



# Nevada Division of Environmental Protection

## *Clean Cars Nevada*

On the Road to a Cleaner Nevada

June 17, 2021

**Stakeholder Workshop**

# STAKEHOLDER WORKSHOP

## JUNE 17, 2021 @ 1:30 TO 4:30 PM



### Format

- 16 presenters
- 5-10 minute presentations with Q/A at the end of each presentation
- Short break @ 3pm

# STAKEHOLDER WORKSHOP

## JUNE 17, 2021 @ 1:30 TO 4:30 PM



### Presenters

Organization	Presenter
Auto Alliance	Steven Douglas
Tesla	Thad Kurowski
Rivian	Chris Nevers
Lucid	Daniel Witt
Nevada Franchised Automobile Dealers	Andrew MacKay
Nevada Clean Cars Coalition/SWEEP	Angie Dykema
Shulock Consulting	Chuck Shulock
Consumer Reports	Alfred Artis

# STAKEHOLDER WORKSHOP

## JUNE 17, 2021 @ 1:30 TO 4:30 PM



### Presenters (continued)

Organization	Presenter
American Lung Association	Melissa Ramos
Plug In America	Peter O'Connor
Chispa Nevada	Rudy Zamora
Advanced Energy Economy	Sarah Steinberg
ChargePoint	Cesar Diaz
Western States Petroleum Association	Varalakshmi Jayaram
Nevada Petroleum Marketers & Convenience Store Association	Elliot Malin
NV Energy	Marie Steele

# Clean Cars Nevada

All Electric Automakers  
June 17, 2021

LUCID

TESLA

 RIVIAN

# LUCID

- **American Automaker:** Designed in CA, Built in AZ
- **Industry-leading efficiency:** Key to mass adoption
- **Deliveries in 2H 2021**

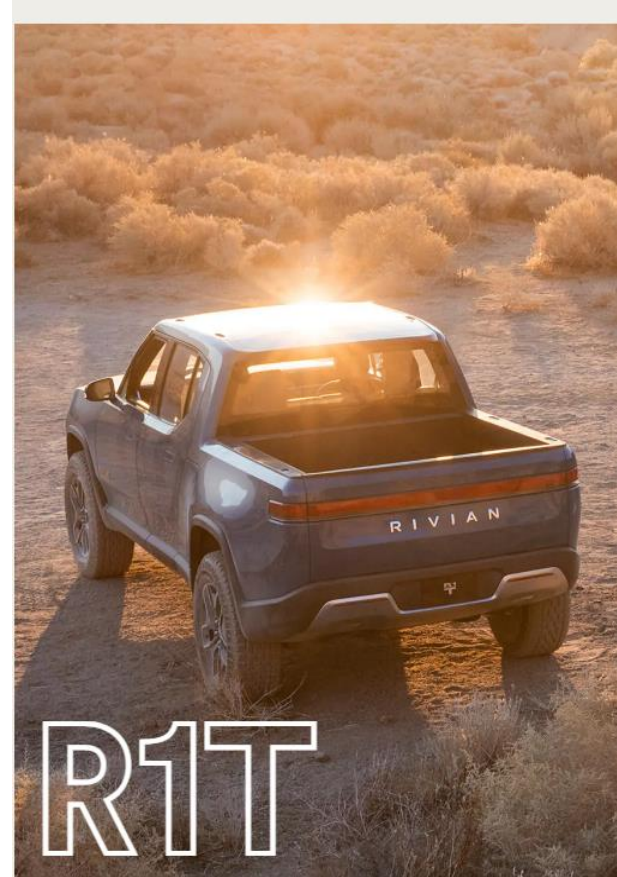


# TESLA





KEEP THE WORLD ADVENTUROUS FOREVER



- US company, built in US and independently owned
- All-electric trucks and SUVs
- Production starts this summer



# ALL ELECTRIC AUTOMAKERS SUPPORT CLEAN CARS NEVADA

## ZEV CREDIT APPROACH

Early Credits	Initial Proportional Credits
Directly related to Nevada ZEV sales	Proportionally based on a more mature and understood ZEV market
Manufacturers engage earlier with the ZEV Program	More effective in reducing the compliance uncertainty for manufacturers in the first few years of the program
Earlier and direct impact on air quality	Provides a credit buffer should CA dramatically increase its ZEV % in 2026

- Early Credits – yes, NV desires to facilitate the early adoption of ZEVs by the marketplace, and manufacturers should be able to capitalize on their early action by earning bankable credits. NV will accept and bank early credits for ZEVs sold in MY 2023 and MY 2024.
- **Proportional Credits – not yet; revisit in 2022 for MY 2026 and beyond.**

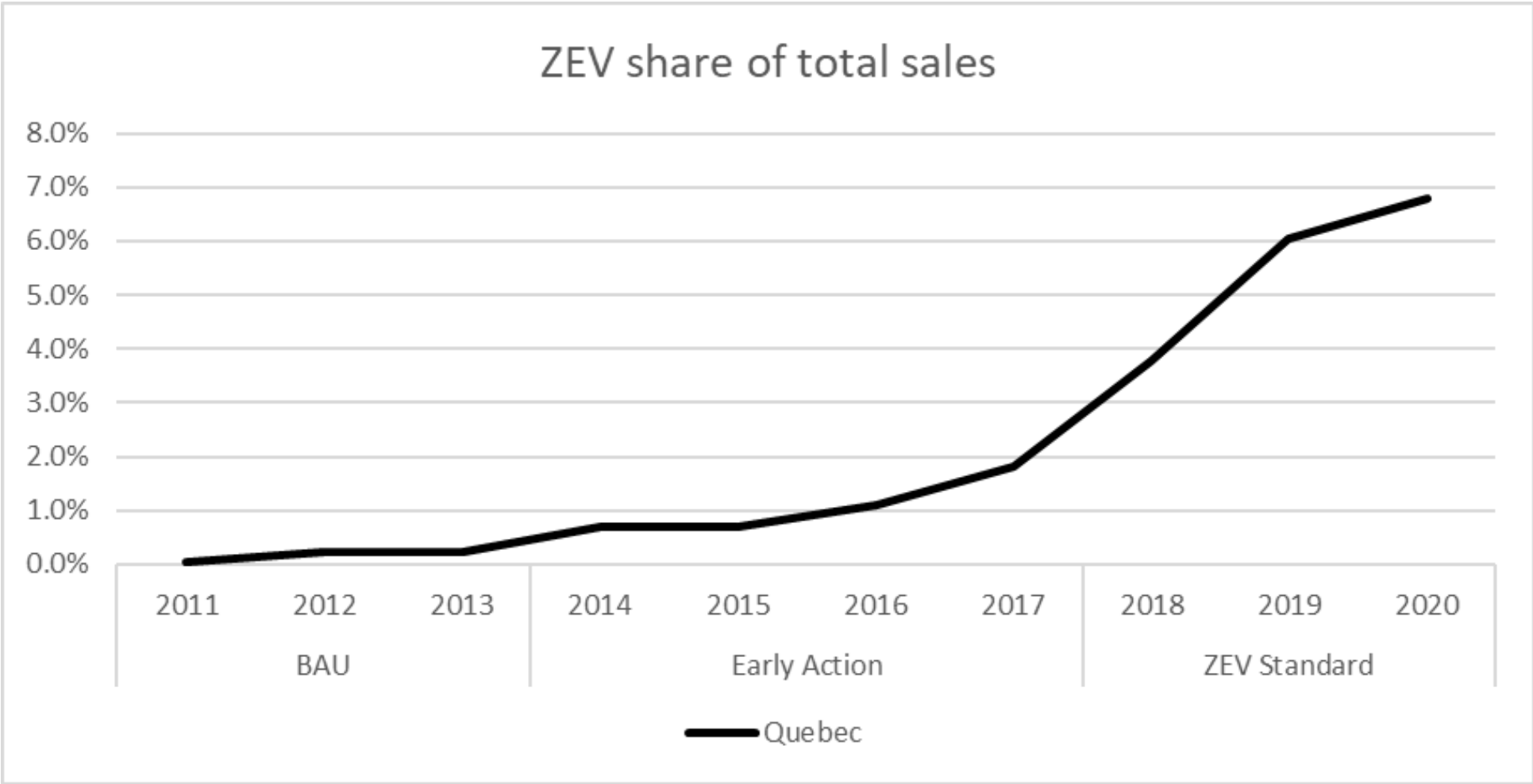
# EXISTING & POTENTIAL FUTURE FEDERAL SUPPORT

## Federal Support Growing

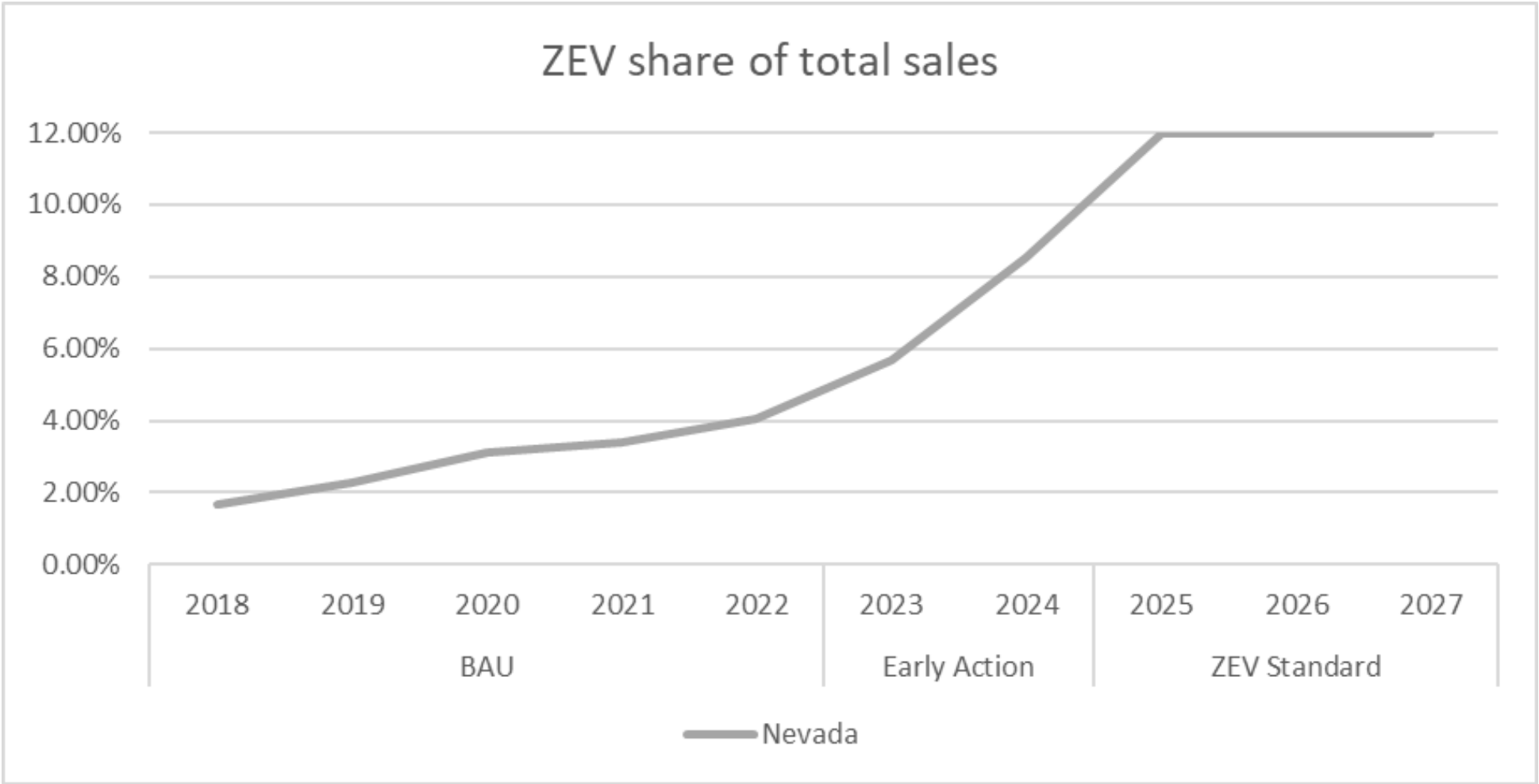
- Federal (U.S.) commitment to cut GHG emissions 50% by 2030
- EPA directed to revisit greenhouse gas rules
- U.S. rejoins Paris Climate Agreement
- Proposed \$174 billion to promote electric vehicles and EV charging stations



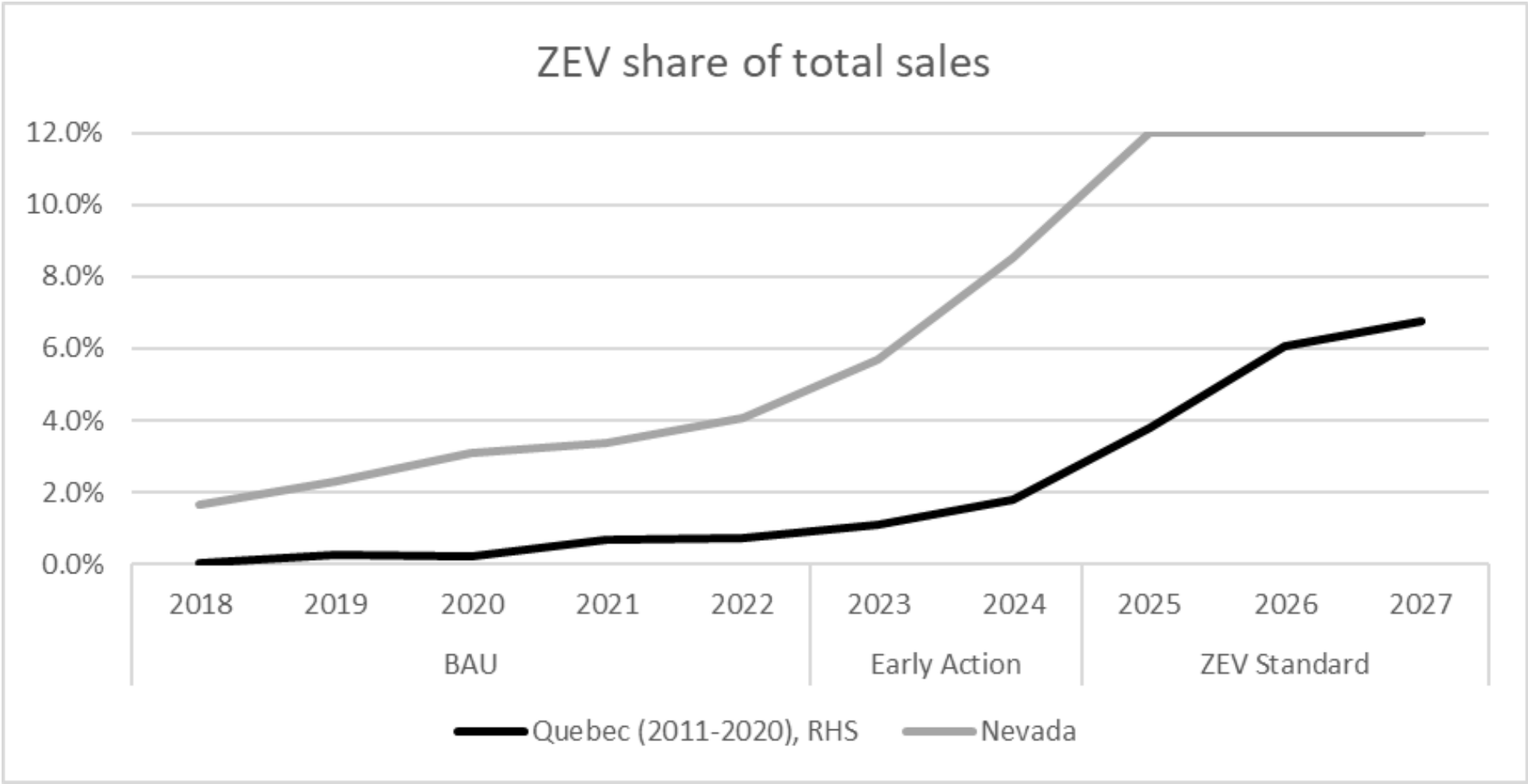
# QUEBEC ZEV EXPERIENCE



# APPLYING QUEBEC ZEV ADOPTION EXPERIENCE TO NEVADA



# ALL ELECTRIC AUTOMAKERS:



# THANK YOU

All Electric Automakers  
June 17, 2021

LUCID

TESLA

 RIVIAN



**NFADA**  
NEVADA FRANCHISED  
AUTO DEALERS ASSOCIATION





Est. 1962, representing 114 new passenger, light truck and heavy-duty truck dealerships.

The franchised model promotes inter-brand and intra-brand competition which guarantees Nevada's consumers have a choice and voice in the vehicle-buying process. Nevada's dealers working in concert with our manufacturer partners offer dozens of Zero Emission Vehicles (ZEV) to consumers for lease or purchase.



# Nevada's Franchises by the Numbers

**16,000**

Total employment from dealerships is nearly 16,000 Nevadans across the state (10.5% of state retail employment).

**\$1.2 BILLION**

Total earnings for Nevada residents attributable to dealers exceeds \$1.2 billion.

**1,920**

The average Nevada dealership sold 1,920 new and used vehicles and serviced 22,300 vehicles.

**\$69,000**

The average salary of an employee in a Nevada dealership is nearly \$69,000.

**22,300**

Nevada franchised dealerships are one of the largest drivers of state and local tax revenue. In 2019 alone, dealers generated nearly half-a-billion in revenue to state and local coffers including \$439,128,000 in sales taxes.

# Franchised Dealer's Responsibility

A key responsibility of today's franchised dealers is to ensure Nevada's vehicle owners are protected and their vehicles remain safe and road-worthy.

- Vehicle warranty & repairs:
  - Dealers advocate on behalf of customers.
  - Ensure repairs are performed in accordance with manufacturer mechanical and safety standards.
  - Dealers provide assurance that repairs will guarantee customer vehicles are safe and roadworthy.





# Nevada Auto Outlook™

Sponsored by: Nevada Franchised Auto Dealers Association

### FORECAST

## Nevada New Vehicle Market Predicted to Increase by 9% in 2021

Below is a summary of five key trends in the Nevada new vehicle market.

### State new retail light vehicle registrations declined 5.2% in the First Quarter of 2021

The state market declined during the first three months of this year versus a year earlier, but the market would have increased were it not for the typical lag in measuring registrations. The recording of registrations can occur 15 days, or more, after the date of sale. So the March 2020 total likely reflects vehicles that were sold from around the middle of February to the middle of March, when COVID was barely a factor. The full impact of the pandemic will be evident in the Second Quarter, when the market could improve by more than 30%.

### Nevada new vehicle market predicted to increase by 9% for all of 2021

Here is the scenario that was hoped for in 2021: the vaccine rollout would expand as the year progressed, COVID would abate, full re-opening would occur, economic recovery would gain steam, and new car sales would head higher. But this scenario is far from guar-

anteed and the microchip shortage, and other supply-related bottlenecks have added some uncertainty. If the outlook for 2021 was only a function of demand, vehicle sales would likely be off to the races in the second half of the year, but lean inventories will act as a speed bump that will slow the pace of the recovery.

### Light truck market share moves above 75%

Combined SUV, pickup, and van sales continued to improve. Higher gas prices might give a temporary boost to passenger car sales, but demand for trucks and SUVs should continue to fuel increases in light truck share.

### Alternative powertrain market improves

Hybrid and electric vehicle registrations were up 75% during the first three months of '21 versus the decline in the overall market.

### Toyota, Chevrolet, Ford, Honda, and Hyundai are leaders in state market

Toyota was the best selling brand in the First Quarter, with a 17.7% share. Hyundai's state share was 5.9%, well above its 4.3% share in the U.S.

### Key Factors Driving the State New Vehicle Market



**Low interest rates:** Interest rates should remain at historically low levels for the foreseeable future, supporting consumer affordability.

**Pent up demand:** Delayed purchases accrued due to the pandemic will give sales a boost for at least the next two years.

**Employment:** Hiring has accelerated and it's possible that jobs lost during the pandemic could be recovered by the middle of 2022.

**Economic stimulus:** The Federal government has continued to support the economy, which will boost growth well into next year.

**Tight inventories:** Supply-induced production cutbacks will hold back the rate of growth in new vehicles sales during 2021.

**Rising gas prices:** Higher fuel prices reduce disposable income, but will spur interest in the bevy of electric vehicles hitting the market.

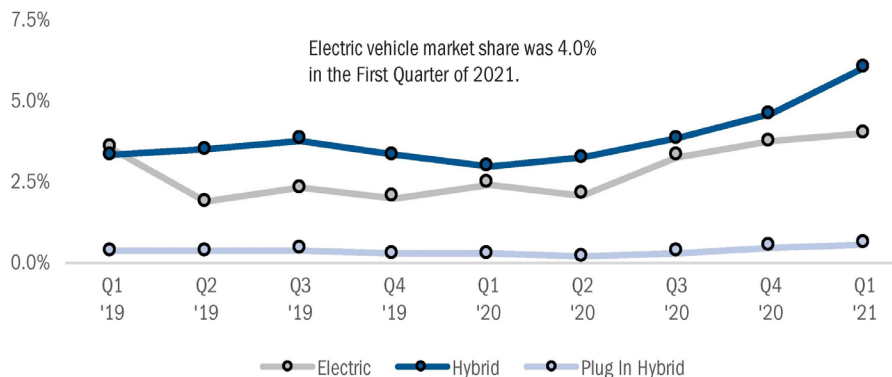
# 2021 Q1 Market Snapshot

## Nevada New Vehicle Market Dashboard



### TRACKING ELECTRIC AND HYBRID VEHICLE SALES

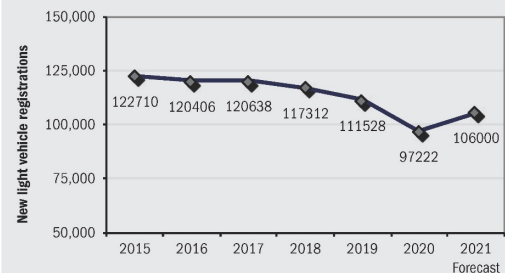
#### Estimated Quarterly Alternative Powertrain Market Share (includes hybrid and electric vehicles)



#### YTD Share by Engine Type (2020 and 2021, thru March)

	YTD '20	YTD '21	
Hybrid	3.0%	6.0%	↑
Electric	2.4%	4.0%	↑
Plug In Hybrid	0.3%	0.6%	↑

#### Annual Trend in State Market



Historical Data Source: AutoCount data from Experian.

The graph above shows annual new retail light vehicle registrations from 2015 thru 2020 and Auto Outlook's projection for 2021.

#### Market Summary

	YTD '20 thru Mar.	YTD '21 thru Mar.	% Chg. '20 to '21	Mkt. Share YTD '21
TOTAL	25,740	24,405	-5.2%	
Car	7,520	5,968	-20.6%	24.5%
Light Truck	18,220	18,437	1.2%	75.5%
Domestic	9,269	9,640	4.0%	39.5%
European	2,800	2,546	-9.1%	10.4%
Japanese	11,059	9,825	-11.2%	40.3%
Korean	2,612	2,394	-8.3%	9.8%

Data Source: AutoCount data from Experian.

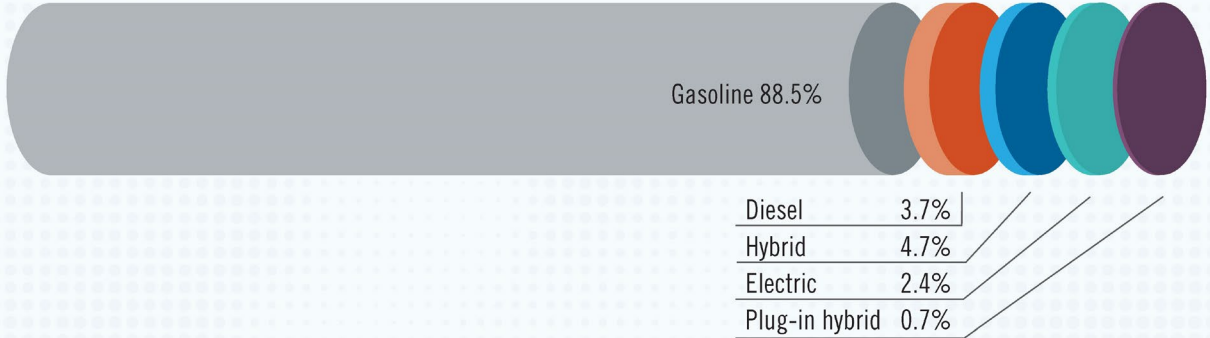
Domestics consist of vehicles sold by GM, Ford, FCA (excluding Alfa and FIAT), and Tesla.

The graph above shows estimated hybrid powertrain and electric vehicle market share. Registrations by powertrain for vehicles equipped with multiple engine types were estimated by Auto Outlook. The estimates are based on model registrations compiled by Experian, and engine installation rates collected from other sources.



# Powertrain Market Share Data

## Market Share, by powertrain



NATIONAL AUTOMOBILE DEALERS ASSOCIATION  
8484 Westpark Drive, Suite 500 | Tysons, VA 22102

SOURCE: Wards Intelligence

Estimated New Retail Light Vehicle Market Share for Alternative Powertrain Vehicles in Selected States YTD 2021 thru March

	Electric	Hybrid	PHEV	Total
California	8.1%	10.4%	2.8%	21.3%
Colorado	3.9%	5.6%	1.3%	10.8%
Maryland	2.6%	7.6%	1.1%	11.3%
Massachusetts	2.7%	7.1%	1.2%	11.0%
<b>Nevada</b>	<b>4.0%</b>	<b>7.6%</b>	<b>0.6%</b>	<b>12.2%</b>
New Jersey	3.6%	4.8%	0.7%	9.1%
New York	1.9%	5.0%	0.9%	7.8%
Oregon	4.8%	10.0%	1.7%	16.5%
Pennsylvania*	1.7%	5.3%	0.5%	7.5%
Vermont	2.6%	6.9%	1.4%	10.9%
Washington	5.0%	12.0%	1.1%	18.1%
U.S.	2.7%	5.9%	0.9%	9.5%

Registrations for vehicles equipped with multiple engine types estimated by Auto Outlook.

The estimates are based on model registrations compiled by Experian.

\*Pennsylvania only includes Philadelphia and Pittsburgh metro areas



# Nevada's Dealers: Embracing EV Sales

- OEMs have committed spending more than ¼ trillion dollars to develop and bring to market new electric vehicles including 18 this year, 34 next year, and over 100 by 2025.
  - EV Sales reached record levels in 2020.
  - Expected to quadruple in the next four.
- New vehicle dealerships across Nevada are spending millions of dollars related to EVs.

(Reprinted with amendments adopted on May 30, 2021)  
**THIRD REPRINT S.B. 448**

SENATE BILL NO. 448—SENATORS BROOKS, DONATE, CANNIZZARO,  
LANGE; DENIS, NEAL, OHRENSCHALL, SCHEIBLE AND SPEARMAN

MAY 13, 2021

JOINT SPONSORS: ASSEMBLYMEN MONROE-MORENO, FRIERSON,  
CARLTON, MARZOLA, WATTS; BILBRAY-AXELROD,  
BROWN-MAY, DURAN, FLORES, GONZÁLEZ, GORELOW,  
JAUREGUI, C.H. MILLER, NGUYEN, ORENTLICHER, PETERS,  
THOMAS, TORRES AND YEAGER

Referred to Committee on Growth and Infrastructure

SUMMARY—Revises provisions governing public utilities.  
(BDR 58-46)

FISCAL NOTE: Effect on Local Government: May have Fiscal Impact.  
Effect on the State: Yes.

EXPLANATION—Matter in *bolded italics* is new; matter between brackets ~~omitted material~~ is material to be omitted.

AN ACT relating to utilities; revising provisions governing partial tax abatement for certain renewable energy facilities; revising provisions governing the use of money in the Renewable Energy Account; repealing provisions governing the Electric Vehicle

## EV UPGRADE COSTS

Here's approximately how much some brands are asking dealers to invest on chargers and other upgrades to sell and service EVs:

<b>Ford</b>	\$35,000
<b>Cadillac</b>	\$200,000
<b>GMC</b>	\$200,000
<b>Porsche</b>	\$400,000
<b>Volvo</b>	\$50,000-\$300,000

Source: Automotive News-6/7/2021



# Challenges

## Inventories

Unexpected supply chain interruptions have resulted and will result in continued automotive production losses.

### THE BREAKDOWN

	<b>Announced</b>	<b>Projected</b>
<b>North America</b>	1,275,000	1,504,000
<b>Europe</b>	953,000	1,395,000
<b>Rest of Asia*</b>	414,000	668,000
<b>China</b>	444,000	577,000
<b>South America</b>	86,000	121,000
<b>Middle East/Africa*</b>	19,000	30,000

\*Unchanged from a week earlier

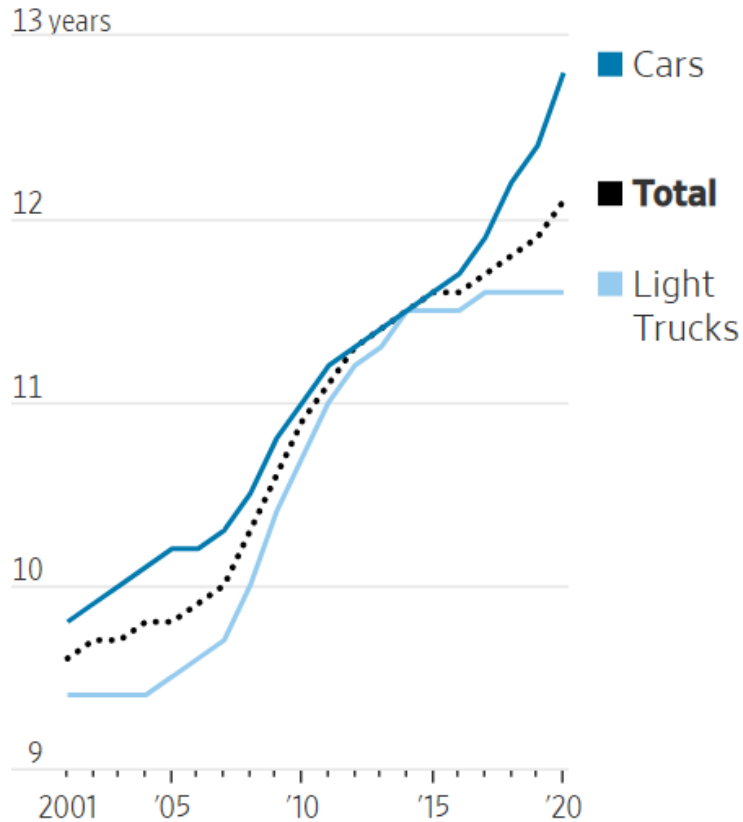


# Challenges

## Price & Vehicle Age

- Americans are holding onto their vehicles longer. The average age on U.S. roadway is now 12.1 years.
- The price paid for average new vehicle in May was \$38,255, a new record high.

Average age of light vehicles in the U.S.



Source: IHS Markit

## VALUES SOAR

Inventory constraints related to the microchip shortage drove up used-vehicle values last month.

### Change from May 2020

Pickups	70%
Midsize cars	40%
SUV/CUV	43%
Vans	40%
Luxury cars	40%
Compact cars	40%
Overall	48%

Source: Cox Automotive





# NFADA

NEVADA FRANCHISED  
AUTO DEALERS ASSOCIATION

Andrew J. MacKay, Executive Director  
1 East Liberty Street, Suite #507  
Reno, NV 89501  
[amackay@nfada.net](mailto:amackay@nfada.net)  
(775) 331-6884





# Clean Cars Nevada

Steve Douglas, Vice President Energy & Environment

June 17, 2021

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ALLIANCE  
FOR AUTOMOTIVE  
INNOVATION

# Our Members



• APTIV •



BMW GROUP

BOSCH



cruise

DENSO



HONDA

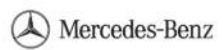


ISUZU



local motors

LUMINAR



Panasonic

PORSCHE



STELLANTIS



TOYOTA

VOLKSWAGEN  
GROUP OF AMERICA

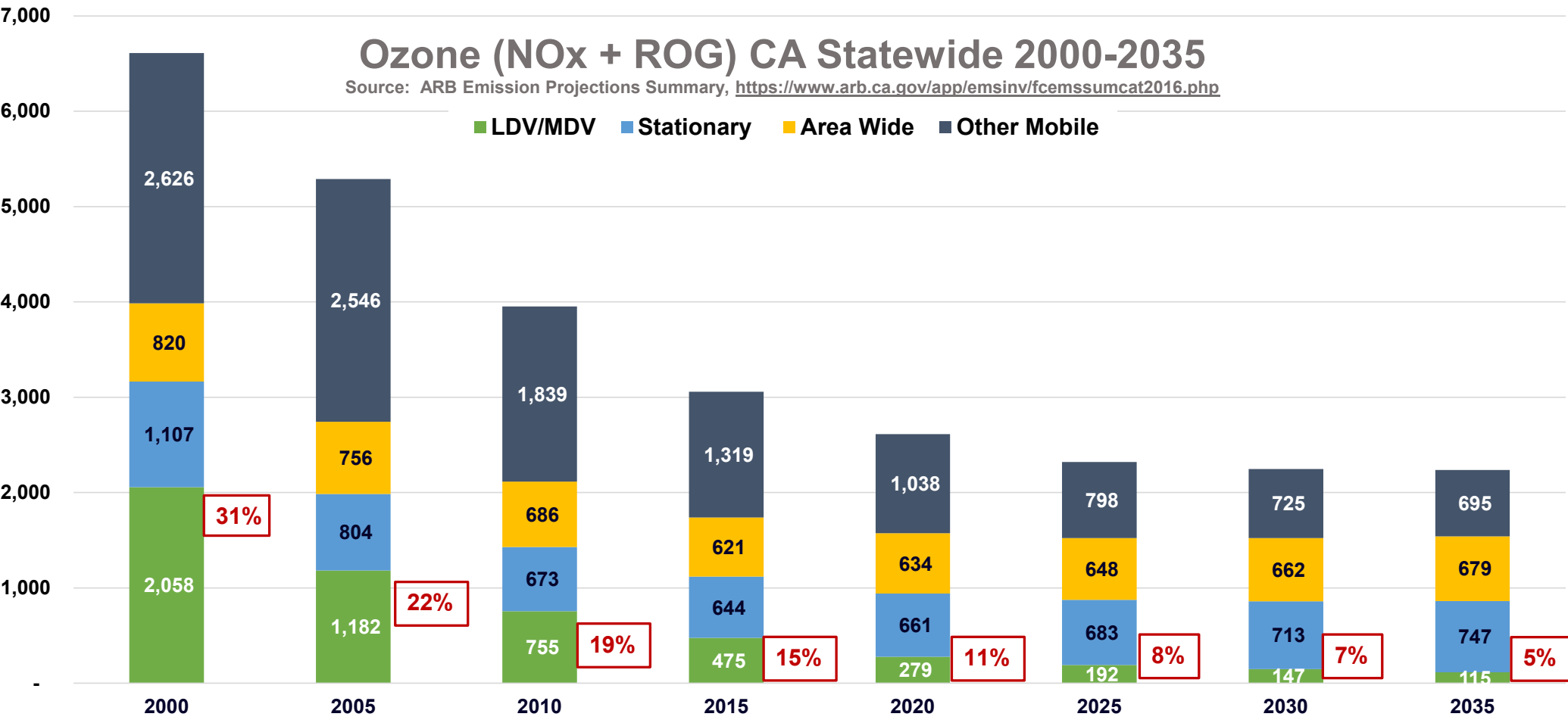


# Cars, Trucks, SUVs, and Minivans SMOG Contribution\*

\*Under Current Federal and/or California Regulations

## Ozone (NOx + ROG) CA Statewide 2000-2035

Source: ARB Emission Projections Summary, <https://www.arb.ca.gov/app/emsinv/fcemssumcat2016.php>



# How clean are cars?

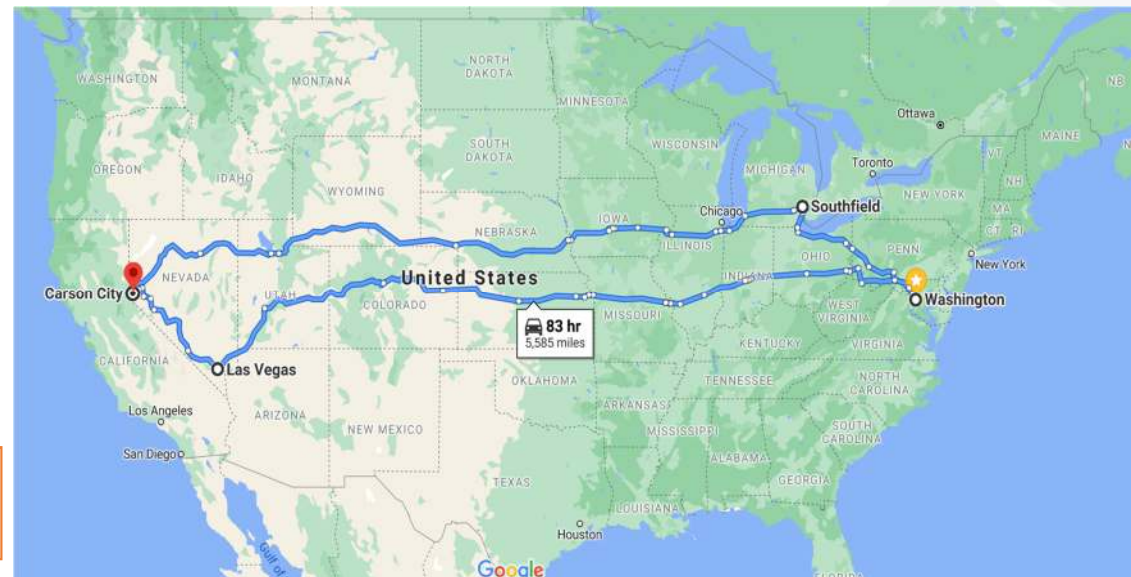
You could run this new Stihl BR430 backpack leaf blower (which meets CARB's emission standards) for **one (1) hour**.

**BUT**

You would **PRODUCE LESS POLLUTION** if you drove a 2020 Jeep Grand Cherokee from Carson City...to our office Southfield, MI...then to Washington DC...then to Las Vegas...then back to Carson City!



One hour of this leaf blower produces the same ozone forming pollution as driving a car 6,198 miles!



## Past

- Car companies
- CARB and EPA

## Future

- Car companies
- CARB and EPA
- Federal, State, Local government
- Dealers
- Builders (Home, office, and apartment)
- Public and private Fleets
- Utilities and Hydrogen producers
- Battery and fuel cell manufacturers
- Hydrogen and electric refueling providers
- Customers

# ZEV Credit Bank

- Regulations require that automakers deliver ZEV credits (not vehicles)
- ZEV sales generate ZEV credits (BEV250 = 4 credits, PHEV25 = 0.8 credits)
- ZEV credits beyond requirements can be banked in “ZEV Credit Bank”
- Each automaker has its own ZEV Credit Bank in each ZEV state
- ZEV credits can be bought, sold, or traded
- ZEV Credit Bank balances are critical:
  - Automaker product cadence rely on flexibilities provided by banked credits as part of ZEV compliance plans
  - CARB sets standards based on ZEV credit bank balances

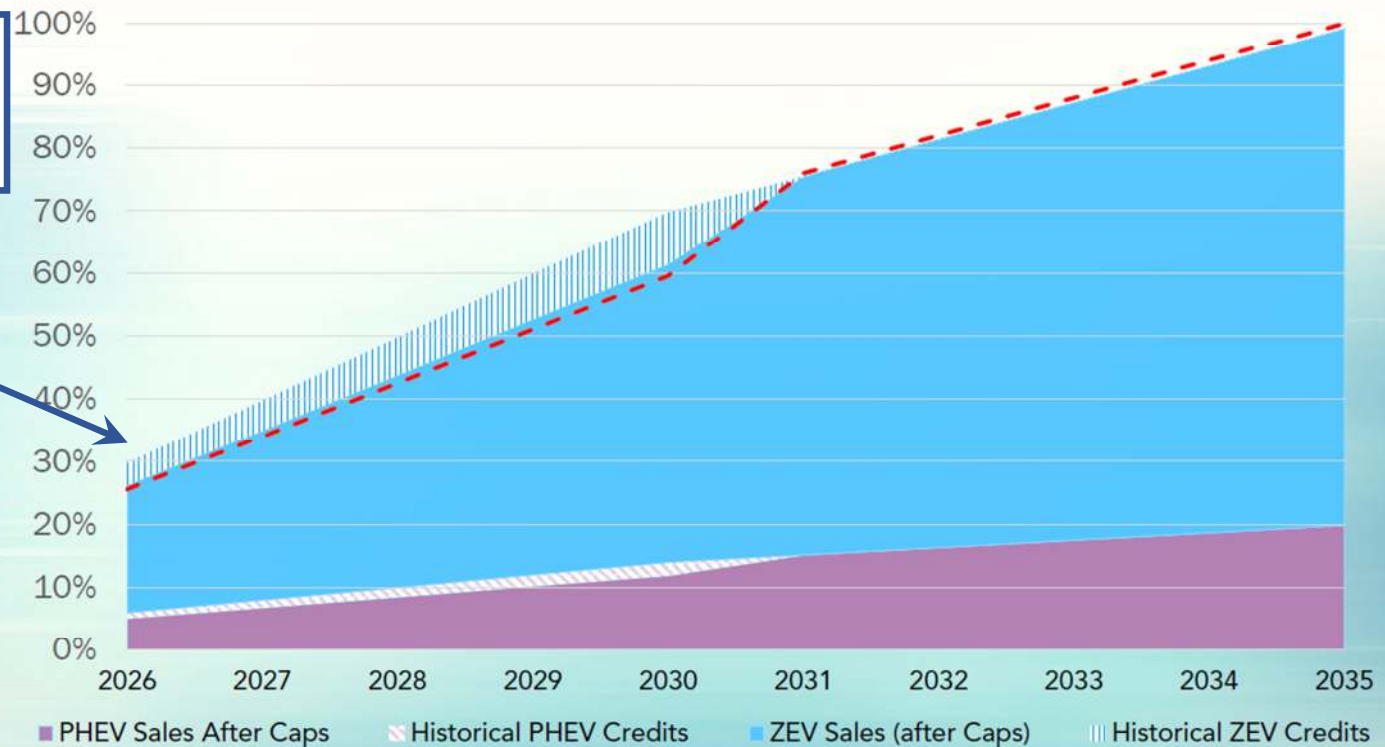
# “Proportional” Credits

- Provides starting balance in an automaker’s NV ZEV Credit Bank
- Starting balance for each automaker proportional to its CA ZEV Credit bank
- Necessary one-time action to:
  - Ensure NV ZEV requirements initially = CA ZEV requirements
  - Smooth transition to ZEV regulations for states starting mid-stream
  - Minimize undue harm on NV vehicle market

# CARB Staff Ideas (6-May-2021 Workshop)

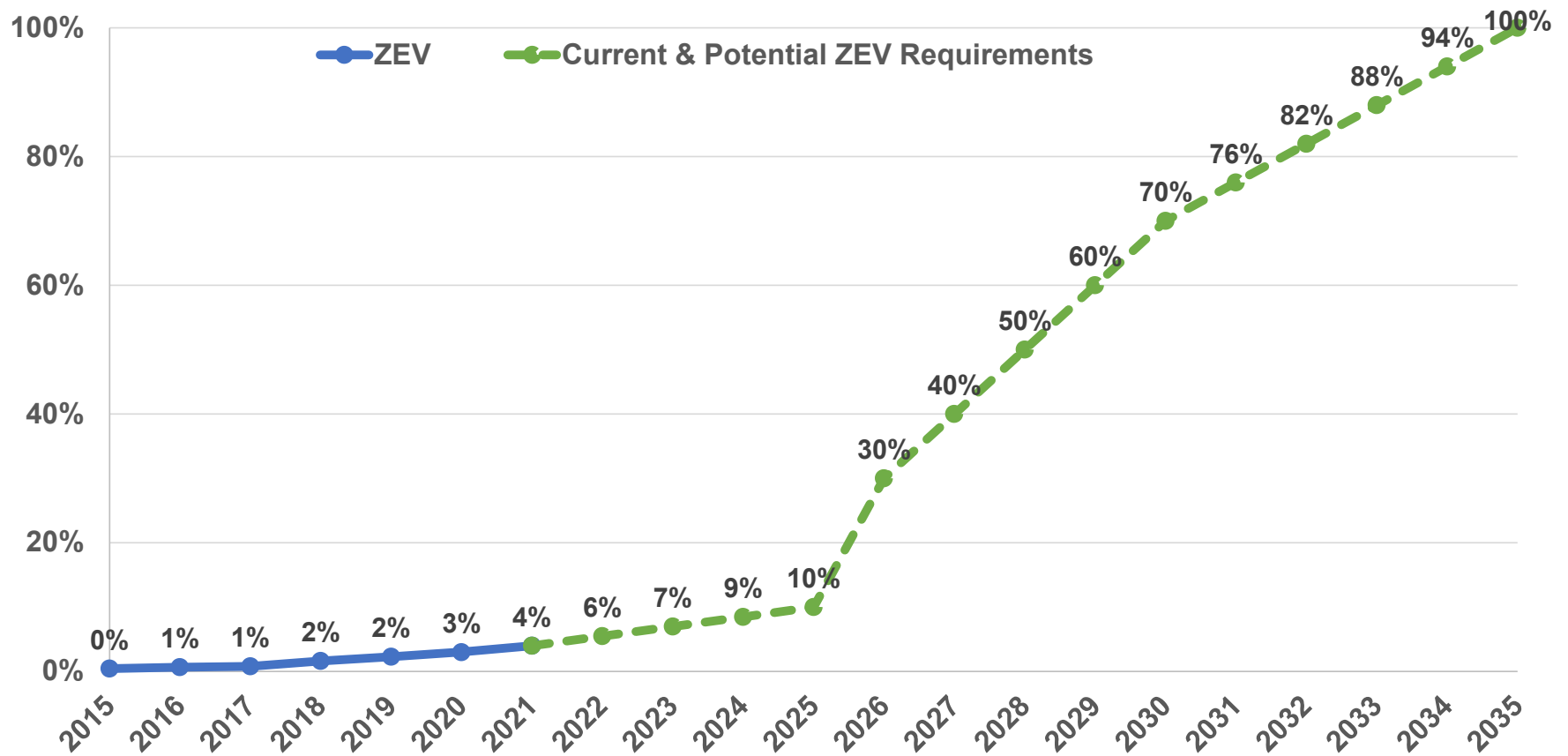
## Potential CA ZEV Requirement Outcome

2026 Standard set at 30%,  
expectation that 4% will be  
met with credits. 2030  
standard 70%, 10% credits





# Historic Sales & Regulatory Requirements



2015-2020 Sales see <https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard>

2026+ ARB Draft Staff Potential regulatory requirements. <https://ww2.arb.ca.gov/events/public-workshop-advanced-clean-cars-ii>

## Agreement with Members of NV Clean Cars Coalition

- Automakers concerned that NV regulations under updated ACC 2.0 regulations could be more stringent than CA regulations
- NV Clean Cars Coalition concern proportional credits could severely restrict ZEVs in NV prior to ACC 2.0
- Auto Innovators and members of NV Clean Cars Coalition worked to develop consensus agreement:
  - Early Credits in 2023 and 2024 Model Years
  - Proportional Credits
    - At the beginning of 2025MY
    - Cannot be bought, sold, or traded while ACC 1.0 regulations applicable in NV
    - After NV ACC 2 rules updated, allow use of credits for equivalent stringency
- Auto Innovators supports changes to the draft regulations to implement this agreement



ALLIANCE  
FOR AUTOMOTIVE  
INNOVATION

*Transforming Personal Mobility*

**Angie Dykema**  
NV Representative, SWEEP

June 17, 2021





# Who Is Supporting Clean Cars Nevada?

Clean Cars Nevada is supported by a diverse coalition of more than 80 business leaders, conservationists, science and public health advocates, labor representatives, community organizations, local governments, and consumer groups that share a commitment to improving air quality and addressing climate change through this initiative.





# Why Nevadans Want Clean Cars

- Economic benefits & cost savings
- More consumer choices
- Clean air and public health
- Reducing greenhouse gas emissions & meeting our climate goals



# Clean Cars Nevada: Projected Impacts

June 17, 2021  
Shulock Consulting

# Overview

- Methodology
- Projected Impacts\*
  - ZEV Sales
  - Emissions
  - Cost
  - Consumer Choice
  - Dealerships

\*Not yet updated to reflect NDEP assumptions

# Clean Cars Nevada

An Analysis of Its Feasibility and Impact on Consumers and the Environment



Prepared by  
Shulock Consulting

With modeling  
support provided by  
Meszler Engineering Services

February, 2021



# Methodology

## Baseline Comparison

- SAFE II versus current Advanced Clean Cars
- MY 2025 start
- LEV and ZEV standards continue unchanged through 2050

## Does Not Incorporate

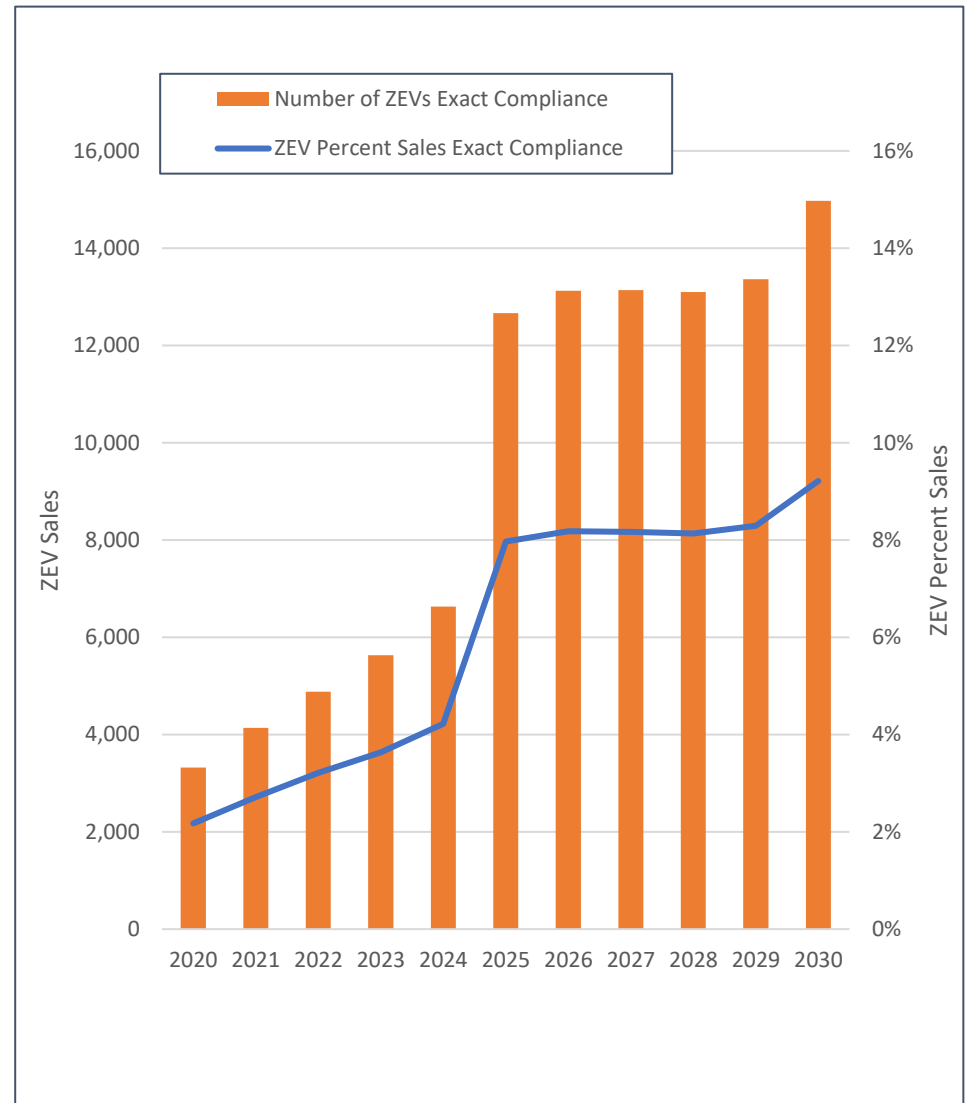
- Any Biden administration changes to vehicle standards
- California voluntary agreement with some automakers
- Future CARB changes to Advanced Clean Cars for MY 2026 and beyond

## Modeling Tools

- ZEV sales model (Shulock Consulting)
- LEV/ZEV emission and cost model (Meszler Engineering Services)

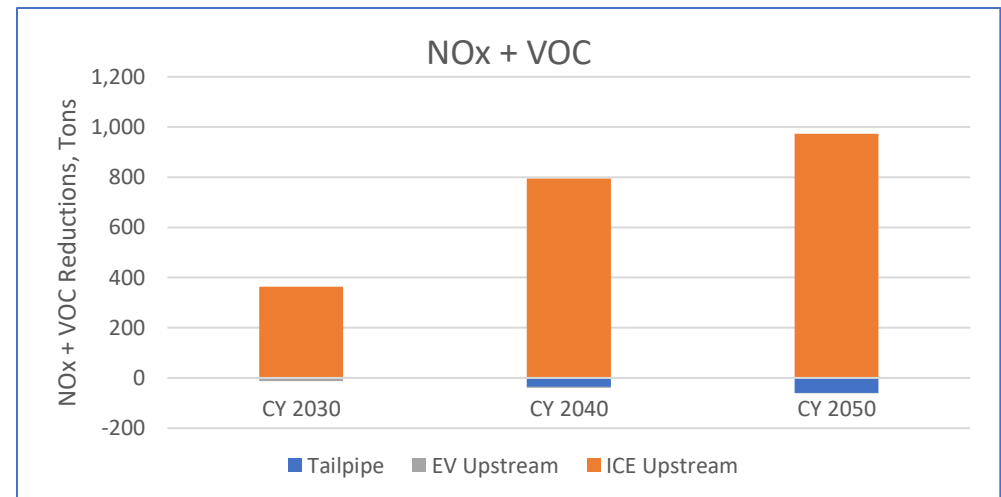
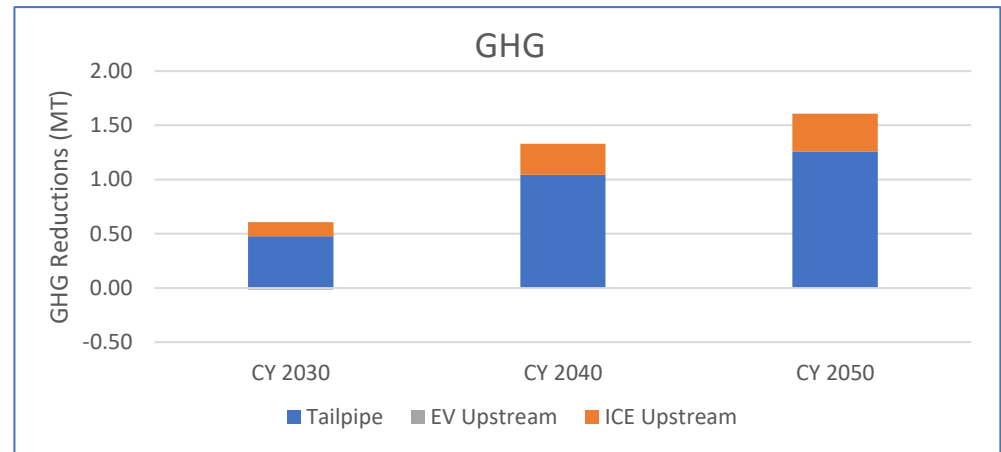
# ZEV Sales

- Many possible compliance pathways
- This is one projection
  - Exact compliance, all manufacturers
  - No use of early credits
- Based on reasonable assumptions, others are also valid



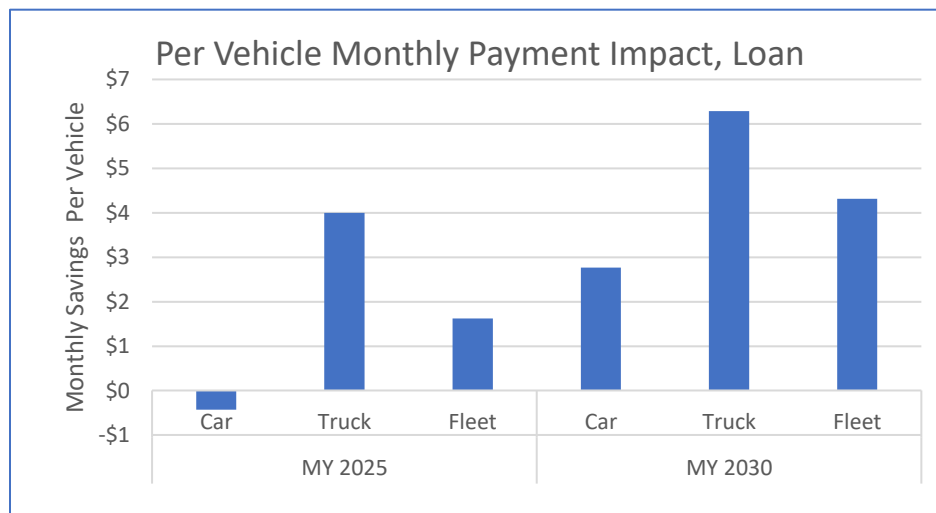
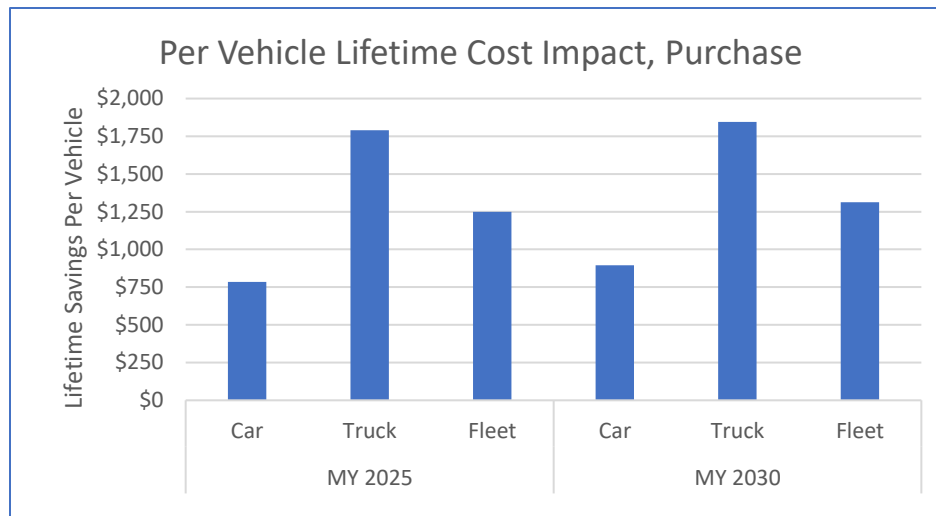
# Emission Reductions

- Combined impact, LEV + ZEV
- Net impact is sum of:
  - Reduced ICE tailpipe
  - Reduced ICE upstream
  - Increased ZEV upstream
- “Reference” grid mix (does not assume decarbonization)
- Will also reduce emissions of PM 2.5, SOx, benzene



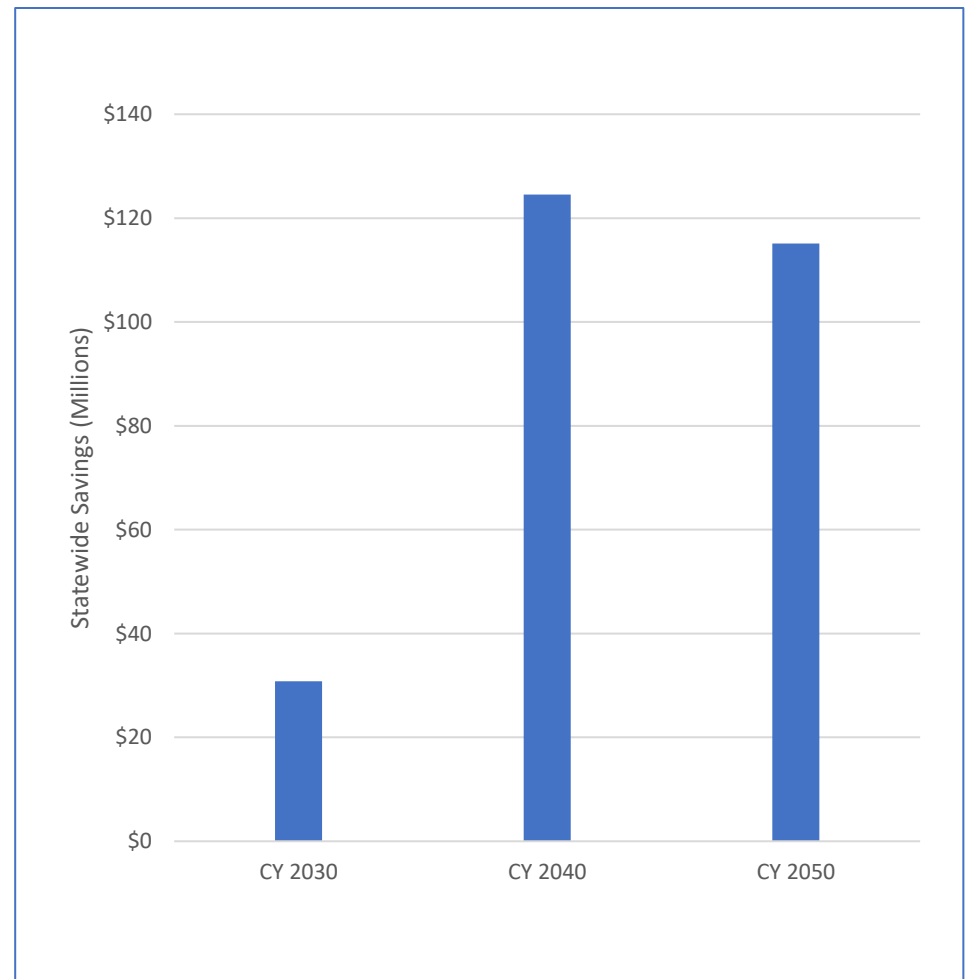
# Consumer Cost Savings

- Combined impact, LEV + ZEV
- LEV
  - Additional upfront cost, all years
  - Reduced lifetime fuel cost
- ZEV
  - Additional upfront cost in early years, reduced upfront cost in later years
  - Reduced lifetime fuel and maintenance cost
  - No incentives
- Discounted at 3 percent



# Statewide Cost Savings

- Per vehicle savings x total vehicle sales
- Discounted at 3 percent

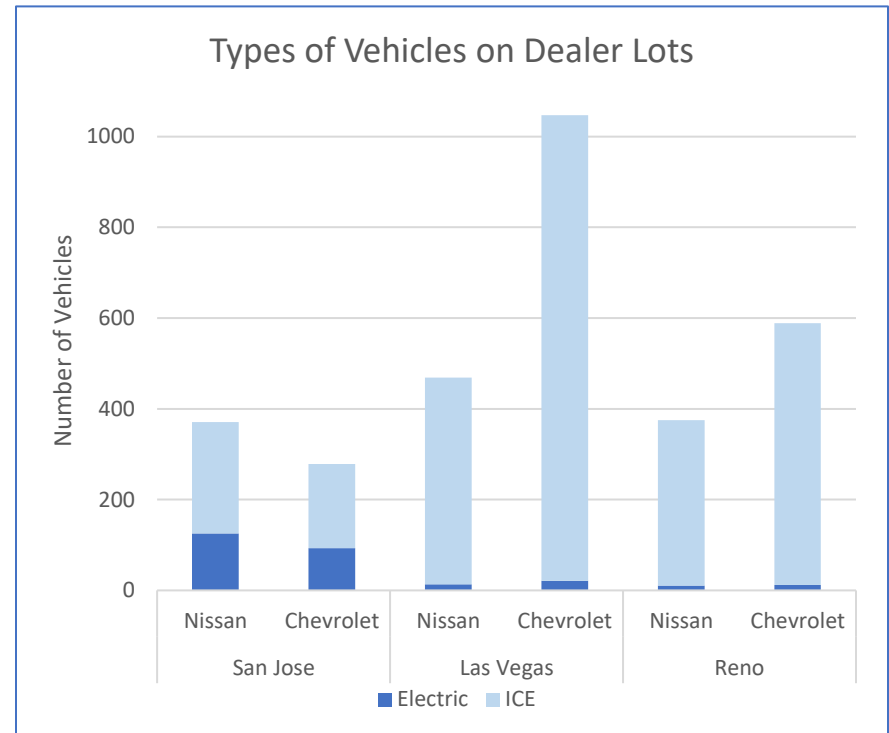


# Consumer Choice

- Many ZEV models are only available in ZEV states
- ZEVs that are distributed nationally tend to have greater availability in ZEV states
- ICE vehicles will be the same, just cleaner and more efficient

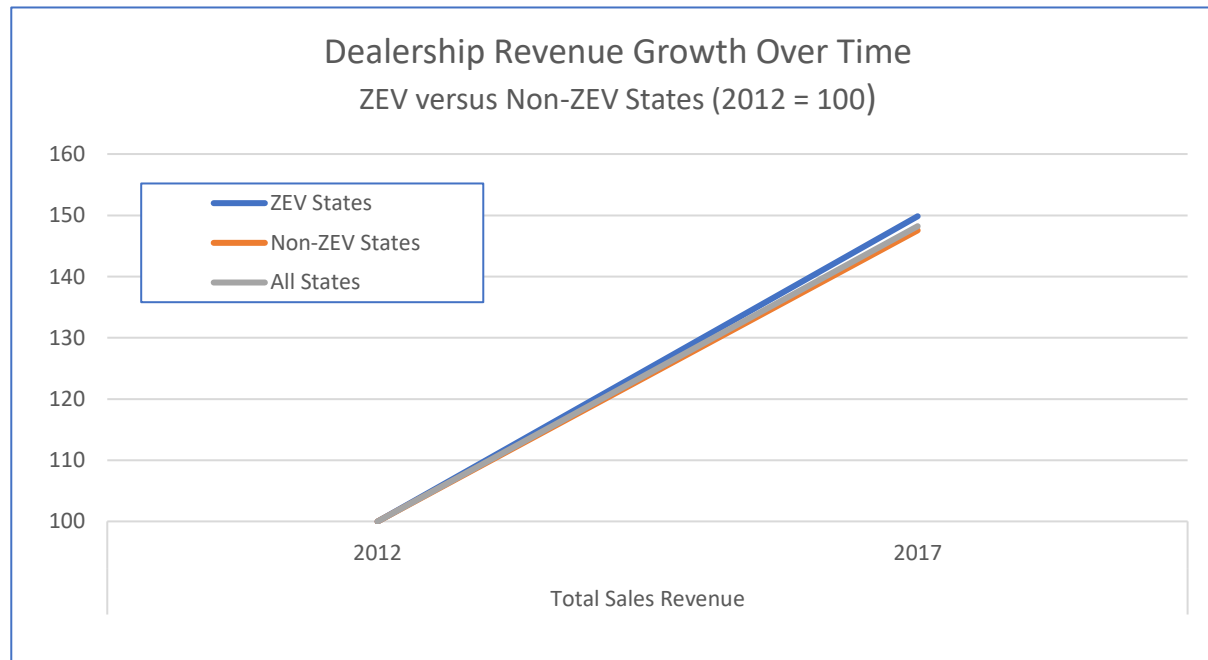
Vehicle	Available in Las Vegas?	
	Yes	No
Audi A3 e-tron		✓
BMW 330E		✓
BMW 530E		✓
BMW 740E		✓
BMW 745E		✓
BMW i3		✓
BMW i8		✓
BMW X5		✓
Cadillac CT6 Plug-in		✓
Chevy Bolt EV	✓	
Chevy Volt	✓	
Chrysler Pacifica Hybrid	✓	
FIAT 500e		✓
Ford Focus Electric		✓
Ford Fusion Energi	✓	
Ford CMax Hybrid		✓
Honda Clarity PHEV		✓
Honda Clarity Electric		✓
Hyundai Ioniq EV		✓
Hyundai Ioniq PHEV		✓
Hyundai Sonata PHEV		✓
Hyundai Kona EV		✓

Vehicle	Available in Las Vegas?	
	Yes	No
Jaguar I-Pace	✓	
Karma Revero	✓	
KIA Nero PHEV	✓	
KIA Optima PHEV		✓
KIA Soul EV		✓
Mercedes-Benz GLC 350e PHEV	✓	
Mercedes-Benz GLE 550e PHEV		✓
Mini E Countryman		✓
Mitsubishi Outlander	✓	
Nissan Leaf	✓	
Smart ForTwo Electric		✓
Subaru Crosstrek Hybrid		✓
Tesla Model S	✓	
Tesla Model X	✓	
Tesla Model 3	✓	
Toyota Prius Prime	✓	
Volkswagen e-Golf		✓
Volvo S60 PHEV		✓
Volvo S90 PHEV		✓
Volvo XC60 PHEV	✓	
Volvo XC90 PHEV		✓



# Impact on Dealers

- No evidence of sales leakage or adverse impact on dealership operations (trading across states)
- No evidence of adverse impact on dealership revenue



# Questions?

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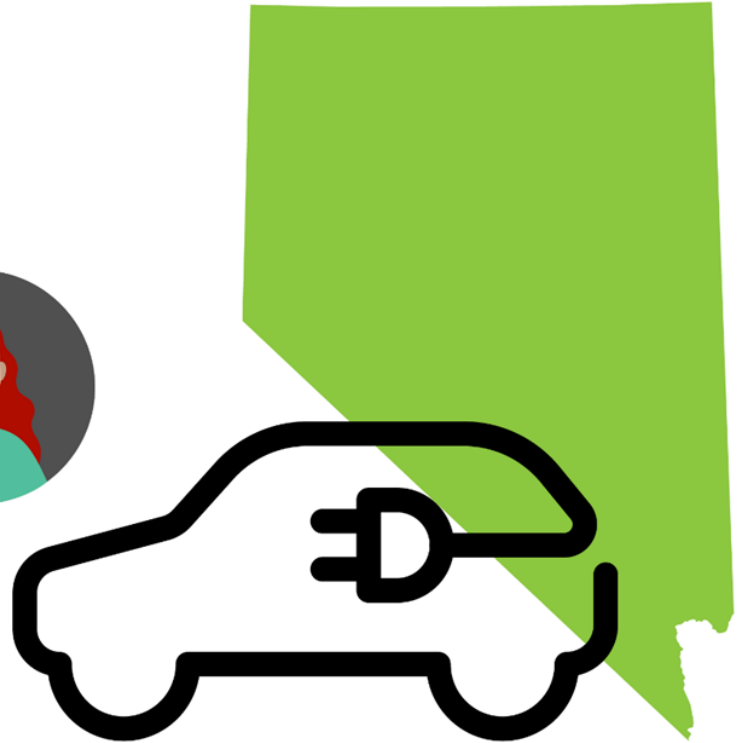


# Consumers and Electric Vehicles in Nevada

**Almost 3 in 4 Nevadans  
are interested in getting  
an EV in the future.**



**CR**



Switching from fueling to charging a new electric vehicle can save Nevadans \$1,000 to \$1,200 annually.



vs.



CR

**Electric vehicles can save drivers over  
50% on repair & maintenance costs  
compared to gas-powered vehicles.**



SOURCE: CONSUMER REPORTS

**\$6000 -  
\$10,000**

**SAVINGS OVER THE LIFE OF AN ELECTRIC VEHICLE**

# CONSUMER FRIENDLY POLICIES

## A STRONG ADVANCED CLEAN CARS PROGRAM

- LOW EMISSIONS VEHICLE STANDARD
- ZERO EMISSION VEHICLE PROGRAM
- INFRASTRUCTURE ESPECIALLY AT MULTIFAMILY DWELLINGS

## CREDIT BANK

- AVOID PROPORTIONAL ZEV CREDITS
- EARLY ACTION CREDITS PROVIDE FLEXIBILITY



# Health Benefits of Clean Cars

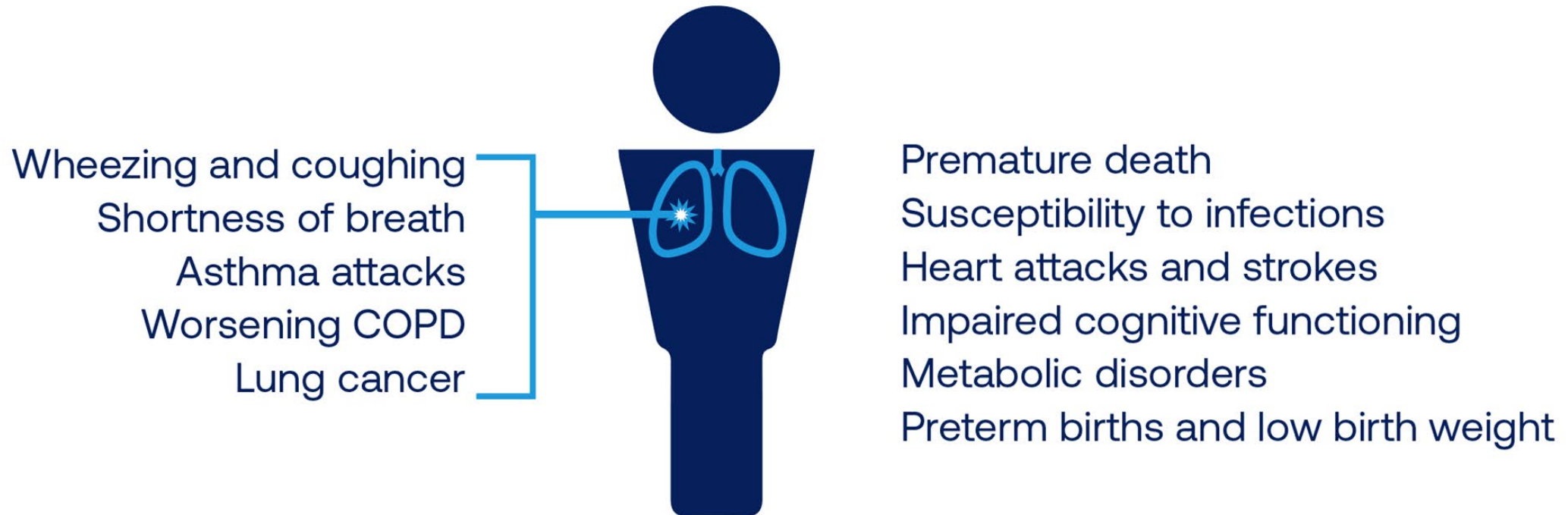
## NDEP Stakeholder Presentation

June 17, 2021



# Health Impact of Air Pollution

Air pollution can harm children and adults in many ways.





# Key messages for “State of the Air 2021”

- The nation continues to make progress in cleaning up the air, but more than 4 in 10 Americans live with unhealthy levels of air pollution.
- The burden of living with polluted air is not equally shared.
- People of color are significantly more likely to be exposed to unhealthy levels of ozone and particle pollution.
- We must prioritize cleaning up disproportionately burdened communities so that everyone has an equal opportunity to breathe clean air.

# Nevada Findings

# Who is most at risk from air pollution in Nevada?



- **674,836** children
- **473,034** adults over the age of 65
- **53,092** children and teens with asthma
- **220,140** adults with cardiovascular disease
- **1,570,635** people of color
- **372,295** people living in poverty

**Everyone knows someone  
at risk from pollution.**

# Nevada Rankings

## Las Vegas

**12th**   
in most unhealthy  
ozone days.

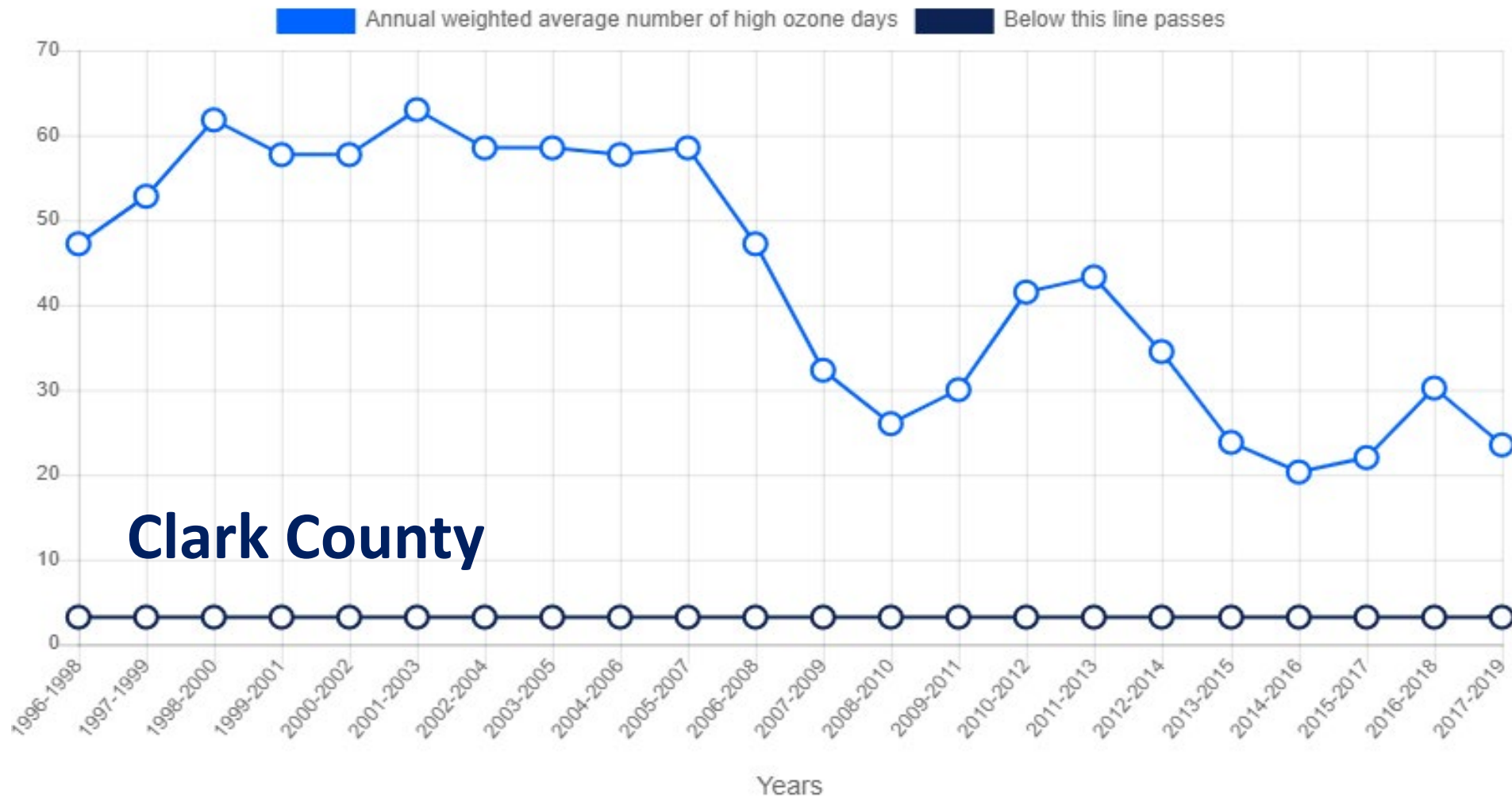
**25th**   
in unhealthy particle  
pollution days.

## Reno

**28th**   
in most unhealthy  
ozone days.

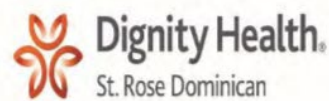
**21st**   
in unhealthy particle  
pollution days.

# 17<sup>th</sup> Most Polluted County for Ozone: Clark



Check out your county's grades at [Lung.org/SOTA](https://Lung.org/SOTA)

# Health Organizations Support Clean Cars Nevada



- Reduce criteria air pollutants that contribute to Nevada's ozone and particle challenges;
- Cut greenhouse gas emissions that drive climate change health effects;
- Ensure Nevada benefits from the transition to zero emission technologies.

# New!: American Lung Association Poll Shows Strong Support for ZEVs

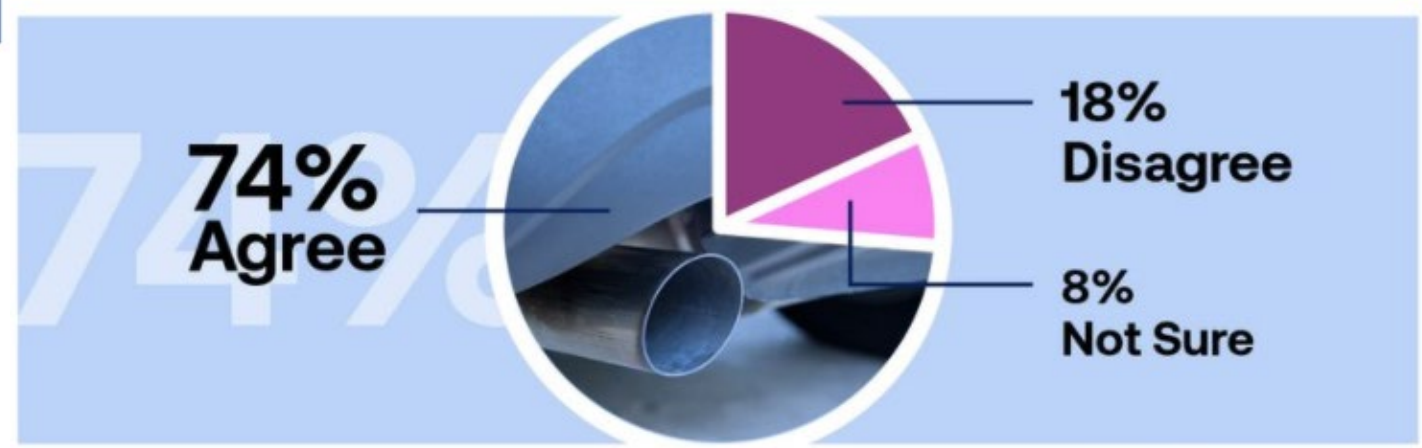
**70% of Voters Support** Federal Policies to Transition to Zero-Emission Vehicles



[Lung.org/electric-vehicles](http://Lung.org/electric-vehicles)

**Voters across the political spectrum support a pollution-free transportation future**

**74% of Voters Support** Setting Stronger Standards on Tailpipe Emissions from Passenger Cars and Trucks



[Lung.org/electric-vehicles](http://Lung.org/electric-vehicles)

## The Road to Clean Air



Benefits of a Nationwide Transition  
to Electric Vehicles

### 100 percent Zero Emission Vehicle Sales by Category

National scenario focused on deployment of zero-emission technologies across the transportation sector, with sales in ten classes of vehicles ramping up to 100 percent.

6,300

Premature  
Deaths  
Avoided

93,300

Asthma  
Attacks  
Avoided

416,000

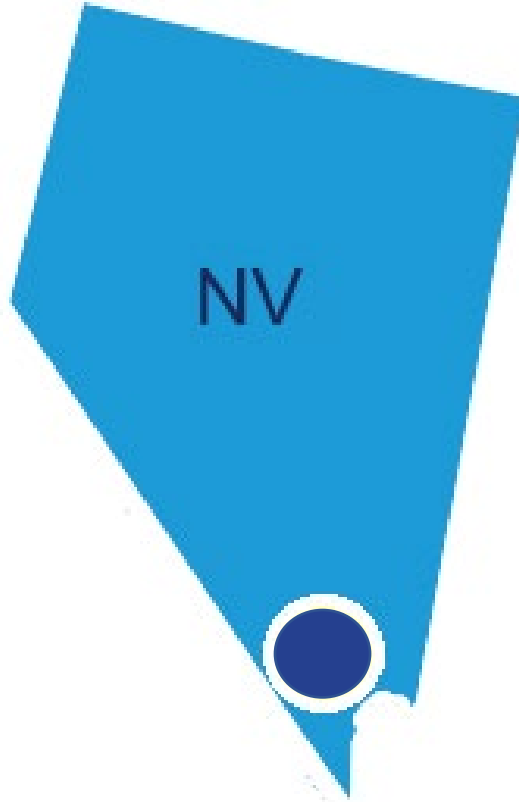
Lost  
Work Days  
Avoided



## State-Level Results due to emission reductions in 2050

Annual Nevada  
Health Benefits

\$745 Million



Annual Las Vegas  
Health Benefits

\$615 Million



# Questions?

**Melissa Ramos**

**[Melissa.ramos@lung.org](mailto:Melissa.ramos@lung.org)**

**Will Barrett**

**[William.barrett@lung.org](mailto:William.barrett@lung.org)**





# *Plug In America*

**WE DRIVE ELECTRIC. YOU CAN TOO.**

June 17, 2021  
Nevada DEP

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- National nonprofit organization founded in 2008; our members are passionate EV drivers
- The leading national voice promoting and accelerating the rollout of plug-in cars
- The world's deepest pool of experienced EV drivers, with many years of experience and millions of electric miles driven

# Charging Levels

## AC Level 1 (120 Volt)



J1772 Charge Port

Home and Away  
**3 - 5 Miles per Hour**  
~ 40 miles overnight



## AC Level 2 (240 Volt)



J1772 Charge Port

Home and Away  
**10 - 34 Miles per Hour**  
~ 250 miles overnight



## DC Fast Charging (480 - 800 Volt)



J1772  
Combo



CHAdeMO



Tesla  
Combo

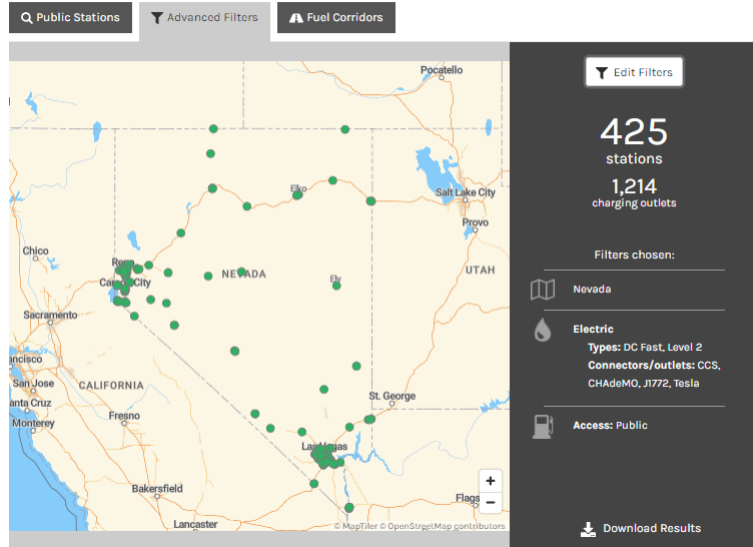
Away Only  
**3 - 20 Miles per Minute**



- The “dwell time” – how long you expect driver to stay at a location – most often determines the appropriate charging speed.
  - If charging speed is too fast, drivers will need to move fully-charged vehicles.
- Public level 2 charging is suitable for many municipal applications where a driver might stay for a few hours.
  - Municipal parking lots, parks and playgrounds, beaches, shopping centers, concert venues, or stadiums.
- Public level 1 charging is suitable for long dwell time locations.
  - Commuter rail lots or airports.
- DC Fast Charging is useful for inter-city travel

### Alternative Fueling Station Locator

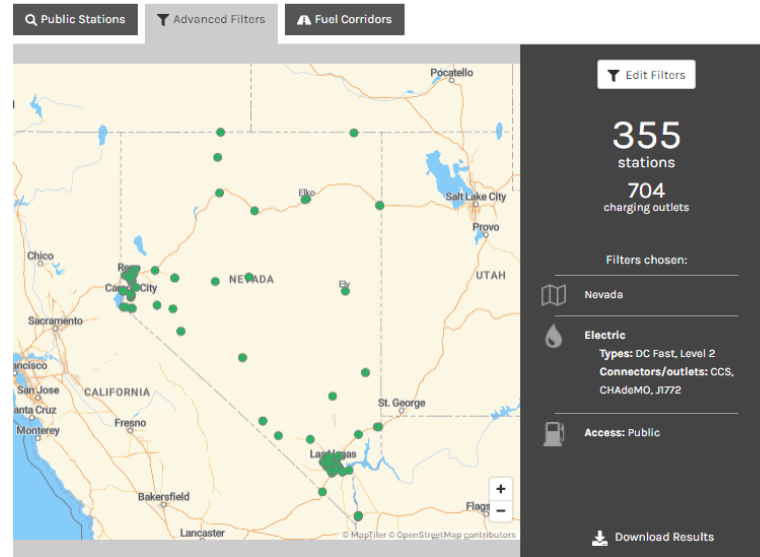
Find alternative fueling stations in the United States and Canada. For U.S. stations, see [data by state](#). For Canadian stations in French, see [Natural Resources Canada](#).



With Tesla

### Alternative Fueling Station Locator

Find alternative fueling stations in the United States and Canada. For U.S. stations, see [data by state](#). For Canadian stations in French, see [Natural Resources Canada](#).



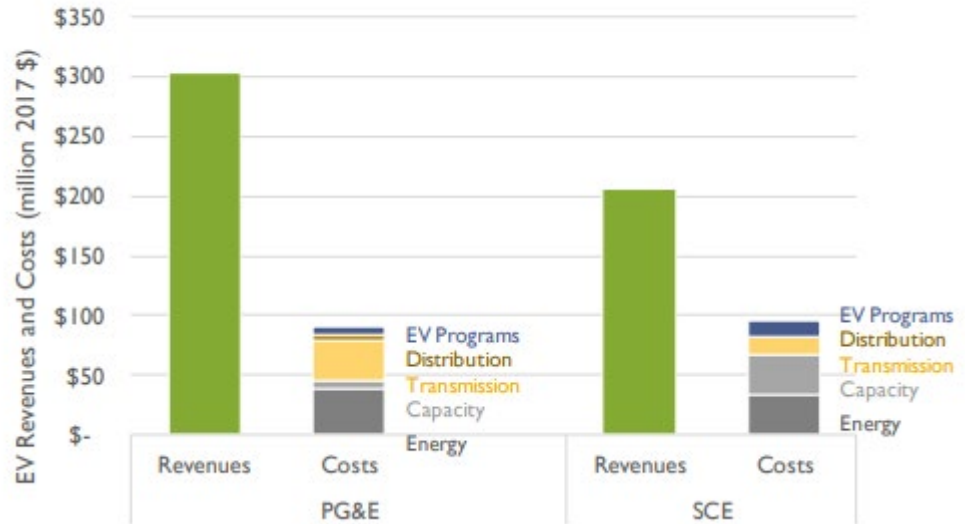
Without Tesla

Largest gaps are Austin-Ely along I-50 (147 miles)  
And Tonopah-Ely along Rte 6 (169 miles)

# Rate Impacts of EVs

- If charged off-peak, do not increase electricity wholesale prices and do not increase utility capacity needs
- Allows better asset utilization (fixed costs spread among more kWh)
- Downward pressure on rates for *all* ratepayers as revenue exceeds cost of service
- Synapse Energy Economics, February 2019 (<https://www.synapse-energy.com/sites/default/files/EVs-Driving-Rates-Down-8-122.pdf>)

Figure 4. PG&E and SCE Revenues and Costs of EV Charging, 2012-2017





Thank you!  
*Pete O'Connor*

[poconnor@pluginamerica.org](mailto:poconnor@pluginamerica.org)



# Nevada Clean Cars Initiative Stakeholder Presentations

June 17, 2021





# About Chispa Nevada

Chispa Nevada, a program of the League of Conservation Voters, builds the power of low-income Latinx families to achieve climate justice, community health, and environmental protection while insisting on accountability from polluters and decision makers.

Due to decades of environmental injustices, low-income people of color in Nevada have disproportionately borne the burdens of air pollution, breathing dirtier air that harms our health and raises financial costs.

**Our members care deeply about addressing equity and environmental justice as a part of solutions to the climate crisis. Chispa Nevada supports the Clean Car initiative.**



# Nevada's Latinx community supports electric vehicles

Nevada Latinxs overwhelmingly support electric transportation as a way to clean up our air, fight climate change and protect our environment, and want ways to access it.

In a community survey we conducted of 271 members in December 2020, over **two-thirds said they have considered buying an electric vehicle.**

The community sees EVs as an opportunity to save money on gas and make an environmentally friendly choice, but they have questions about how and where they would charge an electric vehicle (as well as how to afford and maintain one).

In addition, **over 94 percent of our members said they want to see EV charging stations in our communities**



# Public Health and Electric Vehicles

Vehicle emissions are not just accelerating the climate crisis but they have also created a public health crisis for families across Nevada.

The most recent [report card by the American Lung Association](#) gave Clark and Washoe counties “Fs” for their air quality when it comes to ozone pollution. **The report also shows people of color are 3x more likely to breathe the most polluted air.**

**The climate crisis is a public health crisis** and electric vehicle adoption in low income and historically underserved communities will significantly change the impact of pollution in our communities.



# Equity and Clean Cars Nevada

Chispa Nevada supports the shift towards zero emission transportation, but EVs carry a high upfront cost and are largely unavailable in our community.

This is the case in Nevada and across the country even as our communities face the worst consequences of pollution and climate change.

**As the state sets up the Clean Cars Nevada program, Nevada must ensure that low income families have the opportunity to purchase electric vehicles.**

The state must also ensure that low income and historically underserved communities have charging infrastructure built in our communities so families whether they own a home or rent -- have the option of going electric. --

***We will not meet the ambitious goals of this program if EVs are inaccessible to Nevadans of all income levels.***



# Our Recommendations for Clean Cars Nevada and Beyond

**Provide financial assistance at the point of sale** to help low income Nevadans purchase electric vehicles or make upgrades to their current vehicle to meet new low emission requirements.

**Develop an affordable, used EV market and ensure all vehicle options are sold in the state.** Nevada must diversify its electric vehicle market by considering the mobility needs and desires of all community members. This includes ensuring affordable used and leased vehicle options are available.

**Support the availability of charging infrastructure in low income communities of color**, which will be critical as the state implements SB 448 and its commitment to build charging infrastructure in historically underserved communities.



## Our Recommendations (continued)

**Encourage local government fleets to deploy EVs in low -income communities of color.** This can be in the form of electric school buses, electric refuse trucks, municipal fleets or public transit.

**Invest in building community awareness about EVs.** The state must develop a culturally and linguistically competent outreach program to educate the Latinx community.

**Address the impacts of mining on local ecosystems.** As the state encourages lithium mining to meet state and regional climate goals, it must also hold mining companies accountable for the environmental impacts of their operations.





Thank You.





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# How Robust LEV and ZEV Standards Can Boost Nevada's Economy


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## Advanced Energy Economy

Sarah Steinberg

[ssteinberg@aee.net](mailto:ssteinberg@aee.net)

June 17, 2021



# Benefits of EVs

- The growing electric vehicle market offers Nevada businesses many benefits:
  - Lower cost of fleet ownership (fuel and maintenance)
  - More choices (over 70 new models of plug-in cars and trucks announced just in the next few years) at all price points, body types, and electric ranges
- EVs on the road lower the cost of energy for all electricity customers, including large energy users for which energy costs play a big role in their location decisions



**eGallon:** Compare the costs of **driving** with **electricity**

**What is eGallon?**  
It is the cost of fueling a vehicle with electricity compared to a similar vehicle that runs on gasoline.

**Did you know?**  
On average, it costs about half as much to drive an electric vehicle.

Find out how much it costs to fuel an electric vehicle in your state

Nevada

regular gasoline	3.10
electric eGallon	1.02

Data and Methodology  
Updated: March 20, 2021

# EVs By The Numbers

At the end of 2020, advanced vehicles employed **over 1,300 Nevadans**, with 2% expected growth before the passage of SB 448

- Additional indirect jobs include associated electric infrastructure such as new generation, transmission, and distribution upgrades.

A public investment of \$2 billion in light-, medium-, and heavy-duty electric vehicles and the installation of charging stations at businesses and residences would:

- Add **\$6 billion** to the Nevada economy
- Create **48,000 jobs**
- Save consumers **\$190,000,000** in fuel costs

This is money that can be spent within Nevada.



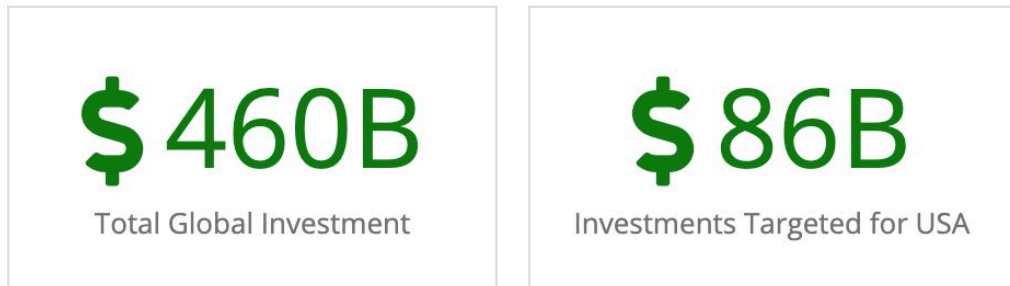
# Businesses want electric transportation

- Fleet owners are **especially attentive to lifetime cost of ownership**. Electric cars and trucks (EVs) offer many advantages over their internal combustion engine (ICE) equivalents.
  - Lower and more stable price of electricity that insulates them from the volatility of global fuel markets, allows for better cost projections
  - Lower repair and maintenance costs: no oil, transmission fluids, and coolant changes, less wear and tear on break pads
- National businesses that have publicly committed to ambitious fleet electrification goals:
  - Amazon, UPS, Lyft, Uber, Schneider Electric, FedEx, Anheuser-Busch, Pepsico, Comcast, Biogen, Clif Bar & Company, Delta Electronics, Deutsche Post DHL Group, EDF Group, Genentech, IKEA Group, Lime, Orsted, Schneider Electric, Unilever, and VMWARE



# The EV Industry Wants to Invest in Nevada

Strong EV state policy is critical to expanding market opportunity for this emerging industry. **LEV & ZEV standards mark Nevada as a prime opportunity state for advanced transportation investment.**



Global Private Investment from a 2019 Reuters analysis

“We like to skate where the puck is going.”

— EVgo

“[Investment in electric vehicle infrastructure] is one of the most impactful and powerful economic recovery actions” that the state can take.

— Greenlots





# Clean Cars Nevada Stakeholder Workshop

June 17, 2021



# Agenda



## Agenda

- Current NV Energy EV Programs
- 2020 Nevada Specific Electric Vehicle Market Research
- SB448 Transportation Electrification Legislation Overview
- Discussion/Questions



# NV Energy

## Current Electric Vehicle Program



### EV infrastructure market development

- **2013** – Charging Station Shared Investment Program – Complete
- **2015** – Nevada Electric Highway Partnership with Governors Office Of Energy – Phase I complete, Phase II to be complete by Q2 2021
- **2017** – Electric Vehicle Infrastructure Demonstration Program - Active
- **2019** – Electric School Bus Program – Active
- **2021** – Senate Bill 448



### Current Electric Vehicle Offerings

- Electric Vehicle rates
  - Time of use rates (residential, multi-family, commercial)
  - Commercial charging rider for DC fast chargers
- Infrastructure and vehicle incentives
  - Multifamily
  - Lower income multi-family – *GOE Partnership*
  - Fleet, Public, Workplace
  - Governmental – *GOE Partnership*
  - Electric School Bus (infrastructure and vehicle)
  - Nevada Electric Highway – *GOE Partnership*
  - *Residential (proposed)*
  - *Lower income electric vehicle incentive (proposed)*



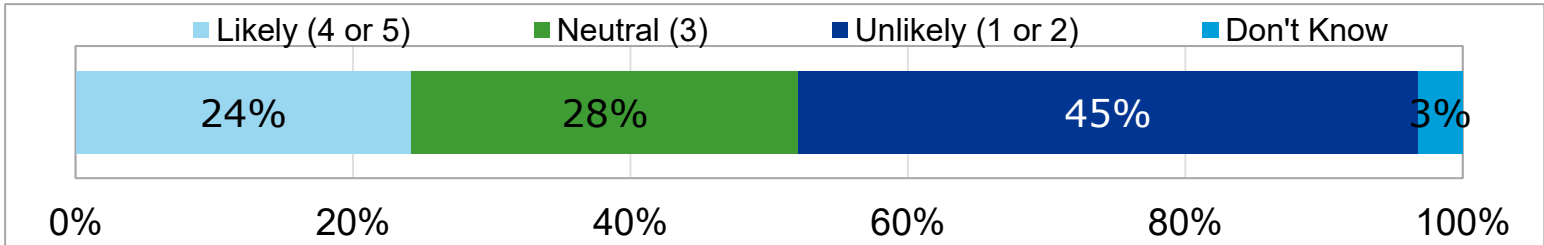


# 2020 Nevada Market Research Electric Vehicle Adoption

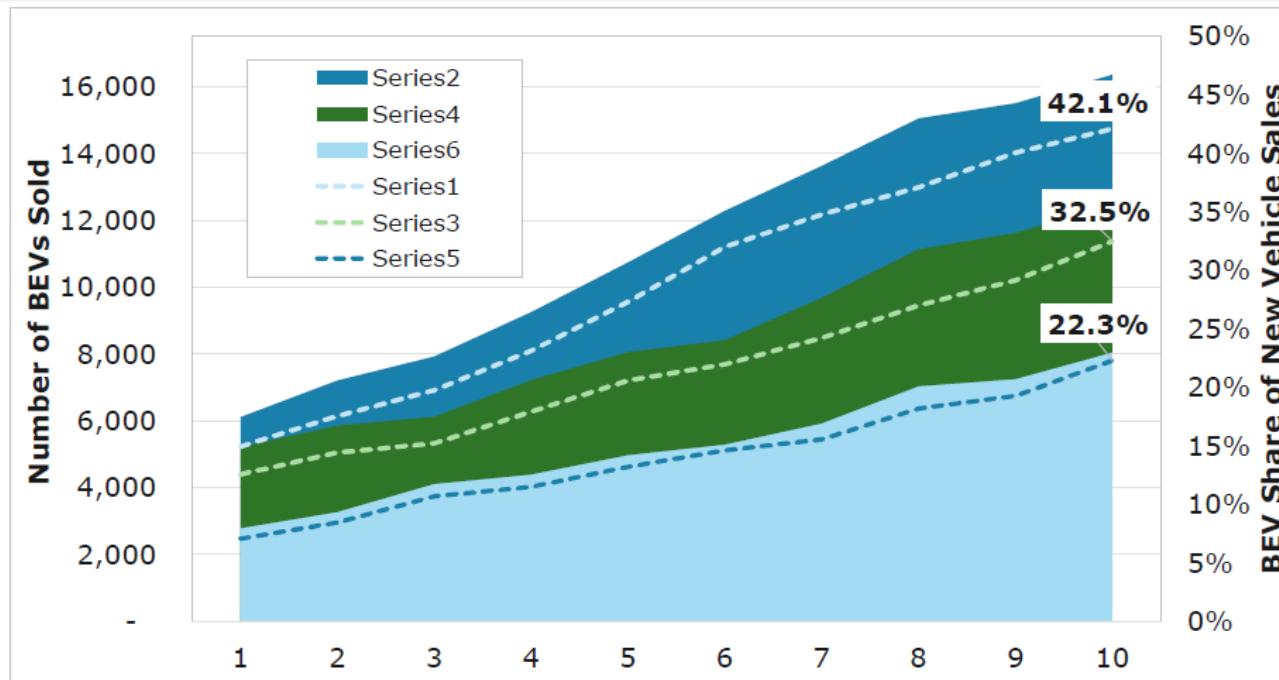
# EV Forecast Study



When you get your next passenger vehicle, how likely are you to buy or lease an electric vehicle?



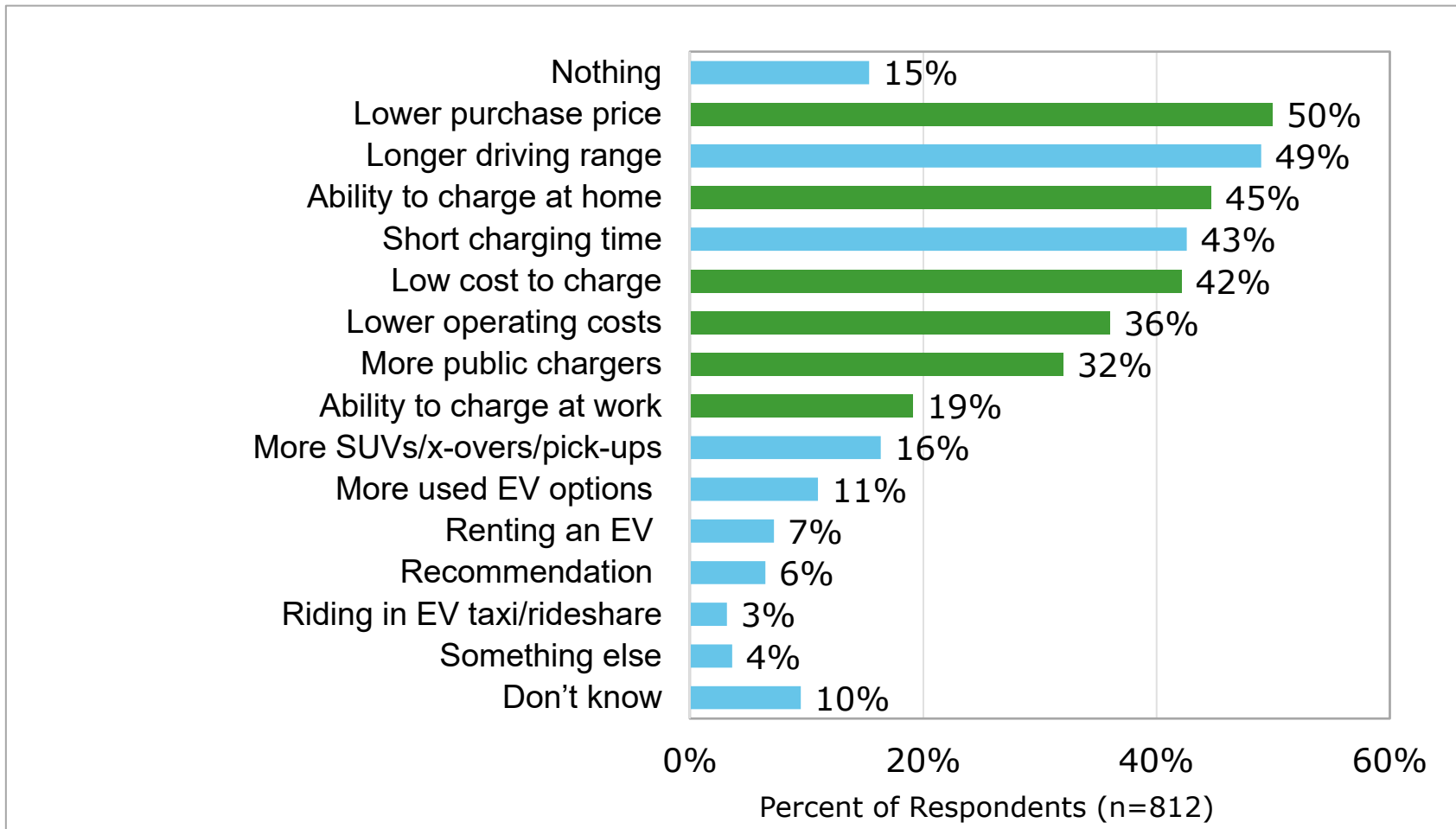
## Battery Electric Vehicle Share of New Vehicle Sales



# Residential Electric Vehicle Barriers to Adoption



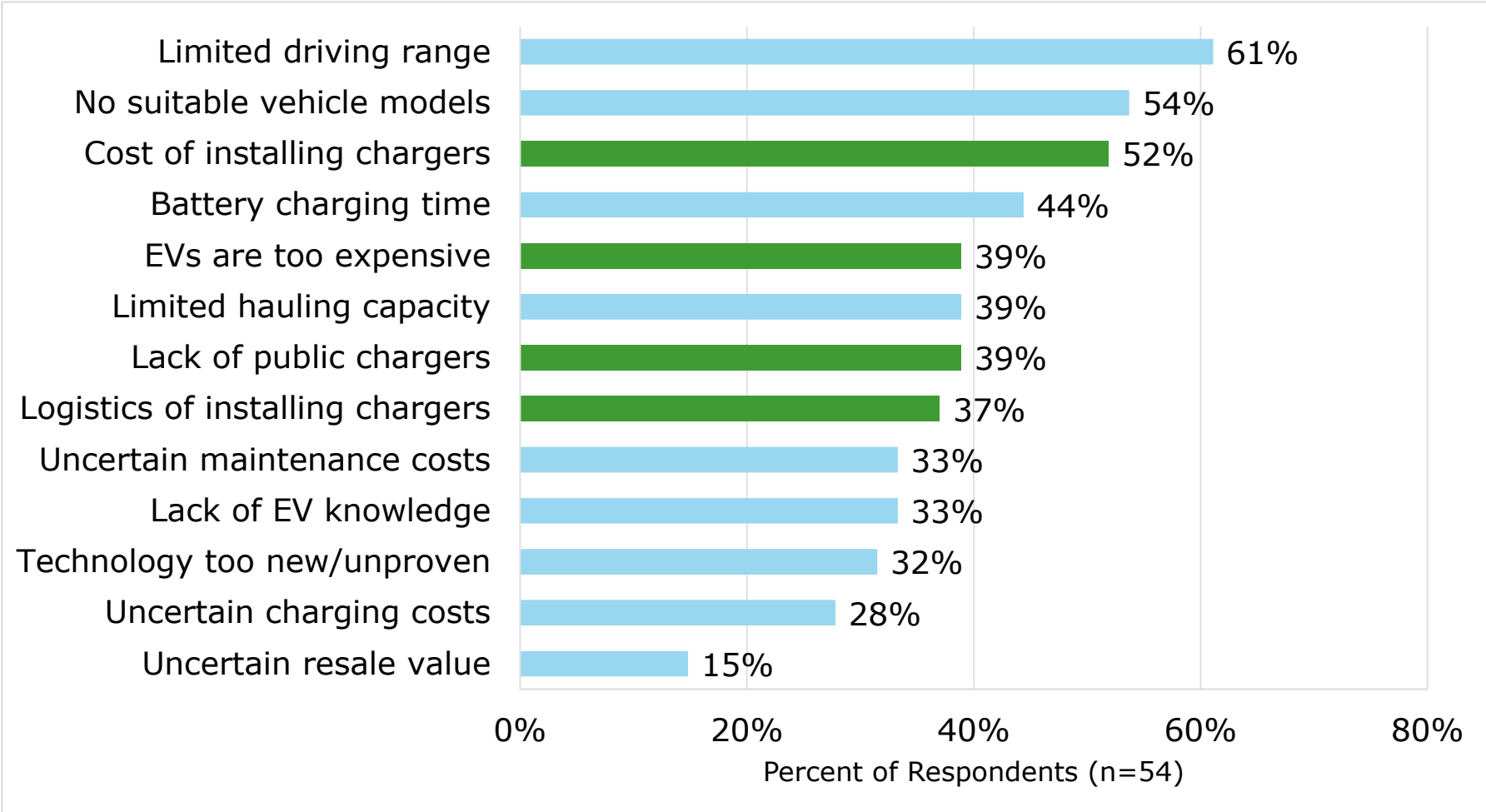
**“Which of the following would make you more likely to buy or lease an electric vehicle?”**



# Fleet Electrification Barriers to Adoption



“What are the biggest barriers to purchasing or leasing electric vehicles for your fleet?”





**2021 Legislative Session**  
**Senate Bill 448**  
**Transportation Electrification Plans**

# SB448 Transportation Electrification Plan Requirements



## Targeted Economic Recovery Investments

- To jumpstart Nevada’s investment in the TE infrastructure needed, and provide the greatest economic recovery benefits and opportunities for new jobs, the bill provides for an initial investment by NV Energy of \$100 million from 2022-2024 in five “no regrets” programs with clear public benefits: (1) an Interstate Corridor Charging Depot Program; (2) an Urban Charging Depot Program; (3) a Public Agency Electric Vehicle Charging Program; (4) a Transit, School Bus and Transportation Electrification Custom Program; and (5) an Outdoor Recreation and Tourism Program.
- In order to ensure that that these investments reach all Nevadans and to address higher rates of air pollution in some of the State's most marginalized communities, 40% of the \$100 million in total expenditures on these five programs must be directed towards investments in historically underserved communities.
- NV Energy by September 1, 2021, will file an application with the PUCN for review and approval of its detailed proposals for the five programs.

## Transportation Electrification Plan

- Longer-term, the bill requires NV Energy to include as part of its triennial resource plan filings with the PUCN a comprehensive TE plan that will include a wider range of proposed programs, incentives, or rate designs aimed at accelerating TE in Nevada.
- NV Energy will file its first comprehensive TE plan as an amendment to its 2021 resource plan by September 1, 2022.
- Prior to filing its comprehensive TE plan, the bill requires NV Energy to engage in a stakeholder engagement process to solicit comments and gather ideas for improvements or additions to the plan that will support TE.



## Questions | Discussion

**Marie Steele, Electrification Director**

