

1.) Introduction:

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2.) TECHNICAL RESPONSE

1. Infrastructure Installation, Placement, and Operation

- a. *What considerations should be taken into account when developing DCFC or hydrogen stationing plans?*
 - i. Access to utility 3 phase power
 - ii. Ability to introduce battery storage or onsite energy generation such as wind, solar, hydrogen, etc.
 - iii. 24 hour operational availability
 - iv. Security cameras
 - v. ADA compliant
 - vi. Access to amenities or ability to build and offer amenities such as restroom, water, food
 - vii. Amount of space available for multiple stations.
 - viii. All stations must have both charging ports, CHAdeMO and CCS connector
- b. *How does corridor development and funding help or hinder statewide infrastructure emplacement?* Corridor development helps statewide infrastructure emplacement greatly. To truly allow electric vehicle owners in the state and from out of the state travel through Wyoming on zero emissions, corridor development is critical.
- c. *How close or far from major travel routes should refueling and charging stations be located?* For corridor charging, stations should be .5 miles from the travel route and no further than 1 mile from the travel route. The strategy should follow the guidance and guidance from the joint office of Energy and Transportation, established by the Infrastructure Bill signed on Monday, November 15th. Following this guidance will allow Wyoming projects meet the criteria and be eligible for the formula federal funds for electric vehicle charging stations in the infrastructure bill.
- d. *Are there any additional environmental, safety or other issues that must be addressed (parking, access, amenities, future expansion)?* If the stations are already being built, additional conduit should be included to allow for further build out of the infrastructure. Also the majority of cars can only accept 50kW, however the ability to provide 350kW in the future should be required with current projects required to be at least 150kW.
- e. As a REV West signee, Wyoming voluntarily agreed to mutual coordination of signage and other common infrastructure, are there any other considerations necessary outside of the REV West agreement? The state should be aware of several of the other regional agreements throughout the country, as the requirements and actions from those regions will lead light, medium and heavy-duty vehicles to and through our region. Several of the recent agreements worth nothing are as follows:

- i. **Regional Electric Vehicle Midwest Coalition**, this is a five state commitment to medium and heavy-duty truck electrification by coordinating infrastructure for these vehicle types:
https://www.michigan.gov/documents/leo/REV_Midwest_MOU_master_737026_7.pdf
 - ii. **ZEV Deployment Support** (<https://afdc.energy.gov/laws/11484>)
 - 1. **States:** California, Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Rhode Island, and Vermont
 - 2. **Abbreviation:** “ZEV MOU” or “ZEV Task Force”
 - 3. **Summary:** These states signed a memorandum of understanding (MOU) (<http://www.nescaum.org/documents/zev-mou-9-governors-signed-20180503.pdf/>) to support the deployment of ZEVs, including the goal to deploy at least 3.3 million ZEVs and adequate fueling infrastructure within the signatory states by 2025.
 - iii. **ZEV Production and Sales Requirements** (<https://afdc.energy.gov/laws/4249>)
 - 1. **States:** California, Colorado, Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Rhode Island, Vermont, and Washington
 - 2. **What your stakeholders may call it:** “California ZEV”
 - 3. **Summary:** In these states, certain original equipment manufacturers have been required to offer for sale a specific percentage of ZEVs that increases over time.
 - iv. **Medium- and Heavy-Duty ZEV Deployment Support** (<https://afdc.energy.gov/laws/12457>)
 - 1. **States:** California, Colorado, Connecticut, District of Columbia, Hawaii, Maine, Maryland, Massachusetts, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington
 - 2. **What your stakeholders may call it:** “Medium- and heavy-duty MOU” or “Medium- and heavy-duty ZEV Task Force”
 - 3. **Summary:** In the latest featured multi-state action, signatory states signed an MOU (<https://www.nescaum.org/documents/multistate-truck-zev-governors-mou-20200714.pdf>) in July 2020 to support the deployment of medium- and heavy-duty ZEVs, including the goal to limit all new medium- and heavy-duty vehicles sales to ZEVs by 2050.
- f. *How can revenue be collected from users after refueling?* Revenue can be collected at the time of charge via a card read or through the app of the stations provider.

- g. *If the strategy is route or corridor based, what considerations should be given prioritizing route or corridor build out?* Traffic patterns should be considered with an understanding of travel origin and travel destination. Elevation, temperature and weather patterns also need to be considered to understand the potential decrease in electric vehicle range due to circumstances outside the vehicle.
- h. What is the best way to address off corridor or route communities? The best way to address off corridor or route communities is to also include the destination communities in the plan, often these communities/National Parks/State parks and other recreation destinations are the reason individuals are traveling on the corridors and they therefore need to be included in the plan.

2. Utilities

- a. *What utility access and capability considerations should be present (power, broadband, wireless, cellular, other)?* Three phase power is necessary for the DCFC stations to be connected to the grid. Upgrades to transformers and transmission may be necessary for proper placement of DCFC stations. In some circumstances off-grid renewable power may be more cost effective to power the DCFC stations. Cellular connection is also essential for some networks a booster might be necessary to provide the connection required of the stations.
- b. How should demand charges be addressed? Demand charges need to be addressed during the station project development phase. There is the potential for the demand charges to be large and cost prohibitive for the station owner. It is important to ensure these stations do not incur demand charges during the initial rollout of infrastructure in the state, this could cast a negative view on what should be a very positive and innovative advancement in the state. Utilities should be required to engage in discussions for electric vehicle oriented rate structures. In addition, all stations should include managed charging software to reduce the output of the charging unit prior to a demand charge being triggered.
- c. What utility incentives aid in infrastructure development?
 - i. Financial rebate incentives for the installation of charging stations
 - ii. Reduced time of use rates for EV owners
 - iii. One stop shop for station development- permits, electrician recommendations, codes and installation considerations.
 - iv. Offer an electric vehicle loaner vehicle for utility members to try out the electric vehicle.
 - v. Utility incentives are helpful for utilities to be brought into the project development phase early. This helps streamline projects and allows them to be completed in a timely and efficient manner.

3. Statutory and Policy Considerations

- a. *What current Wyoming statues hinder infrastructure development? How should they be changed?* Wyoming could change statues to allow charging stations owners to collect fees based on the amount of electricity consumed. This provides a more accurate way of collecting money.

Currently stations owners have to set fees based on a per charge basis or by time, which work great for some stations providers but is prohibitive for others.

- b. *What state agency rules and regulations hinder infrastructure development? How should they be changed?* Wyoming Department of Environmental Quality has had funding for the deployment of charging stations for several years through the VW Settlement Funds. The state plan for the use of these funds sets 10% of the over 8 million dollars aside for charging infrastructure. The state should prioritize the development of the program to disburse these funds to allow potential station hosts to apply for these funds. Many projects have been delayed or simply canceled because potential site hosts were not comfortable building a station knowing there is potential state funding that hasn't been made available yet.
- c. *What incentives should the state implement to encourage infrastructure development? What has worked best in other states?* A streamlined rebate program. The program should have request for proposal (RFP) deadlines. States accepting applications on a rolling basis have had less success. The project percentage allowed for a rebate should be very clean in the application instructions.
- d. *Should the use of state lands be considered for infrastructure emplacement? Why or why not?* Yes, these are the destinations for many travelers are driving on state corridors.
- e. *What should be considered as "fair" road system maintenance taxation rates for zero emissions vehicles?* The state already requires a state registration fee, there should not be any additional taxation for zero emission vehicles beyond the registration fee. The \$200.00 amount is already the 3rd highest fee in the country.
- f. *What are additional considerations for commercial vehicles?* Charging stations should be included at truck stops and other locations that can accommodate large vehicles. These stations will need to have a higher electrical output than those serving light-duty vehicles.

Are there climate change or carbon policy considerations? President Biden's 50-52 Percent Reduction in U.S. Greenhouse Gas Pollution from 2005 Levels in 2030.

4. Incentives

- a. *Should corridor and local travel infrastructure incentives be handled differently? If so, how?* Yes, there is the potential for the corridor stations to be managed by one network, however local communities may have a better pulse on the needs for stations within their community.
- b. *What type and amount of financial incentives work best to encourage infrastructure installation?* At least 50% of the cost of the project. The project should also include battery storage and renewable energy if necessary for the location.

- c. *Other than government financial assistance, what other incentives may be helpful?* Other incentives could be for charging stations to include in statewide tourism campaigns. Partnership with the Wyoming tourism office is critical and it would be very incentivizing for charging development if a few of the travel loops already communicated through the tourism office are prioritized and marketed for “electric vehicle tourism” or developed specifically to allow for charging at some of the premier destinations in Wyoming. The CORWest team has already engaged the state tourism agencies for involvement in the development of electric vehicle branding throughout the intermountain west and the Wyoming Tourism Office has been involved and seem interested to include EV stations on their website and through their channels as the infrastructure is developed and can adequately provide the proper charging along the route.
- d. *If the strategy is route or corridor based, what is the best way to incentivize infrastructure in off-corridor communities?* The off-corridor communities will need access to rebates as well.
- e. Are there climate change or carbon policy considerations? President Biden’s 50-52 Percent Reduction in U.S. Greenhouse Gas Pollution from 2005 Levels in 2030. Also the Infrastructure Bill and Reconciliation bill have significant amounts of funding for station development.