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Advising Greentech companies to help maximize growth

Why California is a Cautionary Tale for EV Expansion

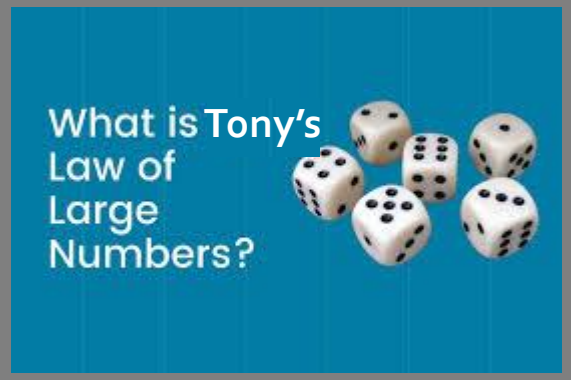
Hint: It isn't the environment

California's achievements in EV adoption are unmatched. By a wide margin they lead every metric. And for a state that boasts almost 40 million residents, that impressive.

But...

California has been the model state for EV adoption

- California has the highest number of registered EVs in the U.S - about 1.5 million.
- That's 6x the number in the #2 state - Florida at 231,518.
- California also leads in EV adoption per 100k people.
- As of Q3 2023, 26.7% of all new cars sold in CA were zero-emission vehicles (ZEV) (Note: I left out that acronym in yesterday's alphabet soup of EVs and hybrids.)
- According to The California Air Resource Board – 34% of new ZEVs sold in the U.S. are sold in California.
- According to Gov. Newson's office, California has surpassed both its zero-emission truck and vehicle sales goals two year ahead of schedule and surpassed its 10,000 fast charger goal more than a year ahead of schedule.



This is my version of the "law if big numbers"

As the numbers grow larger - on a percentage basis - the results invariably decline.

Going from 1 to 2 is a 100% increase.
Going from 2 to 3 is only a 50% increase
And so on…

It's obvious, but that doesn't stop people from getting exited about the impressive percentage growth results new industries/markets achieve.

It gets much harder as the number get bigger

- For California, getting to this point was the "easy" part.
- The same holds true for the macro renewable energy industry.
- All the impressive growth targets touted in the media will begin to become much less impressive.
- And the effort required to achieve each incremental goal will become increasingly more difficult.

So why California is a cautionary tale - not only for EV adoption – but for the adoption of clean energy in general?

See Next Slide

The bottom line:

California is unlikely to meet the goal of having 15 million EVs on the road by 2035 and it will definitely need to modify the legislation that mandates the end of new ICE vehicles sales by 2035.

The era of over-achieving is likely over

To meet future goals California will need to accomplish the following:

- Install a million public chargers by 2030. That is a ten-fold increase from the 2022 installed base and requires 130k chargers be installed annually.
- The 2035 goal: 2.1 million installed chargers. You can do the math.
- Then there's the money. The estimates to expand charging nationwide are between $53 and $127 billion. Based on population, California's share of that would be around $5 to $13 billion. They are getting $384 million from the Feds.

Existing headwinds:

- California permit approvals are below the national average by 26%.
- California's existing charger network is not immune to reliability issues.
- And here's a new one: copper theft is becoming a thing, rendering many chargers inoperable.

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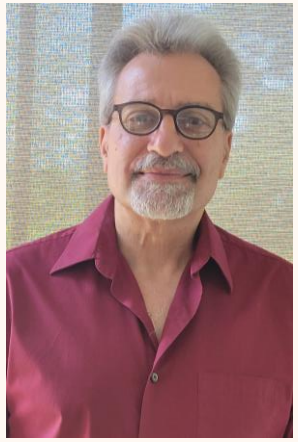

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Unbiased and Unfiltered

- An honest assessment of the climate change effort.
- I cover what's working – but more important - the issues/roadblocks that the industry would prefer to ignore.
- A must-read for anyone with a desire to understand what's really going on with renewable energy and climate change.

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