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Warner Hydrogen

To: Senate Committee on Energy and Environment and Chair Senator Beyer

RE: Renewable Hydrogen Alliance response to Chair Senator Beyer's question regarding the high cost of fuel cell electric trucks

Thank you for your question about the high cost of fuel cell electric trucks at last week's Public Hearing of SB 333.

The Renewable Hydrogen Alliance represents more than 75 members. Among them are multiple heavy-duty fuel cell electric vehicle manufacturers that would like to share their perspectives:

Presently heavy-duty (HD) fuel cell electric vehicles (FCEVs) have a higher purchase price than HD internal combustion engine (ICE) vehicles or even HD battery electric vehicles (BEVs). At the moment, no Class 8 FCEV platforms are commercially available. But like with other nascent clean transportation technologies, we and the industry as a whole expect the purchase price of these vehicles to decrease as their production increases. It is for this reason that states such as Oregon must assist with deploying as many units as possible to facilitate this needed increase in production.

Currently, the cost for a diesel Class 8 truck is around \$150 k - \$170 k, while a Class 8 BEV costs between \$350 k - \$450 k, and a HD FCEV is estimated at around \$500 k.

The estimated pricing for a Class 8 FCEV (\$500 k) is based on a production of a couple of vehicles. Some manufacturers estimate that in small series production (100-500 units), the cost of a Class 8 FCEV will be around \$350 k. The same issue plagues battery-electric vehicles and HD trucks, yet the technology is some years ahead of FCEV in commercial deployment and development here in the US.

There are efforts afoot in other states to address the high cost of cleaner vehicles such as HD FCEVs and HD BEVs. For instance, New York has developed an HD truck voucher incentive program, providing funding specifically for BEV and FCEV trucks, with incentives of up to \$185 k per truck. California on the other hand has its Hybrid and Zero-Emission Truck and Bus Voucher Incentive Program (HVIP), and some RHA members are working on incentive mechanisms at the federal level. We need Oregon to join in these efforts through the implementation of its own incentive tools.

In the past months, the HD FCEV industry has shown that it is committed to moving from expensive demonstration projects towards a more affordable commercialization phase in the near future. A summary of recent headlines and articles reflects this change:

RHA Mission:

Promote using renewable electricity to produce climate-neutral hydrogen and other energy-intensive products that reduce dependence on fossil fuels.

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#	Date	Headline with Hyperlink	Source
1	Oct 7, 2020	Hyundai Readies Fuel Cell Truck for US Market	Transit Topic
2	Oct 26, 2020	Why the next truck you see may be a quiet, zero-emission hydrogen fuel cell rig	USA Today
3	Nov 2, 2020	Daimler and Volvo seal fuel cell tie-up	Freight Waves
4	Nov 6, 2020	Energy Department Looks to Boost Hydrogen Fuel for Big Trucks	Scientific American
5	Dec 10, 2020	Toyota Unveils Second Generation Hydrogen Fuel Cell Truck	Trucks.com
6	Jan 22, 2021	'Not a competition:' Paccar's electric and fuel cell trucks prove impressive in Rockies	CCJ
7	Jan 27, 2021	Navistar to collaborate with GM, others on hydrogen fuel-cell commercial trucks	Reuters
8	Feb 5, 2021	European hydrogen consortium to develop standard for heavy fuel cell trucks	ElectricDrive.com
9	Feb 11, 2021	Chart and Ballard join forces on hydrogen-powered heavy-duty vehicle developments	Gasworld
10	Feb 11, 2021	Hydrogen truck company Hyzon Motors signs \$A3.5bn deal for fund raising vehicle	The Driven

We appreciate your time in reviewing our materials for SB 333 and look forward to answering additional questions and comments from you and the committee.

Sincerely,

Martina Steinkusz
Interim Executive Director
Renewable Hydrogen Alliance