

ELECTRIC VEHICLE GUIDEBOOK

CADILLAC DEALER NETWORK OPERATIONS



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EV INDUSTRY OVERVIEW

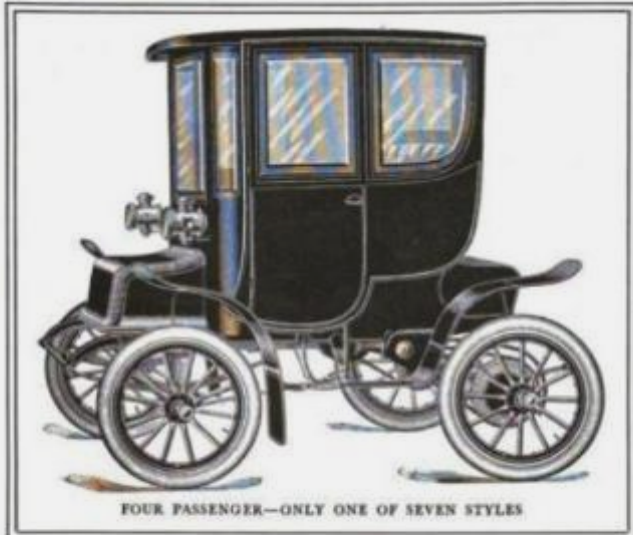
Just A Plain Notice

The **DETROIT ELECTRICS**

have done more to advance the reputation of electrics than all other makes put together. No one has yet equaled their records and we continue to lead.

1060 MILES OVERLAND A RECORD

Think of going from DETROIT to ATLANTIC CITY all the way on its own power—never once helped.



FOUR PASSENGER—ONLY ONE OF SEVEN STYLES

**WE EXHIBIT AT NEW YORK, JANUARY 16-23 AND AT
CHICAGO, FEBRUARY 6-13**

You have no fear of competition when you represent the wonderful "DETROIT ELECTRIC." Write today about agency.

**The ANDERSON CARRIAGE CO.
DETROIT, MICHIGAN**

EV INDUSTRY OVERVIEW

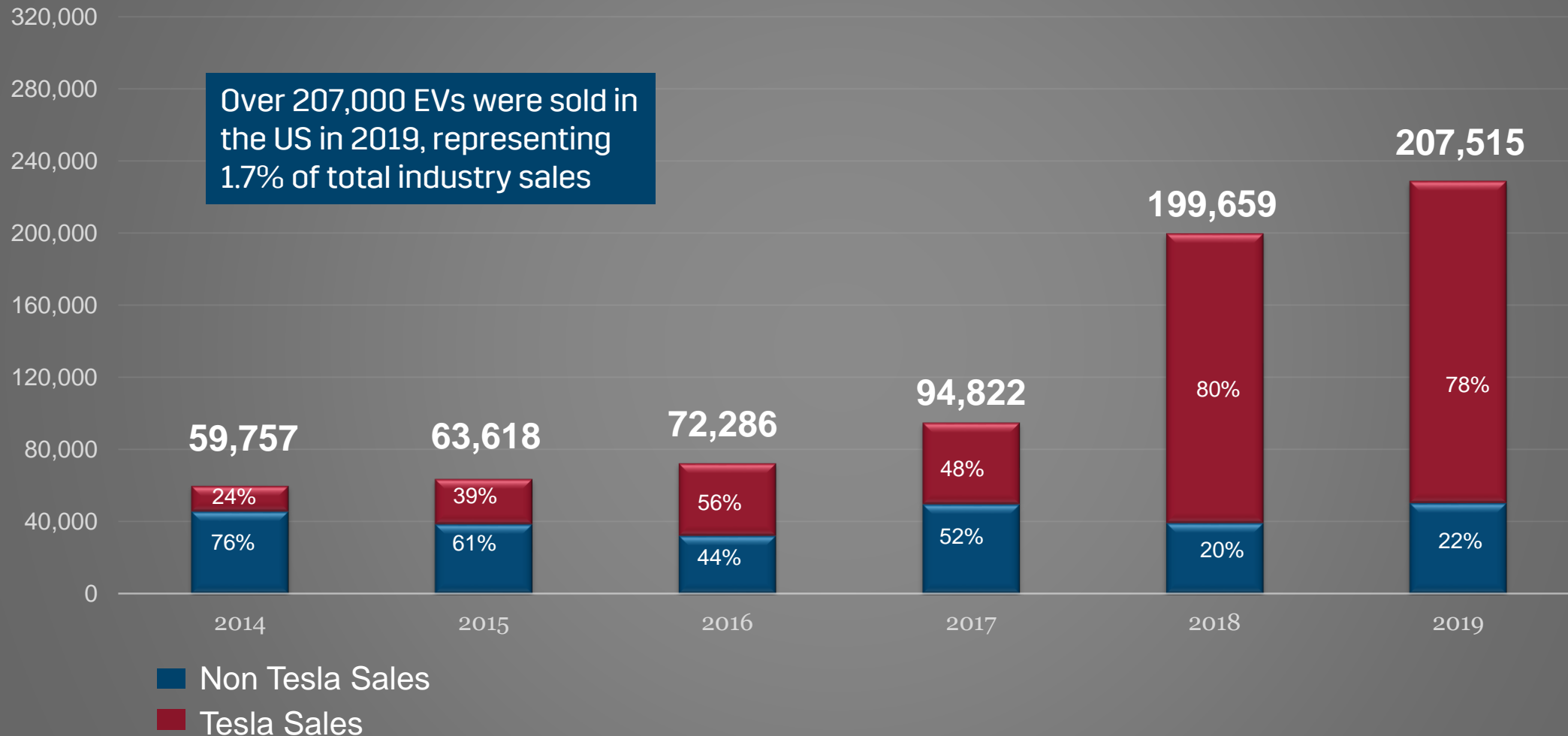
Electric vehicles are not a new invention. In 1900, electric cars accounted for around one third of all vehicles on the road. They were quiet, easy to drive, and didn't emit smelly pollutants like other cars of the time. Ultimately, the availability of affordable gasoline cars squeezed electric vehicles out of the equation.

Today, electric vehicles are experiencing a new renaissance. They are heralded for many of the same reasons as they were in 1900 – quiet, easy to operate, and zero tailpipe emissions.



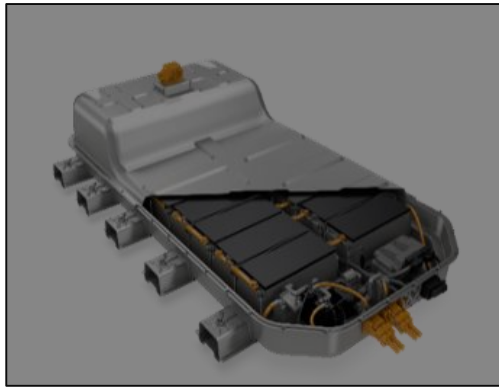
EV SALES CONTINUE TO CLIMB EACH YEAR IN THE US

EV Annual Sales



CONVERGENCE OF FACTORS DRIVING INCREASED EV ADOPTION

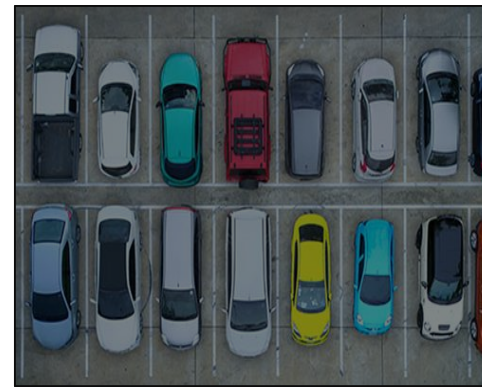
In the US and around the world, EV sales continue to grow each year. As battery prices continue to fall, ranges continue to increase, and segment coverage improves, substantial EV adoption is expected.



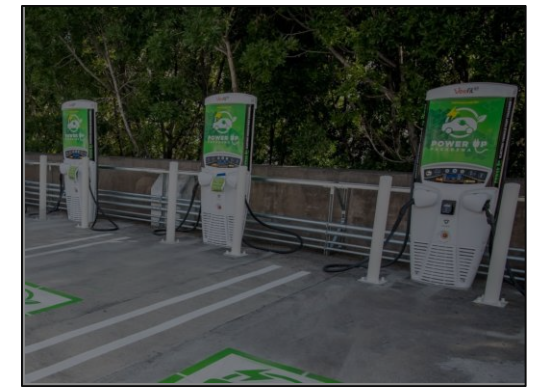
Falling Battery Prices



Increasing Range



Increasing body styles



Increasing Public Charging



EVS ARE DRIVING THE CHANGING AUTOMOTIVE LANDSCAPE

Electric vehicles are promoting the evolution of not only products, but also the reimagining of customer expectations and retail models.

EVOLVING PRODUCTS



EVOLVING EXPECTATIONS



EVOLVING RETAIL



EV OWNERS PROFILE

EV OWNERS COME FROM VARIOUS BACKGROUNDS

They are a diverse group of people who are united as a community of open-minded, progressive individuals, driving society towards the future.

Single Moms

Firefighters

High School Teachers

Retirees

Chemists

Lawyers

EVS FULFILL THREE DESIRES OF THEIR OWNERS

Electric vehicles fulfill three desires of their owners

- **Value** – Desiring products, experiences and services that optimize spending and provides return on investment.
- **Lifestyle** – Desiring products, experiences and services that optimize and enhance their quality of life.
- **Sustainability** – Desiring products, experiences and services that positively impact the environment and contribute to a better future for society.

EVs have changed owner's lives for the better and as a result, they remain loyal to the lifestyle.

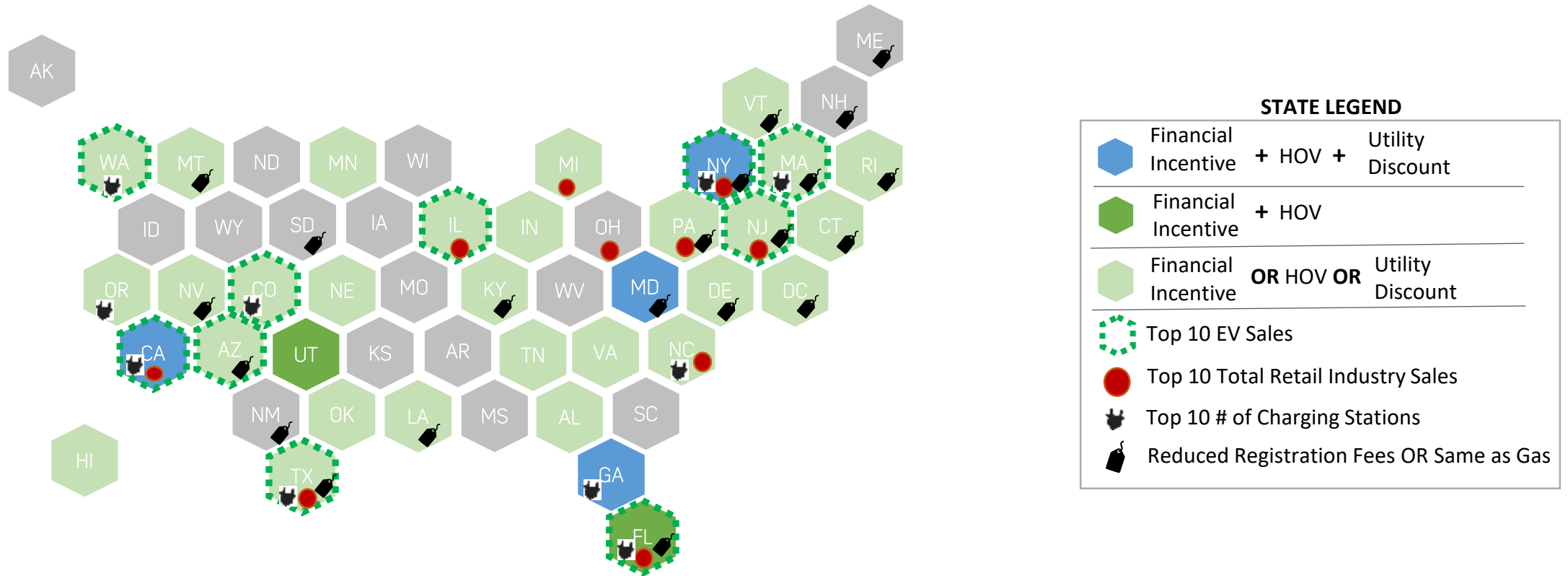
They proudly identify as approachable ambassadors, often spreading the good word to non-EV owners. They are loyal advocates that don't fit into a stereotypical mold. ***They are marketing's best asset!***

Source: 2018 GM Electric Vehicle Ethnography Debrief



OWNERSHIP BENEFITS

MANY STATES OFFER EV OWNERSHIP BENEFITS OR INCENTIVES



Note: High Occupancy Vehicle lane or HOV benefit provides drivers opportunity to experience less traffic congestion.

In 2019, Fees added – ND, IL, ID, OH, AR, KS, AL. Since 2014, OR, PA, NC, GA, and HI have also ranked within the top 15 States.

Source: IHS Super Retail Registrations Data as of December, 2019. U.S. Department of Energy Information Administration January, 2020. National Conference of State Legislatures, November, 2019.

ADDITIONALLY, OWNERS EXPERIENCE MANY DRIVING BENEFITS

Beyond zero emissions, EVs offer many surprising benefits:

- Nearly instant torque
- Prompt acceleration
- Smooth & quiet operation
- Improved handling

Early adopters cite **Universal benefits of EV ownership:**

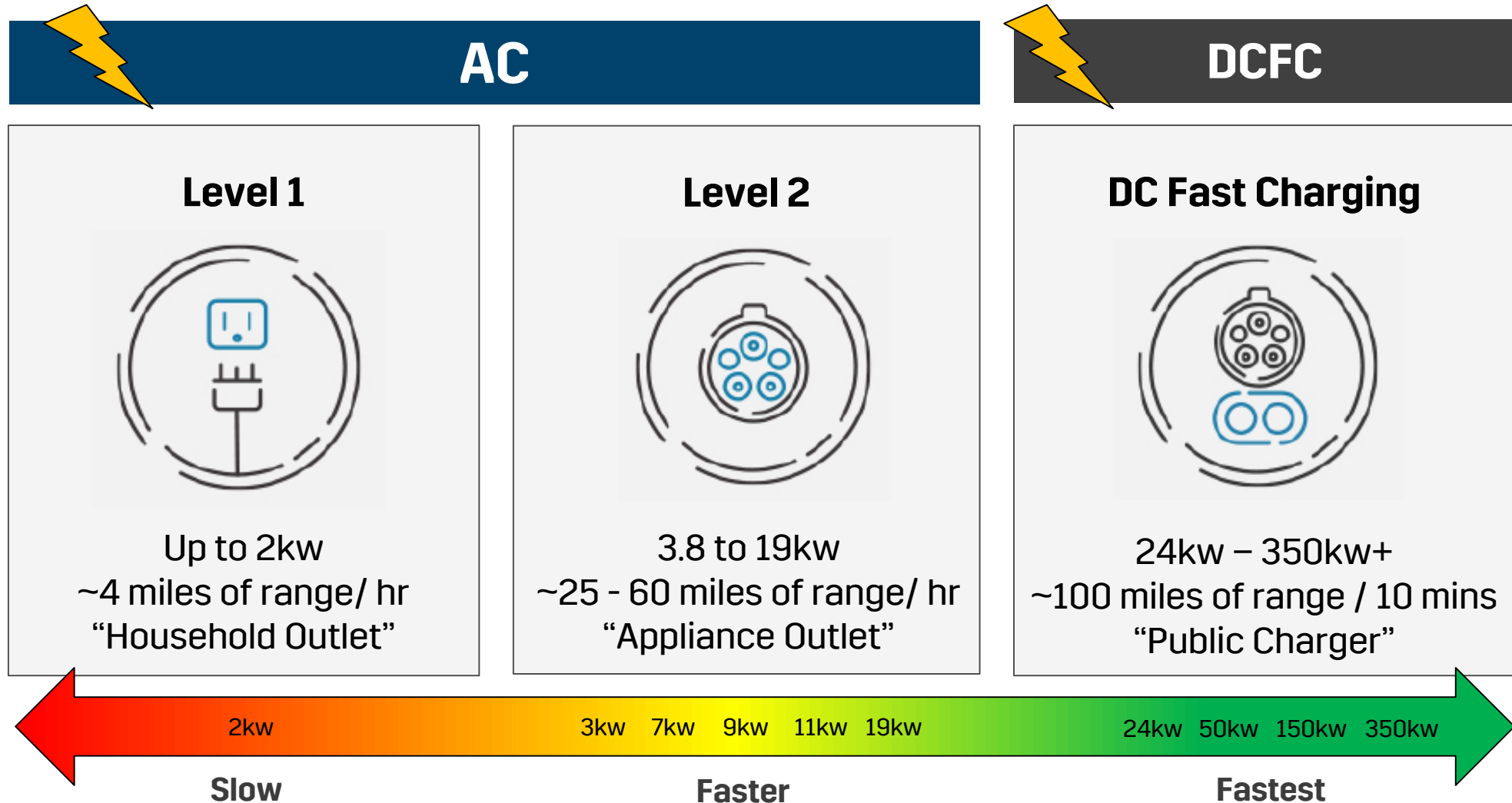
- Reduced Overhead Costs
- Reduced Maintenance
- Reduced Sound and Smell
- More Pleasant Driving Experience
- Heightened Performance and Maneuverability
- Passive, Convenient Charging
- Enables Efficiency of Use



CHARGING OVERVIEW

TYPES OF CHARGING

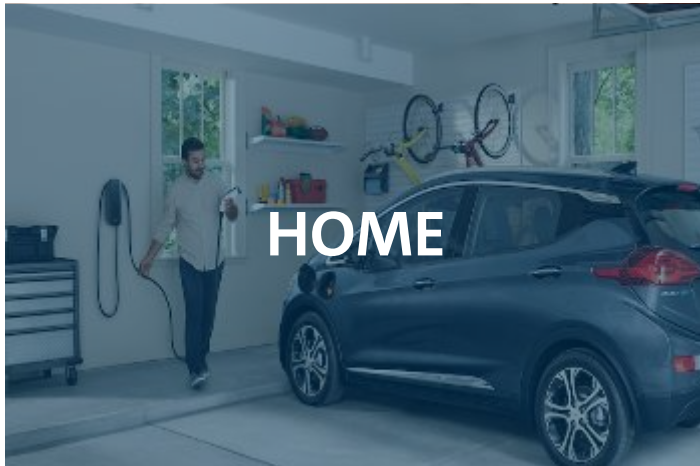
Electric vehicles offer great convenience and the prospect of never stopping at a gas station ever again. Power from the electrical grid reaches the vehicle through either AC or DC charging.



Actual charge times will vary based on battery condition, output of charger, vehicle settings and outside temperature.

CHARGING USE CASES

There are three main use cases for charging include charging at home, charging at the workplace, or charging in public while on the go.



HOME

Home – AC Level 1 or Level 2



WORKPLACE

Workplace – Level 2



PUBLIC

Public – Level2 or DCFC

CHARGING IS A NEW ROUTINE

Refill when empty



Top-off daily



TYPES OF CONNECTORS

When charging an electric vehicle, there are connectors that plug the charging cable into the vehicle and the charge point itself. The type of connector varies by vehicle and the power rating of the charge point.



SAE J1772 – This connector works for both AC level 1 and AC level 2 charging outlets. This is the most common connector in the US.



Combined Charging Systems (CCS) – This is a modified J1772 that adds two additional pins to transfer DC power.



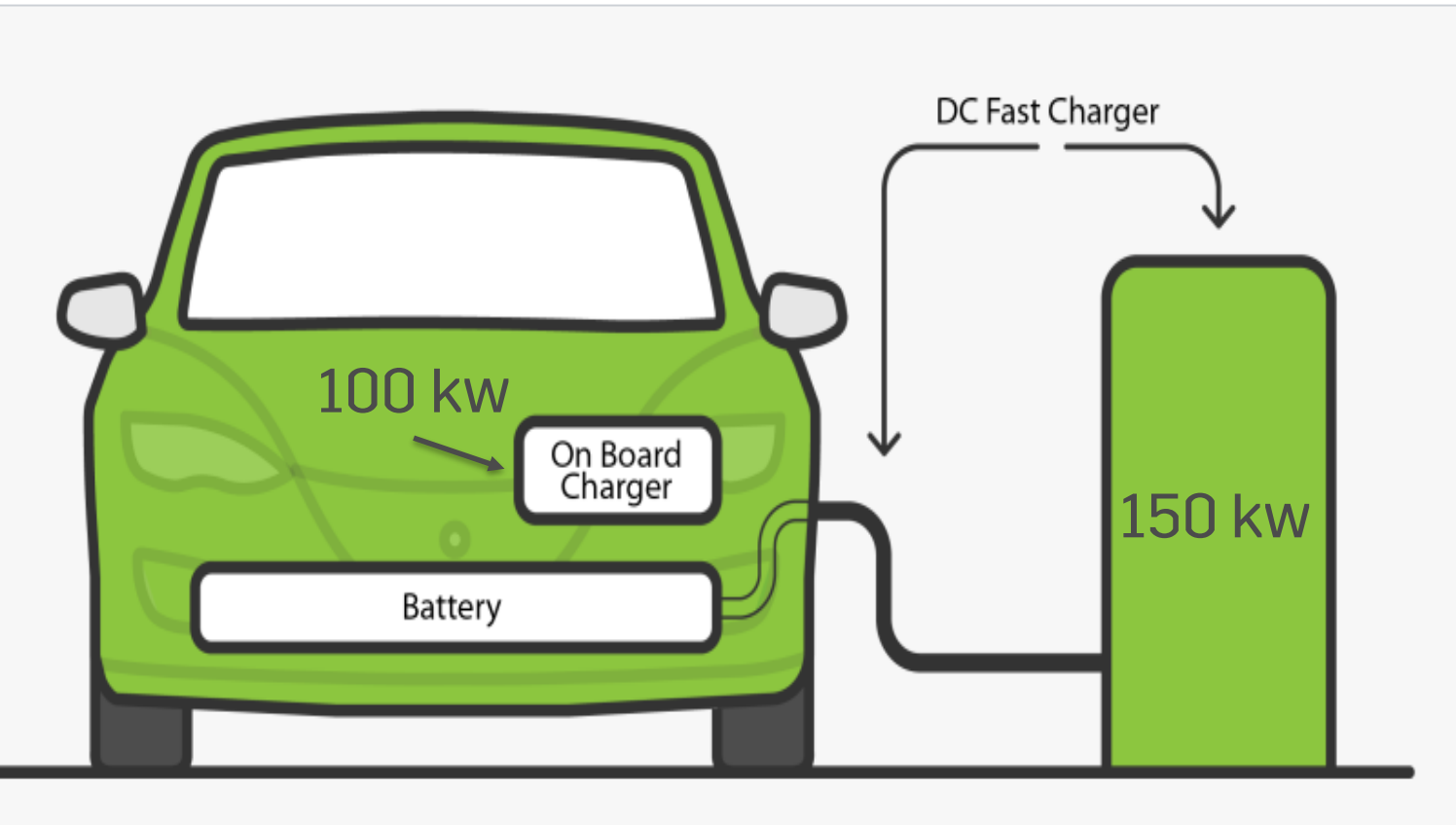
CHADeMo – DC charging connector that is used primarily on Mitsubishi and Nissan vehicles



Tesla Connector – Tesla has a proprietary connector that is capable of charging both AC and DC charging levels all in on system.



ONBOARD VS CHARGING STATION OUTPUT



Example EV specifications

Most EVs have onboard chargers for both AC and DC. These onboard chargers are rated to accept charging speeds from an input charging source such as a level 2 charger or DCFC station.

In this scenario, the EV could accept charging speeds for DC 50kw.

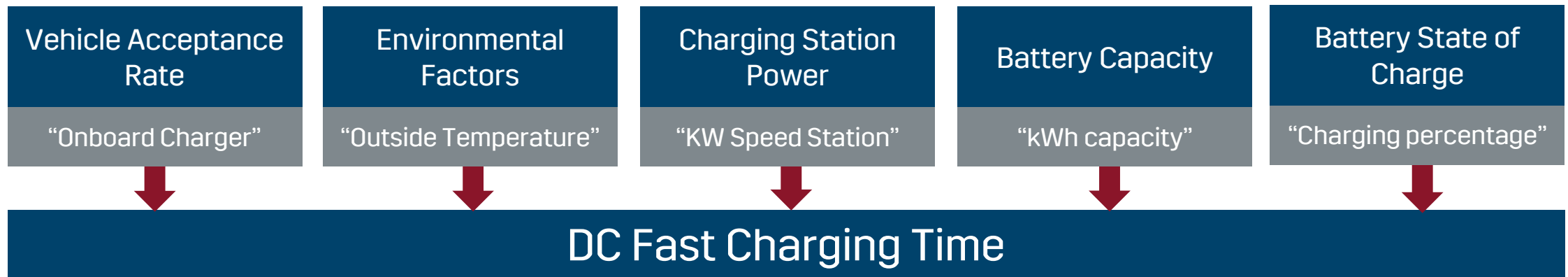
And while the DCFC is capable of delivery 150kw, the vehicle will only charge at 50kw due to its onboard charger capability.

DC FAST CHARGING TIMES

In general, DCFC can add up to 100 miles of range in 10 minutes. However, charging times vary due to a number of factors.

While batteries benefit from faster charging on DC, charging speeds are throttled once the battery reaches 80% as a protective measure.

So while charging to 80% can be very fast, charging the last 20% of the battery can take longer.



Actual charge times will vary based on battery condition, output of charger, vehicle settings and outside temperature.

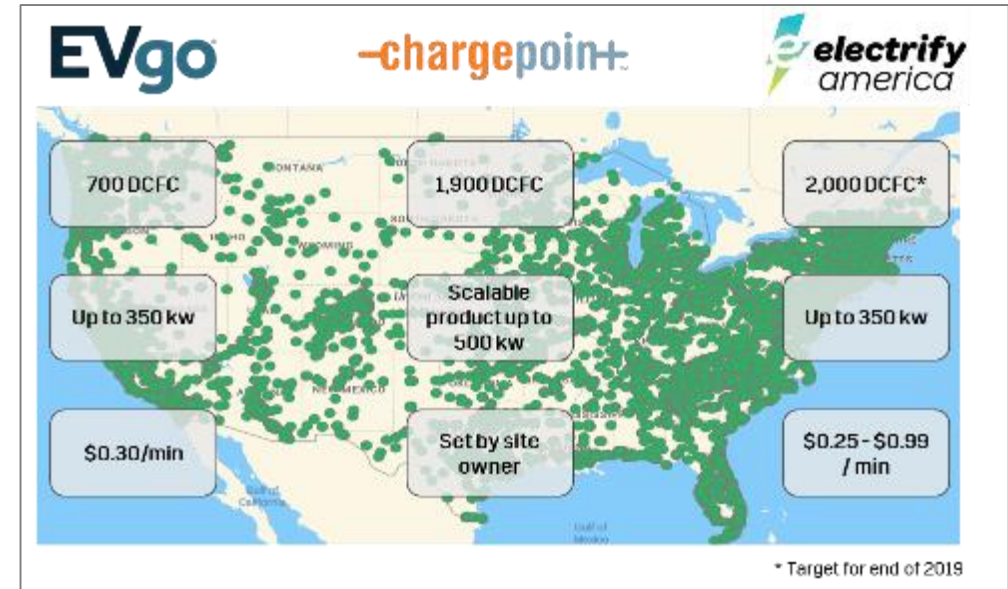
PUBLIC CHARGING NETWORKS

There are several key charging networks in the US.

These networks are often referred to as Charge Point Operators (CPOs). Each CPO has its own business model with some charging by the session time or by the kWh.

- Chargepoint
- EVgo
- Electrify America

Tesla operates a private charging network that only works with Tesla vehicles. Their network operates over 1,800 charging stations.



CUSTOMER ACCESS TO PUBLIC CHARGING



EV drivers have access thousands of public charging plugs across the US and Canada..

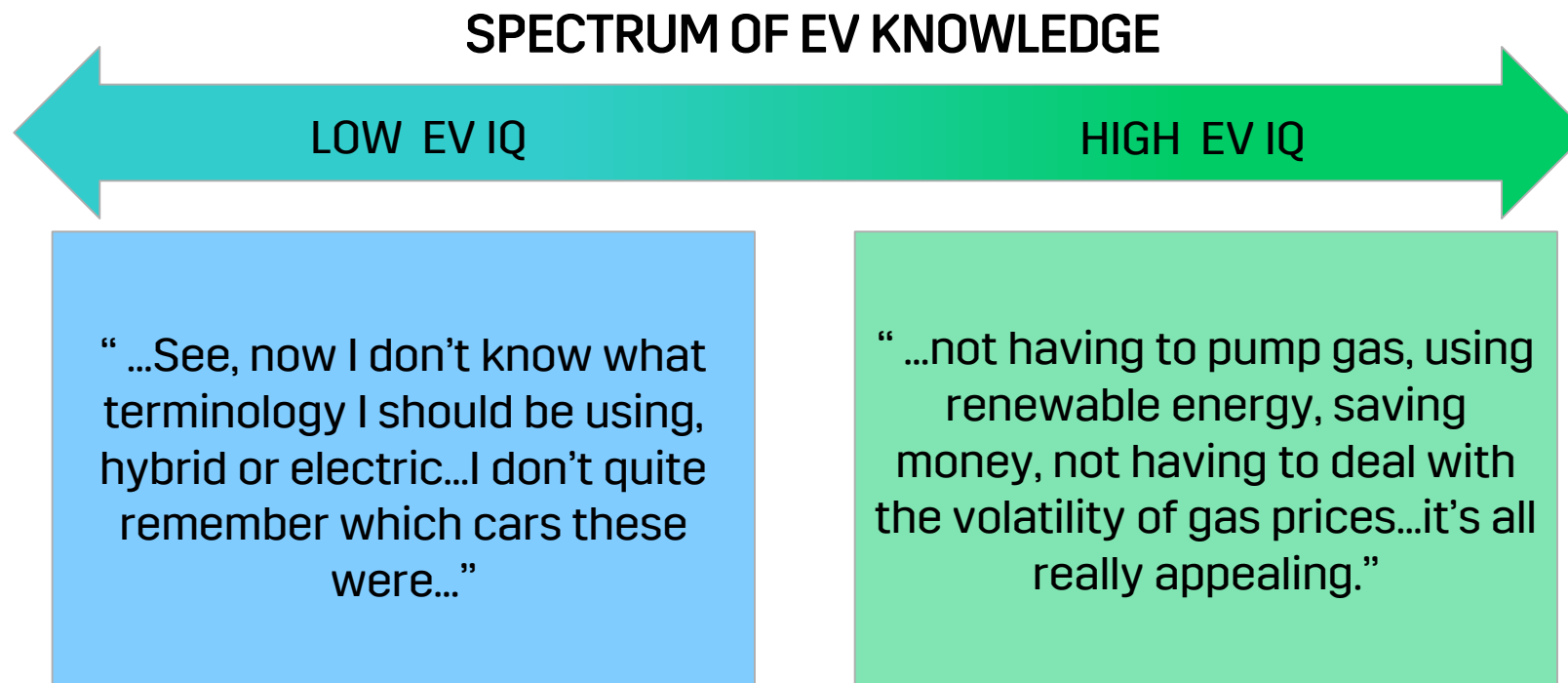
The Energy Assist feature app will allow customers to find, intelligently route plan, and access public charging.

SHOPPING EXPERIENCE & BARRIERS

CURRENT EV SHOPPING EXPERIENCE

Though interest and motivation in EVs is growing, intenders are beginning their research process at varying degrees of understanding. The knowledge gathering process for intenders is often fragmented, distracting, and requires more effort than typical car research.

As a result, the day-to-day realities of owning an EV are abstract



PERCEIVED ADOPTION BARRIERS

While EV sales continue to grow each year, there are still adoption barriers that still prevent gas drivers from converting to EV.

- Purchase Price
- Range
- Body Style Choice
- Availability of Charging
- Service and Repair Cost



OVERCOMING CUSTOMER OBJECTIONS

The good news is that most EV barriers are becoming less and less of an issue as technology and infrastructure continues to improve. Below are counterarguments to overcome common rejection obstacles:

Customer Objection	Counter-Point
<i>EV's cost too much compared to a regular gas vehicle</i>	"There are many state incentives and rebates that can reduce the initial price of the vehicle. Additionally, EVs often qualify for perks such as HOV access and preferred parking"
<i>The range worries me, I don't think it is enough for my day to day.</i>	"The average American drives about 39 miles per day. Many EVs today achieve ranges well over 200 miles on a single charge. In fact, many of the EVs coming to market in the future will have ranges of 300+ miles. And 95% of EV owners have never run out of charge."
<i>EVs only come in small sedans or hatchbacks. I need a larger vehicle.</i>	"There are EV sedans and SUVs on the market today. Over 120 competitive electric vehicle entries are planned to enter the market in the next few years."
<i>There are not enough places to charge</i>	"Over the last 3 years, the availability of public charging outlets has nearly doubled, providing increased convenience for electric vehicle owners. There are over 70,000 public charging stations across the US. And while public infrastructure is a great option, EV owners complete 75% of their charging at home!"
<i>This technology is still new and I don't want expensive repairs.</i>	"EVs have fewer moving parts – no oil changes ever! "

COLLECTIVELY, WE NEED TO MAKE PURCHASING AN EV EASIER

In order to create a world-class EV shopping experience, we will need:

- Products that meet customer demand
- Immersive EV training for all staff
- Understanding of federal and state incentives & other benefits
- Retail tools to assist customers in their purchase journey
- Proper infrastructure to support operations

Both OEM and dealerships, must work together to demystify EV ownership and make EV benefits clear and concrete.

CADILLAC'S EV VISION

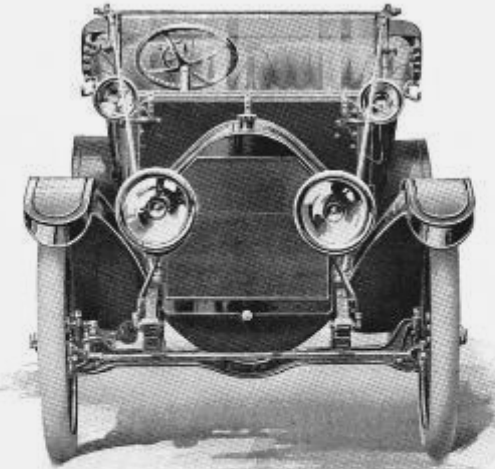
CADILLAC'S EV VISION

Building on more than a century of innovation, the Cadillac LYRIQ marks the beginning of a new chapter for the brand – one that is electric and redefines the boundaries and limits of mobility and connectivity.

LYRIQ is just the beginning. It will be joined by a host of other electric vehicles from Cadillac across various segments, giving customers the luxury of choice.

Cadillac isn't just checking off the EV box – we are addressing the perceived pain points lingering in the minds of luxury customers – we seek to deliver the EV experience luxury buyers are craving.

So yes, it is possible to stand behind the vision of zero emissions and simultaneously “flex” as you make your way. As we look ahead to this momentous future, Cadillac's spirit of innovation will once again captivate the next generation.



The CAR
THAT HAS NO CRANK



WE NEED TO POSITION OUR PORTFOLIO AND DEALERS FOR SUCCESS



NEW PRODUCT



INNOVATIVE CX



EV READY NETWORK



INTRODUCING
CADILLAC LYRIQ

WATCH THE SHOW CAR DEBUT
AUGUST 6, 2020
ON [MEDIA.CADILLAC.COM](https://media.cadillac.com)



Cadillac