DOCKETED	
Docket Number:	19-TRAN-02
Project Title:	Medium- and Heavy-Duty Zero-Emission Vehicles and Infrastructure
TN #:	242403
Document Title:	Nikola Corporation Comments on Funding Allocations for Future MDHD Charging and Refueling Infrastructure Projects
Description:	N/A
Filer:	System
Organization:	Nikola Corporation
Submitter Role:	Public
Submission Date:	3/18/2022 5:32:16 PM
Docketed Date:	3/21/2022

Comment Received From: Nikola Corporation
Submitted On: 3/18/2022
Docket Number: 19-TRAN-02

Nikola Response - Funding Allocations for Future MDHD Charging and Refueling Infrastructure Projects

Additional submitted attachment is included below.

March 18, 2022

California Energy Commission
Docket Unit, MS-4
715 P Street
Sacramento, California 95814

Re: Docket No. 19-TRAN-02 - Funding Allocations for Future MD/HD Charging and Refueling Infrastructure Projects

Nikola Corporation (Nikola) appreciates the opportunity to provide comments in response to the California Energy Commission's (CEC) February 28, 2022 workshop focused on funding allocations and concepts for future medium duty and heavy duty (MHD) charging and refueling infrastructure projects. The CEC continues to play a fundamental role in accelerating the adoption of zero emission vehicles through significant investments in infrastructure and we look forward to future opportunities to provide feedback.

As a leading designer and manufacturer of battery electric (BEV) and fuel cell electric (FCEV) heavy duty (HD) vehicles and developer of hydrogen solutions, Nikola is conscious of and focused on addressing the environmental impacts of freight activity on regions throughout California, especially disadvantaged and frontline communities. To address these challenges and achieve concrete GHG, air toxics, and criteria pollutant emissions reductions, Nikola believes an aggressive technology advancement strategy is needed involving multiple alternative energy market developments including comprehensive recharging and refueling infrastructure networks for battery electric and hydrogen fuel cell electric vehicles.

Given the historical funding levels for battery electric vehicles and charging infrastructure, we echo the comments submitted to the docket by a coalition of hydrogen stakeholders advocating for parity in funding between charging and refueling infrastructure.This funding would significantly improve the station availability and support the industry to meet our collective goals of 1,000 light duty stations and 200 heavy duty stations, paving the road for commercial success of our technology. In addition to general comments below, direct responses for select concepts are also provided.

General Feedback

- Equitable funding for hydrogen refueling stations (HRS)
  - Focus on pace and volume of adoption per dollar of funding
  - Ensure programs put the accountability back on those receiving funds to drive broader and faster adoption
  - Programs should help build momentum but require applicants to continue to drive efficiencies and momentum forward to profitability without funding
- Ensure that minimum and maximum funding amounts for HRS reflect the reality that stations need to meet a minimum size threshold to be cost-effective (e.g., at least 2-4 tpd) and thus need more than the ~$2 MM proposed on a per project basis
  - This amount will deviate from BEV charging, which can be on smaller scale
  - Ensure that HRS will have at least two HD lanes and fueling dispensers to be usable and scalable
  - Economics require that a station likely needs to be 4TPD and a grant of $2.5M+ allows it to be efficient now and increases the development of a fueling network and adoption of FCEV trucks more rapidly
- We do not recommend including (electrolysis) production in the grant concepts, as funds need to be directed to ensure fueling infrastructure availability
  - Industry will ensure availability of fuel supply
  - Funding amounts are too low as it stands
- MHD trucks will open the flood gates to additional fuel availability for other applications, so focus on MHD trucks first
  - We recommend CEC align with CARB on on-road applications and investments through joint projects capable of supporting multiple modes of transportation and equipment
- We recommend not requiring that HRS serve both LD and MHD - in certain circumstances both may make sense, but prioritize MHD station deployments rather than requiring LD lanes
- Consider the development of a single solicitation with carveouts for the various programs, topics, and goals CEC is trying to achieve (perhaps with two open application periods per year), rather than separate and discrete solicitations for each program - which creates a process administratively attainable for applicants, rather than having to submit applications to multiple solicitations.
  - e.g., give preference to fueling stations with parking, for last mile applications, etc. in project selections
- Programs should focus on value for their dollar both in terms of faster adoption and long term momentum – considering how to encourage projects that are sustainable and will stand on their own in the near term. It should be the fiduciary duty to maximize tax payers dollars to achieve their intended goal = decrease CO2 emissions - pace and amount.

- In scenarios where applicants have a well thought out strategy and business model (e.g. a bundled lease with production, distribution and station network), a preference should be given to those projects.
- When applicants are only offering a narrow piece or segment of the value chain and are relying on others to bring the other facets, those projects should be deprioritized. CEC should encourage and reward projects that have a comprehensive, fully-integrated approach.

Questions for all Concepts

- What amount of grant funds would be appropriate for each project/concept?
  - Increasing project-level funding to 25%+ would help with adoption and expedite stations
- Should the CEC target specific regions in the state?
  - Truck traffic will drive location. If funding is directed to regions, CEC runs the risk of developing low utilized stations and thus limiting adoption
  - Nikola can provide further details on areas of high density for customer truck flows
- For infrastructure projects, should grant funds be limited to equipment only costs?
  - Much of the cost of implementation is beyond equipment (labor, utilities, permitting, etc.), if a justifiable budget is proposed that is in line with other proposals, it should be acceptable
  - Land can also be a significant proportion of costs in California.

Hydrogen Refueling

- Is there interest in developing such projects?
  - Nikola is interested in developing a full hydrogen fueling network across California and beyond. Nikola is not only a truck OEM but an energy infrastructure company and will require both to be developed in tandem to allow for FCEV truck adoption.
- Should a MD/HD fueling component be optional or required?
  - A combined LD/MD/HD component should be an option but not required. Companies such as Nikola need to focus on HD in order to accelerate and increase the adoption of FCEV trucks in CA.
- At what minimum daily capacity and number of fueling positions?
  - To be economic, HD stations need to be at least 2-4 tons and the goal should be to get HRS to profitability on a stand alone basis as soon as possible.
- Conformance to which MD/HD fueling protocols should be required?
  - Protocols should be followed to increase consistency and a broader adoption across multiple FCEV offerings.
- What amount of grant funds per station is appropriate for a station that has both LD and MD/HD components?
  - For HD, a grant of 25% or $2-3M is required to increase the pace of adoption. Nikola believes that as the network is built out, technology evolves, and economies of scale are developed across the value chain, etc., this will lessen over time and stations will be profitable without grant funds

- Should grant funding be limited to equipment costs, or should it be for all CEC budget categories (i.e., labor, subcontracts, indirect costs)?
    - Given the other costs could be substantial if verifiable and within line they should be included
    - Land can also be a significant proportion of costs in California
- Should this concept include support for onsite, direct renewable hydrogen production?
    - It should be included but should not be subsidized to any greater extent if it is not economic. The goal should be to subsidize the most efficient technology, process, etc. to make it profitable sooner
- Which production technologies should be eligible, at what minimum production capacity, and at what funding level?
    - The funding should be color blind and technology agnostic but focus on the economics (low CI and low cost) as this will be the only way to increase adoption and create independence from long term subsidies/grants. Funding should be driven by what level of production can be supported by what level of grant (ie. KG/$ of funding) and not focus on the technology or size.

Truck Parking EV Charging and Hydrogen Refueling

- What types of entities should be eligible to apply?
    - This should not be limited to types of entities but instead by who will advance the adoption the most efficiently. Nikola's business model of full hydrogen energy value chain development from hydrogen production, distribution, stations and into FCEV trucks allows for greater efficiency and adoption by solving the "chicken and egg" paradigm the hydrogen mobility industry faces.
- What amount of grant funds would be appropriate for this type of project?
    - For HRS, a grant of 25% or $2-3M is required to increase the pace of adoption (e.g. 4TPD station). Nikola believes that as the network is built out, technology evolves, and economies of scale are developed across the value chain, etc., this will lessen over time and stations will be profitable without grant funds.
- What would be the best way to integrate truck parking charging and refueling with a freight corridor?
    - Energy infrastructure companies will develop charging and refueling in truck corridors if programs incentivize developers to drive to efficiency and profitability. Do not provide incentives that do not put the onus back on the companies to drive to profitability and to increase utilization and profitability. Create programs that assist in infrastructure getting started but require those same companies to work across the mobility and energy industries to drive adoption.
- Which geographic locations should be targeted for these funds?
    - Do not limit the locations as infrastructure will be built where trucks are sold and high truck traffic corridors exist.

Warehouse and Regional Trucking

- How can we best provide refueling/charging options for warehouse and regional fleets?
    - The rules should not change and each project should be judged on the return for that investment. The same number of truck conversions per dollar of funding should be weighed against each other.
- Is depot charging/home-base charging sufficient or is public charging or opportunity/destination charging necessary?

    - There is a place for both but the challenge the industry faces in early stages of adoption, unless a company moves to a relatively high adoption rate early on, is the ability to develop “behind the fence” charging which is limiting the ability to achieve economies of scale. If a trucking company only increases their fleet incrementally (example 12-20 trucks per year), fueling stations on their land will not be economic.
- Should geographic areas be targeted for these funds?
    - Infrastructure will be built where it is most efficient and economic. Driving development to lower traffic areas will decrease the efficiency of funds.
- Should infrastructure be shared between organizations/businesses?
    - The hydrogen industry will be built through partnerships in the early stages to allow sharing of risks and combining strengths. Sharing between organizations should be propagated, if not, the program will limit the likely success of developing successful projects.
- What amount of grant funds would be appropriate for this type of project?
    - The same as open access stations and should be compared against each other for which is a better value. Programs should focus on adoption and value per dollar.

Mobility-as-a-Service Models

- What current models exist and how could they be innovated/improved?
    - Nikola is building a Mobility as a Service model through a bundled offer which will allow for faster adoption and penetration of FCEV trucks. Companies such as Nikola bring the full value chain to the table which will improve the adoption and efficiency of the value chain to deliver more trucks to the market. If the goal of the program is to increase adoption, those that increase the likelihood should be rewarded for that by receiving a greater percentage of the funds.
- How can this concept specifically target the drayage sector, which is heavily composed of independent owner operators (IOOs), who may be unable to purchase ZEVs or finance their own infrastructure upfront?
    - Incentivize stations within areas like ports. Station locations will provide opportunities for truck volumes.
- What component of these models would be the most advantageous for the CEC to fund (ex. construction of ZEV infrastructure)?
    - Programs should be judged on their ability to promote ZEV adoption by maximizing pace and numbers on a per dollar basis. These models should drive accountability such that the funds are maximized. Ensure that benefactors of the funds are driven to promote adoption of ZEVs and not rewarded for non-performance. Companies that have a plan through the value chain are more likely to succeed and should be higher in preference for receiving funds.
- Is there a pool of existing infrastructure-based service providers?
    - Nikola’s business model is Mobility as a Service through our bundled lease that includes truck, M&R and fuel. This simplifies and coordinates the transition to ZEV adoption, and thus increases the likelihood of adoption.
- What amount of grant funds would be appropriate for this type of project?
    - If funds are allocated to a Mobility as a Service project that is providing the entire value chain, that project should be rewarded more substantially than projects or

companies that are only participating in a narrow aspect of the value chain. The reason for this is the increased likely return for program dollars.

Infrastructure Concepts to Complement CARB Demonstration and Pilot Project Concepts

- What are the best scoring criteria that should be used to determine which entities should be awarded funding?
    - Criteria should be on expected and demonstrated adoption per dollar. The goal should be to promote widespread adoption of ZEVs.
- How do we best serve the needs of surrounding communities?
    - Economic expansion and air quality are not mutually exclusive if ZEV trucks are prioritized as an option. Programs should give preference to projects that solely utilize ZEVs.

MD/HD Loan Pilot

For more extensive comments on this topic, please refer to Nikola's response to the MD/HD Loan Pilot Request for Information.

- What vehicle segments, vocations, and/or locations of the medium- and heavy-duty clean transportation infrastructure system are most amenable to a loan program at this time?
    - There is more value in focusing on HD as the technology can be implemented faster and given the number of miles driven, miles per gallon and emissions of diesel, the return in decreased emissions is greater.
- How should a loan program be structured to deliver maximum effectiveness?
    - Streamlined and simple administrative process.
- Would reduced reporting requirements or a streamlined application process cause you to prefer a loan over a grant?
    - No, a grant would still be preferred.
- Are there any other thoughts or recommendations that you would like us to consider?
    - Address the challenge of how loans blend with potential external funding sources. Would the program potentially limit or prevent other funding sources?

Nikola would like to thank the CEC for providing this opportunity for public input in developing these essential funding programs that stand to benefit all Californians, especially those most impacted by the emissions and air pollution caused by freight activity. We look forward to working with the CEC in order to accelerate the deployment of MD/HD hydrogen refueling throughout the state. Should staff be interested in discussing any of the recommendations and comments made above, please contact Omar Gonzales, Manager of State and Local Government Affairs, at omar.gonzales@nikolamotor.com.

Sincerely,
Alana Langdon
Head, Government Affairs and Global Policy
Nikola Corporation