Clean Cars New Mexico
November 3, 2021
4 p.m.

3rd Public meeting: Proposed Low-Emission and Zero-Emission Vehicle Standards

Investing for tomorrow, delivering today
Virtual Meeting Guidelines

- All participants in the meeting will remain muted throughout the presentation. You will have an opportunity to ask questions or make statements at the end.
- Use the chat box to ask questions to the hosts or use the raise your hand feature during the question-and-answer period.
- This presentation and other clean car information available at NMED’s Clean Car New Mexico webpage at [https://www.env.nm.gov/the-road-to-clean-cars-new-mexico/](https://www.env.nm.gov/the-road-to-clean-cars-new-mexico/).
- Sign up for updates by joining the Clean Cars New Mexico listserv by letting the hosts know in the chat or signing up at: [https://public.govdelivery.com/accounts/NMED/subscriber/new/](https://public.govdelivery.com/accounts/NMED/subscriber/new/).
Meeting Agenda

- Background Information
- Poll Questions
- Projected Impacts
- The Proposed Clean Car Standard Rules
- New Mexico Environment Department Rulemaking Schedule
- Albuquerque Rulemaking Process and Schedule
- Public Comments and Information Sources
- Your Questions and Comments
Emissions Reductions: Tackling Transportation

Plug-In Hybrid and Zero-Emission Vehicles Sales

Source: Auto Alliance Electric Vehicle Sales Dashboard; https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Fully Electrified</th>
<th>Electrified (Hybrids)</th>
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<tbody>
<tr>
<td>GM</td>
<td>20 models by 2023</td>
<td>30 models by 2025</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All models by 2035</td>
</tr>
<tr>
<td>Ford</td>
<td>16 models by 2022</td>
<td>24 models by 2022</td>
</tr>
<tr>
<td>NISSAN</td>
<td>8 models by 2023</td>
<td></td>
</tr>
<tr>
<td>BMW</td>
<td>8 models by 2023</td>
<td>22 models by 2022</td>
</tr>
<tr>
<td>Mercedes</td>
<td>10 models by 2022</td>
<td>25 models by 2025</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25% of all sales</td>
</tr>
<tr>
<td>AUDI</td>
<td></td>
<td>30 models by 2025</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Full-sized truck by 2022</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 million cars by 2030</td>
</tr>
</tbody>
</table>

Annual Sales

Through June 2021
Acronyms Used in this Presentation

- NMED = New Mexico Environment Department
- LEV = Low-Emission Vehicle
- ZEV = Zero-Emission Vehicle
- GHG = greenhouse gas; often GHGe = greenhouse gas emissions

Regulated Air Quality Emissions:
- PM 2.5 = Particulate Matter of size 2.5; create harmful smog
- SOx = Oxides of Sulfur; create harmful smog
- VOCs = volatile organic compounds
- ICE = Internal Combustion Engine; for example, gasoline or diesel powered on-road vehicles
Audience Live Poll

- How did you hear about this meeting?
- On a scale from 1 to 5, how would you characterize your support of clean car standards for New Mexico?
- What additional information would you like to know about the clean car rules?
Technical Analysis

Projected Impacts

- ZEV Sales
- Emissions
- Cost
- Consumer Choice
- Dealerships
Introduction

My role in New Mexico

- Providing technical support for NMED adoption of Advanced Clean Cars 1
- Funded by US Climate Alliance

My background

- Senior staff at California Air Resources Board, now retired
- While at CARB, team leader for two ZEV rulemakings and adoption of first tailpipe GHG standards, then managed startup of climate program

Related consulting work

- Technical support, not advocacy
- Projecting impacts of ACC 1 adoption in multiple states
- Evaluating ACC 2 proposals in California and impact on Section 177 states
- Supporting workgroup that is developing recommendations to improve equity outcomes from the ACC 2 ZEV regulation
- Funded by Natural Resources Defense Council
ZEV Sales

• About 7 percent annual ZEV sales (6,200 vehicles) when fully implemented

• This scenario assumes
  • Exact compliance by all manufacturers
  • Early credits from model years 2023-2025 used to smooth 2026-2029 ramp
Emission
Reductions

• Significant reductions in greenhouse gases and smog-forming pollutants
• Will also reduce health-damaging emissions of particulate matter and toxic air contaminants
• Net reduction is sum of:
  • Reduced tailpipe and upstream emissions from combustion engines
  • Increased ZEV upstream emissions
Consumer Cost Savings

- Lifetime consumer savings about $1,300 for average MY 2026 vehicle, about $1,750 for MY 2030
- LEV
  - Additional upfront cost, all years
  - Reduced lifetime fuel cost
- ZEV
  - Additional upfront cost in early years, reduced upfront cost later
  - Reduced lifetime fuel and maintenance cost
  - Estimate does not include any purchase incentives
Statewide
Cost Savings

• Annual statewide savings about $30 million in 2030, almost $90 million in 2040

• Statewide savings are per-vehicle savings multiplied by number of vehicles
Impact on Dealers

• Regulation applies to automakers, not dealers

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

• No evidence of adverse impact on dealership revenue in ZEV vs. non-ZEV states
Consumer Choice

• Some popular ZEV models are only available in ZEV states
• ZEVs that are sold nationally tend to have greater availability in ZEV states
• Combustion engine vehicles will be the same, just cleaner and more efficient
Three Components in the Rules

- Low Emission Vehicle Criteria Pollution Regulation: Section 104
  - Reduces harmful air quality impacts

- Low Emission Vehicle GHG Exhaust Regulation: Section 105
  - Reduces climate change impacts

- Zero-Emission Vehicle (ZEV) Regulation: Section 107
  - Accelerates deployment of clean cars
Where Do the Regulations Apply?

The New Mexico Requirement Area:

- The area in which the requirements, compliance, and enforcement applies
- Combines the area under the jurisdiction of State Environmental Improvement Board (EIB) and Albuquerque Bernalillo County Air Quality Control Board
- Ensures that NM + Bernalillo County meet the requirements of the federal Clean Air Act
- Does not apply to lands of sovereign nations
Who Is In the Scope of the Rules?

- Manufacturers that deliver new vehicles for sale or lease in New Mexico have the greatest obligation under the rule
- Dealers can only sell clean cars that meet the requirements of the rules
- Car rental agencies can only rent clean cars in New Mexico Requirement Area that meet the requirements of the rules
- Individuals can only register vehicles that meet the requirements of the rules
What Vehicles Are In the Scope of the Rules?

- **New vehicles** defined as having 7,500 miles or fewer
- **Vehicles** include passenger cars, light-duty trucks, medium-duty passenger vehicles, medium-duty motor vehicles or motor vehicle engines
- New vehicles that are delivered for sale, offered for sale, sold, imported, delivered, purchased, rented, leased, acquired, received, or registered in the NM Requirement Area

**Vehicles not included in the scope:**
- Existing vehicles
- Used vehicles for sale
- Off-road vehicles or equipment, like farm equipment
- Heavy-duty vehicles, like semi-trucks
What are the Exemptions from the Rules?

Examples of Exemptions (Section 103)

- Previously registered used vehicles
- A New Mexican who acquired a vehicle through inheritance, divorce, or merger, court proceeding, etc.
- A New Mexican who acquired a vehicle out-of-state to replace vehicle that was stolen while out of state or damaged beyond reasonable repair while out of state
- A dealership selling a non-compliant vehicle if that vehicle will be registered out-of-state
When Do The Rules Take Effect?

- First compliance year - Model Year 2026; applies to any new models whose production begins during calendar year 2025
- Effective date of the rules: August 1, 2022 (anticipated)
- Early action credits can be earned after the effective date of the rules
Low-Emission Vehicle (LEV) Standards (Sections 104 and 105)

- Smog-forming exhaust emissions (Non-methane organic gas plus oxides of nitrogen) - each manufacturer must meet a fleet average in the NM Requirement Area (Section 104)

- Greenhouse gas exhaust emissions- each manufacturer must meet a fleet average in the NM Requirement Area (Section 105)

- Requirements vary depending if the manufacture is small, intermediate, or large as determined by sales in California
Zero-Emission Vehicle (ZEV) Credit Requirement (Section 107)

- ZEVs include battery electric and plug-in hybrid vehicles
- For the first compliance model year 2026, the ZEV credit requirement is 22%, which translates to the delivery of approximately 7-9% of qualifying vehicles
- Manufacturers report deliveries to California’s ZEV credit bank
- Applies to intermediate- and large-volume manufacturers, as determined by California sales
Manufacturers have multiple ways to meet their obligation:

- Develop and deliver ZEVs
- Purchase credits from other manufacturers
- Carry back or use previously banked credits
- Carry forward banked credits for future years

The requirements do not dictate exact numbers, vehicle types, or locations
Options for New Mexico: Early Action Credits (Section 108, A&B)

- Manufacturers may receive credits for new qualifying battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) delivered for sale in the NM Requirement Area before compliance period begins (model year 2026).
- Proposing that early action credits can begin with vehicles delivered for sale on August 1, 2022.
- Will increase the early availability of electrified vehicles in New Mexico
Options for New Mexico: Onetime Credits (Section 108, C)

- Also known as “proportional” credits
- Available in model year 2027 and intended for use in future more stringent California standards
- Give manufacturers credits to use instead of delivering qualifying vehicles
- Each manufacturer receives credits based on the balance of their California ZEV credit bank, scaled to NM-specific overall sales
- Will help vehicle manufacturers transition into a future with more stringent standards
- Equalizes the New Mexico program with others already underway in other states
- The draft rules are modeled after the Nevada approach, which was developed through discussions among the manufacturers, dealers, and environmental advocates
Options for New Mexico: Registration and Fees (Section 113)

- Each large- or intermediate-volume auto manufacturer is required to register.
- Annual registration fee is assessed by dividing the annual program costs of $200,000 proportionally among the registered manufacturers.
- Manufactures seeking to earn early action ZEV credits pay an annual registration fee of $10,000.
Clean Car Standards Do:  

 ✓ Significantly reduce greenhouse gas emissions  
 ✓ Apply only to new light- and medium-duty vehicles for sale in New Mexico  
 ✓ Improve air quality for New Mexicans  
 ✓ Expand purchase options for New Mexico consumers

Clean Car Standards Do Not:  

 ✗ Apply to existing vehicles or used vehicles for sale  
 ✗ Apply to off-road or heavy-duty vehicles or equipment, like farm equipment and semi-trucks  
 ✗ Require emissions testing  
 ✗ Require anyone to purchase an EV  
 ✗ Ban the sale of SUVs or pickup trucks  
 ✗ Increase taxes or costs to consumers
NMED Rulemaking Schedule

Public Engagement Sessions and Outreach:
July-November 2021

NMED Files Rulemaking Petition: December 1, 2021

Environmental Improvement Board Considers NMED Petition: December 17, 2021

Regulatory Boards Hold Joint Hearing (Proposed): May 2, 2022
Albuquerque Proposed Rulemaking Schedule

Public Engagement Sessions and Outreach:
July-November 2021

Air Quality Program Files Rulemaking Petition: January 2021

Albuquerque Bernalillo County Air Quality Control Board Considers AQP Petition:
February 2021

Regulatory Boards Hold Joint Hearing (Proposed): May 2, 2022
We Want To Hear From You

- Provide comments and feedback on the discussion draft rules by November 18, 2021, 5 pm to cleancarsnm@state.nm.us
- Participate in public meetings like this one
- Invite us to present to your organization
- Provide public comment during the formal rulemaking process
- Provide testimony during the rulemaking hearing in May
Stay Informed

☐ Sign up for our email listserv for updates and meeting information in English and Spanish at https://public.govdelivery.com/accounts/NMED/subscriber/new

☐ Visit our websites:
  - NMED Clean Cars New Mexico at https://www.env.nm.gov/the-road-to-clean-cars-new-mexico/

☐ Follow us on social media: @NMEnvDept, f=NMEnvironmentDepartment
Contact Us

New Mexico Environment Department
- Claudia Borchert, Climate Change Policy Coordinator
  - 505-699-8489
  - claudia.borchert@state.nm.us

City of Albuquerque Env. Health Department
- Dario Rocha, Environmental Health Manager
  - 505-768-2637
  - drocha@cabq.gov

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Please (virtually) raise your hand or type into the chat!
Methodology

Baseline Comparison

- SAFE II versus current Advanced Clean Cars 1
- MY 2026 start
- LEV and ZEV standards continue unchanged 2026 through 2050
- Statewide impacts—New Mexico Requirement Area

Does Not Incorporate

- Biden administration strengthening of future vehicle standards
- CARB revisions 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)
Assumptions and Data Sources
(From RMI New Mexico Energy Policy Simulator)

• New Mexico Transportation Fuel Prices

<table>
<thead>
<tr>
<th>Gasoline (gallon)</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
<th>2050</th>
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<tr>
<td>Retail</td>
<td>$3.03</td>
<td>$3.10</td>
<td>$3.29</td>
<td>$3.42</td>
<td>$3.59</td>
<td>$3.63</td>
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<td>PreTax</td>
<td>$2.68</td>
<td>$2.48</td>
<td>$3.02</td>
<td>$3.20</td>
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<td>Tax</td>
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<td>$0.35</td>
<td>$0.35</td>
<td>$0.35</td>
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Electricity (kWh)

<table>
<thead>
<tr>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
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<tbody>
<tr>
<td>Retail</td>
<td>$0.095</td>
<td>$0.105</td>
<td>$0.103</td>
<td>$0.101</td>
<td>$0.098</td>
<td>$0.097</td>
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• New Mexico Electricity Generation Sources

<table>
<thead>
<tr>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
<th>2050</th>
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<tbody>
<tr>
<td>Coal</td>
<td>31.4%</td>
<td>20.8%</td>
<td>18.9%</td>
<td>0.0%</td>
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<tr>
<td>Natural Gas</td>
<td>38.9%</td>
<td>27.2%</td>
<td>22.3%</td>
<td>20.6%</td>
<td>13.5%</td>
<td>6.9%</td>
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<tr>
<td>Nuclear</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
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<tr>
<td>Residual Oil</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
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<td>0.0%</td>
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<tr>
<td>Biomass</td>
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<td>0.0%</td>
<td>0.0%</td>
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<tr>
<td>Hydroelectric</td>
<td>0.5%</td>
<td>0.4%</td>
<td>0.4%</td>
<td>0.4%</td>
<td>0.3%</td>
<td>0.3%</td>
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<tr>
<td>Geothermal</td>
<td>0.1%</td>
<td>0.1%</td>
<td>0.1%</td>
<td>0.1%</td>
<td>0.1%</td>
<td>0.1%</td>
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<tr>
<td>Wind</td>
<td>22.0%</td>
<td>32.9%</td>
<td>35.0%</td>
<td>38.2%</td>
<td>39.7%</td>
<td>40.3%</td>
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<td>Solar</td>
<td>7.0%</td>
<td>18.6%</td>
<td>23.3%</td>
<td>40.7%</td>
<td>46.3%</td>
<td>52.3%</td>
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<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Assumptions and Data Sources

• Total Sales
  • 85,100 per year
  • 2018 actual, Alliance for Automotive Innovation

• Car/Truck Split
  • 40% cars, 60% trucks
  • Derived from 2020 actual, Alliance for Automotive Innovation

• ZEV “Business as Usual” Sales
  • 1,628 per year
  • First 6 months of 2021, multiplied x 2, Alliance for Automotive Innovation

• ZEV Availability on Dealer Lots
  • Cars.com and Autotrader.com data, accessed November 1, 2021