



January 14, 2021

Patrick McDonnell, Chairperson
Pennsylvania Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477

Via email: RegComments@pa.gov

Re: Proposed Rulemaking for CO₂ Budget Trading Program [25 PA. CODE CH. 145]
Regional Greenhouse Gas Initiative (RGGI)

Dear Chair McDonnell:

Greenlots is pleased to submit these comments in support of the Commonwealth of Pennsylvania joining the Regional Greenhouse Gas Initiative (“RGGI”), as proposed in the above-referenced rulemaking, and to recommend allocating a portion of the proceeds towards investments in electric transportation.¹

About Greenlots

Greenlots is a leading provider of electric vehicle (“EV”) charging software and services committed to accelerating transportation electrification in Pennsylvania, and a wholly owned subsidiary of Shell New Energies.

Greenlots’ software, services and expertise empower industries across the globe to deploy EV charging infrastructure at scale, connecting people in a safer, cleaner, and smarter way. The Greenlots network supports a significant percentage of the DC fast charging infrastructure in North America, and an increasing amount of the Level 2 infrastructure. Greenlots’ smart charging solutions are built around an open standards-based focus on future-proofing while helping site hosts, utilities, and grid operators manage dynamic EV charging loads and improve system efficiency.

Greenlots serves on the board of the Alliance for Transportation Electrification, and additionally is an active member of Advanced Energy Economy (AEE) and other not-for-profit organizations committed to accelerating electric transportation across Pennsylvania, the Mid-Atlantic and beyond.

¹ Available at: <http://www.pacodeandbulletin.gov/Display/pabull?file=/secure/pabulletin/data/vol50/50-45/1541.html>

Support for joining RGGI

Greenlots encourages Pennsylvania to join the Regional Greenhouse Gas Initiative, drive down greenhouse gas (“GHG”) emissions, and generate millions of dollars in revenues to benefit the Commonwealth. RGGI is particularly useful as a means to achieve the Commonwealth’s GHG emissions reductions goals of 26 percent by 2025 and 80 percent by 2050, compared to 2005 levels.²

RGGI is designed in a manner that offers several benefits to participant states. First, it is a market-based approach. By establishing an emissions budget that declines over time and allowing operators of electric generating units (“EGUs”) to trade emissions allowances, the Commonwealth can be assured of achieving emissions reduction targets in a market-based and economically efficient manner.

Second, RGGI transcends state lines. This regional approach helps optimize the market-based efficiencies of allowance trading across a wider pool of participants, thereby driving down emissions more cost-effectively. Moreover, such a regional approach is appropriate for an air-quality concern such as GHG emissions whose climate and human health impacts are not localized around the emitting point sources but rather are externalized regionally, and, indeed, globally.

Third, RGGI is projected to return millions of dollars in allowance auction proceeds back to the Commonwealth which it can invest in ways that accelerate GHG emission reductions and support in-state job growth and economic development. Particularly in this current challenging fiscal climate in which the COVID-19 pandemic has had a devastating impact on state budgets, RGGI offers represents a critical fiscal opportunity.

Invest a Portion of RGGI Proceeds in Electric Transportation

Greenlots recommends that the Commonwealth invest a portion of its RGGI allowance auction proceeds into electrifying its transportation sector which accounts for almost 30% of Pennsylvania’s carbon dioxide emissions.³ Decarbonization of the transportation sector is often seen as one of the more cost-effective pathways to reduce GHGs. Indeed, a majority of other states participating in RGGI have allocated a portion of their RGGI proceeds to do so.⁴

² Commonwealth of Pennsylvania. (January 8, 2019). Executive Order 2019-01. <https://www.governor.pa.gov/wp-content/uploads/2019/01/2019-01.pdf>

³ U.S. Energy Information Administration. (May 20, 2020). 2017 State energy-related carbon dioxide emissions by sector. <https://www.eia.gov/environment/emissions/state/>

⁴ See for DE, MD, MA, NY and RI: The Regional Greenhouse Gas Initiative, Inc. (July 2020). The Investment of RGGI Proceeds in 2018 at pp.18, 24, 27, 32 and 36.

https://www.rggi.org/sites/default/files/Uploads/Proceeds/RGGI_Proceeds_Report_2018.pdf; and for NJ: New

Electrification of transportation offers multiple benefits not only to drivers of EVs but to society at large. However, electrifying Pennsylvania's transportation sector will be neither simple nor inexpensive. RGGI proceeds, therefore, present an opportunity for Pennsylvania to fund targeted and well-designed investments to overcome these barriers and accelerate electrification statewide.

A few of the notable types of benefits that electric transportation has to offer Pennsylvania include economic, health and financial benefits:

- Jobs and Economy: The economic value of electric transportation is widely understood. Advanced Energy Economy recently published an in-depth analysis of the electric transportation supply chain potential in Pennsylvania and identified a number of companies already employing workers in different facets of electric transportation. The study identified hundreds of other businesses that could readily be retooled to supply the EV market, and hundreds more that could transition with relatively minimal time and investment. Importantly, however, the study also found that "to spur the transition to EVs and start putting [people] to work, regulatory and legislative action is needed to encourage EV deployment in the state and address one of the major barriers to EV adoption: a lack of available charging infrastructure" (emphasis added).⁵
- Health and climate: Electric transportation offers numerous health, air quality and climate benefits. The American Lung Association recently published a report that quantified the monetary health benefits of transitioning fleets to be comprised of a majority of ZEV vehicles by 2050. In Pennsylvania, the net benefits are projected to be \$2.36 trillion by 2050.⁶

The Union of Concerned Scientists ("UCS"), a non-profit and non-partisan research organization, compared emissions from non-electric vehicles and electric vehicles in Pennsylvania by examining several factors such as upstream emissions, electricity generation and transmission loss. Even after factoring in the aggregated emissions involved in producing the electricity an EV consumes, UCS found that a typical EV in Pennsylvania emits roughly one-third the carbon dioxide as a new non-electric vehicle — 1.8 metric tons of CO₂ compared to 4.9 metric tons.⁷ This beneficial disparity will

Jersey Department of Environmental Protection *et. al.* (April 17, 2020). RGGI Strategic Funding Plan. <https://nj.gov/rggi/docs/rggi-strategic-funding-plan.pdf>.

⁵ Advanced Energy Economy (June 8, 2020), A Supply Chain is Growing for Electric Transportation. Here's What It Could Do for One State. <https://blog.aee.net/a-supply-chain-is-growing-for-electric-transportation.-heres-what-it-could-do-for-one-state>.

⁶ American Lung Association. (September 2020). The Road to Clean Air: Benefits of a Nationwide Transition to Electric Vehicles, at p.10. <https://www.lung.org/clean-air/electric-vehicle-report>

⁷ Union of Concerned Scientists. (June 2019.) Electric Vehicle Benefits for Pennsylvania. https://www.ucsusa.org/sites/default/files/attach/2019/05/State%2520Benefits%2520of%2520EVs_batch%25202_PA.pdf

continue to grow as more renewable power sources come online and Pennsylvania's EGUs become ever cleaner over time.

- Financial: The financial benefits are significant as well. As an example, UCS found that an EV driver in Pennsylvania who charges up at home pays the equivalent of \$0.58 per gallon, compared to an average statewide fuel price of \$2.63 per gallon as of June 2019. Moreover, rural drivers stand to gain the most – more than \$733 annually compared to operating a non-electric vehicle.⁸ Operating savings are not limited to the fuel – Consumer Reports found that “estimated lifetime average repair and maintenance costs for [EVs] are approximately half the cost for [non-electric] vehicles.”⁹ These savings that result from avoided fuel and maintenance costs means more money in drivers' bank accounts, much of which is disposable income that will have a multiplier effect when spent locally and in communities across the state.

Despite these and other benefits that electrification has to offer Pennsylvania, the transition to electrify the transportation sector is costly and challenging. The RGGI allowance auction proceeds can provide a new, recurring and predictable funding source for the Commonwealth to leverage.

Upfront costs are the most significant financial barrier to electrification, with batteries being the most expensive single component for electric vehicles. As battery technology improves, supply chains mature and per-kilowatt hour (kWh) electricity costs continue to decline, the related upfront cost barriers associated with batteries is also expected to decline. Particularly for medium- and heavy-duty vehicles, battery-associated expenses may continue to make vehicles cost-prohibitive for the foreseeable future without financial incentives.

In addition to the vehicles themselves, the availability of charging infrastructure – or lack thereof – is a major barrier to adoption. Drivers of fossil-fueled vehicles can be confident in the ability of finding a refueling station wherever and whenever they need to refuel, with only minimal route planning necessary, regardless of whether the route is an urban delivery route or a long-haul route. By contrast, publicly-accessible EV chargers — especially higher-powered chargers that are more suitable for medium- and heavy-duty vehicles — remain extremely limited.

Pennsylvania can accelerate the transition to electric transportation by leveraging RGGI auction proceeds for targeted incentive programs. As a policy example for Pennsylvania's consideration, Greenlots recommends California's Innovative Clean Transit Regulation which requires all transit agencies to gradually transition to a zero emission vehicle (ZEV) fleet.¹⁰ For an implementation

⁸ *Ibid.*

⁹ Consumer Reports. (September 2020). Electric Vehicle Ownership Costs: Chapter 2 – Maintenance, at p.3. <https://advocacy.consumerreports.org/wp-content/uploads/2020/09/Maintenance-Cost-White-Paper-9.24.20-1.pdf>

¹⁰ Available here: <https://ww2.arb.ca.gov/our-work/programs/innovative-clean-transit>

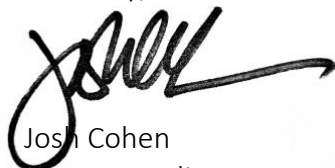
example, we call attention to CalStart's Drive to Zero "beachhead" strategy which focuses on the commercial vehicle market segments where ZEV adoption is most likely to succeed first.¹¹

Conclusion

Greenlots commends the Pennsylvania Environmental Quality Board for its leadership in advancing the proposed rule to join RGGI, and offers these comments in support. Greenlots further recommends that the Commonwealth allocate a portion of RGGI allowance auction proceeds to invest in growing Pennsylvania's electric transportation sector.

Greenlots welcomes the opportunity to offer additional perspective and input on these topics as the Commonwealth considers not only whether to join RGGI but how to implement it in a cost-effective and impactful way to benefit all Pennsylvanians. Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Josh Cohen", with a long horizontal stroke extending to the right.

Josh Cohen
Director, Policy

¹¹ Available here: <https://globaldrivetozero.org/about/strategy/>