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Oregon Progressive Party and Independent Party of Oregon

Comments on Proposed Rulemaking for Zero Emission and Electric Vehicle Rebate Program

The proposed rules are seriously misguided and will avoid achieving the great efficiency and environmental improvements available from promotion of small electric vehicles ("SEVs"), including bicycles, tricycles, scooters, and velomobiles.

Any program that ignores the benefits--and necessity--of SEVs is not a serious effort to combat climate change.

I have attached some pages of photographs of such vehicles. These vehicles are 10-50 fold more efficient than the large electric vehicles that would be subsidized by the rules, such as ordinary electric cars weighing over 3,000 pounds. Further, they would reduce traffic congestion by reducing the number of cars and trucks taking up the full width of every lane. Many of these vehicles can ride 2 or even 3 abreast on existing roads, and many can use bike lanes. The first 12 photos are various electric-assist tricycles, either fully or partially enclosed.

1. The Veemo (4 photos) is part of the bikeshare program in Vancouver, BC.
2. The Drymer (4 photos) is in production in The Netherlands.
3. The Elf (3 photos) is in production in North Carolina.
4. The banana-like Tripod (1 photo) is produced in Portland.

Later in the photos, the red and black vehicle with wing-like windows is the Arcimoto, built in Eugene.

There are many dozens of makes and models on the market, but their sales are quite low due to the up front cost of the electric motor and related systems and components. In fact, many builders of SEVs have ceased production due to lack of sales. Providing a sizable rebate for SEVs could keep some of these builders in production, particularly those in Oregon.

The rules are designed to subsidize only large electric vehicles--an environmental dead end. The rules do not address the fundamental problem with existing vehicles, which is that the weight of the vehicle greatly exceeds the payload. The typical new small electric car weighs over 3,000 pounds. Moving that mass of metal in order to transport usually one person is very inefficient--a payload/weight ratio of at least 10. SEVs, on the other hand, most often have a payload/vehicle weight ratio of less than 0.5 or even 0.2. Substituting 3,000 pound electric cars in place of 3,000 pound internal combustion cars will prolong the underlying problem of having a personal transportation system that

expends 80% or more of its energy usage on moving the vehicle itself, not its payload.

Large electric vehicles are also road hogs and parking hogs. Ordinary electric cars are about 6 feet wide and 15 feet long. Each one takes up a full lane on the road and a full parking space. Vehicles like the ones in the photos are typically less than half as wide and half as long. They can drive at least 2 abreast on regular streets, and many can fit on bike lanes. A typical parking space can fit 3 or more (angled or perpendicular parking).

Large electric vehicles also require infrastructure investments that will soon be obsolete. SEVs can charge on ordinary household current and do not require charging stations. The electric utilities want to use ratepayer funds to build a network of charging stations, giving them a near-monopoly on yet another service. But, like nuclear power plants, the investment in charging stations will soon be obsolete, as improvements in battery technology will eliminate the need for them.

The problem with the proposed rules is that the proposed definitions of qualifying vehicles all exclude SEVs:

1. The definition of "light-duty zero emission vehicle" includes only vehicles capable of traveling at 55 mph. That is an utterly ridiculous requirement that would exclude nearly all SEVs. The definition also requires that the vehicle have 4 wheels, another absurd and unnecessary requirement, as is the requirement that the vehicle be able to travel 75 miles on a charge. A huge amount of pollution results from vehicles used for commuting; it is not necessary to go 75 miles on a charge.
2. The definition of "neighborhood electric vehicle" is also flawed by the requirement that it be able to travel at 25 mph. That excludes electric-assist bicycles and tricycles and velomobiles, as Oregon law requires that they have a top speed of 24 mph. The rule seems exactly tailored to exclude these most efficient vehicles from the program, apparently so that the state funds can be spent on the heavy, inefficient electric vehicles that currently require "charging stations" provided by the electric utilities.
3. The definition of "zero-emission motorcycle" is similarly flawed by the requirement that the vehicle go 55 mph, a completely unnecessary speed for most trips, particularly urban trips. This definition excludes virtually all SEVs, including 2-wheel and 3-wheel and 4-wheel electric scooters.

Also, the requirement for 24-month manufacturer's warranty on the drive train will also exclude some SEVs.

The rules also overlook a very effective way of reducing pollution from diesel trucks and greatly increasing energy efficiency in transporting freight--the hybrid human-electric powered tricycle. Several European cities have banned combustion-engine trucks from their central areas. Goods are delivered there by electric vehicles, including fleets of hybrid human-electric powered tricycles, as shown on the last 2 pages of photos below.

The DHL system using modular containers on tricycles is shown in action at <https://www.youtube.com/watch?v=MrYLwv9x8HU>. This DHL system is operating in 80 cities (but not in USA).

Encouraging use of such vehicles in Oregon (and throughout the USA) would produce additional economic benefit for Oregon, because the nation's foremost manufacturer of such vehicles is located in Portland. Stites Design, Inc., has produced the few hybrid human-electric powered tricycles acquired by United Parcel Service (see photos below) for service in the USA. (The man in the suit jacket is the chairman and CEO of UPS.) See <http://www.trucktrike.com>. A video about the use of tricycles by UPS is here: <https://www.youtube.com/watch?v=bd4YNrfwNNS>. A video about the TruckTrike is here: <https://vimeo.com/208410142>.

Using cargo tricycles for central urban area deliveries would not only reduce pollution but would also reduce traffic congestion and free up on-street parking space, a large portion of which is now reserved for trucks.

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