NACS Electric Vehicle Industry Update

Do We Need To Pay Attention?

NACS Advancing Convenience & Fuel Retailing
convenience.org

Should Retailers Pay Attention?

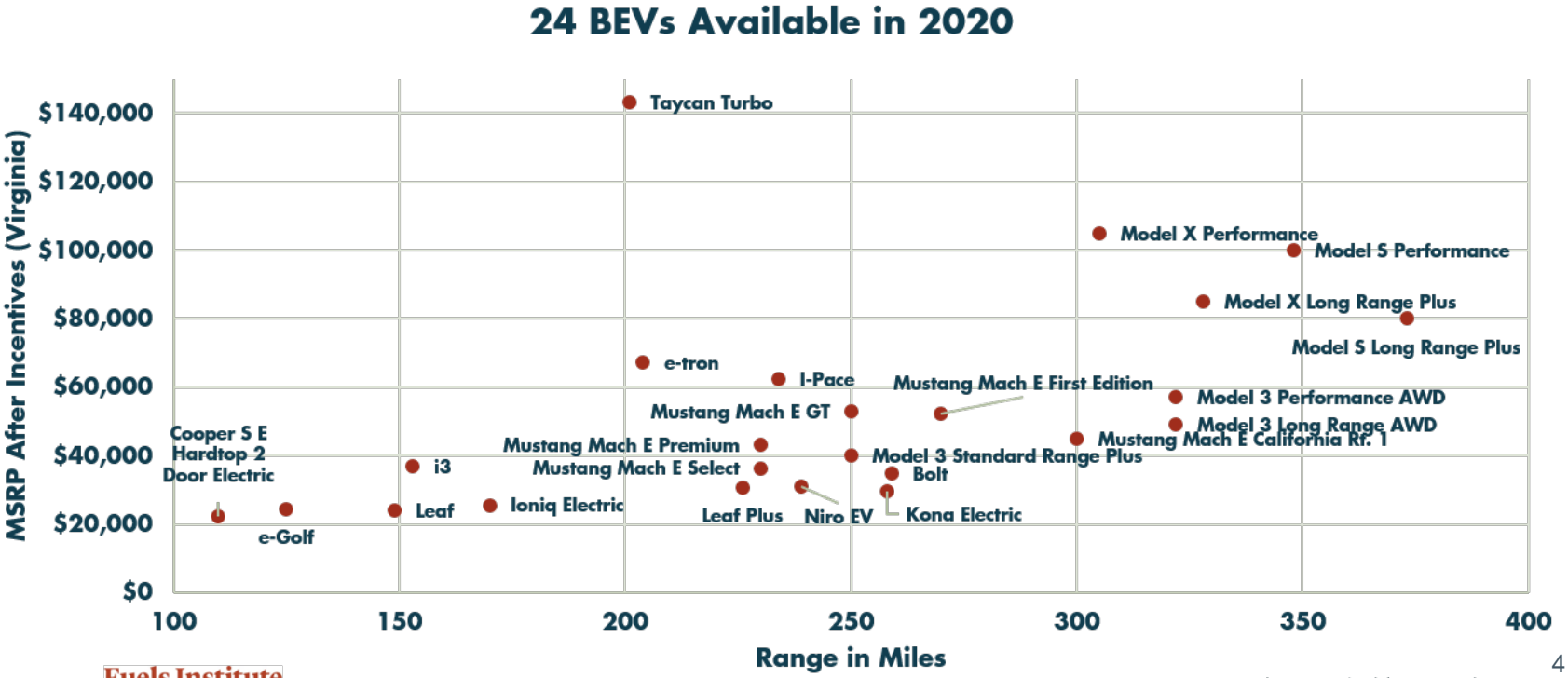
- Yes. Global automobile manufacturers are committed to the technology and Electric Vehicles (EV) will continue to gain market share.
- The broad technological developments in the automotive sector will affect how ALL critical c-store customer groups access and utilize convenience retail
- These transitions are still in their early stages, leaving plenty of time to get ahead of this significant change in transportation
- Remember … c-stores are 20+ year assets. Do not analyze and evaluate the effect of EV's on your business with the technology and capabilities of today.

Are EV's viable now?

Yes. There have been four key historical barriers to EV adoption and each is being overcome through technological improvement. Convenience stores have an essential role to play in serving EV drivers and delivering transportation electricity in the market.

- Vehicle Manufacturer Investment/ Model Options
- Driving Range
- EV Charging Time/Charger Availability
- Vehicle Price

Range Improves and More Affordable Models Enter the Market



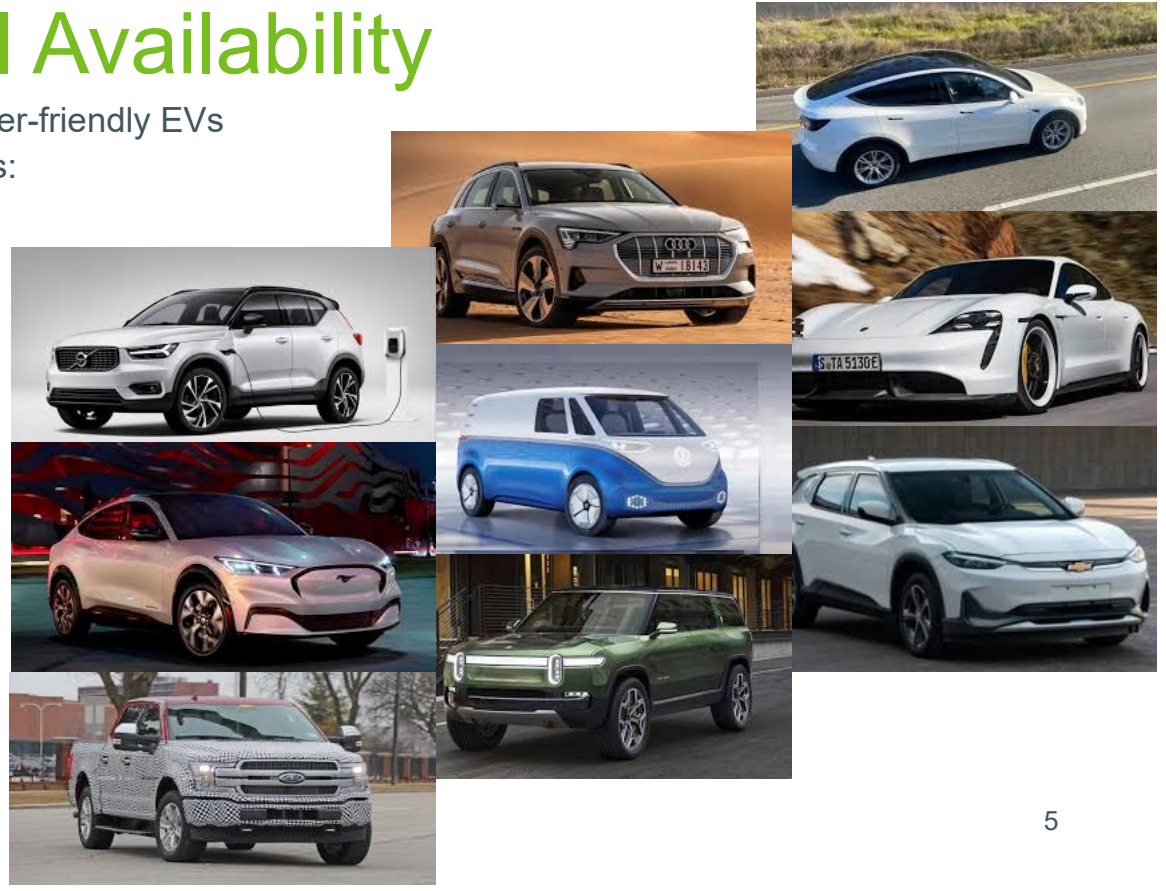
Fuels Institute

Source: Plug-In America (PlugStar.com)

Investment/Model Availability

- OEM's are investing billions to deliver consumer-friendly EVs
- 10 years ago there were two electrified options:
  - Nissan Leaf - fully electric vehicle
  - Chevy Bolt - plug-in hybrid electric vehicle

- Future planned EVs:
  - Ford – estimated 6 models by 2021
  - GM – estimated 4 models by 2020
  - Tesla – 4 models in 2020
  - Audi – 20 models by 2025
  - BMW – 12 models by 2021
  - VW – 11 by 2022
  - Volvo – 7 by 2022



Source: MJ Bradley

Marketing Picks Up - Super Bowl Ads

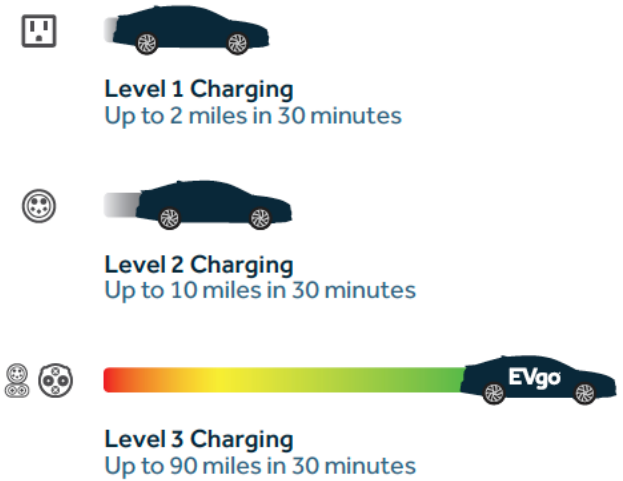
- 4 EV commercials aired in 2020 – the most expensive ad time of the year

EV Driving Range

- Many EV's get well over 200 mile driving range
- The newest versions get well over 300 miles
- The Tesla Model S long range tops out at 370 miles on a single charge
- The coming Rivian R1T is projected to have a range of more then 400 miles
- The newer battery technologies are now surpassing the range of ICE vehicles
- In early 2020, General Motors announced a new EV battery pack that will deliver 400 miles per charge

Charging Time

- Battery technology deployed in EVs gets better every year
- Charging technologies also are improving every year
- V3 of the Tesla Supercharger can charge appropriately equipped vehicles up to 75 miles in 5 minutes and charge at rates of up to 1,000 miles per hour
- New Electrify America chargers are capable of charging up to 20 miles per minute
- Projections indicate that charge times will get closer to gasoline fueling times with new technologies, such as solid state batteries
- With less than 30 minutes needed to top off an EV – amenities such as QSR's, branded coffee, car cleaning stations and 5G service could result in more revenue (NACS and the Fuels Institute will be conducting on-going research to determine best practices)

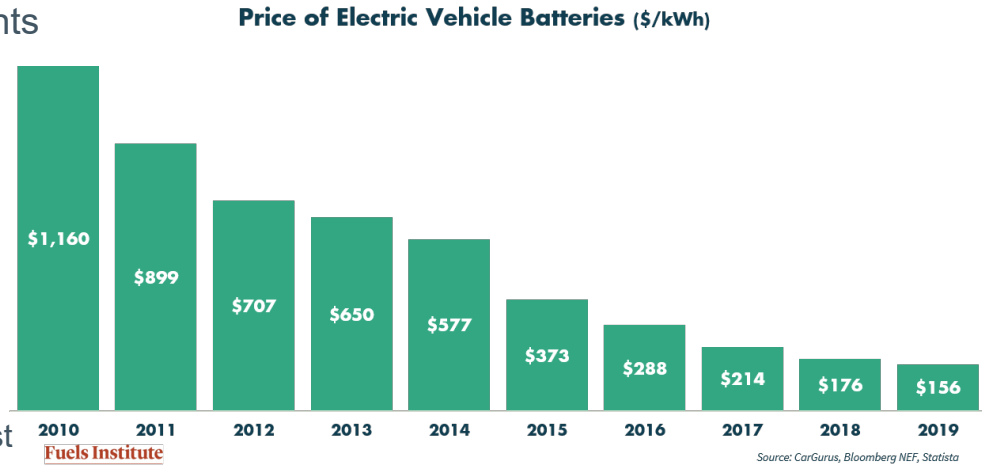


Charging Infrastructure

- There is an enormous deficit of EV chargers compared to what experts predict is needed
- Adequate EV charging access is critical to EV sales
- The EV industry will need the convenience industry to achieve it's charging infrastructure goals
- Data shows that the average EV owner of one brand is conducting 2.8 charging events per week outside of their home charging – this could mean more c-store trips than with gasoline.
- The OEM's need to move EV sales from single-family homeowners to apartment and condo dwellers in order to achieve mass adoption. Apartment and condos cannot afford to retrofit their parking lots to enable charging for all tenants – this is a significant opportunity for c-stores to fill the void

Vehicle Price

- As battery prices come down, EV price parity with ICEs become achievable
- EV OEM's are getting into more affordable price points such as:
  - Tesla Model 3 - about $38,000
  - Chevy Bolt - about $36,000
  - Hyundai Ioniq - about $30,000
  - Mini Cooper SE - about $30,000
- The lower cost of ownership is also a factor.
  - While a heavier EV with much more torque will go through more tires, it doesn't need oil changes, there are no belts, gears, spark plugs, etc.
  - Even with low fuel prices, electricity is still cheaper for most home charging
  - According to driveelectric.org, there are about 20 moving parts in an EV vs. 2,000 for an ICE vehicle – there's simply less parts to wear out and break



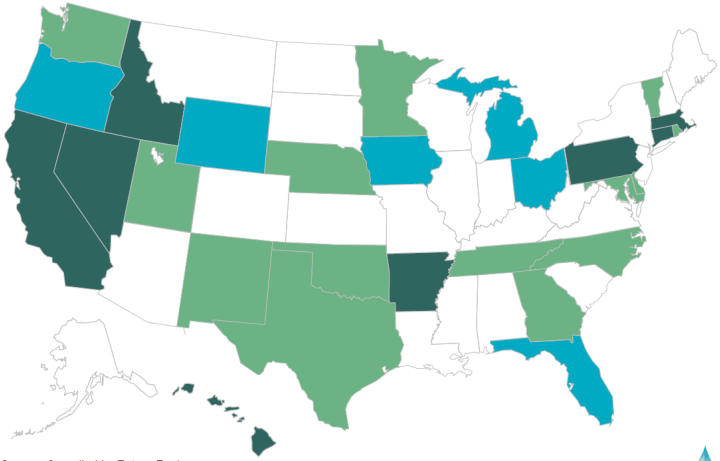
Other Factors To Watch and Consider

- **Regulations** – The market remains a maze of inconsistency, but trends are moving towards facilitating an EV market (Fuels Institute's Electric Vehicle Council will publish in late 2020 an assessment of applicable state and local regulations)
- **Time** – C-stores are 20+ year assets which must meet the evolving demands of consumers
- **Micro data** – even at an infant stage, there are immediate impacts for c-stores
- **Technology** – Pace of technological advancement is accelerating, not slowing down
  - Autonomous features are combining with EVs, which will disrupt mobility and commerce:
  - Limited highway autonomy already being used with human driver oversight
  - Autonomous Electric Vehicles (AEV's) could enable fleets of driverless taxis
  - New vehicles are equipped with advanced technology and communications systems which will enable the vehicle to communicate with retailers to increase speed of service upon arrival

Regulations Drive Electrification

- It is projected that 23 states will adopt the CA ZEV standard
- The majority of states boast incentives to promote EV sales and/or infrastructure deployment (see map)
- The European Union's strict carbon dioxide restriction went into effect this year and some individual countries are simply requiring the phase-out of ICE vehicles
- China's New Energy Vehicle mandate phases out ICE vehicles over time (China accounts for more than 1/3 of the global light duty vehicle market)
- China and EU regulations are affecting global vehicle development
  - OEMs are reluctant to deploy a separate ICE development strategy not in line with the regulations covering a large portion of consumer demand
  - Some OEMs are adjusting their global market strategies to deliver EVs into markets with regulatory programs

State and Utility Incentives Potentially Applicable to Retailers



Source: Compiled by Future Fuel Strategies, April 2020

Green=state incentive only; blue=utility incentive only; dark green=both

C-Stores are 20+ Year Assets

- A new convenience store is a long-term asset
- In 20 years, most experts agree that EVs will represent a significant share of the vehicle population – ignoring them could affect the value of your real estate assets
- The cost of future proofing a new c-store is nominal, especially compared to the cost of retrofitting – planning for the future now can save you from costly investments in the future
- Don’t take a snapshot of EVs today to make future decisions – the market is changing quickly:
  - Charge times will go down significantly
  - Vehicle range will go up
  - Car prices will go down and EV population will go up
  - Autonomy and on-demand technologies will converge with EVs

Macro vs. Micro Data

- Do not ignore the impact that EVs will have on your business today
  - The small percentage of EVs in the US fleet of vehicles can be misleading
  - Look at micro data that will effect your business now or in the near future
- Who's buying EVs and what kind?
  - If numerous adopters of EVs in affluent urban markets are displacing luxury vehicles that consume premium gasoline, a resulting small change in sales volume will have a significant impact on high margin premium and mid-grade fuel
- Where are you located?
  - EV adoption in Southern CA, Austin, TX, Atlanta, GA, Boston, MA and South Florida is vastly different than Tulsa, OK, Billings, MT and Abilene, TX. Pay attention to *your* markets.
- Affluent EV drivers may demand additional services:
  - May be more willing to wash and clean cars, buy branded coffee, etc.

Technology

- EV OEMs are aggressive with technology development – this will have an impact on c-stores
- Manufacturers are counting on the driver linking banking information to the vehicle and the vehicle always connected to the internet. This will affect not only mobility, but commerce in general:
  - With financial and transactional standards, a driver can order food, coffee, alcohol, groceries, dry-cleaning pick-up, Amazon or FedEx pick-up and conduct a charging session without ever swiping a card – only plugging in the charger.
  - With the same standards above and geofencing, the QSR can wait until the vehicle is 5 minutes away before it starts cooking and deliver to the vehicle when the customer arrives – this is being tested now!
  - Enabling all of these transactions in a frictionless way will truly allow the convenience store to become THE CONVENIENCE store

How can NACS help you navigate the future?

- NACS, in cooperation with the Fuels Institute, is constantly evaluating the evolution of the market:
  - NACS Daily and NACS Magazine
  - NACS and Fuels Institute webinars
  - NACS Show and education workshops
- The NACS Electric Vehicle Infrastructure Referral Program can connect you with organizations who want to help you get into the business of EV charging
- NACS Show Electric Vehicle Pavilion Presented by the Fuels Institute will provide you access to resources who can help you successfully engage in the business
- The Fuels Institute Electric Vehicle Council is preparing reports to help you:
  - Assess the regulatory environment that could affect your business
  - Develop a successful plan for your facility from installation through operation
  - Evaluating consumer behavior and preference to help future proof your installation