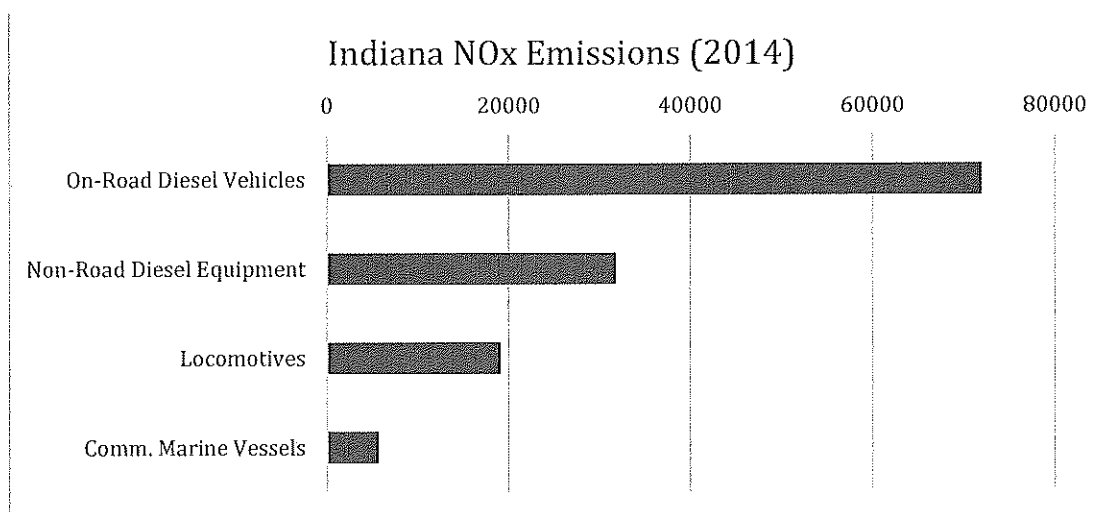
Our recommendations for Indiana fall into three categories:

- Concentrate funding for projects based on the largest sources of statewide NOx emissions
- Provide support for transformative technologies in areas disproportionately burdened with air pollution
- Align funds with existing projects to leverage additional economic and energy benefits

BYD urges the Indiana Department of Environmental Management (IDEM) to take these recommendations into consideration, which will enable Indiana to most efficiently and effectively make the most of its allocation of Volkswagen funds.

Indiana Should Concentrate Funding for Projects Based on the Largest Sources of Statewide NOx Emissions

As the figure below shows, on-road diesel vehicles and non-road diesel equipment should be the state's primary focus for these funds.¹ The on-road sector is particularly important as 56% of the state's mobile source diesel NOx emissions come from this on-road diesel vehicles. Indiana should thus ensure that its funds are allocated to address these emissions sources. To do so, Indiana can target transit and shuttle buses as well as delivery, cab forward, and tractor trucks, many of which are "captive" fleets that operate almost entirely within dense communities or areas overburdened with air pollution and are thus capable of delivering immediate environmental benefits.



Allocating funds to cargo handling equipment will address non-road diesel equipment emissions. These pieces of equipment operate entirely within ports, rail yards, depots, and terminals – areas that Indiana has consistently addressed due to environmental justice concerns stemming from disproportionate air pollution impacts.

In particular, focusing funds on terminal tractors (also referred to as yard tractors, yard hostlers, or yard trucks,) presents Indiana with a viable solution to addressing non-road diesel emissions. Terminal tractors move freight quickly and efficiently through the state's freight terminals; however, this productivity is at the cost of clean air because terminal tractors typically use older, high-emitting diesel engines. Indiana can therefore make an

¹ "2014 National Emission Inventory (NEI) Data". United States Environmental Protection Agency, 2014. <https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data>.

immediate and lasting impact on local air quality in these disproportionately burdened areas by electrifying these terminal tractors.

Indiana Should Implement Ready-Made Incentive Programs to Reduce the State's Administrative Burden and Efficiently Deploy Zero-Emission Vehicles

To implement innovative ideas, it is sometimes necessary to look to market leaders. In this case, several states implemented incentive programs that have resulted in tremendous deployments of electric vehicles. Namely, California's Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP), Illinois' Drive Clean Truck Program, and the New York Truck – Voucher Incentive Program have successfully allocated millions in incentives to deploy zero-emission vehicles.

Indiana can help quickly deploy electric vehicles by using these programs as a structure for its funds. In other words, by using these existing rebate programs as a template, Indiana will improve the likelihood of meeting its electric vehicle deployment and NOx emissions goals while simultaneously reducing the administrative burden and lowering the overall costs of managing these funds.

Further, we urge the state to structure the per vehicle funding levels on a tiered basis. In the early years (e.g., Phase 1) of Indiana's settlement-funded programs, the state could provide fleets with the maximum allowable per vehicle, according to the Volkswagen settlement, and then, over time, gradually lower the per vehicle limits as the market grows. Alternatively, the state could provide vouchers to cover the full incremental costs initially, with that per vehicle voucher number declining each year, or after a certain number of vouchers are redeemed. By structuring the funds in this market-responsive fashion, Indiana will allow fleets to quickly deploy zero-emission vehicles while also improving the cost-effectiveness of such projects over time.

Finally, in response to the state's request for a reasonable maximum award amount per grant, we believe the best approach is to implement funding on a first-come, first-served basis. As we described above, ready-made voucher programs efficiently and effectively distribute funds by setting eligibility thresholds for the technology PRIOR to applications. Thus, this allows applicants to have their choice of technology and vehicle options and puts the onus on the market to decide who receives the funds and in what volumes. This again reduces the state's administrative burden.

Indiana Should Provide Support for Transformative Technologies in Areas Disproportionately Burdened with Air Pollution

Indiana's air quality issues have led to the designation of one ozone nonattainment area in the state, which includes two counties – Lake and Porter – that are home to 660,000

residents.² By directing funding to vehicles operating in these areas, Indiana can immediately reduce harmful NOx emissions, thereby generating environmental, health, and economic benefits.

One such funding strategy is to electrify trucks and transit buses operating in Indiana’ population centers or along key corridors, such as I-65, I-69, I-70, and I-74. Electrified vehicle technologies produce zero emissions, eliminate the need for expensive-to-maintain particulate traps, and mitigate the need for oil changes. To combat non-road diesel emissions, Indiana can allocate funds to electrify the state’s cargo handling equipment.

BYD Solutions

Electrified on-road trucks, such as BYD’s various Class 5, 6, and 8 models, create additional benefits for the environment and operators alike, as shown in Table 1 below. Each of these models presents customers with a basic chassis readily available for customization. BYD works with top outfitters and upfitters to meet customer specifications; thus, each of our chassis can be outfitted into a dry box, flatbed, stake bed, refrigerated unit, refuse body, and bucket truck version.

Table 1: What Sets BYD On-Road Trucks Apart

Vehicle Type	Models²	Battery Performance	CO2 Reduced per Truck (tonnes)	Annual Fuel Savings	Annual Maintenance Savings
<u>Class 5 Medium-Duty Truck</u>	5D, 5F	155 mile range	340	\$ 6,000	\$ 4,000
<u>Class 6 Medium-Duty Truck</u>	6B, 6D, 6F, 6R	124 mile range	450	\$ 8,200	\$ 4,600
<u>Class 8 Heavy-Duty Truck</u>	8TT, 8R, 8TS, and 8TT	92 mile range	636	\$ 9,600	\$ 4,500

As the world’s largest producer of battery electric buses, BYD has demonstrated experience and established customer delivery and deployment processes. Indeed, BYD has deployed more than 35,000 zero-emission buses internationally and has received orders for over 4,000 additional buses. These buses have accumulated hundreds of millions of miles of service, saved tens of million gallons of diesel, and reduced over a billion pounds of greenhouse gases (GHGs).

BYD’s product line of seven bus and coach models, ranging from 23’ coach buses to 60’ articulated transit buses and everything in between, are American Disabilities Act and Buy America-compliant. They can therefore help transit agencies in Indiana reduce fuel costs and minimize maintenance expenses, thereby increasing reliability and performance. Due

² “Green Book 8-Hour Ozone (2008) Area Information”. United States Environmental Protection Agency, February 3, 2017. <https://www.epa.gov/green-book/green-book-8-hour-ozone-2008-area-information>.

² “B” stands for “Bucket.” “D” stands for “Delivery.” “F” stands for “Forward / Cab Forward.” “R” stands for “Refuse.” “TS” stands for “Tractor Single.” “TT” stands for “Tractor Tandem.”

to the increased miles put on transit buses, these vehicles see even more substantial maintenance and fuel savings than our trucks. BYD's standard 40' bus experiences yearly savings on the order of \$45,000 per bus. Further, BYD's recyclable battery technology enables these vehicles to operate more than 200 miles on a single charge, all while producing zero emissions.

BYD's model 8Y terminal tractor is a 100% battery-electric class 8 truck that is capable of 15 hours of continuous operation between charges with minimal battery degradation. Each terminal tractor eliminates 1,590 metric tons of CO₂ over its deployment lifetime. Related to the vehicle's hugely beneficial total cost of ownership, the 8Y saves operators \$19,100 in fuel costs and \$8,800 in maintenance costs per truck each year – lower downtime, fewer moving parts, less wear and tear, and improved environmental efficiency are the hallmarks of BYD's 8Y terminal tractor. Further, they are able to be deployed immediately as they are compliant with Federal Motor Vehicle Safety Standards (FMVSS).³

In the refuse and recycling market, BYD delivers all-electric Class 6 and Class 8 solutions. The BYD 6R provides 85 miles of range with minimal battery degradation and the BYD 8R's 10-ton payload is capable of 76 miles of range. Owing to BYD's breakthrough battery technology, each vehicle can reduce 450-700 metrics tons of CO₂ each year while saving operators \$8,900 - \$13,300 in annual fuel and maintenance savings.

Finally, where BYD's technology exceeds the capabilities of our competitors is the design and capability of our AC chargers; specifically, our AC charging is all done on-board the vehicle. This on-board charging approach:

- Eliminates installation of large, expensive, hot DC charging stations with external converters, since that conversion is done internally;
- Virtually eliminates heat loss, so the charging system converts more of the current to motive energy;
- Virtually eliminates overheating, so charging can occur in all temperatures – in other words, there are no cold weather limitations on the technology;
- Eliminates the need for costly charger cooling systems;
- Virtually eliminates charger maintenance and increases charger durability, so there's no need for replacement during the life of the vehicle or for many years after;
- Significantly diminishes electrical and heat hazards to staff; and
- Allows the chargers to be compact, easy to operate, easily installed with minimal space, engineering or permitting and even easily moved as needs change.

Indiana Should Align Funds with Existing Projects to Leverage Additional Economic and Energy Benefits

The \$40.9 million allocated to Indiana is an opportunity for the state to transform its transportation sector. Simply replacing existing diesel vehicles with new (but still conventional fuel) technology may yield limited benefits, but it will do very little in leading

³ The T8Y is also compliant with Canadian Motor Vehicle Safety Standards (CMVSS).

the state towards a cheaper, cleaner, and more reliable energy future with greater energy independence. Electric vehicles, however, offer the means to achieve energy security and environmental sustainability while simultaneously creating a driver for economic growth.

To that end, Indiana should allocate funding to align with its key state and environmental agency initiatives. Most recently, the Indianapolis Public Transportation Corporation (IndyGo) ordered 31 BYD articulated 60' transit buses to service their routes. By virtue of the operational cost savings mentioned above, for every dollar invested in these all-electric transit buses, IndyGo will generate tremendous savings while also accomplishing their goal of providing safe and healthy transportation for their customers. Their added cost savings will give IndyGo the option to offer increased services for riders, providing more alternatives to private transportation and thereby further displacing vehicle emissions.

There is already momentum in Indiana building towards fleet electrification because fleets see it as a vital near-term air quality investment and prudent long-term financial investment. By aligning the state's VW Beneficiary Mitigation Plan with this grassroots growth IDEM will be able to accelerate market growth and make an immediate public health impact.

Closing Remarks

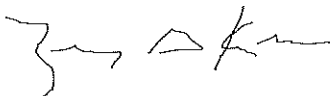
The commercial-scale heavy-duty electric transportation market is rapidly maturing, as demonstrated by the price reduction of more than 20% in our bus products over the last five years. This Volkswagen opportunity represents a unique chance to create immediate emission and economic benefits for Indiana's residents, as well as build the groundwork for a sustainable electric transportation marketplace.

BYD believes early-market incentive funding is critical to achieving more favorable upfront economics and that increasing sales will lead to cost-competitive purchase prices. We have committed to and successfully delivered substantial price reductions from our first generation of products. We hope to continue this progress in Indiana and support the state in addressing a broad spectrum of environmental issues, resiliency and sustainability chief among them.

BYD thanks the State of Indiana and IDEM for the opportunity to submit these recommendations. We would like to work with you and your team to ensure an efficient and effective rollout of the State of Indiana Mitigation Plan.

Towards that end, we request an in-person meeting to discuss our recommendations further. We look forward to future collaboration that will help Indiana meet its environmental, fiscal, and social justice goals.

Sincerely,



Zachary S. Kahn
Director of Government Relations
BYD America

From: Merritt Becker <merritt.becker@cummins.com>
Sent: Thursday, March 29, 2018 2:54 PM
To: IDEM VWTrust; SEALS, SHAWN
Subject: Cummins Inc. - Input on the IDEM Draft Framework of the State's Beneficiary Mitigation Plan (BMP) - Volkswagen Consent Decree Mitigation Trust
Attachments: Cummins Inc - VW Indiana State Beneficiary Mitigation Plan Input.pdf

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Mr. Seals and Committee Members,

On behalf of Cummins Inc., I want to express our appreciation for the opportunity to offer comments and input to the Draft Framework of the State's Beneficiary Mitigation Plan (BMP). I have attached our input in PDF format for your consideration.

Please let me know if you have questions or would like to discuss in more detail.

Best regards,

N. Merritt Becker
Vice President, OEM Business

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March 29, 2018

Framework of the State's Beneficiary Mitigation Plan (BMP)
Public Comments Submission

Submitter: N. Merritt Becker / Cummins Inc.

On behalf of Cummins and its more than 10,000 employees working in the state of Indiana, I am privileged to provide comments on the BMP Framework to the Indiana Department of Environmental Management and the members of the Volkswagen Environmental Mitigation Trust Fund Committee. We appreciate the opportunity to provide IDEM with our suggestions on the most cost-effective methods to reduce NOx emissions in Indiana through the \$41 million provided by the Environmental Mitigation Trust.

Cummins is a global power leader that designs, manufactures, sells and services diesel, natural gas and electric powertrains, power generation systems and related products and technologies. We serve our customers through our network of 600 company-owned and independent distributor facilities and more than 7,200 dealer locations in over 190 countries and territories. We clearly understand the importance of reducing emissions that can potentially harm Indiana's environment and citizens. Cummins has been working successfully for decades to reduce the environmental impact of our products. Our mission is to responsibly deliver power solutions for our customers while ensuring that everything we do leads to a cleaner, healthier and safer environment. This core value woven into the fabric of our company. We look forward to continuing to work with IDEM and our customers to help Indiana mitigate the most NOx emissions with the funds available.

Please find below our comments and recommendations based upon the prompts and statements made during the public hearings over the last few weeks:

What percent of the total should be allocated towards the listed project types?

We recommend that 60% of the total funds should be allocated to the listed projects types. The goal is to reduce the most NOx by targeting older diesel powered machines first. You might also consider expanding the list of projects to include an allocation for infrastructure for critical agencies and companies (transit agencies, schools, universities, correctional facilities, etc.) to provide stand-by power generation solutions as a backup option for recharging batteries if primary utilities are disabled.

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cummins.com



We recommend using 40% of the funds toward DERA matching projects under the DieselWise program.

1. *Stand-by and Primary Power Generators. This entails replacing or repowering older equipment at current installations.*
2. *Industrial/Construction Machine driven Power units (i.e. Watering/Dewatering Pumps, Material conveyance, and construction equipment). This entails replacing or repowering older equipment at current installations.*
3. *Rail Maintenance of Way Equipment. This entails replacing or repowering older equipment at current installations.*
4. *Mining and Mining Support Equipment: This entails replacing or repowering older equipment at current installations.*
5. *Marine Support and Barge Pump-off and Power Generation equipment. This entails replacing or repowering older equipment at current installations.*

Under both the emission reduction project categories and the DERA option, we believe that IDEM should remain technology neutral and analyze each application based upon its merits and NOx reduction potential regardless if the power source is clean diesel, natural gas or electric.

The final consent decree generally allows for a maximum funding amount of 100% for public fleets and 75% for private fleets.

This is appropriate if prioritized by the most NOx producing installations first.

With the intent of leveraging the funds, what percent match should be required of public entities?

Public and private entity matching should be set to 50%. The match criteria should be flexible and allow the value of the vehicle to count toward the match. This will promote repowering older equipment first, which will reduce NOx emissions in a very cost-effective manner.

With the intent of leveraging the funds, what percent match should be required of private entities?

Public and Private entities should have the same match requirement of 50%.

What is a reasonable maximum award amount per grant?

We recommend limiting projects to \$4M in order to ensure that multiple projects can be funded around the state.

How should the project types be ranked in order of importance for the distribution of funds (1 being highest priority)?



IDEM should focus on key non-attainment areas and prioritize on the most NOx reduction possible. By doing this, you will optimize the funds by targeting the largest NOx reduction impact possible.

Again we appreciate the complexity of the task put in front of the committee. Thank you for allowing us to provide comments about the plan.

Sincerely,

Merritt Becker
 Vice President OEM Business
Merritt.Becker@cummins.com
 Phone: 317-484-2120

Funding/Project Category	Percent of Total Allocation	Percent Match Required	Maximum Award Amount per Grant	Similar Project Category Priority
Emission Reduction Projects				
Class 8 trucks	10%	50%	At committee discretion	Greatest NOx reduction
Class 4-8 buses	10%	50%	At committee discretion	Greatest NOx reduction
Class 4-7 trucks	10%	50%	At committee discretion	Greatest NOx reduction
Pre-Tier 4 switcher locomotives	10%	50%	At committee discretion	Greatest NOx reduction
Repowers of ferries and tugs	10%	50%	At committee discretion	Greatest NOx reduction
Shorepower equipment for marine locations	0%	50%	At committee discretion	Greatest NOx reduction
Repower of airport ground support equipment	5%	50%	At committee discretion	Greatest NOx reduction
Repower of forklifts and port cargo handling equipment	5%	50%	At committee discretion	Greatest NOx reduction
State DERA Option Match	40%	50%	At committee discretion	Greatest NOx Reduction
Light duty zero emissions infrastructure	0%	50%	At committee discretion	

From: Tim Rushenberg <trushenberg@indianaenergy.org>
Sent: Thursday, March 29, 2018 1:44 PM
To: IDEM VWTrust
Cc: Rockensuess, Brian; PIGOTT, BRUNO; SEALS, SHAWN
Subject: Indiana Energy Association Comments - IDEM's Draft Framework of the State's Beneficiary Mitigation Plan
Attachments: IEA VW Trust Final Comments - 03292018.pdf

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Indiana Volkswagen Mitigation Trust Program:

In response to the request for public input from the Indiana Department of Environmental Management (IDEM), the member companies of the Indiana Energy Association (IEA) – Indianapolis Power & Light Company, Duke Energy, Northern Indiana Public Service Co. (NIPSCO), Indiana Michigan Power, Citizens Energy Group, and Vectren – along with the collaboration and assistance of the Greater Indiana Clean Cities Coalition and South Shore Clean Cities have prepared and are hereby formally submitting the attached comments for your consideration and inclusion in the state beneficiary mitigation plan.

The attached comments, which will also be hand-delivered to IDEM later this afternoon, propose to use the \$40.9 million allocated to Indiana for the replacement of diesel fleet vehicles with electric and natural gas vehicles, and for the creation of the “Crossroads of America EV Interstate Corridor Project,” which would be a statewide network of DC fast chargers along Indiana’s major highways.

The order of the documents in the attachment is as follows:

1. Cover Letter
2. App 1: Crossroads of America EV Interstate Corridor
3. EV Corridor (dark) map
4. App 2: Replacing Class 4-8 Diesel Vehicles with EV
5. App 3: Replacing Diesel with NGV
6. CNG stations map
7. App 4: General Comments (Administrative Costs & Matching Funds)

If you have any questions about the attached final comments, please do not hesitate to contact me.

Very Respectfully,

Timothy J. Rushenberg
Vice President
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Association

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March 29, 2018

Ed Simcox, President Emeritus

Mark T. Maassel, President

Timothy J. Rushenber, Vice President

Boonville Natural Gas Corp.

Citizens Energy Group

Community Natural Gas Co., Inc.

Duke Energy

FountainTown Gas Co., Inc.

Indiana Michigan Power

Indiana Natural Gas Corp.

Indianapolis Power & Light Company

Midwest Natural Gas Corp.

Northern Indiana Public Service Co.

Ohio Valley Gas Corp.

South Eastern Indiana Natural Gas Co., Inc.

Sycamore Gas Co.

Vectren Energy Delivery of Indiana, Inc.

THE VOICE FOR INDIANA ENERGY

Commissioner Bruno L. Pigott
Shawn Seals, Office of Air Quality
Indiana Department of Environmental Management
Indiana Volkswagen Mitigation Trust
VWTrust@idem.IN.gov

Re: IDEM's Draft Framework of the State's Beneficiary Mitigation Plan Comments of the Indiana Energy Association

Dear Commissioner Pigott and Mr. Seals:

The Indiana Energy Association and its members¹ ("IEA") submit the following comments in response to IDEM's Request for Information regarding its Draft Framework of the State's Beneficiary Mitigation Plan. The State of Indiana has been allocated \$40.9 million (the "Trust Funds") from the Volkswagen Environmental Mitigation Trust Fund (the "Mitigation Trust") for the purpose of funding projects that will improve air quality by reducing emissions of Nitrogen Oxides (NOx) from mobile sources. In order to access these Trust Funds, Indiana must adopt a Beneficiary Mitigation Plan ("BMP").

Executive Summary

IEA proposes that Indiana's overall goal for the Trust Funds should be to promote the replacement of diesel vehicles with Electric Vehicles ("EVs") and Natural Gas Vehicles ("NGVs"). As such, we propose that the Trust Funds be allocated as follows:

- **Category 1 (Replacement of Diesel Vehicles):** IEA proposes that Indiana allocate 80% of its Trust Funds (about \$32.8 million) to replace Diesel Vehicles with Electric Vehicles ("EVs") and Natural Gas Vehicles ("NGVs"). Specifically, we propose a 40%/40% split between EVs and NGVs.
- **Category 2 (State DERA Match):** IEA proposes that Indiana allocate no Trust Funds to the State DERA match.
- **Category 3 (New Light Duty Zero Emissions Vehicle Supply Equipment):** IEA proposes that Indiana allocate 15% of the Trust Funds (about \$6.1 million) to create the "Crossroads of America EV Interstate Corridor Project," a statewide network of DC fast chargers along Indiana's major highways in order to provide the necessary infrastructure for the expanded use of EVs in our state.

¹ IEA members participating in the comment letter are Indianapolis Power & Light Company, Duke Energy, Northern Indiana Public Service Co. (NIPSCO), Indiana Michigan Power, Citizens Energy Group, and Vectren. In addition, the Greater Indiana Clean Cities Coalition and South Shore Clean Cities have assisted in the development of this comment letter.

- **Category 4 (Administrative Costs):** IEA proposes that Indiana utilize no more than 5% of the Trust Funds (about \$2.1 million) for administrative costs.

The Indiana Energy Association

IEA is an association of utilities serving over four (4) million Hoosiers and businesses by providing reliable, affordable energy. We directly employ more than eleven thousand (11,000) people. IEA and its members are dedicated to reducing air pollution in Indiana. Since 2000, emissions from Indiana's electric power industry are down approximately 43% percent for carbon dioxide (CO₂), 89% percent for sulfur dioxide (SO₂), and nearly 77% percent for nitrogen dioxide (NO₂). We are investing billions of dollars in Indiana in new technologies to continue to reduce air emission. Examples include operating one of one of the world's cleanest coal-fired power plants, investing in renewable energy including one of the largest airport-based solar farms in the country, and modernizing the state's electric grid to meet tomorrow's energy needs.

The VW Mitigation Trust

The Trust Funds are the result of a multi-billion dollar settlement of claims brought against Volkswagen A. G. and its affiliates ("VW") for secretly manufacturing and installing defeat devices in about 500,000 diesel-powered vehicles. The purpose of these illegal devices was to misrepresent the vehicles' emissions of Oxides of Nitrogen (NO_x) during emissions testing. As a result, these vehicles emitted NO_x up to 40 times the U.S. EPA-permitted limits. The Mitigation Trust is governed by a court-approved Environmental Mitigation Trust Agreement for State Beneficiaries (the "Trust Agreement"). The Trust Agreement lists all "Eligible Mitigation Actions" for which a state can request an allocation from the Mitigation Trust.

As a Beneficiary of the Trust, Indiana is obligated to create a BMP that describes how it intends to use its allocated funds at least thirty (30) days prior to its first request for an allocation. The BMP must address: (1) the state's overall goal for the use of the Trust Funds; (2) which categories of Eligible Mitigation Actions will be appropriate to achieve the State's goals, and in what percentages; (3) how the State will consider the beneficial impact of the Eligible Mitigation Actions on areas in the state that bear a disproportionate share of air pollution; and (4) a general description of the expected ranges of emission benefits the State will realize by implementing the Eligible Mitigation Actions.

IEA proposes that the State's Final BMP reflect the Trust Fund uses described above.

Explanation of IEA's Proposed Uses for the VW Trust Funds

Attached to this letter are four (4) appendices that describe the Crossroads of America EV Interstate Corridor Project, the replacement of diesel vehicles with EVs and NGVs, and IEA's comments on various aspects of the Draft BMP:

Appendix 1: The Crossroads of America EV Interstate Corridor

Appendix 2: Replacing Class 4-8 Diesel Vehicles with EVs

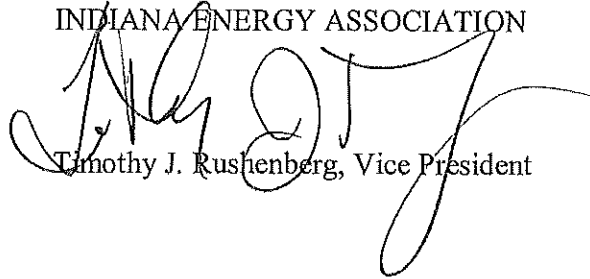
Appendix 3: Replacing Diesel Vehicles with NGVs

Appendix 4: General Comments

Thank you for the opportunity to comment upon the State's Beneficiary Mitigation Plan Draft Framework. We would be happy to answer any questions you may have regarding this letter.

Very Truly Yours,

INDIANA ENERGY ASSOCIATION

A handwritten signature in black ink, appearing to read 'T. Rushenber', is written over the typed name. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Timothy J. Rushenber, Vice President

Attachments

APPENDIX 1

THE CROSSROADS OF AMERICA ELECTRIC VEHICLE INTERSTATE CORRIDOR

IEA and its members respectfully suggest that Indiana dedicate 15% of its allocated Trust Funds (about \$6.1 million) to the creation of the “Crossroads of America Electric Vehicle Interstate Corridor (“Crossroads EV Corridor”). The Crossroads EV Corridor would be a comprehensive network of DC fast charging stations along Indiana's major highways (Figure 1-1). This new infrastructure is a necessary prerequisite to the increased use of EVs in Indiana. The Crossroads EV Corridor would be a bold, transformative, and statewide project that would improve Indiana's environment, promote the health of all Hoosiers, and encourage economic development for decades.

More than half a million EVs were sold in the U.S. between 2012 and 2016, and 200,000 more were sold between July 2016 and June 2017.¹ Estimates show that there could be 2.9 million EVs in the United States within five (5) years.² EV sales will exceed 1.2 million by 2025 and the number of EVs on the road will reach 7 million in 2025.³ Prices are falling, the range and reliability of EVs are improving and foreign and domestic EV manufacturers are introducing new EV models every year. Mobile applications such as PlugShare and CarStations allow users to locate EV charging stations throughout the United States. The electric vehicle revolution has begun, and the only question is whether Indiana will be accelerating ahead or just coasting along.

Charging infrastructure is imperative to accommodate the changing marketplace. Currently, there are only twenty-three (23) publicly-available DC fast-charging stations in Indiana, and only six (6) of those are outside the Indianapolis metropolitan area.⁴ Due to the lack of infrastructure, most EVs cannot travel across the State of Indiana.

Widespread, publicly-available DC fast chargers provide EV users with “range confidence,” which is the assurance that a charging station will be within range of their travel and available if needed. The flipside, “range anxiety,” results from the fear of EV drivers that they will run out of power before they can access a charging station. Sufficient EV infrastructure would remove serious impediments to the widespread purchase and the use of EVs by Indiana residents and businesses.

Replacing a light-duty passenger vehicle with a Plug-in Hybrid Electric Vehicle or a Battery Electric Vehicle may provide a 40-76% reduction in NOx emissions.⁵ This means future

¹ S. Khan and S. Vaidyanathan, *Strategies for Integrating Electric Vehicles into the Grid*, American Council for an Energy-Efficient Economy (February 2018), p. 1 (available at: <http://aceee.org/research-report/t1801>).

² Rocky Mountain Institute, 2017. *From Gas to Grid*, page 7.

³ A. Cooper and K. Schefter, *Plug-in Electric Vehicle Sales Forecast Through 2025 and Charging Infrastructure Required*, Edison Electric Institute (June 2017), p. 1.

⁴ https://www.afdc.energy.gov/fuels/electricity_locations.html

⁵ This emissions benefit calculation assumes 0.32 kWh/mi for the BEV and 0.367 kWh/mi for the PHEV, 55% miles on electricity for the PHEV, an annual VMT of 12,000 miles, an electricity generation NOx rate of 0.00035 lbs/kWh, and an average auto emission factor for NOx of 0.00047 lbs/mi (2013 model year). Source: US DOE Alternative Fuels Data Center, 2015 ISO-NE Average Annual NOx Emissions Rate, and ARB – Emission factor Table 3A – Methods to Find the Cost Effectiveness of Funding Air Quality Projects

emissions reductions as Hoosiers, visitors to the state, and other travelers in the Crossroads of America utilize EVs in our state.

Knowing that charging is available, easy, and convenient will encourage people and businesses to buy and drive EVs. By setting the stage for the EV industry to thrive in a green economy, the Crossroads EV Corridor will help spur economic development.

Reaching this goal will require bold action. IEA and its members propose to create a network of DC fast chargers along Indiana's major highways in order to provide the necessary infrastructure for the expanded use of EVs in our state. The Crossroads EV Corridor would consist of DC fast charging stations positioned strategically, and no more than about fifty (50) miles apart, along major Indiana highways such as U.S. 31, U.S. 41, I-64, I-65, I-70, I-69, I-74, I-80/90, I-94 and I-465. A preliminary map showing the proposed corridor is attached as Figure 1-1.

The Crossroads EV Corridor will serve as a backbone for future growth in the use of EVs in Indiana and will propel the Hoosier State to the forefront of EV infrastructure in the Midwest and beyond. This project is bold, creative, transformative, and innovative, and it will position Indiana for decades to come as a proven leader in clean transportation. If Indiana is to remain the "Crossroads of America," it must be on the forefront of EV technology and infrastructure. Ultimately, encouraging more EVs in place of vehicles powered by traditional diesel engines will, over the long term, improve Indiana's air quality and the health of all Hoosiers.

The Trust Agreement allows states to use up to 15% of its Trust Fund allocation for costs related to new light duty zero emission vehicle supply equipment, or charging stations.⁶ The Draft BMP refers to these as "Category 3" costs, which include the costs to acquire, install, operate, and maintain the charging stations. If the charging station is available to the public and located on government-owned property, Indiana can draw 100% of the costs from the Mitigation Trust. If it is located on non-government owned property, but is still available to the public, the State can draw 80% of the costs from the Mitigation Trust. Trust Funds cannot be used to purchase or rent real estate, construct buildings or facilities other than the charging stations, or for the maintenance of anything other than charging stations.

IEA and its members are willing to sponsor and fund the Crossroads of America EV Interstate Corridor Project. We will select appropriate sites and assure infrastructure construction to facilitate charging station locations, provided that the State dedicates the full \$6.1 million in Trust Funds to the project. Some utilities may choose to own, operate, and maintain the charging stations themselves, while others may choose to provide the infrastructure and power to the stations. Assuming that the State of Indiana chooses to utilize its full 15% allocation for electric charging stations, and expresses an interest in the Crossroads EV Corridor Project, IEA and its members will resolve issues related to ownership, operations, long-term maintenance, and funding, as well a number of other practical and legal issues, as the project proceeds.

⁶ Trust Agreement, Appendix D-2, Section 9.

Because of the size and long-term nature of this project, the Trust Funds will not be enough to cover all of the costs of the Crossroads EV Corridor. IEA's preliminary estimates indicate that the project will require about seventy (70) DC fast chargers, and that the initial construction cost of the charging stations will be about \$9.6 million. However, IEA's member utilities are willing to bear the costs of the Crossroads EV Corridor that exceed the \$6.15 million from the Mitigation Trust, including necessary cost sharing under the terms of the Trust Agreement. Those utilities that choose to own and operate the fast chargers may seek to offset those costs in a number of ways, such as charging fees to use the fast chargers or through the cost recovery system established by Indiana's utility laws.

IEA and its members are particularly well-suited for this project. The geographic areas covered by IEA's member utilities allow them to select appropriate sites, assure infrastructure construction to facilitate the Crossroads EV Corridor in a comprehensive and coordinated manner, and promote a customer-friendly charging experience. The sophistication, size, and financial stability of Indiana's utilities ensure that the state's investment of Trust Funds into the Crossroads EV Corridor project will be efficiently managed.

The Crossroads EV Corridor will promote economic growth and jobs. The commitment of Governor Holcomb and the State of Indiana to modern infrastructure, technology and the environment has become more and more important to attracting businesses to the State, as demonstrated by recent high profile efforts. In the past, the State of Indiana has focused economic development efforts in the EV and battery manufacturing industries specifically. There is no better way for Indiana to demonstrate its commitment to the rapid transformation of the mobility industry, which includes electric vehicles, autonomous vehicles, and ride sharing, than to promote EVs by building the Crossroads EV Corridor.

Further, it is likely that local economic growth will be promoted in the immediate vicinity of the DC fast chargers that are at the heart of the Crossroads EV Corridor. Generally, charging an EV takes about twenty (20) to thirty (30) minutes using a DC fast charger. This allows EV drivers an opportunity to eat a meal, drink a cup of coffee, or shop. This in turn presents an opportunity for retail development, or for increased traffic at existing retail establishments.

EVs and EV infrastructure promote energy independence. The electricity used to power EVs in Indiana will mostly be generated by Indiana utilities employing Indiana workers, often using Indiana's natural resources. The increased use of EVs means less dependence on petroleum from foreign countries, and an expansion of an important Indiana industry.

Because this project will promote the increased use of EVs in our state, it will lead to reduced NOx emissions, less exposure to diesel particular matter, better ambient air quality, and improved health for all Hoosiers.

The Crossroads EV Corridor Project is attractive because it is a statewide project that benefits all Hoosiers by reducing overall air pollution and improving health. While the DC fast chargers will by necessity be located near major highways, those highways run the length and width of the State, and the resulting improvement in air quality will be realized throughout Indiana. The project does not exclude any particular geographic region, and the primary areas

that might realize a proportionally larger benefit are those areas with proportionally greater air pollution challenges.

Some of our neighboring states will be considering proposals for the creation of EV corridors within their states.⁷ The Crossroads EV Corridor will leverage the creation of a much larger Midwest electrified corridor system.

The Draft BMP states that priority will be given to areas that are currently or may soon be designated nonattainment for the newest Ozone National Ambient Air Quality Standards (NAAQS) or maintenance areas for the Ozone and/or PM_{2.5} (fine particulates) NAAQS.

The proposed placement of charging stations will be based upon a combination of (a) the location of the state's population centers and (b) the need for charging stations about every fifty (50) miles along major highways to enable travel between communities. The Crossroads EV Corridor is not specifically designed to focus upon nonattainment or maintenance areas, but the Crossroads EV Corridor will be of particular benefit to those areas. For instance, Lake, Porter, Floyd, and Clark Counties will likely be areas of priority under the BMP, and a significant portion of the proposed EV charging stations will be in or very near those counties. Generally speaking, most of the proposed charging stations will be located in areas of the state with the highest concentrations of NO_x, Ozone, and PM_{2.5} emissions.

Similarly, the Draft BMP prioritizes urban residential areas in close proximity to roadways with high traffic volumes. Such urban centers are particularly susceptible and vulnerable to environmental contamination, and are often located in the most environmentally challenged areas of Indiana. Many of the EV charging stations we have proposed will be located in or near cities that include such challenged areas. They will be heavily concentrated in Northwest Indiana, Indianapolis, South Bend, Jeffersonville, and Evansville, for instance.

Further, because EVs do not produce emissions while on the road, they reduce air pollution in the immediate vicinity of heavily-trafficked areas. EVs generate less heat and noise pollution than vehicles powered by diesel. Promoting the use of EVs in urban areas will improve the health and quality of life of Hoosiers who live and work in our largest population centers.

Investing in the Crossroads EV Corridor is necessary to increase the availability of EV charging stations and thus increase EV usage in Indiana. Exact NO_x emissions benefits from each installation will vary depending on utilization and are difficult to quantify and predict, but they are undeniable.

For all of the reasons above, IEA asks that the State of Indiana allocate 15% of its Trust Funds for EV charging stations.

⁷For example, see: <http://epa.ohio.gov/oeec/EnvironmentalEducation.aspx#131365122-vw-mitigation-grants> (Ohio), <http://eec.ky.gov/Pages/Volkswagen-Settlement.aspx> (Kentucky), and http://www.michigan.gov/deq/0,4561,7-135-70153_70155_3585_57765_78496-397560---00.html (Michigan)

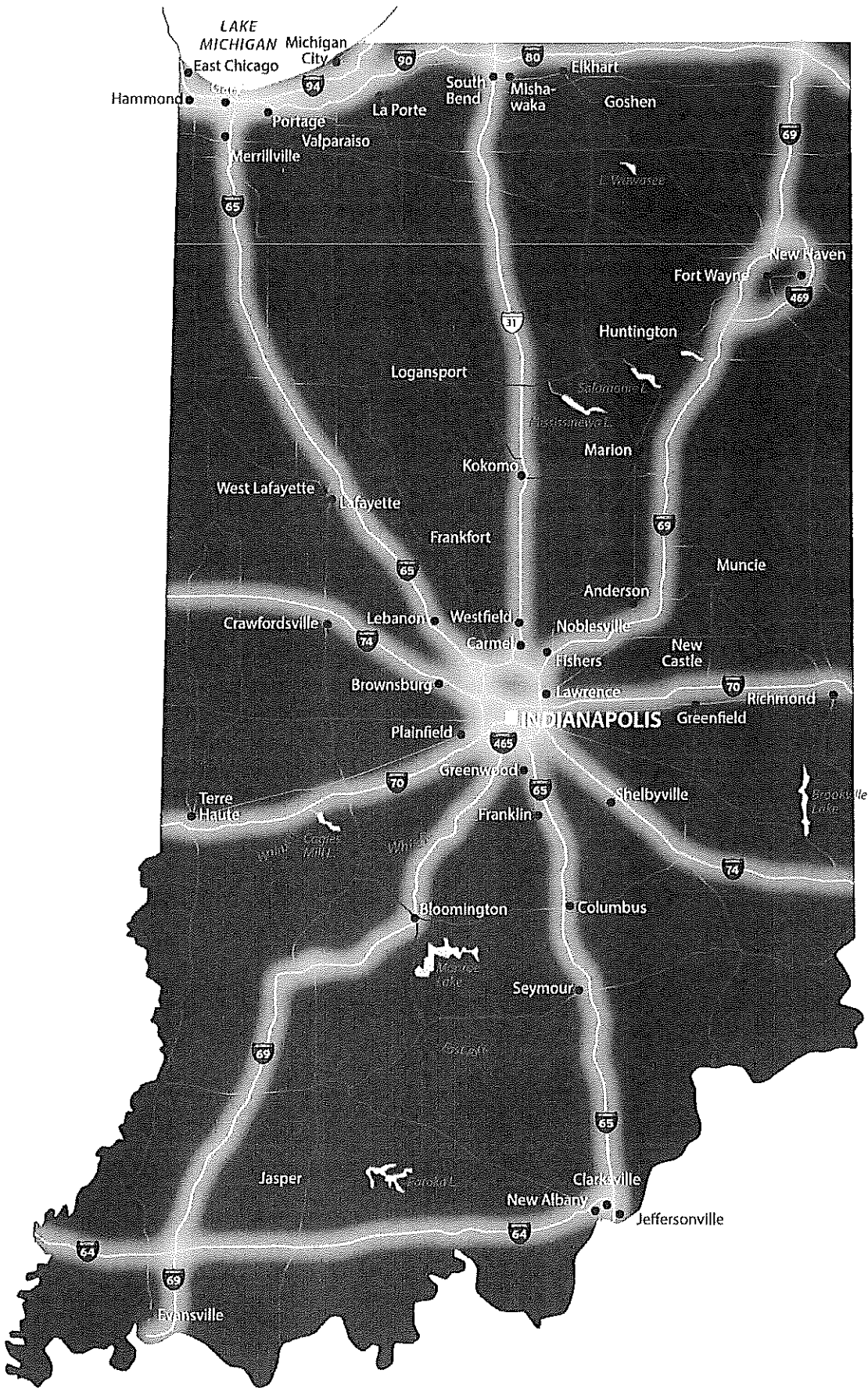


Figure 1 - 1

APPENDIX 2

REPLACING CLASS 4-8 DIESEL VEHICLES WITH ELECTRIC VEHICLES

IEA proposes that Indiana invest 40% of the Trust Funds in projects that replace old diesel-powered engines and vehicles with electric engines and vehicles, as well as the charging infrastructure necessary to operate EVs.¹ A substantial investment in Electric Class 4-8 Buses and Trucks will promote a cleaner environment in communities throughout the state, improve the health of all Hoosiers, improve the state's economy by promoting the EV industry, and maximize the NOx savings realized per Trust Fund dollar spent.

Mobile sources emitted greater than 50% of all NOx emissions in Indiana during 2014.² As noted by the State of Connecticut in its Draft Final Beneficiary Mitigation Plan, expected benefits from creating EV infrastructure and replacing Class 4-8 diesel vehicles with EVs include:

- Tons of pollution reduced or avoided over the lifetime of the electric vehicles and engines, specifically NOx and other greenhouse gases;
- A net reduction in gallons of diesel fuel or other fossil fuels used;
- Improved ambient air quality and human health and welfare throughout the state, but especially in communities located in areas with historical air quality issues and areas that bear a disproportionate share of the air pollution burden; and
- Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen.³

The Federal Highway Administration's Congestion Mitigation and Air Quality Improvement (CMAQ) Program reports a median cost-effectiveness estimate for NOx emission reductions at electric charging stations of \$1.5 million per short ton of NOx reduced.⁴ This value results largely from the small number of vehicles that are expected to utilize the charging equipment, at least initially. The report goes on to state that, "this should change if electric vehicle use increases in future years."

Further, EVs produce fewer than half the carbon dioxide (CO₂) emissions than the average gasoline-powered vehicle, even when upstream emissions from power generation are taken into account.⁵

¹ The Trust Agreement allows states to utilize Trust Funds not only to replace and repower diesel vehicles with electric vehicles and engines, but also the charging infrastructure necessary to operate them. (Trust Agreement, Appendix D-2).

² https://www3.epa.gov/cgi-bin/broker?service=data&debug=0&program=dataprog.state_1.sas&pol=NOX&stfips=18

³ http://www.ct.gov/deep/lib/deep/air/mobile/vw/CT_VW_Draft_Final_Mitigation_Plan_-_FINAL.pdf at p. 18.

⁴ https://www.fhwa.dot.gov/environment/air_quality/cmaq/reference/cost_effectiveness_tables/#Toc445205111

⁵ S. Khan and S. Vaidyanathan, *Strategies for Integrating Electric Vehicles into the Grid*, American Council for an Energy-Efficient Economy (February 2018), p. 1 (available at: <http://aceee.org/research-report/t1801>).

EVs are energy efficient. EVs convert about 59% to 62% of the electrical energy from the grid to power at the wheels. Conventional vehicles powered by internal combustion engines only convert about 17% to 21% of the energy stored in gasoline to power at the wheels.⁶ Diesel powered engines only convert less than 25% of the energy stored in diesel to power at the wheels.⁷ EVs emit no tailpipe pollutants, although the power plants producing the electricity may have air emissions. Electricity from sources such as solar, wind, hydro, and nuclear create no air pollutants. EVs also utilize energy generated locally and regionally, thus decreasing Indiana's dependence upon foreign-produced transportation fuels.

Refuse Trucks, Transit Buses, School Buses, and Tractor Trailers represent the largest users of on road diesel fuel. The aforementioned Class 4-8 vehicles operate near schools, our businesses, and are involved in every product that consumers purchase. Replacing Heavy-Duty Diesel Trucks and School Buses with the same class of electric vehicles would represent a significant amount of greenhouse gas emissions reduced within the state of Indiana. This action would eliminate some of the largest producers of mobile NOx emissions in the state of Indiana.⁸

⁶ <https://www.fueleconomy.gov/feg/evtech.shtml>

⁷ J. Lowery, *Avoiding Carbon Apocalypse Through Alternative Energy*, Springer International Publishing (2017), p. 13.

⁸ For additional information, see: <https://www.transportation.gov/r2ze/benefits-zero-emission-buses> and <https://www.energy.gov/eere/electricvehicles/reducing-pollution-electric-vehicles>

APPENDIX 3

REPLACING DIESEL VEHICLES WITH NATURAL GAS VEHICLES

If we want cleaner air, we need cleaner vehicles. IEA and its members propose that Indiana invest 40% of the Trust Funds in projects that promote the use of NGVs in our state, which will substantially reduce air pollution and improve the health and well-being of all Hoosiers.

The natural gas utilities will partner with their existing customers and municipalities that are interested in using CNG as a transportation fuel to convert and expand their fleets. The utility will perform an analysis of its infrastructure to insure adequate load and capacity at a customer's proposed site and work to minimize total project costs. Additionally, the utility may expand existing infrastructure to promote further economic development. Indiana is well positioned to become a national leader in logistics, alternative fuel technology and reduced NOx emissions through the deployment of natural gas vehicles.

Allocating funds to deploy low-NOx NGVs provides the best way to deliver immediate and cost-effective NOx reductions and air quality benefits. Nearly 40% of Americans are exposed to unhealthful levels of ozone and particulate pollution. Volkswagen's \$2.9 billion Environmental Mitigation Trust fund provides each state an incredible opportunity to make an immediate and tangible impact on air quality by targeting medium- and heavy-duty vehicles, the leading source of these air contaminants in almost every metropolitan area. **Natural gas vehicles (NGVs) are transforming the medium- and heavy-duty transportation sector.**

Natural gas medium- and heavy-duty engines provide unmatched reductions of smog-forming emissions of nitrogen oxides (NOx). The Cummins Westport Ultra-Low NOx engine is made in America and is 90% cleaner than the EPA's current NOx standard. It is certified by both EPA and the California Air Resources Board to a 0.02 grams per brake horsepower hour (g/bhp-hr) standard, making it equivalent to a zero emission engine.¹

Dollar-for-dollar, NGVs deliver the most cost-effective NOx emissions reductions.² When comparing the technology costs of natural gas, diesel and electric vehicles with NOx reductions, funding natural gas vehicles will lead to the largest total reduction in NOx emissions. NGVs provide the least cost option in NOx reduction in the transit bus, school bus, refuse truck and short/regional haul truck segments.

NGV infrastructure is already in place, with over 2.5 million miles of natural gas pipelines in the United States. Currently, Indiana has twenty-six (26) publicly available Compressed Natural Gas (CNG) stations throughout the state for long haul trucking as well as municipal use. A map of Indiana's CNG stations is attached as Figure 3-1. This station coverage allows any type of vehicle (Class 4-8) to travel the state using CNG. Natural gas is

¹ www.ttnews.com/articles/opinion-vw-funds-offers-funds-purchase-natural-gas-trucks. See also: www.cumminswestport.com/models.

² www.ngvamerica.org/vwactioncenter/

abundant and produced domestically. Its use promotes energy independence, unshackling us from unstable, often adversarial foreign countries.

NGVs are commercially available today across all applications qualified for funding, including traditional truck and bus original equipment manufacturers with established sales and service networks. Retrofit and repower options are also available from a variety of manufacturers. Current applications include:

- Heavy Semi Tractors
- Refuse Trucks
- School Buses
- Transit Buses
- Single Axle Vans
- Shuttle Buses
- Cement Mixers
- Dump Trucks
- Large Walk In Vans
- Motor Coaches
- Utility Trucks
- Fuel Trucks

Natural gas trucks and buses are easier and cheaper to maintain than their diesel counterparts. They require no diesel particulate filter or waste, selective catalytic reduction, or diesel emission fluid. Natural gas prices are stable. Currently, natural gas prices can be **\$0.75 to \$1** or more lower than diesel at the pump, with a firm price advantage expected to remain for decades. The pump price of natural gas remains relatively stable for two reasons. First, it is domestically sourced. Second, the commodity cost of natural gas only makes up **23%** of the pump price, so price fluctuations have minimal impact. In contrast, approximately **60%** of the price of diesel fuel is impacted by the market cost of crude oil, which is largely sourced from politically unstable, high-conflict regions. When crude oil prices increase, diesel prices follow suit, which can lead to significant swings in a fleet's fuel costs. Natural gas provides long-term fuel price stability and cost savings.

Indiana is already a proven leader in natural gas vehicle deployment. With companies such as Cummins, Eco Vehicle Systems and AutoCar in the natural gas vehicle industry, growth in the deployment of the alternative fuel will result in growth within these Indiana-based companies. Municipalities throughout the state are enjoying the benefits of this domestically produced and environmentally friendly fuel, the results of which are a reduction in operating expenses and taxpayer savings. A proven example is the City of Muncie, which has built a CNG station, replaced 14 refuse trucks with clean burning natural gas and purchased 24 bi-fuel Ford Explorer police vehicles. Other municipalities could follow suit with access to VW settlement dollars and assistance from the local gas utility.

IEA proposes that 40% of Indiana's allocated Trust Funds be used to fund the deployment of NGVs on a statewide basis. Indiana should fund NGV projects that cost-effectively maximize NOx reductions for both public and private fleets, including the replacement of medium- and heavy-duty diesel engines with natural gas-powered engines that deliver NOx reductions greater than current EPA standards. This funding should be flexible, and should be used to leverage investments so as to encourage the development of the NGV market. Indiana should prioritize funding for commercially available NGVs currently on the market.

Public Access CNG Stations



1. **Homewood Disposal Services (HDS)**
400 E. Blaine St. – Gary, IN
2. **AmpCNG**
856 N 600 E. – Fair Oaks, IN
3. **CNG Source**
111 W. Raymond St. – Indpls, IN
4. **American Natural Gas LLC**
1490 S. County Rd. 700 W – Frankfort, IN
5. **Sunoco – Midwest Clean Fuel**
2501 Lafayette Rd. – Crawfordsville, IN
6. **KAKCO**
4355 Lafayette Blvd. – Indpls, IN
7. **Gain Clean Fuels**
8775 Zionsville Rd. – Indpls, IN
8. **IGS CNG Services
Speedway South Bend**
6161 W Brick Rd - South Bend, IN
9. **AMPAmericas**
7507 Highway 31 E. – Sellersburg, IN
10. **American Natural Gas LLC**
8701 Colonel H Weir Cook Memorial Dr.
Indpls, IN
11. **CNG Fuel, Inc.**
6650 State Rd 38 E. – Lafayette, IN
12. **American Natural Gas LLC**
1767 S. Old US 41 – Vincennes, IN
13. **Vectren Energy Delivery Eco-Fuel
Center**
1 N. Main St. – Evansville, IN
14. **CNG Fuel Inc.**
510 S Post Rd. – Indpls, IN
15. **The Greenline**
900 E. Centennial – Muncie, IN
16. **CNG Fuel Inc.**
2240 N Michigan Ave. – Greensburg, IN
17. **AMP Trillium**
6533 State Route 38 – Lafayette, IN
18. **GAIN Clean Fuel**
10317 Bluffton Rd. – Ft. Wayne, IN
19. **CNG Source Fueling**
7005 Brookville Rd. – Indpls, IN
20. **CNG Fuel, Inc**
420 Stevens Way – Seymour, IN
21. **GAIN Clean Fuel**
6700 W 15th Ave. – Gary, IN
22. **JEM Energy LLC**
5925 Stockberger Pl. – Indpls, IN
23. **Constellation CNG – Fort Wayne**
2323 Pleasant Center Rd – Ft Wayne, IN
24. **Crown Clean Fuels LLC**
1066 W State Road 42 – Brazil, IN
25. **South Bend Public Transportation Corp**
1401 S Lafayette Blvd South Bend, IN
26. **Ozinga Energy – (Open May 2018)**
2555 E. 15th St. – Gary, IN

Figure 3 - 1

APPENDIX 4

GENERAL COMMENTS

A. Administrative Costs

The Trust Agreement provides that up to 15% of the Trust Funds (\$6.15 million) may be used by the State for administrative expenses associated with managing the State's allocated share. IDEM will incur expenses associated with accepting and reviewing proposals, determining how to allocate Trust Funds, monitoring the use of the Trust Funds, and protecting the State against fraud, waste, and abuse.

IEA and its members encourage IDEM to limit administrative costs to no more than 5% (about \$2.1 million) in order to preserve Trust Funds for the purpose of reducing NOx emissions.

Where appropriate, IDEM should require applicants and grantees to carry the burden of the administrative tasks associated with proposed projects.

B. Required Matching Funds

The Draft BMP seeks comments on what percent match should be required for public and private projects. As the Draft BMP notes, the Trust Agreement allows for up to 100% funding of public projects and up to 75% funding for private projects. We submit that requiring matching funds, even for public projects, would benefit the program.

First, matching funds extend the Trust Funds, as every matching dollar is a dollar saved for another NOx-reducing project. Second, matching funds ensure that project sponsors have conducted adequate due diligence and are fully committed to the projects they propose. Finally, requiring matchings funds allows the State the flexibility to encourage and promote projects that result in the greatest savings of NOx. For instance, replacing a publicly-owned, diesel-powered vehicle with an EV or NGV, which results in substantial NOx savings, could require a 10% match, whereas a project that would result in fewer NOx savings could require a 25% match.

For private projects, the Trust Agreement already requires matching funds in the amount of 25% to 75%, depending upon whether the entire vehicle is being replaced or just its engine, and whether the vehicle is being replaced or repowered with a new diesel, natural gas, propane, hybrid, or all-electric engine. At this time, we see no need to change those amounts.

As to public projects, we propose that Indiana establish a sliding scale for matching funds similar to the sliding scale found in the Trust Agreement for private projects, using the same factors. We propose a range of 10% to 35%.

C. Request for Additional Opportunity for Public Comment

IDEM's Request for Information summarizes the Trust Agreement and identifies several issues that the State of Indiana will need to resolve before finalizing its BMP. However, unlike many states' lead agencies, IDEM has not yet published a draft BMP that contains actual

proposals for the use of the Trust Funds. Without any concrete proposals, the public has little to comment upon. Therefore, we propose that IDEM publish its BMP in draft form and allow the public a chance to comment upon it.

From: Weiss, Dan <Dan.Weiss@duke-energy.com>
Sent: Thursday, March 29, 2018 1:35 PM
To: IDEM VWTrust
Cc: PIGOTT, BRUNO
Subject: Duke Energy Indiana VW mitigation comments
Attachments: DEI VW mitigation comments.pdf

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Dear Commissioner and Mr. Seals:

Please find attached the Duke Energy Indiana comments on the Indiana Draft Framework of the State's Beneficiary Mitigation Plan. In summary, DEI's comments recommend the State's Beneficiary Mitigation Plan dedicate 15% of the Trust Funds to electric infrastructure support equipment through the Crossroads of American Electric Vehicle Interstate Corridor; 40% of Trust Funds be dedicated to encourage pilot projects on electrification of school, transit and shuttle buses; Trust Funds be distributed to organizations around the state, and the state should fund a study to evaluate the states readiness for EVs and develop recommendations of policies and regulations to prepare the state for upcoming transportation transformation.

We would be happy to answer any questions you have regarding our comments.

Dan Weiss
Duke Energy
317-838-1404



March 29, 2018

Commissioner Bruno L. Pigott
Mr. Shawn Seals, Office of Air Quality
Indiana Department of Environmental Management
Indiana Volkswagen Mitigation Trust
VWTrust@idem.IN.gov

RE: Volkswagen Settlement Mitigation Trust Fund comments

Dear Commissioner Pigott and Mr. Seals:

Duke Energy Indiana is pleased to submit the following comments in response to IDEM's Request for Information regarding its Draft Framework of the State's Beneficiary Mitigation Plan. Duke Energy Indiana (DEI) is a public utility organized and existing under the laws of the State of Indiana, and has its principal office at 1000 East Main Street, Plainfield, Indiana 46168. It is engaged in rendering electric utility service in the State of Indiana and owns, operates, manages, and controls, among other things, coal, syngas/natural gas, and various renewable power plants and equipment within the State of Indiana used for the production, transmission, delivery, and furnishing of such electric service to approximately 820,000 customers.

Support for Fast Charging Interstate Corridor Project (VW Settlement Category 3)

Duke Energy Indiana supports the Indiana Energy Association's (IEA) recommendation that Indiana dedicate 15% of its allocated Trust Funds (about \$6.1 million) to the creation of the "Crossroads of America Electric Vehicle Interstate Corridor". The Crossroads of America Electric Vehicle (EV) Corridor would be a comprehensive network of direct current (DC) fast charging stations along Indiana's major highways many of which would be in the 69 counties that Duke Energy Indiana serves (see Appendix 1). This new fast charging infrastructure is a necessary prerequisite to the increased use of EVs in Indiana. The Crossroads EV Corridor would be a bold, transformative, and statewide project that would improve Indiana's environment and encourage economic development for decades.

Support for Replacement of diesel engines with electric vehicles (VW Settlement Category 1)

Duke Energy Indiana, as an electric utility, supports the IEA recommendation that Indiana invests 40% (about \$14M) of the Trust Funds in projects that replace old diesel-powered engines and vehicles with electric engines and vehicles and associated electric infrastructure support equipment for such vehicles. Such a substantial investment in EVs will promote a cleaner environment in communities throughout the state, improve the health of all Hoosiers, and maximize the nitrogen dioxide (NOx) savings realized per Trust Fund dollar spent. This

\$14M could lead to 50-100, or more, new all-electric buses being purchased by school districts or transit authorities around the state depending on how the State cost sharing arrangements are specified in the final mitigation plan. This funding would produce a tremendous leap forward in the transformation of the public transportation sector to a cleaner and ultimately less expensive to operate system for Hoosiers around the state.

Why the State should prioritize funding on school, transit and shuttle buses electrification

By specifically allocating 40% of the funds towards all-electric government owned Class 4-8 school buses, transit buses, and shuttle buses the VW settlement presents a timely opportunity to:

- Reduce harmful NOx emissions by 131,500 lbs. annually¹
- Protect and improve the quality of life for a geographically and economically diverse range of Indiana's citizens, particularly children
- Accelerate the transformation of the electric school bus market and create a sustainable path forward for electric school buses in Indiana
- Through actual local projects help educate a wider range of communities of a long-term cost effective way to protect their environment and public health

We believe our comments also align well with the considerable interest by organizations that own and operate these buses, and also various Non-Governmental Organizations who support switching to all-electric buses as stated during the multiple public informational meetings held on the VW settlement in early 2018.

Duke Energy has also spoken to a number of schools districts, universities and public transit organizations around the state who have expressed an interest in replacing older diesel vehicles with new all-electric buses. Governmental owned organizations will benefit greatly from the adoption of increasing available, cost-effective and environmental clean electric buses as explained below.

Emissions reduction benefits of electric buses

Per the IDEM *2016 State of the Air* report and IDEM's latest ozone and fine particulate ambient monitoring design values the air quality in Indiana is the cleanest it has been in decades. However, for continued progress the focus will need to be on improvements in transportation related emissions.

According to EPA data, Indiana electric power plants have collectively decreased their NOx emissions by approximately 75% since 2000. DEI power plants specifically have reduced NOx emissions by over 65% since 2000. This is a result of a combination of additional pollution controls, retiring coal units and increasing generation from cleaner energy sources such as natural gas and renewables. This trend is expected to continue based on recent utility announcements and market projections which can be found on the Indiana Utility Regulatory Commission Integrated Resource Plan website.

Emissions from the Indiana transportation sector have also have decreased significantly, by over 60% since 2000, but not as much as power plant emissions. For the past few years total

¹ See Indicative Total Project Benefits table on page 6

highway related NOx emissions in Indiana have been greater than power plant emissions. Highway emissions in 2016 are approximately 36% of all NOx emissions in Indiana versus 23% from power plants, see Appendix 2.

Based on these air quality trends we believe that the final mitigation fund plan should identify counties in the state, using the most recent 2015-2017 ozone and fine particulate air quality monitoring data, which have the highest design values and reserve some portion of the Trust Funds for potential electric bus projects in those areas. However we do not recommend that all the Trust Funds be devoted to projects in nonattainment areas since the VW settlement was based on VW diesel vehicles in all counties in the state.

Health benefits to children, customers and community

Although the diesel bus has been the workhorse of many transportation organizations for many years the benefits of transitioning to electric buses are growing as the technology has proven itself. While electric buses are quieter, cheaper to operate and as safe as other buses the associated health benefits of electrification are one of the most significant advantages. Electric bus motors produce no tailpipe emissions. This means cleaner and healthier air while kids and passengers are in the vicinity of idling buses, waiting to board a bus as well as inside the cabin.

The EPA has created a Diesel Emissions Quantifier (DEQ) tool that includes a health benefit analysis component that can help the state VW committee and local communities better understand the difference between diesel and electric bus impacts. In addition, many school districts have already recognized the potential air quality impacts to children by setting up no idle zones around schools.

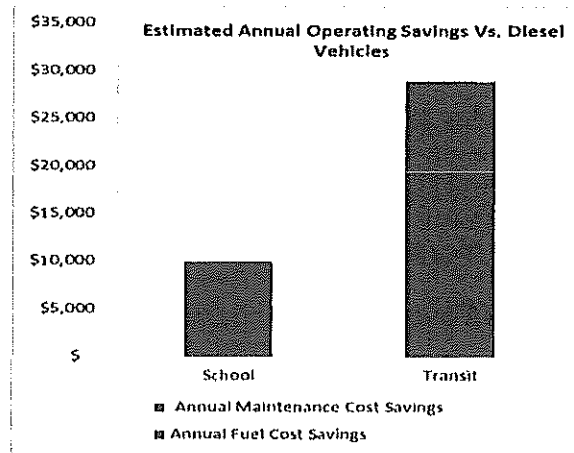
Examples of emissions reductions by switching to electric buses

Electric buses produce zero tailpipe emissions. As shown in Appendix 3, switching a bus from diesel to electric power can reduce a vehicle's grid equivalent emissions significantly whether it is NOx or other air pollutants. For example, the typical NOx emissions per diesel school bus are 252 lbs. per year with diesel but only 42 lbs. per year with all-electric drive. This equates to an annual emissions reduction of 210 lbs. per year or more than 2,500 lbs. over the life of an electric bus.

Additional electric bus considerations

The market for electric transit and school buses has developed rapidly over the past 5 years, bringing zero-emission alternatives into reach for public agencies in Indiana for the first time. Early market pioneers such as Proterra and Lion are now being joined by veteran manufacturers such as Cummins, New Flyer, Gillig, Thomas Built, Blue Bird, and IC. Costs for these electric alternatives are declining while electric range is increasing thanks to improvements in battery technology. Electric transit and school buses have now arrived on the market in force, and both segments have over 1,000,000 miles of revenue service from fleet deployments since 2010.

Upfront capital costs for electric buses are still higher than conventional diesel alternatives, but operations and maintenance costs can be slashed by up to half when switching from diesel to electric. Therefore, in addition to eliminating local pollution, deployments can save public agencies significant amounts of ongoing O&M costs as demonstrated by the graph below.



Cost effectiveness of Mitigation Trust funds deployed in electric bus projects will depend on the level of Mitigation Trust funding dedicated to each bus replacement. Under a funding structure as described below, we estimate the NOx cost effectiveness level would be \$40/lb. NOx for schools buses and \$74/lb. NOx for transit buses.

Duke Energy Recommendation

The state should dedicate 40% of mitigation funds toward electric buses

We have discussed the VW BMP and the potential for future state funding of electric buses with various school districts and communities in our service area. Nearly all would be interested in adding electric school buses to their fleets. The districts and communities we spoke with who are interested include:

- Delphi Community School Corp.
- Clarksville Community
- Clark County, and the
- Monroe County School District (Bloomington)

We expect additional interest once additional BMP details are announced about this program.

We have discussed the VW BMP and the potential for future state funding and gathered a list of various community transit systems in our service area that would be interested in adding electric transit buses to their fleets. The interested communities we spoke with include:

- Bloomington
- Lafayette
- Indiana University

We expect additional interest once additional BMP details are announced about this program.

The state should distributed mitigation funds around the state

Based on our discussions with public organizations around the state we believe the funds should be distributed throughout the state so they can benefit all residents of Indiana.

The state should request matching dollars - potential project funding example

Based on the state requesting matching dollars and providing funding in line with our recommendations Duke Energy Indiana is evaluating proposing electric bus pilot projects with interested organizations. This would include a variety of different sized school districts and transit systems around the state willing to host 2-6 electric buses.

Buses will be used to demonstrate the benefits of zero-emission vehicle (ZEV) technology in public transportation deployments by recording data on vehicle charging needs, operating costs and research opportunities for advanced vehicle-to-grid (V2G) integration of transit and school buses.

Mitigation trust funding, for example, could be set at the level of incremental cost over a current diesel bus, up to \$100k per school bus or \$200k per transit bus (whichever is less). Duke Energy Indiana would also fund a portion of each bus, in exchange for gathering data on vehicle charging behavior and exploring opportunities for charging load management and V2G power flow. All research activities performed by DEI will be done in such a way that does not affect the necessary duty cycle required by the host agency.

Cost share: The ultimate goal of these cost sharing measures between Duke Energy Indiana, the VW Trust, and the State and local governments is to make the upfront cost required for electric buses the same as diesel bus replacements for State and Local governments.

	School	Transit
Total Cost for per bus	\$ 320,000	\$ 850,000
DEI Funding	\$ 120,000	\$ 50,000
Federal/State/Local Match	\$ 100,000	\$ 500,000
Mitigation Trust Funding	\$ 100,000	\$ 300,000

In order to expedite projects, funds should be distributed directly to selected host agencies as a reimbursement, who will manage procurement of buses per established protocol.

Participants would be selected from among applicant host agencies according to agency readiness to deploy ZEV buses and ability to participate according to pilot program terms. The total benefits to communities around the state could be substantial per the table below. However, we do anticipate that longer manufacturer delivery times may lead by multi-year funding requests due to typically long procurement cycles of schools and transit agencies and expected increased demand for electric buses.

Parties which are awarded more expensive and multi-year projects should be allowed to report annually on the progress of their project and submit requests for payment annually instead of waiting for the entire multi-year project to be completed before reimbursement is provided by the Trust.

Indicative Total Project Benefits			
	School	Transit	Total
Number of Buses	20	20	40
Mitigation Trust Funding	\$2,000,000	\$6,000,000	\$8,000,000
NOX Emissions Reductions (lbs)	50,501	81,000	131,501
Local Cost Savings	\$2,377,341	\$6,930,504	\$9,307,845

The state should fund a State EV readiness study

In addition, DEI recommends that the Indiana VW committee should recommend the funding of a state study which would: evaluate the readiness of Indiana communities and the manufacturing sector for EVs, evaluate programs to educate consumers and businesses about EVs, and develop recommendations, after soliciting public input, on programs, legislation, regulations and public policies that would accommodate smart growth EV adoption and prepare the state for the upcoming transformation of the mobility sector.

Conclusion

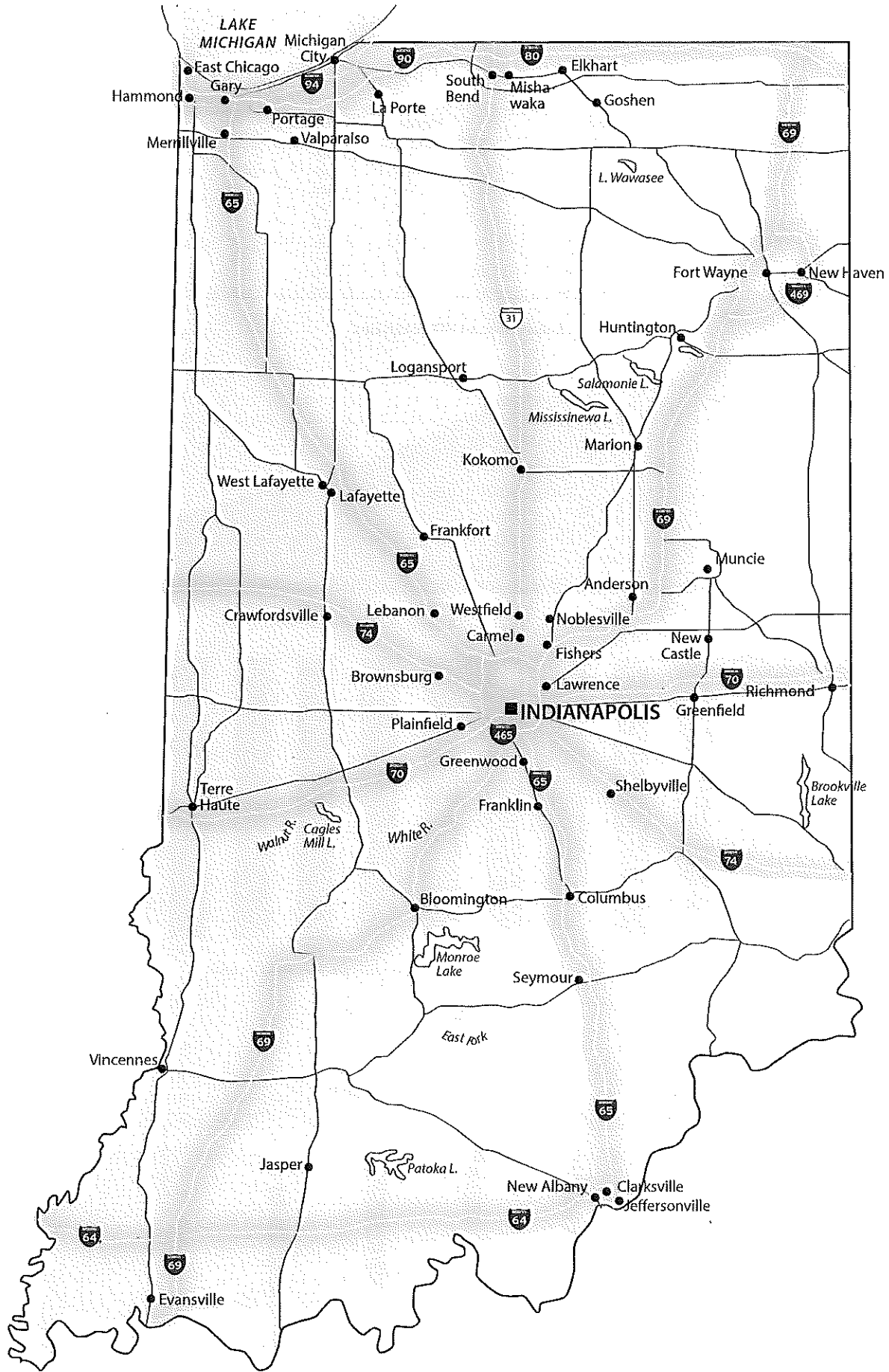
DEI recommends the State's Beneficiary Mitigation Plan dedicate 15% of the Trust Funds to electric infrastructure support equipment through the Crossroads of American Electric Vehicle Interstate Corridor; 40% of Trust Funds be dedicated to encourage pilot projects on electrification of school, transit and shuttle buses; Trust Funds be distributed to organizations around the state, and the state should fund a study to evaluate the states readiness for EVs and develop recommendations of policies and regulations to prepare the state for upcoming transportation transformation.

Thank you for the opportunity to comment on the draft State BMP. We would be happy to answer any questions you have regarding our comments.

Sincerely,



Daniel Weiss
 Environmental Affairs & Stakeholder Engagement Director



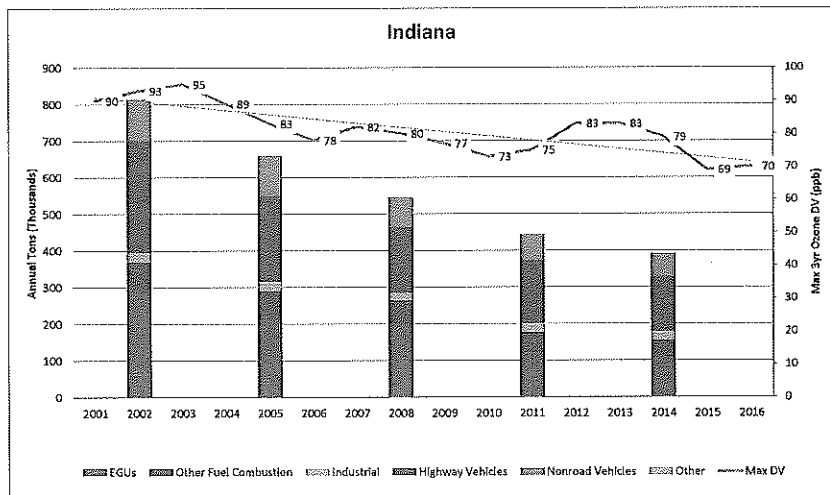
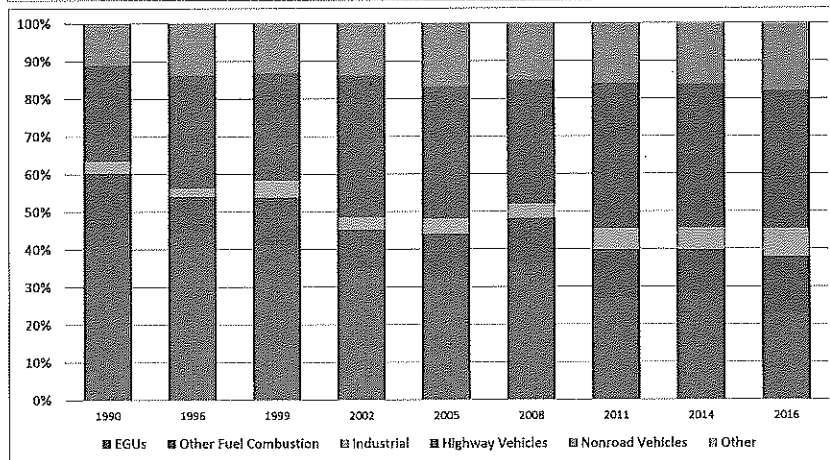
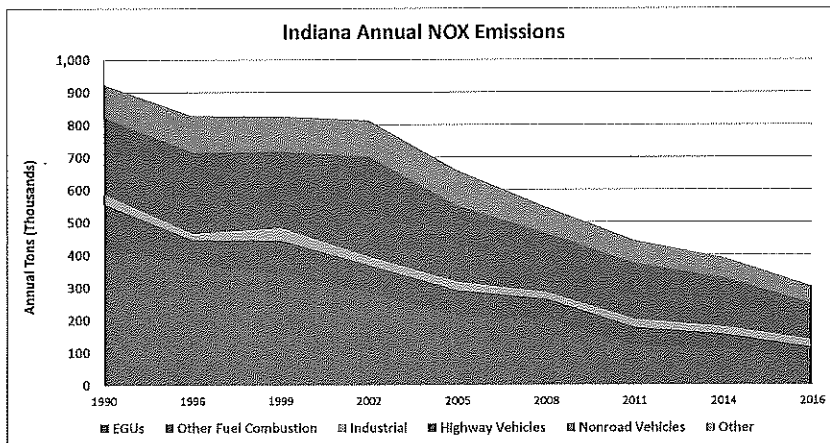
Appendix 1

Appendix 2

Indiana Annual NOX Emissions

Indiana

Year	Annual NOX Emissions (Thousand Tons)						Total
	EGUs	Other Fuel Combustion	Industrial	Highway Vehicles	Nonroad Vehicles	Other	
1990	422	134	29	235	102	0	924
1996	369	78	19	249	113	0	828
1999	341	104	38	235	109	0	827
2002	284	84	26	307	113	0	814
2005	211	80	26	232	110	0	659
2008	199	65	20	180	82	1	546
2011	120	57	24	171	71	0	444
2014	110	46	22	150	63	1	392
2016	69	46	22	111	54	1	302



Appendix 3

Comparison of Cost and Emissions - Diesel vs Electric Bus

Calculations		School	Transit	Data Source:
Useful Life (yrs)		12	12	
Annual Mileage		14,000	50,000	
Operating Cost Savings				Assumption
				Calculated
Vehicle Efficiency (kWh/Mi)		1.8	1.8	Proterra
Annual Energy Consumption (kWh)		25,200	90,000	
Battery Charging Efficiency Loss	10%			
Total Annual Energy Consumption		27,720	99,000	
Annual Electricity Cost (\$)		\$ 2,414	\$ 8,623	Avg Commercial Retail Rate
Diesel Fuel Economy (MPG)		5	5	Proterra
Diesel Fuel Price (\$/gal)		1.5	1.5	Proterra
Diesel Annual Fuel Cost		\$ 4,200	\$ 15,000	
Annual Fuel Cost Savings		\$ 1,786	\$ 6,377	
Annual Maintenance Cost (\$/Mi) - Diesel		\$ 1.01	\$ 0.77	SCAQMD and Proterra
Annual Maintenance Cost (\$/Mi) - Electric		\$ 0.43	\$ 0.32	SCAQMD and Proterra - Includes battery replacement
Annual Maintenance Cost Savings		\$ 8,120	\$ 22,500	
Total Annual Operating Cost Savings		\$ 9,906	\$ 28,877	
Emissions Reductions		School	Transit	Source
Conventional Diesel Annual Nox Emissions (lb/yr)		252	486	EPA Diesel Emissions Quantifier
Electric System Nox Emissions (lb/kWh)		0.0015	0.0015	EPA+EIA 2017 - IN State Average
Electric Bus Nox Emissions (lb/yr)		42	149	
Total NOx Emissions Reductions		2,525	4,050	

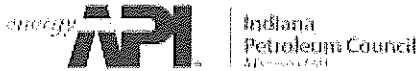
Note: Actual NOx reductions will depend on the specific vehicles being replaced their model years, engine life, any upgrades/upfits that were previously done on those specific vehicles

From: Maureen Ferguson <fergusonm@api.org>
Sent: Thursday, March 29, 2018 12:31 PM
To: IDEM VWTrust
Cc: Maureen Ferguson
Subject: Indiana's Beneficiary Mitigation Plan Draft Framework Comments
Attachments: API-Indiana VW Settlement Public Comment letter.pdf

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

The Indiana Petroleum Council's comments on Indiana's VW Beneficiary Mitigation projects are attached. Please do not hesitate to contact me if you have any questions.

Maureen Ferguson
Executive Director
Indiana Petroleum Council
54 Monument Circle, Suite 300
Indianapolis, IN 46204
317.639.2588
317.632.8483 fax





54 Monument Circle, Suite 300
Indianapolis, Indiana 46204
317 639 2588
317 632 8483 (FAX)
Email fergusonm@apl.org
www.apl.org

Maureen H. Ferguson, Executive Director

Indiana Petroleum Council
A Division of API

March 29, 2018

Indiana Volkswagen Mitigation Trust

Indiana Department of Environment Management
Delivered electronically to: VWTrust@idem.IN.gov

Subject: Request for Information Volkswagen Consent Decree Environmental Mitigation Trust -- Beneficiary Mitigation Plan (Draft Framework)

Thank you for the opportunity to respond to this request for information regarding Indiana's VW Beneficiary Mitigation Plan.

The Indiana Petroleum Council (IPC) is a state affiliate office of the American Petroleum Institute (API). The API is a national trade association representing more than 625 member companies involved in all aspects of the oil and natural gas industry. API's members include producers, refiners, suppliers, retailers, pipeline operators, and marine transporters, as well as service and supply companies and contractors that support all segments of the industry. The API and its members, including those in Indiana, are dedicated to protecting the environment while economically developing and supplying energy resources for consumers.

IPC supports funding projects that are the most cost-effective and that yield the largest amount of NOx emission reductions. With the Mitigation Trust funds, Indiana has the opportunity to reduce NOx emissions by replacing eligible engines and vehicles with newer model diesel engines that make full use of ultra-low sulfur diesel (ULSD). When ULSD was introduced, tests completed by the US EPA, the California Air Resources Board, engine manufacturers and others showed that using the advanced emissions control devices enabled by the use of ULSD fuel could reduce emissions of hydrocarbons and oxides of nitrogen (precursors of ozone), as well as particulate matter to near-zero levels. A recent DOT study,¹ using EPA emissions modeling, found that, next to vehicle idle reduction strategies, projects involving heavy-duty vehicle engine replacements had the strongest estimated cost effectiveness for NOx reduction (~\$20,000 per ton NOx reduced). Conversely, electric vehicle charging infrastructure was one of the project types with the weakest cost effectiveness (\$1.5MM per ton NOx reduced). Approximately 50% of the heavy-duty engines in Indiana do not have the latest engine technology.²

¹ Figure 3. Median Cost-Effectiveness Estimates, "CONGESTION MITIGATION AND AIR QUALITY (CMAQ) IMPROVEMENT PROGRAM, Cost-Effectiveness Tables Development and Methodology" Volpe National Transportation Systems Center, U.S. DOT, December 3, 2015

² Diesel Technology Forum, <https://www.dieselforum.org/news/advisory-how-can-indiana-best-benefit-from-the-vw-settlement-funds>

March 29, 2018

The Impact Statement section of IDEM's Request for Information, states that priority will be given to projects in areas that, "Are currently or may soon be designated nonattainment for the newest ozone NAAQS or are maintenance areas for Ozone..." The Northwest counties of Lake and Porter, as part of the Chicago ozone nonattainment area may soon require additional emission controls. These counties, situated in the Chicago metropolitan area and adjacent to Lake Michigan, may be affected by emissions from the engines of marine vessels (ferries, tugs, and shore power equipment for large ships), switcher locomotives and heavy-duty diesel trucks. By giving highest priority to projects repowering or replacing these engines with modern ones that operate on ULSD fuel or natural gas, Indiana could achieve large NOx emission reductions and most effectively improve air quality for its citizens.

The VW settlement includes a \$2B investment over 10 years "in projects that support the increased use of ZEV, which are defined as battery electric vehicles, plug-in hybrid electric vehicles, and fuel cell vehicles." The remaining \$2.9 billion [allocated to each individual state] is intended to fund environmental mitigation projects that reduce NOx emissions. Of this up to 15% can be used to install ZEV infrastructure. As stated earlier, this category of projects appears to be the least cost effective of those included in the options provided in the VW Settlement when determining emission reductions and is not consistent with the goal of reducing the most NOx emissions for the most people.

Thank you for your attention, and for your consideration of our comments. If you have any questions, please don't hesitate to contact me at fergusonm@api.org or 317-639-2588.

Sincerely,

A handwritten signature in black ink, appearing to read "Maureen H. Ferguson". The signature is written in a cursive, flowing style.

Maureen H. Ferguson

From: frank@medicaire.net
Sent: Thursday, March 29, 2018 12:15 PM
To: IDEM VWTrust
Subject: FW: Indiana VW Draft Framework Comments
Attachments: SSCC Indiana VW Submission 3-29-18.docx

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Please find attached comments for the docket. Thank you.

Frank Podgwaite
MedicAire, LLC
Medidock
North Haven, CT 06473
203-887-0209 cell
frank@medicaire.net
www.medicairer.net

“The ambulance idle reduction solution”
“Exclusive Distributors of the Medidock”

March29, 2018

Shawn Seals
Senior Environmental Manager
Indiana Department of Environmental Management
VWTrust@idem.IN.gov

RE: Comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework

Dear Mr. Seals,

Medicaire, LLC/Medidock is pleased to submit these comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework, pursuant to the Executive Order signed by Gov. Holcomb on Oct. 17, 2017.

Medicaire, LLC/Medidock is a member of South Shore Clean Cities, a 501(c)(3) organization under the U.S. Department of Energy's Clean Cities program. The coalitions are designed to reduce petroleum consumption in the transportation sector by advancing the use of clean fuels and vehicles, idle reduction technologies, hybrid electric vehicles, fuel blends and fuel economy while reducing dependence on imported oil.

Medicaire, LLC/Medidock concurs with South Shore Clean Cities' assertion that Northern Indiana should receive preference in the Indiana Volkswagen Beneficiary Mitigation Plan, with a special emphasis placed on communities or regions that contribute a disproportionate amount of air pollution.

Because South Shore Clean Cities is fuel-neutral, meaning it does not advocate for one type of sustainable fuel choice or technology over another, Medicaire, LLC/Medidock concurs with the organization's stance that projects applying for funding under the Plan should be judged on their potential to reduce the greatest amount of NOx emissions.

Medicaire, LLC/Medidock also concurs with South Shore Clean Cities that, in order to maximize the funding, cost-share requirements be maximized for all projects.

In addition, Medicaire, LLC/Medidock offers the following comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework:

** As originally submitted previously in December, 2017**

From: frank@medicaire.net [mailto:frank@medicaire.net]
Subject: VW Settlement Comments

Comments: December 15, 2017

Use of Volkswagen settlement funds for Ambulance/Emergency Vehicle Idle Reduction:
Idling of ambulances is a significant contributor to air pollution, particularly as the majority of the idling occurs adjacent to healthcare facilities with their sensitive populations exposed. Reducing this idling provides a direct air quality improvement. Problematic to not idling the ambulance is the fact that interior temperatures and medical equipment must be maintained in a state of readiness, requiring power. My firm's product, the Medidock, provides a real solution to this problem by allowing an ambulance to remain 'mission-ready' without idling.

Our system is a kiosk, installed at Emergency Departments and other medical facilities and at remote locations where ambulances are 'posted' to improve response times and improve air quality. The Medidock requires no special equipment to be installed onboard the vehicle – any & all ambulances can use it. In addition to electrical power for the onboard emergency medical equipment it also provides vehicle interior climate control - without the need to run the engine. Our units ease of operation encourages EMT's to actually use the machines, resulting in fuel and maintenance savings for the vehicle operators and environmental benefits for everyone. On our website www.medicaire.net you will find a study done by the Ozone Transport Commission (OTC) which indicates a significant NOx reduction as noted from sites in VT & NH. Medidocks are presently successfully operating in northern New England and locations in the Midwest. While vehicle idle reduction is not specifically indicated in the settlement, augmentation of DERA is, allowing a pathway for funding this important public health/air quality improvement. I urge you to consider earmarking funding for the Medidock in the final Beneficiary Mitigation Plan. Thank you for your consideration.

Frank Podgwaite
MedicAire, LLC
Medidock
North Haven, CT 06473
203-887-0209 cell
frank@medicaire.net
www.medicaire.net
"The ambulance idle reduction solution"
"Exclusive Distributors of the Medidock"

Thank you for this opportunity to participate in this public process.

Sincerely,

Frank Podgwaite
Medicaire, LLC

From: Will McCormick <will.mccormick@bestwayexpress.com>
Sent: Thursday, March 29, 2018 10:17 AM
To: IDEM VWTrust
Subject: Bestway Express Inc./ KMA

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

To whom it concerns;

Bestway Express/KMA in Vincennes, Indiana would be interested in receiving some of the funds from the VW Trust. We currently run 200 class 8 trucks and 7 spotter trucks. Of those trucks 35 are dual fuel CNG. We as a company would be interested in taking 7 of these dual fuel trucks that are 2000 and 2001 models and replacing them with the 100% dedicated, Cummins CNG ISXG-12 units. These 7 trucks run loops in the Vincennes area for Toyota. We own a CNG public filling station in Vincennes. In addition Bestway/KMA would be interested in replacing 2-3 spotter trucks that work 22 hours 6 days a week. These 3 units are 2001-2003 models and work in the Princeton, Indiana area. These spotter trucks would be replaced with a more environment friendly unit that has current emission standards. In addition BWX/KMA run 20 pre 2007 class 8 trucks. If money was allocated we would replace these units with new units. We would like to see the funds be spread statewide. Bestway is very interested in continuing to chase these funds to improve the environment. If there are questions please email me or contact me at 812-396-9842. Thank You,

Will McCormick

Bestway Express
KMA
BOMAC Equipment
P.O. Box 728
1665 South Old US 41
Vincennes, IN 47591
8128824360
8128826448

From: Brian Houston <houston51509@live.com>
Sent: Thursday, March 29, 2018 10:04 AM
To: IDEM VWTrust
Cc: Brian Houston; clisek@southshorecleancities.org
Subject: VW Mitigation

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

March 29, 2018

Shawn Seals

Senior Environmental Manager

Indiana Department of Environmental Management

VWTrust@idem.IN.gov

RE: Comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework

Dear Mr. Seals,

Houston Consulting is pleased to submit these comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework, pursuant to the Executive Order signed by Gov. Holcomb on Oct. 17, 2017.

Houston Consulting is a member of South Shore Clean Cities, a 501(c)(3) organization under the U.S. Department of Energy's Clean Cities program. The coalitions are designed to reduce petroleum consumption in the transportation sector by advancing the use of clean fuels and vehicles, idle reduction technologies, hybrid electric vehicles, fuel blends and fuel economy while reducing dependence on imported oil.

Houston Consulting concurs with South Shore Clean Cities' assertion that Northern Indiana should receive preference in the Indiana Volkswagen Beneficiary Mitigation Plan, with a special emphasis placed on communities or regions that contribute a disproportionate amount of air pollution.

Because South Shore Clean Cities is fuel-neutral, meaning it does not advocate for one type of sustainable fuel choice or technology over another, Houston Consulting concurs with the organization's stance that projects applying for funding under the Plan should be judged on their potential to reduce the greatest amount of NOx emissions.

Houston Consulting also concurs with South Shore Clean Cities that, in order to maximize the funding, cost-share requirements be maximized for all projects.

Thank you for this opportunity to participate in this public process.

Sincerely,

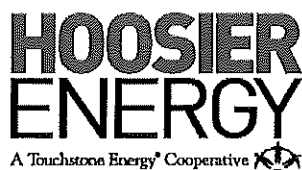
Brian Houston
Houston consulting
1821 North Royal Oaks Drive
Monticello, IN 47960
Houston51509@live.com

From: Caleb Steiner <CSteiner@HEPN.com>
Sent: Thursday, March 29, 2018 9:22 AM
To: IDEM VWTrust
Subject: Hoosier Energy Comments Regarding the Indiana Volkswagen Mitigation Trust Program
Attachments: Hoosier Comments Final.pdf

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Attached are Hoosier Energy's comments regarding the trust program. Thank you.

Caleb Steiner
Manager of Corporate Strategy
Hoosier Energy Rural Electric Cooperative, Inc.
812.876.0550



2501 South Cooperative Way
P.O. Box 908
Bloomington, IN 47403
Office (812) 876-2021
Fax (812) 876-3476
HEPN.com

March 28, 2018

Indiana Department of Environmental Management
Indiana Volkswagen Mitigation Trust
VWTrust@idem.IN.gov

Comments Regarding the Indiana Volkswagen Mitigation Trust Program

I. Introduction

Hoosier Energy is a generation and transmission cooperative providing wholesale electric power and services to eighteen member distribution cooperatives. Hoosier Energy members provide service to more than 300,000 homes, farms and businesses in southern Indiana and serve about 40% of the state. Electric cooperatives were integral in electrification efforts in the 1930s and 1940s bringing power to underserved areas and helping to transform and improve rural life. Cooperatives continue that mission today in many other areas including broadband service. Electric vehicles are an emerging market where cooperatives can benefit rural areas and encourage economic growth while improving the environment and health of rural citizens.

Hoosier Energy and its members have demonstrated good capabilities to work with state and federal agencies for the benefit of rural communities. In 2009, Hoosier Energy administered \$10 million in low income home weatherization funding available under the ARRA Act throughout southern Indiana. Hoosier Energy has also utilized state grant funds for renewable energy projects and federal financing for utility scale renewable energy installations. Electric cooperatives and Hoosier Energy provide extensive rebates to consumers for energy efficiency investments and may be able to provide some matching funds for electrification projects under the trust program. We would urge IDEM and the advisory committee to commit a portion of trust proceeds for use in rural Indiana and not limit the scope of the Beneficiary Mitigation Plan (BMP) to urban areas.

II. Comments on Indiana's Beneficiary Mitigation Plan

Dedicate the maximum 15% to new light duty zero emissions infrastructure

The state should focus on improving electric vehicle infrastructure in Indiana. In 2016, the Department of Energy along with almost 50 industry members signed the Guiding Principles to Promote Electric Vehicles and Charging Infrastructure. Goals of these principles are to “enhance electric vehicle use and create a national, household, workplace and urban charging infrastructure that is available to all Americans.”¹ Dedicating maximum allowed funding to light

duty charging infrastructure allows the state to develop this infrastructure at no cost to the taxpayer while laying the groundwork for further infrastructure buildout. Indiana's position as a transportation leader will be strengthened by locating charging infrastructure on existing and planned federal highways.

Public charging stations in rest stops and strategically placed at exits between urban centers could significantly ease "range anxiety" and create a critical mass for charging infrastructure that supports light duty electric transportation in and through Indiana, greatly reducing transportation related emissions.

The BMP should allocate funds primarily to charging stations open to the general public with a 20% matching requirement from the property owner and an individual project limit of \$50,000. The \$50,000 limit typically can cover multiple level 2 charging stations or one DC fast charging station.² Charging infrastructure placed in service at locations not available to the public should not be the focus of the BMP. If limited access charging is funded it should have a higher matching requirement than required in the eligible mitigation action expenditures.

Dedicate 50% of the funds to class 4-8 school buses

School bus emission reductions will have a beneficial health impact on children. Each day school buses transport 24 million students to schools in the U.S. and children spend 3 billion hours on school buses annually.³ Replacing diesel powered buses with zero emission electric buses reduces overall emissions as well as eliminates the effect of vehicle self-pollution.⁴ Self-pollution is the act of a vehicle's emissions migrating inside the passenger space. The ability of electric buses to eliminate self-pollution makes them a superior choice to other eligible mitigation actions. Not only do electric buses eliminate self-pollution but they also have no idling emissions. Idling buses had higher concentrations of measured particulates and black carbon within the passenger space compared with moving buses.⁵ Indiana has a voluntary idling standard put forth by the Student Transportation Association of Indiana (STAI).⁶ Electrifying school transportation would end the complicated process of adopting and enforcing these standards.

In addition to environmental benefits electrifying school buses can help operating costs. School bus funding in Indiana is local. The state can contribute to reducing emissions from diesel powered school buses as well as reducing operating expenses for school districts by directing a large portion of the funds to electrifying school transportation. The current average cost for an electric school bus is about \$300,000 compared to \$100,000 for a traditional bus which suggests the BMP should consider a 30% local match for each bus project and a \$200,000 allocation cap per project.⁷ That approach would allow school districts to use funds equivalent to traditional bus replacements as a match and procure electric vehicles. School districts and taxpayers would benefit from reduced bus operating and maintenance costs while local residents and society would benefit from emission reductions. School districts typically have

long term capital plans for bus replacement and it may be prudent to stagger grant availability over time as widespread adoption of electric busses may decrease vehicle capital costs.

Reserve 25% of the funds for class 4-7 local freight trucks

Class 4-7 local freight trucks are prime candidates for electrification. Industries often use these vehicles for set routes and return them to the same location every day. Electric freight trucks are already being integrated into the fleets of major companies like Frito Lay, UPS and Coke.⁸ Indiana can encourage electrification of the transportation industry and reduce air pollution for all Hoosiers by incentivizing these vehicles.

Utilize 5% of the funds to enhance the DERA program

IDEM and the trust committee should enhance the DERA program with trust funds with a special focus and emphasis on Electrified Parking Spaces (EPS). EPS investments have not been made in Indiana even though it is a transportation hub. According to the U.S. Department of Energy Alternative Fuels Data Center, Indiana has no truck stop locations with EPS.⁹

The BMP should allocate 5% of the funds to electrify forklifts

Material handling vehicles are used in a multitude of industries across Indiana. Electrifying these vehicles will reduce pollution in business locations benefitting workers through better air quality and reduced noise pollution. Electric forklifts produce about one quarter of the noise of internal combustion engine varieties.¹⁰ Moreover, as noted by the Electric Research Power Institute, electric forklifts offer lower fuel costs, lower life cycle costs and lower maintenance costs.¹¹

III. Conclusion

Indiana has robust electric generating resources. Many of those resources were designed to operate around the clock at peak capacity. Changes in the economy and consumer usage have resulted in these plants lowering output in periods when they traditionally operated at maximum production and efficiency. Encouraging electrification as proposed above, with utility rate designs and consumer education programs that promote charging and use in off peak periods, will support generators operating at higher capacity levels while producing little additional or incremental emissions. The electric generating industry has been reducing emissions per kilowatt hour (kWh) steadily for the last decade due to regulations and changes in generation technology. Investment in post combustion controls for generators, for example, has reduced power plant nitrogen oxide (NOx) emissions by 82% compared to 1990¹² Finally, electric charging at set times of the day is a good way to integrate renewable energy into the grid. By using the sun during the day and wind at night, electric transportation can use energy produced by these sources that is sometimes curtailed due to low electric demand.

Using Volkswagen trust funds to encourage electrification of the transportation industry in Indiana will reduce emissions and encourage growth in the economy as companies integrate

electric vehicles in their businesses and as Indiana plants pursue opportunities to innovate and produce electric transportation equipment.

Table 1. Budget Framework for Indiana’s Beneficial Mitigation Plan

Funding/Project Category	Percent of Total Allocation	Percent Match Required	Maximum Award Amount per Grant	Project Category Priority
Emission Reduction Projects				
Class 8 Trucks				
Class 4-8 buses	50%	30%	200,000	2
Class 4-7 trucks	25%	30%	200,000	3
Pre-Tier 4 switcher locomotives				
Repowers of ferries and tugs				
Shorepower equipment for marine locations				
Repower of airport ground support equipment				
Repower of forklifts and port cargo handling equipment	5%	30%	30,000	4
State DERA Match	5%		Per DERA Rules	
Light Duty Zero Emissions Infrastructure	15%	20%	50,000	1

-
- ¹ <https://www.energy.gov/eere/electricvehicles/articles/guiding-principles-promote-electric-vehicles-and-charging>
- ² https://www.afdc.energy.gov/uploads/publication/evse_cost_report_2015.pdf
- ³ <http://www.ehhi.org/reports/diesel/>
- ⁴ https://depts.washington.edu/airqual/Marshall_9.pdf
- ⁵ <http://www.ehhi.org/reports/diesel/>
- ⁶ <http://www.in.gov/idem/airquality/2565.htm>
- ⁷ <http://midwestenergynews.com/2017/07/11/minnesota-district-to-get-midwests-first-electric-school-bus-this-fall/>
- ⁸ <https://www.nrel.gov/transportation/fleetttest-electric.html>
- ⁹ [U.S. Department of Energy Alternative Fuels Data Center](#)
- ¹⁰ <http://www.yale.com/WorkArea/DownloadAsset.aspx?id=4294967722>
- ¹¹ http://et.epri.com/ResearchAreas_LiftTrucks.html
- ¹² <http://www.eei.org/resourcesandmedia/industrydataanalysis/industrydata/Pages/default.aspx>

From: Butler, Terry D <TDButler@hammond.k12.in.us>
Sent: Thursday, March 29, 2018 8:49 AM
To: IDEM VWTrust
Subject: VW Mitigation
Attachments: SSCC Member Form Letter for VW Plan.docx

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Please find attached letter referring to the VW mitigation project.

Terry D Butler
Director of Transportation
School City of Hammond
219-933-2438 ex 2310
e-mail tdbutler@Hammond.K12.IN.US

CONFIDENTIALITY NOTICE: This communication is for the sole use of the intended recipient(s) and may contain information that is confidential, privileged, or otherwise exempt from disclosure under applicable law. If you are not the intended recipient(s), the dissemination, distribution, or copying of this message is strictly prohibited. If you have received this communication in error, please contact the sender immediately and destroy all copies of the original message and any attachments. Receipt by anyone other than the named recipient(s) does not constitute a waiver of any applicable privilege.

March 29, 2018

Shawn Seals
Senior Environmental Manager
Indiana Department of Environmental Management
VWTrust@idem.IN.gov

RE: Comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework

Dear Mr. Seals,

The School City of Hammond is pleased to submit these comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework, pursuant to the Executive Order signed by Gov. Holcomb on Oct. 17, 2017.

The School City of Hammond is a member of South Shore Clean Cities, a 501(c)(3) organization under the U.S. Department of Energy's Clean Cities program. The coalitions are designed to reduce petroleum consumption in the transportation sector by advancing the use of clean fuels and vehicles, idle reduction technologies, hybrid electric vehicles, fuel blends and fuel economy while reducing dependence on imported oil.

The School City of Hammond concurs with South Shore Clean Cities' assertion that Northern Indiana should receive preference in the Indiana Volkswagen Beneficiary Mitigation Plan, with a special emphasis placed on communities or regions that contribute a disproportionate amount of air pollution.

Because South Shore Clean Cities is fuel-neutral, meaning it does not advocate for one type of sustainable fuel choice or technology over another The School City of Hammond concurs with the organization's stance that projects applying for funding under the Plan should be judged on their potential to reduce the greatest amount of NOx emissions.

The School City of Hammond also concurs with South Shore Clean Cities that, in order to maximize the funding, cost-share requirements be maximized for all projects.

In addition, The School City of Hammond offers the following comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework:

The School Bus transportation of students is a high priority for the development of future leaders. In our urban Districts many families have no options for transporting their students to school. In addition, the many miles driven locally contribute to the NOX emissions and can be improved with newer technology. The School City of Hammond embraces air quality and has instituted policy and mandate to achieve a clean air leadership role. Unfortunately funding in the School industry for transportation is property tax based; the urban areas feel the loss of funding more than less urban districts. Any project that will aid the School Industry in meeting our clean air goals would be beneficial and greatly appreciated.

Thank you for this opportunity to participate in this public process.

Sincerely,

Mr. Terry Butler

From: Jill Murr <jill.murr@cedarlakein.org>
Sent: Wednesday, March 28, 2018 1:48 PM
To: IDEM VWTrust
Cc: Sara Voss; Scott Hutchinson; Ryan Lisek
Subject: Cedar Lake - Comments on the IN VW Beneficiary Mitigation Plan Draft Framework
Attachments: cedar lake VW COMMENTS.pdf

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Mr. Seals,

Attached please find the Town of Cedar Lake's comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework.

Sincerely,

Jill



Jill Murr
Town Administrator
Town of Cedar Lake
PO Box 707
7408 Constitution Ave
Cedar Lake, IN 46303
(219) 374-7400 x 106
www.cedarlakein.org

TOWN OF CEDAR LAKE
Office of the Town Administrator
7408 Constitution Ave – PO Box 707 – Cedar Lake, IN 46303
Tel (219) 374-7400 – Fax (219) 374-8588



March 28, 2018

Mr. Shawn Seals
Senior Environmental Manager
Indiana Department of Environmental Management
Indiana Government Center North
100 North Senate Avenue
Indianapolis, IN 46204

RE: Comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework

Dear Mr. Seals,

The Town of Cedar Lake is pleased to submit these comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework, pursuant to the Executive Order signed by Governor Holcomb on Oct. 17, 2017.

The Town of Cedar Lake is a member of South Shore Clean Cities, a 501(c)(3) organization under the U.S. Department of Energy's Clean Cities program. The coalitions are designed to reduce petroleum consumption in the transportation sector by advancing the use of clean fuels and vehicles, idle reduction technologies, hybrid electric vehicles, fuel blends and fuel economy while reducing dependence on imported oil.

The Town of Cedar Lake concurs with South Shore Clean Cities' assertion that Northern Indiana should receive preference in the Indiana Volkswagen Beneficiary Mitigation Plan, with a special emphasis placed on communities or regions that contribute a disproportionate amount of air pollution.

As South Shore Clean Cities is fuel-neutral, meaning it does not advocate for one type of sustainable fuel choice or technology over another, the Town of Cedar Lake concurs with the organization's stance that projects applying for funding under the Plan should be judged on their potential to reduce the greatest amount of NOx emissions.

The Town of Cedar Lake furthermore concurs with South Shore Clean Cities that, in order to maximize the funding, cost-share requirements be maximized for all projects.

In addition, the Town of Cedar Lake offers the following comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework:

The Town of Cedar Lake is a growing community actively seeking improvements to increase efficiencies and reduce operating costs while improving the quality of life for residents. The Town of Cedar Lake, through its comprehensive and strategic plans, has aligned its efforts to create effective systems that ensure accountability and stewardship of the public's resources. Town leaders believe strongly in protecting citizens and their investments in the community. Cedar Lake is a community whose growth and success is tied to its natural resources, making environmental stewardship critical for future success

Replacing the town's old diesel vehicles with clean diesel vehicles will help ensure the town's future sustainability, unfortunately this comes at an extensive cost that is not within the town's budget.

The Town of Cedar Lake is home to 12,200 residents and is widely known for the recreational opportunities in and around the town's beautiful natural resources, including its namesake waterbody, Cedar Lake. The town's two diesel-powered 6x4 tandem dump trucks are utilized during the winter months for salt spreading and snow plowing. In other seasons, the large diesel trucks are used to haul asphalt and support town road restoration projects.

The current vehicles do not meet the updated emission standards set by the U.S. Environmental Protection Agency. The trucks in question operate in close proximity to neighborhoods, schools, nursing homes and restaurants, spewing harmful emissions.

Exposure to diesel exhaust can lead to serious health conditions such as asthma and respiratory illnesses and can exacerbate existing heart and lung disease, especially in children and the elderly. Cedar Lake is located in Lake County, Indiana, which is designated as nonattainment for ozone. Ozone nonattainment areas do not meet federal Clean Air Act standards for ozone pollution set by the U.S. Environmental Protection Agency. These conditions can result in increased emergency room visits, hospital admissions, absences from work and school and premature deaths.

Replacing these old diesel dump trucks with clean diesel engine powered trucks will eliminate the harmful emissions they produce while operating in Cedar Lake. These clean diesel dump trucks will provide cleaner, healthier air to residents, visitors and business communities in Cedar Lake, as well as our drivers and other town employees.

Thank you for this opportunity to participate in this public process.

Sincerely,

A handwritten signature in black ink, appearing to read "Jill M. Murr". The signature is fluid and cursive, with a large initial "J" and "M".

Jill M. Murr
Town Administrator

From: Bill Everhart <seydpw@cinergymetro.net>
Sent: Wednesday, March 28, 2018 1:29 PM
To: IDEM VWTrust
Subject: Comments on VW Beneficiary Mitigation
Attachments: letter to IDEM.pdf

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Please find the attached letter concerning comments on the Volkswagen Beneficiary Mitigation Plan.

Thank you for the opportunity to give input regarding the implementation of the mitigation plan.

Thank you!

--
Bill Everhart
City of Seymour
Director, Department of Public Works
865 F. Ave. East
Seymour, Indiana 47274
812-524-1100



DEPARTMENT OF PUBLIC WORKS

865 F AVE. EAST Freeman Field

SEYMOUR, INDIANA 47274

PHONE: 812-524-1100

FAX: 812-522-1639

March 28, 2018

Shawn Seals
Senior Environmental Manager
Indiana Department of Environmental Management
Indiana Government Center North
100 North Senate Avenue
Indianapolis, IN 46204

RE: Comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework

Dear Mr. Seals,

The City of Seymour, Indiana is pleased to submit these comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework, pursuant to the Executive Order signed by Gov. Holcomb on Oct. 17, 2017.

The City of Seymour, Indiana is a member of South Shore Clean Cities, a 501(c)(3) organization under the U.S. Department of Energy's Clean Cities program. The coalitions are designed to reduce petroleum consumption in the transportation sector by advancing the use of clean fuels and vehicles, idle reduction technologies, hybrid electric vehicles, fuel blends and fuel economy while reducing dependence on imported oil.

Because South Shore Clean Cities is fuel-neutral, meaning it does not advocate for one type of sustainable fuel choice or technology over another, The City of Seymour, Indiana concurs with the organization's stance that projects applying for funding under the Plan should be judged on their potential to reduce the greatest amount of NOx emissions.

In addition, The City of Seymour, Indiana offers the following comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework:

The City of Seymour, Indiana respectfully suggests that priority be given to municipal fleets of refuse vehicles that will have the greatest impact on reducing the amount of NOx emissions.

Thank you for this opportunity to participate in this public process.

Sincerely,

A handwritten signature in black ink, appearing to read "Craig Luedeman", is written over a horizontal line.

Mayor Craig Luedeman
City of Seymour, Indiana

From: Jeff
Sent: Wednesday, March 28, 2018 1:03 PM
To: IDEM VWTrust
Subject: VW GRANT

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I have a suggestion on the VW grant, they need to change the year for the beginning date for vehicles to be replaced which is 1992. In my opinion the local Gov.t agency did what they were asked and to maintain vehicles as long as you can. We held on to certain bigger trucks that are multi purpose (snow, dump, leaf, etc.) and kept the up keep on them. Now we are being punished for doing that, as they placed a beginning year on trucks to be replaced. I would like to know if there is anyone that we can voice our opinion to? Maybe change it for the next round? Disappointed, Jeff Everly Street Commissioner at Tell City, IN

From: Kristin Maguire <kmaguire@Kinetrexenergy.com>
Sent: Tuesday, March 27, 2018 1:18 PM
To: PIGOTT, BRUNO; IDEM VWTrust
Cc: Holwerda, Rebecca; SEALS, SHAWN; Mark Gallo; Nick Soncrant
Subject: Kinetrex Energy VW Comments for the State of Indiana
Attachments: Kinetrex Energy Comments for the IN VW Beneficiary Mitigation Plan.pdf

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Dear Commissioner Pigott:

Kinetrex Energy is pleased to submit comments (Kinetrex Energy Comments for the IN VW Beneficiary Mitigation Plan file) to the State of Indiana in response to the State's request for comment on its VW Beneficiary Mitigation Plan Draft Framework.

Please contact us with any questions or if you would like to meet in person to discuss our comments.

Thank you,

Kristin Maguire
Senior Customer Solutions Manager
Kinetrex Energy
Mobile: 317.294.8635
Email: kmaguire@kinetrexenergy.com
www.KinetrexEnergy.com
[Kinetrex Energy LinkedIn Page](#)

 KinetrexEnergy



March 27, 2018

Commissioner Bruno Pigott
Indiana Department of Environmental Management
Indiana Government Center North
100 North Senate Avenue
Indianapolis, IN 46204

RE: NGVAmerica Comments on the Indiana Volkswagen Beneficiary Mitigation Plan Draft Framework

Dear Commissioner Pigott:

Kinetrex Energy respectfully submits the following comments regarding the Indiana Department of Environmental Management (IDEM) use of the Environmental Mitigation Trust (EMT or Trust) funds (\$40.9 million) that the state will receive as part of the Volkswagen (VW) diesel emission settlement.

As background to our comments, Kinetrex Energy was established in 2013 by Citizens Energy Group as Indiana's common sense, environmental friendly alternative to diesel fuel. With the support of then-Governor Pence and Indiana Utility Regulatory Commission Chairman Atterholt, Kinetrex was deregulated to compete directly against diesel fuel. In a short few years, Kinetrex has risen to become one of the United State's leading interstate Liquefied Natural Gas (LNG) companies – headquartered right here in Indiana. In addition to making Indiana a leading distributor of LNG for transportation purposes, Kinetrex sells approximately 28,000,000 gallons annually for this purpose, Kinetrex is in the process of building a Renewable Natural Gas (RNG) plant in Indiana that will clean landfill gas to pipeline specifications where it will thereafter be liquified, resulting in even greater NOx emission reductions than natural gas alone. **Indeed, when LNG comprised of RNG fuels the new Cummins' ISX12N natural gas engine, another great Hoosier creation, carbon emissions are negative – cleaner than any existing or foreseeable electric transportation technology.**

Kinetrex Energy agrees with the IDEM VW Beneficiary Mitigation Plan Draft Framework (BMP), which states that the focus is on using the VW funds to prioritize projects according to their ability to reduce NOx emissions in ozone nonattainment areas and improve areas with fine particulate matter issues. LNG manufactured by Kinetrex Energy is commercially proven and will help the IDEM achieve the goals of the BMP as a clean, low-cost alternative fuel that reduces NOx and particulate matter emissions. The Cummins-Westport ISX12N Natural Gas engine, which is used by LNG Class 8 vehicles, creates a 90% reduction in NOx emissions and meets California ARB optional Low NOx standard of 0.02 g/bhp-hr.

Kinetrex Energy agrees with the Natural Gas Vehicles for America (NGVAmerica)'s additional comments that support the prioritization of funding projects that deliver greatest NOx reductions, which include medium- and heavy-duty LNG vehicles. NGVAmerica highlighted the impact of RNG in their recent comment, stating that when RNG is used to produce LNG, the life cycle greenhouse gas emissions are reduced even further.



Kinetrex Energy also supports NGV America's comment that the Argonne National Laboratory's AFLEET tool should be used to calculate vehicle and fuel type emissions when comparing projects' potential reduction of NOx emissions. Most importantly:

- Added low-NOx engine option for LNG heavy-duty vehicles
- Added well-to-pump air pollutants and vehicle cycle petroleum use, GHGs, and air pollutants
- Added more renewable fuel options

Kinetrex Energy supports using the Trust funds to further private and public fleet adoption of alternative fuels. Kinetrex also supports accelerating the funding in the early years to maximize NOx and particulate matter reductions. The LNG manufactured and distributed by Kinetrex Energy in Indiana is a proven commercial solution that can be deployed today by fleets across the state.

Kinetrex Energy welcomes the opportunity to meet with you to discuss the economic and environmental benefits of LNG vehicles in Indiana. Please contact Craig Moore, Kinetrex Energy Chief Operating Officer, cmoore@kinetrexenergy.com, or Kristin Maguire, Kinetrex Energy Senior Customer Solutions Manager, kmaguire@kinetrexenergy.com to set up a meeting and for additional information.

Sincerely,

A handwritten signature in black ink that reads "Aaron Johnson". The signature is fluid and cursive, with a large loop at the end.

Aaron Johnson
President & CEO

From: Scott Ferguson Sent You a Personal Message
Sent: Wednesday, March 07, 2018 5:00 PM
To: IDEM VWTrust
Subject: Invest Indiana VW funds in exhaust-free, zero-emission buses

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

Dear Indiana VW Trust,

The draft Volkswagen mitigation plan released for Indiana has many positive elements -- it is sensitive to environmental justice concerns and it prioritizes investments that most reduce NOx and other harmful pollutants from transportation.

But the only way to accelerate toward a clean vehicle future is for Indiana to choose zero emission vehicles -- and we must be ready for them. In addition to prioritizing electric school buses, transit buses and freight trucks, Indiana's final mitigation plan should invest the max 15% of funds in charging infrastructure.

None of the funds should go to advance dirty engines that run on diesel and natural gas, the same fossil fuels that got us into this mess. Instead, plans should prioritize electrification through retrofitting or replacing polluting vehicles with clean, zero-emission vehicles.

Sincerely,

Scott Ferguson

This message was sent by KnowWho, as a service provider only, on behalf of the individual noted in the sender information.

From: Jim Bernhardt <JimBernhardt@MacAllister.com>
Sent: Friday, March 23, 2018 10:11 AM
To: IDEM VWTrust
Cc: Ryan Campbell
Subject: Public Comment from MacAllister and Blue Bird Corporation
Attachments: MacAllister and Blue Bird response to request for comments.pdf

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MacAllister Transportation and Blue Bird Corporation are pleased to submit the attached comments regarding the benefits of replacing older diesel school buses in Indiana. If you have any questions you can contact myself or Ryan Campbell at

RyanCampbell@macallister.com
317-448-6991

Jim Bernhardt
Transportation Division Manager
MacAllister Machinery
Office; 317-591-9907
Mobile; 317-431-2009
www.macallistertransportation.com

MacAllister Transportation and Blue Bird response to the request for public comment

For consideration by the VW Trust Fund Committee through the RFI, MacAllister Transportation, a division of MacAllister Machinery headquartered in Indianapolis, and Blue Bird Corporation are submitting the following comments about the benefits of replacing older school buses in Indiana.

As stated in the Draft framework of the State's BMP, the funding for the Eligible Mitigation Actions is intended to fully mitigate the total, lifetime excess oxides of nitrogen (NOx) emissions from vehicles involved in the case. With NOx reduction being the focus of funding, projects that reduce NOx over the lifetime of the product with the lowest cost per pound of NOx reduction should get the highest consideration for funding. In other words products that cost the least but have the most dramatic reduction in NOx.

In addition, the population that would benefit the most from NOx reduction should also be considered. Children are the most at risk population in Indiana. Numerous studies have been done regarding the long term negative effects that pollution has on children during their developmental years from birth to late teens. The long replacement cycle of school buses (12 to 20 years) and the higher emissions from older school buses around school children is a damaging combination, and the area that would benefit the most from the VW fund. Another side benefit from replacing older school buses is that current safety standards for new school buses would replace older buses that don't have these standards, thus providing a safer ride for school children.

According to RL Polk & Company, there are over 5000 model year 2009 and older school buses in operation in Indiana that qualify for replacement under the VW Grant criteria.

VW funds should be heavily weighted toward replacing as many of these older school buses as possible.

Under the following assumptions, 400 school buses could be replaced over the term of the settlement.

- \$20 million dollars is allocated to school bus replacement
- Average cost of a school bus is \$100,000
- 50% of the cost of a bus qualifies for payment from the VW funds

Obviously changing the funding percentage to an average of 25% by the VW Trust Fund and 75% from the schools would increase the number of buses replaced to 800.

Using emissions data calculations from the 2017 ANL AFLEET tool with in-use adjustment, the following information on cost per pound of NOx reduction was obtained. More information about this tool can be found at https://greet.es.anl.gov/afleet_tool. The information below is for the life cycle of an average school bus which was assumed to be 15 years and 12,600 miles per year. Baseline of emissions for comparison was a 2007 model year diesel bus. Cost of buses shown are average representations and could change depending on options selected.

On a cost per pound of NOx reduced, propane buses offer the best value.

Type of School Bus Purchased	Average Cost	Lifetime Pounds of NOx reduction	Cost per pound
Propane Conventional	\$95,000	894	\$106
CNG Conventional	\$135,000	818	\$165
CNG Transit	\$170,000	818	\$208
Electric Conventional	\$300,000	1119	\$268
Diesel Conventional	\$90,000	68	\$1,324
Diesel Transit	\$130,000	68	\$1,912
Transit buses are the "flat nose" buses vs. a Conventional bus with a hood.			

The following table provides a model for using VW funds at a higher rate of funding for those buses that would have the highest impact on NOx reduction at the lowest cost per pound. This would encourage schools to move toward the more value/NOx reducing buses and maximize the number of buses that could be replaced in the state.

Type of School Bus Purchased	Average Cost	Lifetime Pounds of NOx reduction	Cost per pound	Percent paid by VW	Amount Paid by VW Funds	Amount paid by Schools
Propane Conventional	\$95,000	894	\$106	60.00%	\$57,000	\$38,000
CNG Conventional	\$135,000	818	\$165	40.00%	\$54,000	\$81,000
CNG Transit	\$170,000	818	\$208	35.00%	\$59,500	\$110,500
Electric Conventional	\$300,000	1119	\$268	30.00%	\$90,000	\$210,000
Diesel Conventional	\$90,000	68	\$1,324	10.00%	\$9,000	\$81,000
Diesel Transit	\$130,000	68	\$1,912	10.00%	\$13,000	\$117,000
Transit buses are the "flat nose" buses vs. a Conventional bus with a hood.						

In addition to Propane buses offering the best value in reducing NOx, propane is a domestically sourced fuel with schools experiencing an easy transition to move from diesel to propane. Propane buses start easily in the winter (unlike diesel buses), are safe to operate, are quiet, and are the lowest cost per mile to operate among all the various buses available to schools. Propane has both an economic and environmental benefit for schools.

Blue Bird has over 12,000 propane powered buses in operation in the United States. In Indiana there are 13 school systems that operate 145 Blue Bird propane buses. If a school system wants to select a diesel, electric, or a CNG bus, MacAllister Transportation and Blue Bird offer all of these models as well.

In conclusion, we are recommending that a majority of the funding be used for school bus replacement with an emphasis on propane powered school buses. If \$20 million was allocated to school buses and 400 diesel school buses were replaced with propane powered buses, using the assumptions above the total NOx reduction would be 357,600 lbs. over the life cycle of these buses.

The minimum term to use the VW funds is 3 years. The sooner older diesel school buses are replaced, the more benefit to our children and our schools. We suggest looking at a 3 year term, or \$6.6 million per year for school bus replacement.

If there are questions or further discussion that the committee would like to have, you can contact

Ryan Campbell
MacAllister Transportation
317-591-9925 Office
317-448-6991 Mobile
RyanCampbell@macallister.com

Thank you for the opportunity to submit our recommendations.

Sincerely,

MacAllister Transportation/ Blue Bird Corporation

From: ndandrea@ups.com
Sent: Thursday, March 22, 2018 11:50 AM
To: IDEM VWTrust
Subject: UPS Comments on Indiana VW Settlement Survey
Attachments: Indiana VW Settlement Comments.docx

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ****

To Whom It May Concern:

Please see the attached UPS comments on the Indiana VW Draft Mitigation Plan. We look forward to working with your agency. Please don't hesitate to reach out with any questions.

Thanks,
Nick

Nick D'Andrea
UPS
Vice President, Public Affairs
1400 N. Hurstbourne Pkwy
Louisville, KY 40243
(502)329-6760 office
(502)873-8204 cell

March 19, 2018

To Whom It May Concern:

Thank you for the opportunity to provide comments on Indiana's VW Mitigation Plan.

UPS was founded almost 110 years ago as messenger service and has turned into one of the largest package delivery companies in the world. We currently operate in 220 countries and deliver over 4.7 billion packages each year. With a fleet of over 110,000 vehicles, efficiency is key to our operational success. At the same time, UPS is committed to reducing greenhouse gas emissions. UPS began with electric vehicles in New York City in the 1930s. We have now grown to over 9,000 alternative fuel vehicles that run on compressed natural gas, liquefied natural gas, propane, electric and even e-bicycles. To date our alternative fueled vehicles have driven over 1 billion miles. These vehicles don't just reduce greenhouse gas emissions but ensure UPS is being more efficient; thus, more sustainable.

The VW Settlement provides an opportunity for UPS and other carriers to make an investment in alternative fuel technologies because the funds will help drive down the cost differential for the equipment. While equipment prices have come down some, natural gas and electric vehicles are sometimes two or three times the cost of a gasoline or diesel vehicle. This is why the VW Settlement funds will provide much needed incentives to those wishing to switch to a cleaner burning vehicle.

UPS recommendations on Indiana's VW Settlement Mitigation Plan:

Recommendation #1: Funding for government entities should be the same as those for non-government entities.

UPS believes that states can have a bigger impact, dollar for dollar, by deploying as many low emitting vehicles on the road as possible. If government entities use all of the funds, the impact will be muted as opposed to allowing more cost-share with private entities and maximizing vehicles deployed.

Recommendation #2: While the VW Settlement states electric vehicles can receive up to 75% reimbursement and 25% for natural gas, that doesn't mean it can't be negotiated.

UPS and other carriers who can make a large impact on air quality and have the capital to deploy large quantities of vehicles should have the ability to negotiate with the State of Indiana on an arrangement that benefits the state and the private companies wishing to make the investment. For example, a company that wants to deploy both natural gas vehicles and electric vehicles could negotiate with the state for 50% reimbursement on electric vehicles and a 20% reimbursement for natural gas or some other variation. This would allow for the state to fund large scale projects while preserving money for other smaller projects. This would also be more manageable than providing a generic number and being held to it for all projects. Projects that have the biggest impact and reduce the most of amount of NOx, per dollar spent, should get the largest amount of funding.

Recommendation #3: Entities who have experience with alternative fuel vehicles should be given first priority for funding.

Entities who already have deployed alternative fuel vehicles such as natural gas and electric vehicles understand how to maximize their efficiency. Many have also worked out the issues with bringing online a new fleet of vehicles. In addition, many of these entities already have the infrastructure in place making those "shovel ready" projects which can be executed more quickly over those entities who are non-experienced.

Thanks again for the opportunity to provide comments and we look forward to working with the State of Indiana to use these funds in a manner that will reduce the most amount of NOx while maximizing Indiana's VW settlement funds.

Sincerely,

Nick D'Andrea

Vice President, Public Affairs

UPS