



January 6, 2017

Commissioner Charles Zelle  
Minnesota Department of Transportation  
395 John Ireland Blvd.  
St. Paul, MN 55155

RE: Letter of Commitment for Support of the Multi-State Great Lakes Zero Emission Corridor

Dear Commissioner Zelle,

The National Renewable Energy Laboratory (NREL) is pleased to provide support for the multi-state effort to develop the Great Lakes Zero Emission Corridor.

NREL's role in this effort would be to utilize expertise within our Transportation and Hydrogen Systems Center (THSC) as well as the Energy Systems Integration Facility (ESIF). Both of these organizations within NREL have expertise and unique research and development capabilities to acquire, assess, optimize and demonstrate advanced zero emission technologies both at the vehicle systems level as well as at the energy infrastructure level.

Within the THSC, we have developed expertise to support the development and implementation of electrified transportation systems, particularly those that integrate renewable-based vehicle charging systems. Specifically, NREL has developed strategies, analysis capabilities and tools to help understand usage profiles of vehicles and renewable systems, interoperability issues, grid services including managed charging, emergency backup, local power quality and bi-directional power opportunities. We have also developed capabilities to help define and locate zero emission vehicle infrastructure hardware and control strategies.

Research at NREL's Vehicle Testing and Integration Facility (VTIF) examines the interaction of building energy systems, utility grids, renewable energy sources, and PEVs—integrating energy management solutions and maximizing potential greenhouse gas reductions and cost savings. This facility is used in tandem with the ESIF, DOE's latest flagship User Facility, to explore these approaches at a systems scale. The benefits of Energy Systems Integration optimization are beyond EVs and support our nation's climate change goals through the deep decarbonization of our energy infrastructure.

Under the terms of NREL's Management and Operating (M&O) contract, the U.S. Department of Energy permits access to NREL's unique capabilities and services to support industry, state or local governments, or universities in response to federal agency announcements or non-federal solicitations.

NREL's mission is to advance the science and engineering of energy efficiency, sustainable transportation, and renewable power technologies and provides the knowledge to integrate and optimize energy systems. This specific collaboration will advance our knowledge of zero emission, high-efficiency vehicle technologies and help to enable further deployment of these vehicles and supporting distributed renewable energy resources in the U.S.

Sincerely,

Chris Gearhart  
Center Director  
NREL Transportation and Hydrogen Systems Center

**15013 Denver West Parkway**  
**Golden, CO 80401**  
**Phone 303-275-3000**

NREL is a national laboratory of the U.S. Department of Energy  
Office of Energy Efficiency & Renewable Energy  
Operated by the Alliance for Sustainable Energy, LLC



**Paul K. Kearns**  
Interim Director  
President, UChicago Argonne, LLC

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January 9, 2017

Commissioner Charles A. Zelle  
Minnesota Department of Transportation  
395 John Ireland Blvd  
St. Paul, MN 55155

**RE: Letter of Support for the Multi-State Great Lakes Zero Emission Corridor**

Dear Commissioner Zelle,

Argonne National Laboratory (Argonne) is pleased to provide this letter of support to the State of Minnesota for its efforts to bring advanced, clean and affordable transportation to its residents alongside Interstate 94. Through its commitment to realizing a "*Great Lakes Zero Emissions Corridor*," Minnesota's Department of Transportation (MnDOT) and its regional state partners have taken a leadership role in enhancing our nation's electric vehicle infrastructure to foster more sustainable, economic growth.

Argonne's Center for Transportation Research (CTR) is well placed to support the designation of a 1,000-mile emission-free corridor within the Great Lakes region. CTR includes renowned experts in transportation system technology's design, evaluation and modeling and analysis. Using a multidisciplinary approach that focuses on such areas as computationally enhanced mobility planning, connected and automated vehicles, behavioral decision science and multimodal transportation, CTR has produced viable solutions for increasing safety, saving energy and reducing greenhouse gas emissions. Its proven capabilities in vehicle and transportation energy modeling and EV-Smart Grid interoperability and connectivity in particular are envisioned to support this multi-state effort.

Subject to the terms of Argonne's Management and Operating (M&O) contract, the U.S. Department of Energy (DOE) permits access to Argonne's unique capabilities and services to support industry, state or local governments, or universities in response to federal agency announcements or non-federal solicitations.

The "*Great Lakes Zero Emission Corridor*" Memorandum of Understanding underscores the important role that the DOE National Laboratories can play through research and technology development and deployment. Argonne looks forward to being a part of this collaborative effort, and demonstrating how the DOE National Laboratory System can serve as a resource for economic growth and environmental sustainability for our state and local partners.

Yours,

A handwritten signature in black ink that reads "Paul K. Kearns".

Paul K. Kearns, Interim Director  
Argonne National Laboratory



January 9, 2017

Commissioner Charles Zelle  
Minnesota Department of Transportation  
395 John Ireland Blvd  
St. Paul, MN 55155

Director Kirk Steudle  
Michigan Department of Transportation  
425 W. Ottawa St  
Lansing, MI 48909

**RE: Letter of Support for the Multi-State Great Lakes Zero Emission Corridor**

Dear Commissioner Zelle and Director Steudle:

Zero Motorcycles Inc. is pleased to support for the multi-state effort to develop the Great Lakes Zero Emission Corridor. Zero Motorcycles is a rapidly growing US-based electric vehicle business that designs and manufactures award-winning, high performance, zero emission electric motorcycles. Zero has created 140 new US jobs and has shipped over 7,000 of these extremely fun and environmentally friendly electric motorcycles during the last ten years. In addition to being an electric vehicle manufacturer which designs and builds our vehicles right here in the US, our customers and dealers across the world have also directly benefited from our "Made in America" strategy. As the leading manufacturer of electric motorcycles, we see the vital need for the kind of multi-state action you are undertaking.

The development of a Great Lakes Zero Emission Corridor represents the timely opportunity to expand the charging infrastructure in Minnesota, Michigan, Illinois, Indiana and Wisconsin, in a coordinated manner that makes sense for EV drivers and riders. This Zero Emission Corridor will also serve to reduce the range anxiety that electric motorcycle riders may have, which is one of the key barriers to greater EV adoption in these states. On behalf of the current electric motorcycle drivers in these states, and the thousands more that will soon choose to ride electric, we applaud your leadership and commitment to the development of the charging infrastructure, and therefore the EV market.

Therefore, due to the anticipated near-term rapid acceleration in EV adoption amongst motorcycle riders and public safety agencies in the Great Lakes region, we are pleased to offer our support for the Great Lakes Zero Emission Corridor. If you have any questions at all about our support for the project, please contact me at the phone number or email address below.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jay Friedland'.

Jay Friedland  
Vice President of Government Relations and Public Policy  
Email: [jay@zeromotorcycles.com](mailto:jay@zeromotorcycles.com)



Plug In America  
6380 Wilshire Blvd  
Suite 1010  
Los Angeles, CA 90048  
(415) 323-3329

Commissioner Charles Zelle  
Minnesota Department of Transportation  
395 John Ireland Blvd  
St. Paul, MN 55155

January 10, 2017

Re: Letter of Support for the Multi-State Great Lakes Zero Emission Corridor

Dear Commissioner Zelle:

Plug In America is pleased to provide support for the multi-state effort to develop the Great Lakes Zero Emission Corridor.

Plug In America is the national consumer voice for plug-in electric vehicles (PEVs) and works to promote policies and programs nationwide that put more PEVs on the road.<sup>1</sup> Our members are passionate PEV advocates and have driven PEVs for many years, affording Plug in America a unique perspective on how consumers think about PEVs and what actually inspires a consumer to purchase a PEV.

The development of a Great Lakes Zero Emission Corridor represents the timely opportunity to expand the charging infrastructure in Minnesota, Michigan, Indiana, Illinois and Wisconsin, in a coordinated manner that makes sense for PEV drivers. This Zero Emission Corridor will also serve to reduce the range anxiety that PEV drivers may have, which is one of the key barriers to greater PEV adoption in these states. On behalf of the thousands of current PEV drivers in these states, and the tens of thousands more that will soon choose to drive electric, we applaud your leadership and commitment to the development of the charging infrastructure, and therefore the PEV market.

The PEV market is quickly growing. From 2010 to December 2016, consumers have purchased more than 561,000 cars,<sup>2</sup> with sales expected to accelerate as new vehicle makes and models become available, such as the Chevy Bolt EV.<sup>3</sup> More and more drivers nationwide are making the switch to drive electric simply because PEVs are convenient and save consumers money. The Great Lakes States, like many other states across the country, has been preparing for the mass adoption of these clean vehicles due to the significant benefits these vehicles offer to the consumer, electric grid and each state.<sup>4</sup>

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<sup>1</sup> More information available at: [www.pluginamerica.org](http://www.pluginamerica.org)

<sup>2</sup> Vehicle count based on HybridCars.com count of U.S. sales of 561,000 plug-in vehicles (BEVs, PHEVs) from December 2010 through the end of December 2016.

<sup>3</sup> More on the Chevy Bolt can be found at: <http://www.chevrolet.com/bolt-ev-electric-vehicle.html>

<sup>4</sup> See Plug In America Factsheet on the Benefits of PEVs: [https://pluginamerica.org/wp-content/uploads/2016/11/Plug-In-America-Benefits-of-PEVs\\_161110v1.pdf](https://pluginamerica.org/wp-content/uploads/2016/11/Plug-In-America-Benefits-of-PEVs_161110v1.pdf)



Plug In America  
6380 Wilshire Blvd  
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Furthermore, nearly every major auto manufacturer has announced plans for the manufacture and sales release of a PEV model by 2020.<sup>5</sup> Ongoing battery research has led to a groundbreaking report by Bloomberg New Energy Finance in February 2016 that stated PEVs will be at cost parity with their internal combustion engine counterpart vehicles by 2022, and certainly no later than 2026.<sup>6</sup> Simply put, the PEV market is here.

Therefore, due to the anticipated near-term rapid acceleration in PEV adoption amongst drivers in the Great Lakes region, we are pleased to offer our support for the Great Lakes Zero Emission Corridor. Please send any questions to Katherine Stainken, Policy Director, at [kstainken@pluginamerica.org](mailto:kstainken@pluginamerica.org).

Best regards,

A handwritten signature in blue ink that reads "Joel Levin". The signature is written in a cursive style with a large initial "J" and "L".

Joel Levin  
Executive Director  
Plug In America

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<sup>5</sup> <http://www.pluginCars.com/carmakers-commitment-electric-cars-brand-brand-review-130155.html>

<sup>6</sup> <https://www.bloomberg.com/features/2016-ev-oil-crisis/>



January 10, 2017

Commissioner Charles Zelle  
Minnesota Department of Transportation  
395 John Ireland Blvd  
St. Paul, MN 55155

RE: Letter of Support for the Multi-State Great Lakes Zero Emission Corridor

Dear Commissioner Zelle,

Arcimoto is please to provide support for the multi-state effort to develop the Great Lakes Zero Emission Corridor.

I founded Arcimoto in 2007 to catalyze the shift to a sustainable transportation system. Arcimoto devises new technologies and patterns of mobility that together raise the bar for environmental efficiency, footprint and affordability.

Our first product, the SRK, defines the Fun Utility Vehicle category: it's a stable three-wheeled electric motorcycle that delivers a thrilling ride experience, unmatched maneuverability, full comfort for two passengers with gear, optimal three-in-one-space urban parkability, and 230 MPGe ultra-efficient operation, at a base model price of \$11,900. You can learn the details in this short, cheeky [informational YouTube video](#).

We are very excited to offer the SRK as one component of this compelling multi-state corridor vision. The SRK's urban utility thesis, low cost and small footprint make it well-suited for both ride and vehicle sharing. When used as a last-mile solution for existing transit, the SRK has the potential to both boost ridership and per-passenger-mile efficiency.

We will reserve near-term production capacity, and will confirm in-kind support and consultation to the corridor initiative in order to ensure the program's success.

Arcimoto is dedicated to working with the team to bring cutting-edge technologies to tackle the connected challenges of mobility, environmental sustainability and social equity in the Great Lakes Zero Emission Corridor. Please do not hesitate to contact me at 541-915-4973 if you are in need of additional information.

Sincerely,

Mark Frohnmayer  
Founder and President, Arcimoto, Inc.

January 9, 2017

Commissioner Charles Zelle  
Minnesota Department of Transportation  
395 John Ireland Blvd  
St. Paul, MN 55155

Re: Volta's Letter of Commitment for support of the Multi-State Great Lakes Zero Emission Corridor

Dear Commissioner Zelle,

Accelerating Plug-in Electric Vehicle adoption is at the core of Volta's mission and we are pleased to commit our support for the multi-state effort to develop the Great Lakes Zero Emission Corridor.

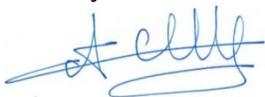
Volta applauds the strong leadership role that the five-state region is taking in coordinating community, technology, industrial, government, and academic resources. This will significantly advance the Nation's move to electrify its transportation systems, and contribute significant benefits to all stakeholders from both an emissions' reduction perspective, as well as quality of life and economical and societal improvements resulting from the investments in an advanced, clean and accessible transportation system across the five-state region.

The designation of a 1,000-miles EV Corridor that brings together more than 30 communities along I-94 from Port Huron, MI, to Moorhead, MN, is a clear opportunity to enable the five-state region and all its stakeholders to plan for, test, and learn from EV charging technologies and services, as well as share this knowledge with the rest of the nation and provide a valuable template to build upon. Volta is committed to supporting the five-state regions and all the stakeholders with our experience, expertise and unique EV charging model.

Volta has developed and proven a uniquely innovative approach to Public Plug-in Electric Vehicles charging. Headquartered in San Francisco and operating several hundred sites throughout US metropolitan areas with growing EV penetration, Volta partners with sponsor brands committed to bettering the environment across US communities, and deploys networked EV charging stations at convenient locations such as shopping areas and entertainment districts, providing free charging to drivers, and installation and maintenance at no cost to site owners. The strategic sites of Volta community charging amenities drive both high utilization and high visibility, and are an incredibly effective catalyst for PEV adoption.

Volta shares the five-state region's commitment to accelerating the transition to electric transportation, and is committed to support and participate its efforts, bringing not only strong expertise and experience in siting the most appropriate EV charging locations, but also significant commitment for in-kin deployment, operation and maintenance of such sites.

Sincerely,



Dr. Abdellah Cherkaoui  
Senior Vice President  
Government, OEM & Utilities Relations Market Development



January 10, 2017

Commissioner Charles Zelle  
Minnesota Department of Transportation  
395 John Ireland Blvd.  
St. Paul, MN 55155

Dear Commissioner Zelle,

The Ray is pleased to provide support for the multi-state effort to develop the Great Lakes Zero Emission Corridor ("Corridor"), and we commend the bold commitment made by the Minnesota Department of Transportation and its partners.

The Ray is a nonprofit foundation that has developed, with partners in state government and the private sector, a living laboratory of innovation, evolving ideas and technologies that will transform the transportation infrastructure of the future. The 18-mile stretch of Interstate 85, formally named the Ray C. Anderson Memorial Highway, extends from the Georgia-Alabama state line to Exit 18 in LaGrange, Georgia.

The Ray's role in the Multi-State Great Lakes Zero Emission Corridor effort would be to share and utilize expertise and unique research, particularly in the fields of renewable energy generation, electric vehicle charging infrastructure, and other advanced zero emission technologies. For example, last month The Ray installed the country's first demonstrations of the "Wattway by COLAS" solar road pavers and the "WheelRight" automatic, roll-over tire safety system for monitoring tread depth and tire pressure. In 2017-2018, we will work with the Georgia Department of Transportation and Georgia Power to deploy a 1MW solar farm in the highway right-of-way of The Ray. In 2015, The Ray deployed the first PV4EV in the southeast region, which is an electric vehicle charging station powered by a solar array.

The Ray also shares with Corridor partners an interest in automation. Future endeavors on The Ray to deploy sensor networks for safety and sustainability, and to develop the connectivity that activates edge technologies in meaningful ways, could be impactful partnering opportunities for The Ray and the Multi-State Great Lakes Zero Emission Corridor.

The mission of The Ray is to help develop and demonstrate technologies and innovations that will make it possible to go zero deaths, zero carbon, zero waste and zero impact on highways everywhere. A collaboration between The Ray and the Corridor will advance our shared goals to develop, support and catalyze broad deployment of zero emission vehicle technologies; electric



vehicle charging infrastructure; distributed renewable energy resources; sensor networks, IoT platforms and machine learning to enable new efficiencies, and; roadside vegetation strategies.

Sincerely,

Allie Kelly  
Executive Director



**Wisconsin Clean Cities**  
231 W Michigan Street, P301  
Milwaukee, WI 53203  
Office: 414-221-4958  
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[info@wicleancities.org](mailto:info@wicleancities.org)  
[www.wicleancities.org](http://www.wicleancities.org)

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January 10, 2017

Director Kirk Steudle  
Michigan Department of Transportation  
425 W. Ottawa Street  
PO Box 300500  
Lansing, MI 48909

Commissioner Charles Zelle  
Minnesota Department of Transportation  
395 John Ireland Blvd.  
St. Paul, MI 55155

RE: Letter of Commitment for Support of the Multi-State Great Lakes Zero  
Emission Corridor

Dear Director Steudle & Commissioner Zelle:

Wisconsin Clean Cities, Inc. (WCC) is pleased to provide support for the multi-state effort to develop the Great Lakes Zero Emission Corridor. WCC's role in this effort would be to engage our membership throughout the state and provide education and outreach initiatives to ensure success of this corridor project.

WCC has expertise in the development and implementation of alternative fuel projects. WCC has worked closely with state agencies and project partners to ensure successful deployment of vehicles and infrastructure throughout the state. Additionally, WCC developed the WI Smart Fleet program for fleets around the state to implement the use of alternative fuels and advanced technology vehicles. Through this program, WCC has provided analysis regarding the implementation of projects including detailing emission and greenhouse gas reductions.

WCC appreciates the opportunity to collaborate with project partners to further assist in the deployment of vehicles and technologies that will contribute to the further development of the Great Lakes Zero Emission Corridor.

Sincerely,

Executive Director

Cc: Aileen Switzer, WI Administrator for the division of Transportation Investment  
Management



**South Shore Clean Cities**

9800 Connecticut Drive

Crown Point, IN 46307

Office: 219-644-3690

Fax: 219-644-3682

[info@southshorecleancities.org](mailto:info@southshorecleancities.org)

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*Indiana Department of  
Environmental  
Management (IDEM)*

January 10, 2017

Director Kirk Steudle  
Michigan Department of Transportation  
425 W. Ottawa Street  
PO Box 300500  
Lansing, MI 48909

Commissioner Charles Zelle  
Minnesota Department of Transportation  
395 John Ireland Blvd.  
St. Paul, MI 55155

RE: Letter of Commitment for Support of the Multi-State Great Lakes Zero Emission Corridor

Dear Director Steudle & Commissioner Zelle:

South Shore Clean Cities, Inc. (SSCC) is pleased to provide support for the multi-state effort to develop the Great Lakes Zero Emission Corridor. SSCC's role in this effort would be to engage our membership throughout the state and provide education and outreach initiatives to ensure success of this corridor project.

SSCC has expertise in the development and implementation of alternative fuel projects. SSCC has worked closely with state agencies and project partners to ensure successful deployment of vehicles and infrastructure throughout the state. Additionally, SSCC developed the Indiana Green Fleet program for fleets around the state to implement the use of alternative fuels and advanced technology vehicles. Through this program, SSCC has provided analysis regarding the implementation of projects including detailing emission and greenhouse gas reductions.

SSCC appreciates the opportunity to collaborate with project partners to further assist in the deployment of vehicles and technologies that will contribute to the further development of the Great Lakes Zero Emission Corridor.

Sincerely,

Executive Director

Cc: Katherine England, IN Director of Multimodal Planning & Programing