

Thank you for the opportunity to speak today and allow me to share my experience and thoughts for assisting the State in integrating EVs.

In mid 2006 when I ordered my EV (LSV) it was to test, learn and see if it was "for real" and the possibility for wide scale usage. This was post Katrina, the gas price run up and recognizing all the economic and environmental challenges. As my knowledge grew and interactions widened in scope from many angles (Pro / Against/ Green / Business) I always hoped to be able to share and provide input at some point.

It became quite evident to me that while we are gathering and tasked with integrating EVs into the CT marketplace, its involvement touches on a wide range of issues facing Connecticut, the region and the country – the world. I see all these issues as an opportunity to solve or at least address these challenges the State faces through the EV strategy. In doing so it should gather wider support from other programs being developed or in the design phase. This is super critical for across Department buy in.

The reason I am making this point is that for whatever the recommendations are of the Counsel - the magic of MONEY and funding the programs and initiatives will need to be available. This is a tall task in the current economic environment.

Some quick facts from my experience:

- GEM Global Electric Motor Car, cost 12K (40k in operation worldwide)
- Car is Made in USA GE Motor, built in North Dakota
- Registered in NY due to lack of CT laws –This drove my involvement...
- LSV – 25 mph –used only in Ridgefield/Wilton region
- Traveled 8,000 miles in 3 years – not used everyday
- Can go up to 20-30 miles on a charge
- Have not spent \$ on any maintainance
- Electric Bills are same or less
- Standard Plug to charge, replaced my 2nd Refrig in Garage
- I have run out of power a few times, knew in advance – recharged at friends/business
- Proposed State Legislation for Registration – bill did not go to committee two different bills proposed Frey / Fairfield Shawn Fawcett

Reality/Background: Comments to 2010 Integrated Resource Plan

CT is not seen as an EV friendly state by the Majors as well as by the Innovators in the space. Request or look to Federal or other states instead of CT. Besides being a small market we are also the last of states with any EV Laws, Investments, testing or to its supporting technologies such as batteries. Ironic considering the Village/close proximity, short trip basis – we were the perfect testing ground.

Cutting out the hype - True availability, even just test versions especially to be used in Connecticut is not really on the horizon from the big players until 2011 (impacts of recent recalls). Even this may be a stretch and these early versions will most likely not

be the production versions, especially the batteries. Whatever is put out there is a public test. The battery technology is actually the real critical element in this whole endeavour.

True availability to purchase will not be till 2013 or 2014 and even then adoption and availability will be very limited.

Production versions and large scale availability will not be in place till past 2020. It is also debated as to whether it will be Plug in Hybrid EV or Pure EV.

This is all from recent report by National Research Council and the history of other new technologies-computers or Internet.

I am glad to agree that "Charging impacts to the grid" seem to pose no threat. Typically forgotten is that there are more than 3 million EVs being used right now East of the Mississippi with no net impact, more than 7 million nationally in one form or another charging every day. (Does it matter if 1,000 of new TVs or Dryers or Dishwasher are added in CT to energy demand).....

Testing and preparing in 2010 for market ready products of 2014 seems sensible, but a lot will be learned and changed over the next several years. This is/will be helpful in our efforts to become prepared and attractive.

There is a way that CT can prepare for the future and even perhaps SHAPE the future while actually educating, training and generating significant jobs and gaining major market awareness of becoming a leading EV state. It all has to do with Conversions!!!

It is my belief after speaking with a cross section of knowledgeable parties that a Program centered around the conversion of existing CT cars to EVs would have a huge impact.

With the short allotted time today I can only introduce the strategy, but would hope that we take up these items and dive a lot deeper to figure out making them part of the final recommendations (and I may start them on my own or with the help of others)

The Proposal – First Piece is the Car

I am proposing that every public High School, as well as State College/University would participate in converting a car from Gas to Electric. I am currently setting up a conversion for a Fairfield County HS and know that more are interested in the region.

I see this addressing a number of challenges that the State faces:

-By creating 100s, maybe even 1,000 EVs in the State over the next year we would have a huge test base of users to draw intelligence from.

-We would skip the major expenditure by the State itself, businesses or residents for promoting EV purchases.

-Converting a portion of the State fleet to EVs and skipping a year of purchases would save \$ as well as give us more test cases.

-We would be promoting High Tech involvement/Business creation

-We would/could be creating new jobs or start a training program for EV expertise

-We would attract EV support players such as batteries makers so as to partner with them.

-Students and their Families would see first hand working versions of EVs to create a more informed and prepared buyer for EVs.

-Sponsorship and conversions for Private Sector would increase testers and increase adoption and education of public.

-Connection with Metro North and the Commuter population for test cases would be logical and would be one of first groups for mainstream adoption.

-This should allow us access to Federal grants and Programs on many levels –Education, Energy, Green Jobs, Retraining, Clean Tech, Green Cars etc.

All the leading EV states have had very active Conversion programs at the University and Community College levels so this is not a far fetched idea, just accelerating an existing one, perhaps with great timing.

Just yesterday I learned about a Fairfield man who converted a 1993 Toyota Tercel to an EV for \$12k. He was on Good Morning America. There are a number of other examples that are taking place, that could use our support and promotion.

We have one of the pioneers in the EV conversion industry Bob Rice participating (perhaps he drove his here today) to create/consult on guidelines and conversion strategies. The State also has major contributors to EV and Clean Transportation such as GE & UT but are we really supporting these firms by testing and collaborating with their plans??

We have Blue Printconversions

The Second Piece – The Fuel

Comments/Plans - The Fuel-Electricity: Partnering with PV/Clean Energy

The function of Charging an EV will rapidly evolve in stages over the 5, 10 and 20 year periods. The special home charging and metering scenario will not be acceptable and will be an impediment to wider acceptance. Instead usage of standard outlets or at worse “the Dryer” type set up should prevail. Having special systems for charging will be like the not so distance days of phone and cable installer and the public perception nightmares they faced.

Secondly and highly important is the mainstreaming of PV/Solar charging at the home.

Currently, PACE Legislation is being proposed in Hartford. This has to do with enabling the homeowner to install Solar without coming up with the Investment money up front. So the ability to pair an EV and Solar would then allow the EV owner a way to charge his vehicle at a drastically reduced cost of the lifetime of ownership as well as minimize impacts to the Grid when wide scale adoption takes place.

If you think about the buyers of EVs in the next decade they will also be likely buyers of Solar if given the right economics.

Show the Powerpoint.....

I see the EV Integration strategy as requiring a program like or similar to PACE to both increase the adoption but equally important to become that attractive EV marketplace that we are aspiring towards. There are 19 other states that already have this program in place such as nearby states like NY, Vermont and Maryland as well as the typical West Coast players.

Extending the school EV conversion program to also include Solar/PV awareness and a way to fuel a car would be powerful.

This also further supports funding and Federal grants, job creation as I cited earlier.

Originally I was to speak about Taxes.....

Sales Tax Cut – Of course incentives and ways of lower the price would be helpful, I think a strategy could be better determined nearer to when they are ready to come to market – the early buyers should get the Federal as well as a State Tax Cut.

Gas Tax – I believe that some small percentage should be directed to fund further education, investment and to support the Sales Tax cut.

Could cite Denmark aggressive measures.

Closing:

In closing I believe that Connecticut can, in a short time frame be viewed as a leading marketplace for the utilizing EV/PHEVs. Furthermore achieving this in a cost effective, efficient manner with known and already executed actions (conversions) increases the success and confidence of it being implemented. In conjunction with also supplying the fuel via Solar is Icing on Cake. We control and encourage our destiny instead of waiting.

Utilizing our existing well regarded Educational system at the High School and University levels draws from a very large base of talent to “make it happen” and receive broad

based support for funding and executing. So, that while we are building our “experience and data” we at the same time are educating and promoting the building and buying of EVs.

In the end, Connecticut residents can share in the excitement and will be better off on numerous levels no matter what may happen in the EV industry.