

Subject: Public Comment--EV Mandates

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From: Chris Schopfer

To: HearingComments, DNREC (MailBox Resources)

I share the concerns about the planned EV mandate that I'm sure others have stated: The cost of EV's and replacement batteries; availability and cost of infrastructure conversion; safety and reliability of the batteries; environmental impact of battery disposal; and more.

This comment, however, is to express concern about matters that may not be apparent to people with little environmental or energy expertise: Electricity Supply and Stewardship.

Electricity Supply: The EV mandate will increase the demand for electricity substantially. The increase—and particularly demand from fast-chargers—will need to be from 'reliable' sources—reliable in the sense that that demand will exist whether the sun is shining or the wind is blowing. In other words, solar and wind power are not very suitable for EV charging. Nor are hydro- or geothermal power viable options here in Delaware. Nuclear could be a suitable option for powering EV's, but is there a plan for doing so in the PJM area? I doubt it.

Just for Delaware, EV's will require hundreds of megawatts of new power generation capacity—what energy sources are planned for that demand? Is it fair to assume that on top of the DE EV mandates, other states on the PJM system will similarly increase EV usage? Will the region simultaneously dramatically reduce the use of gas stoves, water heaters and furnaces, and if so, how will that increased demand be accommodated? If even a substantial fraction of such programs are implemented in the PJM area, terawatts of new generation capacity will be needed.

Electricity prices can be highly volatile. What impact have you assessed the EV mandates to potentially have on electric prices during heat waves, cold snaps, and the days immediately prior to big travel events such as Thanksgiving and major beach weekends? And to the extent such analysis has been done, have you shared it with the public?

Please don't set up Delawareans for black-outs, brown-outs or price spikes.

Stewardship: The nominal point of the EV mandates is to reduce greenhouse gas emissions. Thus the key measure of EV policies should be their economic efficiency in doing so: What is the projected cost per unit of emissions reduced for the proposed policies, and how does that cost compare to other options? And have those projections been made public and/or reviewed by politically neutral experts?

Failure to weigh environmental programs on the above measures is not only counterproductive environmentally, but also puts Delaware's economy at a disadvantage. Please don't waste our money.

Those questions tie back to the 'Electricity Supply' discussion above. In all likelihood, Delaware and PJM will have to meet increased peak demand with natural gas-fired power, and specifically, a large amount of simple-cycle generation, which is the least efficient form of natural gas-fired generation.

To what extent have the planned EV mandates been compared to other greenhouse gas reduction options? For example, have we considered regulating or taxing goods produced in countries such as China and India that mostly burn coal for power generation? How about subsidizing EV use in states where wind power is substantially more reliable and cheaper than in Delaware? (That option is perhaps counterintuitive, but will stand up well to the aforementioned measure of cost per unit of emissions reduced.) Or investment in energy efficiency programs? How about creating incentives or mandates for increased use of front-wheel drive SUVs, as opposed to less-efficient all-wheel drive? The State of Delaware has an obligation to spend its citizens' money wisely, and if the goal really is to reduce greenhouse gas emissions, there are likely better options than the EV mandates.

The track record of past environmental policies, both Delaware's and federal, is frankly not good, when rated by the key measure of cost per unit of emissions reduction. National ethanol mandates have had *negative* net emissions benefit while increasing costs. The price of power from the Dover Sun Park is ridiculously high, even after massive subsidies. And the original 30-megawatt purchase of Bloom energy will cost Delawareans a *billion* dollars over prevailing market rates, with little or no net emissions benefit compared to combined-cycle natural gas production.

Stewardship that you make smart choices for the people of Delaware. We deserve better energy policy choices than we've gotten in the past, and better disclosure. Please answer all of the above questions publicly before implementing the proposed EV mandates.

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