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**BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH**

<b>APPLICATION OF ROCKY MOUNTAIN POWER FOR APPROVAL OF ITS ELECTRIC VEHICLE INFRASTRUCTURE PROGRAM</b>	<b>Docket No. 20-035-34</b>
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**DIRECT TESTIMONY OF THOMAS ASHLEY  
FOR ZECO SYSTEMS, INC d/b/a GREENLOTS**

**October 19, 2021**

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1 **INTRODUCTION AND PURPOSE OF TESTIMONY**

2 **Q. Please state your name and business address.**

3 A. My name is Thomas Ashley. My business address is Zeco Systems, Inc. d/b/a Greenlots  
4 (Greenlots), 767 S. Alameda Street, Suite 200, Los Angeles, CA 90021.

5 **Q. By whom are you employed and in what capacity?**

6 A. I am employed by Greenlots and serve as Vice President of Policy & Market Development. In  
7 this role, I am responsible for regulatory and policy strategy and engagement to grow the market  
8 for EVs and EV charging products and services, including supporting efforts to expand integration  
9 of electric vehicles and the grid.

10 **Q. On whose behalf are you testifying in this docket?**

11 A. I am testifying on behalf of Greenlots.

12 **Q. Have you previously testified before this Commission?**

13 A. No. However, I and Greenlots have been actively involved in utility regulatory proceedings  
14 concerning transportation electrification before many other Commissions across North America.

15 **Q. What is your education, training, and employment background?**

16 A. I have over ten years of experience working in the policy and regulatory space, including over  
17 eight specifically on EV related issues. Prior to joining Greenlots in 2015, I served as the Director  
18 of Utility and Regulatory Affairs at PlugShare, where I focused on vehicle-grid integration policy  
19 and I also have consulted for the Electric Drive Transportation Association. I previously was  
20 employed by, or interned with the California Public Utilities Commission, the United States Senate  
21 Committee on Environment and Public Works, the Office of Energy and Environmental Industries  
22 of the U.S. Department of Commerce's International Trade Administration, and the Vermont  
23 Department of Public Service's Energy Efficiency Division. I hold a Juris Doctor and Master of  
24

1 Studies in Environmental Law from Vermont Law School and a bachelor's degree in Fine Arts  
2 from the University of Southern California.

3 **Q. Does Greenlots support Rocky Mountain Power's filing?**

4 Yes, Greenlots does. Rocky Mountain Power's (the Company) proposed Electric Vehicle Charging  
5 Infrastructure Program (the Program) would catalyze the market for EVs and EV charging  
6 products and services in the Company's service territory, while generating significant benefits for  
7 the Company's ratepayers. The filing is effectively designed to support consumers in realizing the  
8 benefits of EVs, efficiently integrate EV load into the grid, address air quality challenges, and  
9 reduce persistent barriers to EV adoption, while supporting the growth and modernization of  
10 Utah's economy more broadly. Additionally, the Commission should approve the Program  
11 because it will support the development of the private EV charging market, will meaningfully  
12 increase charging options for EV drivers, and will support grid integration through passing time-  
13 differentiated rates and price signals to drivers.  
14

15  
16 **Q. What is the purpose of your testimony?**

17 A. The primary purpose of my testimony is to provide support for the Company's Electric Vehicle  
18 Charging Infrastructure Program filed on August 23, and to provide facts and information relating  
19 to the EV charging marketplace. I voice this support from the perspective of a leading EV charging  
20 market participant, that offers to the market a variety of EV charging technologies and services  
21 across a wide cross section of market segments and geographies, and supports clients with a range  
22 of business models. Accordingly, my testimony is reflective of industry best practices and  
23 experience drawn from a variety of jurisdictions and market contexts.  
24

25 **Q. Please summarize your recommendations for the commission in this proceeding.**

26 ///  
27

1 A. I recommend the Commission approve the Program as filed and allow the expeditious  
2 implementation of the programs it has proposed. The Program is a foundational step towards  
3 reducing carbon emissions from the transportation sector and providing economic benefits to Utah  
4 and the Company’s ratepayers, and is consistent with the Legislature’s direction and authorization  
5 under Utah House Bill (HB) 396 (2020), “Electric Vehicle Charging Infrastructure Amendments”,  
6 now codified in section 54-4-41 of the Utah Code.  
7

8 Greenlots believes the Company has satisfactorily demonstrated that this filing meets all of the  
9 considerations and requirements under HB 396. My testimony lends support from an industry  
10 perspective to a finding that the Program fully satisfies the statutory requirement that it “enables  
11 competition, innovation, and customer choice in electric vehicle battery charging services, while  
12 promoting low-cost services for electric vehicle battery charging”.<sup>1</sup> The Program is built on a  
13 framework of supporting market development, innovation, competition, and increasing customer  
14 choices in charging, and represents an important step in supporting market development. The  
15 utility ownership opportunities are measured and beneficial components of the Company’s  
16 approach, consistent with the authorizing statute.  
17

18 Finally, the Commission should adopt market and customer protections by supporting  
19 interoperability and consistency in EV charging communication protocols and standards, and to  
20 that end, direct the Company to consider procurement requirements to provide for this to the extent  
21 possible.  
22

23 **The Company’s Electric Vehicle Charging Infrastructure Program Provides for Needed**  
24 **Infrastructure, Supports Market Competition, and Increases Customer Choices in EV**  
25 **Charging, consistent with Utah Code Section 54-4-41(4)(d)**

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26  
27 <sup>1</sup> Utah Code Ann. § 54-4-41(4)(d)

1 **Q. Does the Program provide a variety of opportunities to develop the EV charging market**  
2 **in a variety of customer segments?**

3 A. Yes, the Company's filing would support EV charging infrastructure deployment across major  
4 market segments and multiple use cases.

5 **Q. Please briefly summarize the market offerings that the company is proposing to**  
6 **implement as part of its filing.**

7  
8 A. The Company has proposed four core program elements that support achievement of the  
9 program goals: 1) Company-owned public chargers, primarily DC fast chargers, at 20-25 locations  
10 across the Company's service area 2) make-ready infrastructure for third party developers and site  
11 hosts, 3) incentives for EV chargers through the extension of Electric Service Schedule No. 120 -  
12 Plug-In Electric Vehicle Incentive Pilot Program ("Schedule 120"), currently scheduled to end on  
13 December 31, 2021, and 4) innovative projects and partnerships.

14  
15 **Q. Does the filing present an appropriate mix of market opportunities for charging industry**  
16 **companies with different business models?**

17 A. Yes. The mix of program elements and ownership models will fulfill a diversity of driver and  
18 customer needs and use cases. A variety of business models to deploy EV charging technologies  
19 can respond to varying degrees to the opportunities presented by both third-party and utility  
20 ownership avenues across the program components.

21  
22 **Q. Once approved, will the Program provide an appropriate level of private sector**  
23 **engagement for products and services?**

24 A. Yes, the Company's proposal presents market opportunity for engagement on behalf of the  
25 private charging market through a variety of means. The incentives for EV chargers will allow  
26 individual site hosts and private developers to buy down a portion of charger costs, while the make  
27

1 ready program will help by offsetting the costs of supporting electrical infrastructure. Additionally,  
2 the private market will provide the charging solutions for the innovative projects and partnerships,  
3 and the private market will be able to compete to provide the charging solutions procured for the  
4 utility owned public charging deployments.

5 **Q. Please elaborate on how the Program will stimulate competition from the market**  
6 **participant's perspective.**  
7

8 A. The Company's proposal to support different ownership options for EV charging equipment  
9 presents multiple avenues to stimulate competition in the charging market. Specifically, customer  
10 and utility ownership of charging stations allows for private sector competition to take place at  
11 both the retail or "customer" level, and wholesale or "bulk procurement" level. Charging providers  
12 engage in retail-level competition to recruit customers that then can take advantage of charger  
13 incentives and make-ready offerings. Private market developers owning and operating charging  
14 infrastructure themselves and offering charging services directly to drivers can also take advantage  
15 of these offerings. Such customers wishing to install charging infrastructure have the option of  
16 choosing charging solutions that best meet their need. Similarly, companies compete at a wholesale  
17 or bulk procurement level, enabling the utility to procure solutions that best fit the particular use  
18 case, while leveraging economies of scale. As such, Greenlots sees multiple and appropriately  
19 diverse opportunities to compete for business, which is critical for growing in this nascent market  
20 and driving customer, market and EV driver value.  
21  
22

23 **Q. How is this utility ownership consistent with a plan that stimulates competition in the EV**  
24 **charging market?**

25 A. Utility ownership and procurement should be understood to foster competition rather than  
26 hinder it. This type of competition is similar to utility-operated programs in other areas,  
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28

1 particularly demand-side management programs. There is a prevalent and inaccurate view of the  
2 market that competition can only take place at the retail level, where naturally-occurring market  
3 opportunities are limited. In fact, the wholesale-level competition that results from utility  
4 procurement, which provides a significant motivated buyer to a market that generally otherwise  
5 lacks this, represents the purest form of competition in today's market, based on product features,  
6 price, service, etc., allowing big and small players to participate with a leveled playing field.

7  
8 Additionally, the Company is uniquely positioned to serve as a motivated buyer that spurs market  
9 competition within the EV charging industry. While some market competition exists today  
10 between a relatively small but growing field of sellers of EV charging products and services to  
11 motivated investors/site hosts, buyers remain relatively few and far between in the market more  
12 broadly. Those buyers that are participating in the market are often purchasing at a small scale that  
13 lacks the value of wholesale-level procurement. This void persists despite significant private  
14 capital being invested in technology companies supporting transportation electrification.

15  
16 **Q. How do customers and drivers benefit from procurement by the utility?**

17 A. Utility-led procurement and wholesale-level competition that results from utility procurement  
18 is a powerful strategy to driving down program and charger costs, as equipment and services are  
19 being bought in bulk rather than via one-by-one individual retail transactions. A focus only on the  
20 retail market historically has led to less sophisticated purchasing and planning decisions by  
21 customers with little technical knowledge or meaningful negotiating leverage. In addition,  
22 competition in utility procurement ensures that products and services are selected based on factors  
23 such as features, function, value, and organizational expertise that allows market participants of  
24 all shapes and sizes to compete on a level playing field, ultimately benefiting the customers.  
25  
26 Furthermore, utility program investment offers opportunity for EV service providers to benefit  
27



1 from a more accurately valued maintenance service that will not only improve reliability of EVSE  
2 within the utility program, but will likely extend beyond the bounds of the program to benefit EV  
3 charging equipment and service providers in the market as a whole.

4 **Q. Why doesn't utility ownership erode competitive values in the EV charging space?**

5 A. Utility investment in charging infrastructure will help spark EV purchasing decisions and grow  
6 the total customer base. By helping build out a foundational backbone of charging stations across  
7 the state, the Company's utility-owned and operated charging stations will help move the market  
8 beyond its current stage characterized by low driver demand and limited deployment of stations—  
9 especially evident in underserved areas—towards an inflection point at which widespread demand  
10 for charging will support more profitable ownership and operation of stations by private operators.  
11 This, in turn, will help attract more private investment, including into rural and underserved areas  
12 currently seen as having limited appeal for such capital.

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14  
15 **The Company's Electric Vehicle Charging Infrastructure Program Will Address Market**  
16 **Barriers To EV Adoption And EV Infrastructure Development, and is in the Public Interest.**

17 **Q. How would you characterize the state of the EV charging market?**

18 A. While the early EV market has been largely supported by residential charging, one of the most  
19 significant and challenging barriers to increased EV adoption is the lack of adequate charging  
20 infrastructure, particularly public charging.<sup>2</sup> It is critical to understand this fundamental link  
21 between charging infrastructure visibility, availability, and EV adoption, as it can both constrain  
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26 <sup>2</sup> Dale Hall & Nic Lutsey, Emerging Best Practices for Electric Vehicle Charging  
27 Infrastructure, International Council on Clean Transportation, at p. 34, 36 (October 4, 2017),  
28 [https://theicct.org/sites/default/files/publications/EV-charging-best-practices\\_ICCT-white-paper\\_04102017\\_vF.pdf](https://theicct.org/sites/default/files/publications/EV-charging-best-practices_ICCT-white-paper_04102017_vF.pdf).

1 and slow EV adoption when scarce, or act as an EV adoption and market accelerator when  
2 prominent and adequately available.

3 Many drivers disqualify EVs from their purchasing/leasing considerations due to the lack of  
4 charging infrastructure and the resulting concern commonly referred to as range anxiety, as the  
5 Company describes in its petition. This specific concern and the lack of public charging  
6 infrastructure is consistently cited by drivers as a primary barrier to EV adoption. While the market  
7 is now seeing more EVs with longer ranges, many currently deployed EVs have batteries that can  
8 only support local driving, compounding this issue. As EVs with 200+ mile ranges become more  
9 fully widespread, this will put increased pressure on DC fast charging, which has particularly high  
10 costs to develop and a generally challenging business model. These challenging factors compound  
11 significantly in more remote areas, including those which the Company intends to target.

12  
13 With the lens pulled out, this particular underserved market state and stage, especially in rural  
14 areas, which currently should be considered a market failure, is a classic situation warranting  
15 public investment and the involvement of regulated utilities. Unfortunately, a sustainable,  
16 competitive market in the deployment of public charging infrastructure is largely aspirational thus  
17 far, and is unlikely to arise prior to the adoption of a critical mass of electric vehicles. This is  
18 primarily due to a historic lack of a sustainable private market business case for the ownership and  
19 operation of public charging stations based on revenues from charging activities, and this has thus  
20 far resulted in a profoundly inadequate amount of private investment in such charging  
21 infrastructure. The unfortunate result is that the fundamental economics simply haven't supported  
22 sufficient private investment to adequately grow the infrastructure market to support current and  
23 future drivers and their adoption decisions.  
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1 **Q. How does the Company’s proposed utility-owned investments address market barriers to**  
2 **EV adoption and support EV adoption consistent with Utah Code Section 54-4-41(4)(b)?**

3 A. Regarding increasing charging availability and accelerating EV adoption, as this code section  
4 calls for, it is important to note that at this nascent stage of the market, the industry faces a “chicken  
5 or egg” situation in which the perceived lack of available charging infrastructure poses a barrier to  
6 widespread EV adoption, and thus prevents the utilization needed for EV charging projects to yield  
7 a positive return on investment. Utility investments in transportation electrification are thus vitally  
8 needed to instead catalyze a virtuous cycle of investment whereby the increased visibility of EV  
9 charging stations leads to more EV adoption, which creates more station utilization, which in turn  
10 improves the business case for EV charging and reduces the need for incentives over the long term.  
11 The situation is analogous to the first efforts to galvanize renewable energy through investments  
12 that were required of utilities, and now are the most competitive options in the generation market.  
13 For these reasons, at this stage in the market, utility investment in charging infrastructure –  
14 including ownership and operation of charging stations – is an appropriate and, indeed, a necessary  
15 role for the utility to advance the market past these barriers and accelerate the market across a  
16 number of key market segments, supporting competition, market transformation, and improving  
17 the environment for private investment.

18  
19  
20 **Q. Does Greenlots support the Public Charging Service rates proposed to be offered to**  
21 **drivers at Company-owned public charging stations?**

22 A. Section 54-4-41(2)(b) of the Utah Code directs the Company to create a new customer class  
23 with an EV charging service rate structure that is in the public interest and has a transitional  
24 structure that will allow the Company to recover its full cost of service for charging infrastructure  
25 and charging service over a reasonable period of time. The Company has proposed a rate offered  
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1 to drivers that are not Rocky Mountain Power customers that is comparable to those offered by  
2 other public charging providers (\$0.40 per kWh for DC fast charging), while the rate offered to its  
3 own customers would receive a discount of approximately 75% (\$0.15 per kWh for charging from  
4 DC fast charging). This is intended to account for the fact that the Company's Utah customers  
5 would be paying for the Program as part of their monthly electric service bills, as allowed for in  
6 section 54-4-41(2)(b)(iii) of the Utah Code. Level 2 charging is offered to all customers at \$0.08  
7 per kWh, and all rates are discounted by \$0.05 per kWh during off peak times to help support  
8 efficient grid integration of EV charging and better align charging costs with the costs to provide  
9 the charging service.

11 Greenlots appreciates the Company's creative approach to providing low-cost public charging to  
12 its customers. Addressing the disparity between the cost to charge an EV at home, and the cost to  
13 do so outside of home charging, something many customers do not have access to, is an important  
14 challenge to address in advancing transportation electrification, particularly in promoting equitable  
15 access to EVs. Greenlots' primary focus is on the immediate need to get charging infrastructure in  
16 the ground, but welcomes an exploration of approaches to providing for more affordable charging  
17 and equitable adoption of electric vehicles by customers within the Company's service area –  
18 something the private market has not adequately addressed – within the bounds of the Legislature's  
19 direction that these assets be utility-owned.

22 **Promoting Interoperability and Use of Open Protocols and Standards Will Contribute to**  
23 **Successful Infrastructure Deployment.**

24 **Q. Why are considerations related to standardization and interoperability important in the**  
25 **build out of EV charging infrastructure?**

1 A. Standardization and interoperability are critical considerations in the development of charging  
2 infrastructure, in creating positive customer charging experiences with EV drivers, and in  
3 supporting competition and innovation in the EV charging product and services market.

4 Greenlots and many market participants engaged in policy development and the commercial  
5 market in many jurisdictions have seen the importance of communication standardization and  
6 various forms of interoperability for creating flexible, “future-proofed” infrastructure  
7 deployments.  
8

9 This is also important to guard against stranded assets. When site hosts or charger owners are  
10 locked into the network services of a specific vendor, which can be done both contractually or via  
11 the use of proprietary communication protocols between chargers and its network services, that  
12 stifles competition, as it means that in order to switch networks the customer most likely must  
13 replace the charging hardware. In the context of public charging, in particular that which has been  
14 supported by public funds, this creates a stranded asset risk that is inherently avoidable.  
15

16 **Q. What does Greenlots recommend to guard against these risks, protect ratepayers, and**  
17 **facilitate interoperability?**

18 A. Greenlots encourages the Company to consider the use and requirement of EV charging  
19 solutions it procures and incentivizes through its proposed program offerings, to be compatible  
20 with and use open standards and protocols, including Open Charge Point Protocol (OCPP), the de-  
21 facto standard for charger-to-network communication and interoperability, OpenADR, often used  
22 for communicating smart charging/demand response signals to network operators, and Open  
23 Charge Point Interface (OCPI) the primary payment interoperability protocol used to facilitate  
24 inter-network roaming agreements and functionality in North America. Consideration of these key  
25 details to promote interoperability will help best serve EV drivers, ratepayers and the evolving  
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1 market, protect site hosts from being locked into a particular EV service provider’s network service  
2 offering, and help avoid technical balkanization and stranded assets.

3 **CONCLUSION**

4 **Q. Please summarize your testimony.**

5 A. Greenlots finds that Rocky Mountain Power’s proposed Electric Vehicle Charging  
6 Infrastructure Program meets industry best practices and norms and is aligned and compliant with  
7 the statutory direction provided by the Legislature in Utah House Bill (HB) 396 (2020), in  
8 particular that it “enables competition, innovation, and customer choice in electric vehicle battery  
9 charging services, while promoting low-cost services for electric vehicle battery charging”.<sup>3</sup> The  
10 program offerings will spur market development in Utah, providing expanded charging access for  
11 current and future drivers, and expanded commercial opportunities for the EV charging industry,  
12 all while buoying the growth of the market over time. Notwithstanding our strong support of the  
13 Program as filed, the market and public interest would benefit from ensuring appropriate  
14 consideration of details pertaining to interoperability and supporting a flexible EV charging  
15 ecosystem, something Greenlots encourages the Company to factor into its investment and  
16 procurement decisions.  
17

18 **Q. Does this conclude your testimony?**

19 A. Yes it does, thank you.  
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<sup>3</sup> Utah Code Ann. § 54-4-41(4)(d)  
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I, Thomas Ashley, state that the answers in the foregoing written testimony are true and correct to the best of my knowledge, information and belief. The exhibit attached to this testimony was prepared by me or under my direction and supervision, and it is true and correct to the best of my knowledge, information and belief.



---

Thomas Ashley

## **CERTIFICATE OF SERVICE**

**Docket No. 20-035-34**

I hereby certify that a true and correct copy of the Direct Testimony of Thomas Ashley for Zeco Systems, Inc. d/b/a Greenlots was served by email this 19th day of October, 2021 on the following:

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