Subject: DNREC Public Hearing Comments
Date: Wednesday, May 24, 2023 at 7:46:59 PM Eastern Daylight Time
From: Joseph Barisa
To: HearingComments, DNREC (MailBox Resources)

Ms. Newmann,

There are many real world problems with Electric Vehicles that no one seems to directly address

1 The primary source of Lithium and Rare earth metals used in the production of EV, Solar Panels and Wind Turbines is CHINA.

https://www.worldatlas.com/articles/the-top-lithium-producing-countries-in-the-world.html
https://investingnews.com/daily/resource-investing/critical-metals-investing/rare-earth-investing/rare-earth-metal-production/
https://www.visualcapitalist.com/chinas-dominance-in-battery-manufacturing/

The US has 1 rare earth metals mine in operation today located California's Mojave Desert and accounting for only 16% of the world market. It is highly doubtful that any new sources within the US will be operating in any sort of serious capacity by 2035. Thus the dependancy on China would continue.

Furthermore EPA regulations and licensing costs will make such endeavors too costly.
How do you plan to solve this issue in the next year?
You are aware that mining operations for metals and lithium is far worse to the environment then pumping hydrocarbons out of the ground?

https://hir.harvard.edu/not-so-green-technology-the-complicated-legacy-of-rare-earth-mining/

Next up what is the plan for recycling all of these metals once the EVs are no longer working? Litium today is not recyclable. They are working on it but will it be "cost effective/neutral" and how much of a threat to the environment will such a process be?

https://undark.org/2021/01/21/electric-car-looming-recyclability-problem/
https://apnews.com/article/fires-vehicle-fires-69421270f049c9875c07b011e8d4a51e

2. EVs require over 10x the amount of Copper that ICE, not as rare but very heavily used in industry metal that has periods of scarcity and fluctuations in price of raw materials.

https://hackaday.com/2022/08/31/we-cant-switch-to-electric-cars-until-we-get-more-copper/

3. Where is the extra power generation and Grid capacity going to come from?

California has less then 10% of their transportation fleet electric and they have had put into place power rationing as late as last summer. The only viable solution today, minus natural gas, oil or coal, is Thorium Salt Nuclear Fission reactors.
How many of them do you plan to have online serving the citizens of Delaware in the next 2 years? How many permits have been applied for in the state of Delaware?

https://www.cbsnews.com/news/california-heat-blackout-risk-power-rationing/

How do you plan on upgrading electrical grid to all properties to support the charging of 1 or 2 vehicles? Its one thing for a single service upgrade its quite another to have the capacity for multiple upgrades in a neighborhood.

4. How do plan to properly equip fire departments to handle electric vehicle fires?

https://nypost.com/2022/10/06/electric-vehicles-catching-fire-in-florida-after-hurricane-ian/

5. The expected life of an EV is about 5 to 8 years compared to ICE which can often last 10 or many more years

How are you going to explain to owners of these EVs that they may only get 7 years of life out of them before the batteries will need to be replaced which can be between 25% and 50% of the original price. What is the resale value of a 10 year old EV with original batteries?

The internal combustion engine has its faults but it has a much longer proven track record then EVs. There have been really interesting new designs with Rotary engines that show promise of more power, compact size and yes reduction in pollution. There are the Liquid Piston engine and the Omega 1 as but two examples.

6. The practicality of charging on long trips/vacations from home.

How will you explain charging time to citizens on a trip from Delaware to say Orlando Florida takes about 18 hours by internal combustion engine, how long will it take with an electric car? (It takes about 15min start to finish to fill and pay for gas, how long will it take to fully charge and electric vehicle every 200 miles at best, remember basic physics the faster you charge something via large current the higher the resistance which creates heat and increases the risk of fire.)

Furthermore, weather can actually effect the range of the vehicle "researchers found on average range could decrease about 40% due to cold temperatures and the use of the heater".

How about when you are stuck in traffic and your run out of juice? With a gas powered vehicle you can call AAA and have a 5 gallons of gas provided to get you to the nearest service station. How does that work exactly with an electric car?

Look at what NY found out when they tried to electrify their sanitation Vehicles

https://www.government-fleet.com/10187457/nyc-sanitation-fleet-may-not-meet-electrification-deadline

There are very serious questions and issues I have raised and unless you have solutions ready to solve these problems TODAY this idea of no new ICE automobiles needs to be tabled for another 20 to 40 years when real sound cost effective solutions have been found. Not only would you be putting the cart before the horse, its more like the cart has some assembly required.

I see no need for this forced transition on the Citizens of Delaware. It will hurt the middle class and poor disproportionately in terms of costs and loss of liberties.

Joseph Barisa