Clean Cars Nevada

On the Road to a Cleaner Nevada

CHISPA Nevada Members Listening Session
July 26, 2021
6:00 to 7:30 PM
In June 2020, Governor Sisolak announced Clean Cars Nevada, as part of the State of Nevada Climate initiative. Clean Cars Nevada will help advance the State’s climate change and sustainability goals, reduce harmful air pollution from cars and light-duty trucks on Nevada roads, and strengthen the economy.
Clean Cars Nevada is Proposing the Evaluation and Potential Adoption of Two New Regulatory Programs

Low Emission Vehicle (LEV) Program - Meet emission requirements that reduce greenhouse gases, criteria air pollutants, and hazardous air pollutants.

Why Clean Cars Nevada?

Clean Cars Nevada Will Address Three Air Program Challenges

2. Criteria Air Pollutants (Ground-level Ozone, Particulate Matter, Carbon Monoxide, Lead, Sulfur Dioxide, and Nitrogen Dioxide) and Attainment with the National Ambient Air Quality Standards (NAAQS).
3. Hazardous Air Pollutants (e.g. Formaldehyde).
Why Clean Cars Nevada?

Senate Bill No. 254 (2019):
• Requires percentage reduction in GHG emissions statewide compared to 2005:
  • 28% by 2025
  • 45% by 2030
  • Zero or near-zero by 2050

Executive Order 2019-22:
• Directs Executive Branch to advance Nevada's climate goals.
• State Climate Strategy-framework for policymakers to evaluate various climate policies and programs to achieve GHG emission reduction goals.
Nevada's Statewide Inventory of GHG Emissions and a 20-Year Projection

GHG Emissions and the Transportation Sector

Bradley Crowell
Director
Nevada's Statewide Inventory of GHG Emissions and a 20-Year Projection

Transportation
Industry
Residential and Commercial
Waste
Agriculture
Land Use, Land Use Change, and Forestry

Net Emissions
2025 Goal
2030 Goal

GHG Emissions (MMTCO2e)

2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
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2022
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2038
2039
### Primary Air Pollutants from Motor Vehicles

- Carbon Monoxide (CO)
- Nitrogen Dioxide (NO2)
- Particle Pollution (PM) – PM2.5 and PM10
- Hydrocarbons (VOCs)

### Secondary Air Pollutants from Motor Vehicles

- Ozone (O3)
Air Pollutants and the Transportation Sector

NOx + VOC + Heat & Sunlight = Ozone
Air Pollutants and the Transportation Sector

Most of Nevada is currently in attainment with the State and National Ambient Air Quality Standards (NAAQS), however:

- In Clark County, the Las Vegas Valley was designated marginal nonattainment for ozone in 2018.
- Washoe County is currently designated in attainment for ozone; however, recent ozone levels are close to nonattainment.
- In Carson City & Douglas County, ozone levels are also close to the standard.
Health Challenges from Air Pollutants

Climate Change and the Health Pathway

### CLIMATE IMPACTS
- Increase temperatures
- Precipitation extremes
- Extreme weather events
- Sea level rise

### EXPOSURE
- Extreme heat
- Poor air quality
- Reduced food and water quality
- Changes in infectious agents
- Population displacement

### ENVIRONMENTAL AND INSTITUTIONAL CONTEXT
- Land-use change
- Ecosystem change
- Infrastructure condition
- Geography
- Agricultural production and livestock use

### SOCIAL AND BEHAVIORAL CONTEXT
- Age and gender
- Race and ethnicity
- Poverty
- Housing and infrastructure
- Education
- Discrimination
- Access to care and community health infrastructure
- Preexisting health conditions

### HEALTH OUTCOMES
- Heat-related illness
- Cardiopulmonary illness
- Food-, water-, and vector-borne disease
- Mental health consequences and stress

Health Challenges from Air Pollutants

Smog Formation from Criteria Air Pollutants and Hazardous Air Pollutants

Smog can make it difficult for some people to breathe, triggering lung diseases such as asthma, emphysema, and chronic bronchitis, which may lead to premature death.

Source: https://www.epa.gov/greenvehicles/light-duty-vehicle-emissions

Authority to Adopt Clean Car Regulations

The federal Clean Air Act allows states to adopt motor vehicles emissions standards that are identical to California.

Nevada law (NRS 445B.760) provides authority to the State Environmental Commission to prescribe standards for emissions from mobile internal combustion engines.
States that have Adopted California's Vehicle Standards under Section 177 of the Federal Clean Air Act

- Adopted Both CA LEV and ZEV
- Adopted CA LEV
- Currently working on adopting CA LEV and ZEV
- Follow Federal Standards
Proposed Programs Apply to the Following Vehicle Types:

- "Passenger car"
- "Light-duty truck"
- "Medium-duty passenger vehicle"
- "Medium-duty vehicle"

NOT regulated: school buses, transit buses, tractors, construction equipment, big trucks
What Do These Regulations Apply To?

**LEV Program**

The LEV program would require new (MY 2025) passenger cars, light-duty trucks, medium-duty passenger vehicles, and medium-duty vehicles sold in Nevada to meet stricter emissions requirements that reduce:

- Greenhouse gases (GHGs);
- Criteria Air Pollutants such as carbon monoxide (CO) and nitrogen oxide (NOx);
- Volatile Organic Compounds (VOCs); and
- Hazardous Air Pollutants (HAPs)
What Do These Regulations Apply To?

ZEV Program

How the ZEV program would work:

- ZEV credit % requirement based on average annual sales.
- Car Manufacturers generate ZEV credits through introduction of clean vehicle technology.
- These clean vehicle technologies include full battery-electric, hydrogen fuel cell, and plug-in hybrid-electric vehicles.
Electric Car and a Plug-in Hybrid Car

**All-Electric Vehicle**
- Has only electric motor
- Plug in to charge batteries
- Zero emissions
- Gets highest program credits

**Hybrid Electric Vehicle**
- Has both gasoline engine and electric motor
- Plug in to charge batteries or fill with gasoline
- Has some emissions
- Gets less program credits
Vehicles in Nevada

- 2,000,000 – Light-Duty Vehicles Registered in Nevada
  - 60% registered in Clark, 17% registered in Washoe, and the remainder are registered throughout the rest of the state
- 119,356 – Average Annual New Light-Duty Vehicles Sales from 2015-2020
- Passenger Cars make up 35%, Light-Duty Trucks 65% of New Registrations for Light-Duty Vehicles
- 3% – Average Fraction of New Light-Duty Vehicles Sales in Nevada that are electric and hybrid.
- Estimated sales percentage of electric and hybrid vehicle for MY2025 is approximately 9%
Clean Cars Nevada

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Bradley Crowell
Director

Total Light Duty Sales in Nevada and Sales Percentage of BEV and PHEVs
Emissions Benefits of Clean Cars Nevada

CO$_2$ – Annual Emission Avoidance

- Minimum Compliance
- Anticipated Compliance

Model Year

Net CO$_2$ - MTons/year

2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035
Emissions Benefits of Clean Cars Nevada

Smog-Forming Pollutants Avoidance

- Minimum Compliance
- Anticipated Compliance

Model Year

NMOG+NOx - Tons/year

2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035
Costs of Ownership of ZEVs (BEVs and PHEVs)

• Purchase price of electric and hybrid vehicles are projected to equal conventional vehicles within the next 5-7 years

• Electric and plug-in electric vehicles depreciate at similar rates as standard vehicles

• Maintenance and repair costs for electric and plug-in electric are lower compared to standard vehicles

• Given Nevada’s higher average gasoline prices and lower electric rates, cost savings for electric vehicles are significant
Next Steps for Clean Cars Nevada

• Regulation Workshop on **July 28, 2021**

• State Environmental Commission Hearing on **September 1, 2021**

• Legislative Commission review of regulation – **late 2021**

• Clean Cars Nevada applies to vehicle model year 2025 with sales starting in **2024**
Where to Find Out More

Visit NDEP Clean Cars Website for updates
http://ndep.nv.gov/air/clean-cars-nevada

E-mail at CleanCarsNevada@ndep.nv.gov

Sign up for Clean Cars Nevada listserv on NDEP Website

Select a topic below for program-specific news and updates.

- Board for Financing Water Projects
- VW Settlement - Nevada Mitigation Fund
- Nevada Recycling Program
- Nevada Brownfields Program
- Air Quality Info and Notices
- Nevada Federal DOE Facility Oversight
- Environmental Outreach & Education
- Clean Cars Nevada