



April 27, 2018

Deanna Cuccinello
Division of Air Quality
Department of Natural Resources and Environmental Control
100 West Water Street, Suite 6A
Dover, Delaware 19904

RE: Environmental Mitigation Plan

Dear Deanna,

Greenlots appreciates the opportunity to provide the Department of Natural Resources and Environmental Control (DNREC) with comments on the Proposed Volkswagen Environmental Mitigation Plan and provides the following recommendations for funds disbursement.

Greenlots is a leading provider of electric vehicle (EV) charging software and services. The Greenlots network supports a significant percentage of the DC fast charging infrastructure in North America. 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 respond to local and system conditions.

Greenlots strongly encourages DNREC to invest the full 15% allowable for light-duty EV charging infrastructure. This investment is critical to supporting EV adoption across the State. The deployment of public charging stations can help directly and indirectly incentivize the purchase and use of EVs. Maximizing investment in light-duty EV charging infrastructure complements other State initiatives, including advancing public health, environmental, and climate goals. Because light-duty vehicles are the largest contributor to mobile NOx in Delaware, the 15% light-duty charging investment represents a critical step toward enabling long-term emissions reductions of NOx and greenhouse gases.

A clear emphasis of support for light-duty DC fast charging infrastructure should be articulated in the Environmental Mitigation Plan. This is a critical gap in the (deficient) overall infrastructure deployment to date. The highway corridor chargers need to be DC fast chargers, to meet the needs of EV drivers who need to charge on the go, rather than where the car is parked for more than an hour or two. Providing DC fast charging options across multiple power levels in line with different use cases will be particularly effective. Level 2 charging will be important for locations with long-dwell times, such as at destination locations, workplaces, or for fleet charging. Leveraging the Environmental Mitigation Trust funds with utility-owned or sponsored programs can also help maximize the effect of funds disbursement.

This 15% investment in light-duty EV charging will be more effective (and help reduce NOx from light-duty vehicles—the largest contributor to mobile NOx) if the timeline for the EV RFP is

advanced to an earlier phase. Other states in the region are presently investing in EV charging, and issuing a near-term RFP represents an opportunity for Delaware to be competitive with neighboring states in benefiting from transportation electrification. This investment by the State can help transform the market by spurring EV adoption, which can lead to accelerated EV charging options.

We also have considerations for DNREC on how to structure EV infrastructure funds disbursement. There is very little headroom between the cost of gasoline and the equivalent cost of electricity for charging; the costs of deploying and operating charging stations has also been uneconomic, therefore making a private market return on investment unlikely. That has led to a market failure, particularly prevalent within the context of public charging and DC fast charging. Because of these costs associated with infrastructure, the DNREC has an important role to play in designing an effective proposal process in which Trust funds are appropriately matched to site hosts that are prepared for long-term operation and maintenance of charging infrastructure. At this early stage of the market, ownership and operation of charging infrastructure is an appropriate and in many respects necessary role for established actors (e.g., utilities, cities) that are best positioned to help accelerate and provide stewardship to the market. Greenlots has found that some site hosts are better suited for this role than others.

Given our experience, Greenlots recommends the following proposal considerations:

- Develop a statewide EV charging infrastructure plan, prior to deploying Trust funds, as the basis for identification of key sites or jurisdictions that can help facilitate the build-out of EV charging. This needs analysis, although ineligible for funding within the Trust, can be a valuable guide for criteria assessment and site selection to ensure that Trust investments are maximized across the state. The proposal would be structured such that the priority investment locations are installed first.
- A proposal should be designed such that individual site hosts do not apply for the funds. Instead, a few program entities should be funded by the State to provide EV charging (either within a turnkey structure or as broader partnerships). Funding one or a few program entities (e.g., utilities, municipalities, a new DeIDOT unit, etc.) can help ensure more adequate statewide coverage and that site hosts are properly vetted and considered. Turnkey services by such a program entity could include acquisition, installation, operation and maintenance of EV infrastructure. Lowest cost of providing EV infrastructure should not be the only consideration of this proposal. DNREC should also consider customer service, expertise in developing similar charging programs, etc. As the RFP or grant process represents a considerable statewide investment in EV charging, it is vitally important that funds are allocated in such a manner to create a seamless EV driver experience and encourage further development of the charging market within the State.
- Require that any EV infrastructure investments adhere to the latest open standards, which can help minimize the likelihood of stranded assets.

April 27, 2018

RE: Environmental Mitigation Plan

Page 3

- Encourage development of DC fast charging, particularly to facilitate corridor and tourism travel, and Level 2 charging at workplaces and multi-unit dwellings. A priority should be given to public charging, as the most generous cost shares are allowed for those funds.

For the remaining 85% of funds, Greenlots encourages DNREC to reconsider its approach for evaluating cost effectiveness. A comprehensive lifecycle cost and benefit analysis is appropriate, which should capture the long-term emissions benefits, cost savings, and potential to mitigate climate change. While electric buses and vehicles have higher up-front costs, they have reduced fuel and maintenance costs, a longer vehicle lifespan, greater potential to reduce criteria air pollutants and greenhouse gases, and provide health benefits for workers, schoolchildren, and community members. If the State only considers short-term NOx reductions, it is conceivable that the State may inadvertently lock itself in to fossil fuel infrastructure and emissions that could have been mitigated through a more robust approach in the Environmental Mitigation Plan.

As such, we encourage the DNREC to invest funding in electric school buses rather than propane, and sharpen focus for other transportation electrification opportunities, including electric transit buses. By investing in transit and school bus electrification, Delaware would be providing direct benefits to populations that may not directly benefit from home EV charging; heavy-duty charging provides both direct and indirect public health and social welfare benefits for transportation users and many surrounding communities (e.g., port communities)—many of which tend to bear a disproportionate share of pollution (e.g., NOx, SOx, PM). If benefits for environmental justice communities are indeed a priority for the State, electrification of transit and school buses can be an important tool.

It will be important for DNREC to outline a transformative strategy in the Environmental Mitigation Plan that leads to long-term emissions reductions—Greenlots believes this objective can only be achieved with wide-scale transportation electrification.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas Ashley', with a stylized, cursive style.

Thomas Ashley
Vice President, Policy