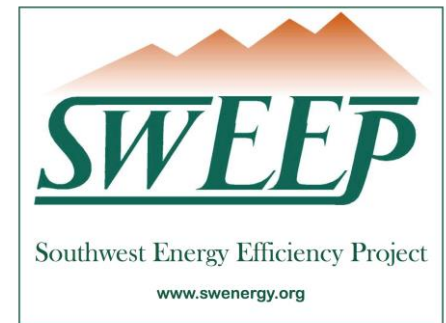


# Advancing Electric Vehicles in New Mexico



# Why should NM support electric vehicles?



Economic benefits  
Reduced fuel costs  
Clean Air



# Plug-in Electric Vehicle Models

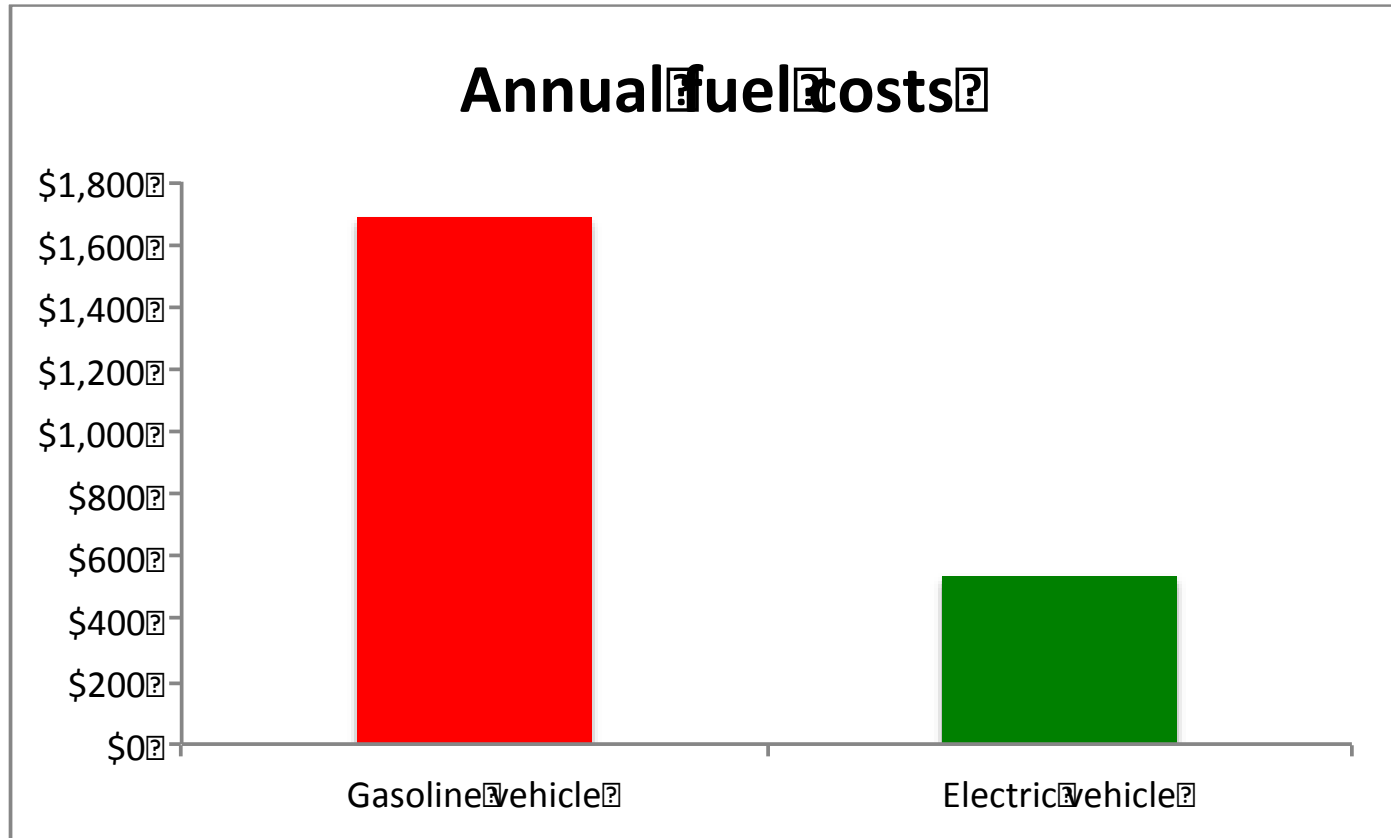
Ford, Chevy, Toyota, Nissan, Tesla, Honda, Mitsubishi, Volkswagen  
and others...available soon



# Types of EVs

- Plug-in Hybrids (such as Chevy Volt, Toyota Prius Plug-in) run on batteries charged from the plug, shift to gas when batteries drain; 10-40 mile all electric range
- Battery EVs (such as Nissan Leaf or a Tesla) – solely powered by batteries; range varies from 80 miles up to over 200 miles
- Distinct from conventional hybrids – newer to the market, bigger benefits

# Fuel cost savings for consumers



Assumptions: 13,800 miles/year, gas at \$3.42/gallon, electricity at 11.1 cents/kwh, gas car gets 28 mpg, EV uses 0.33 kwh/mile

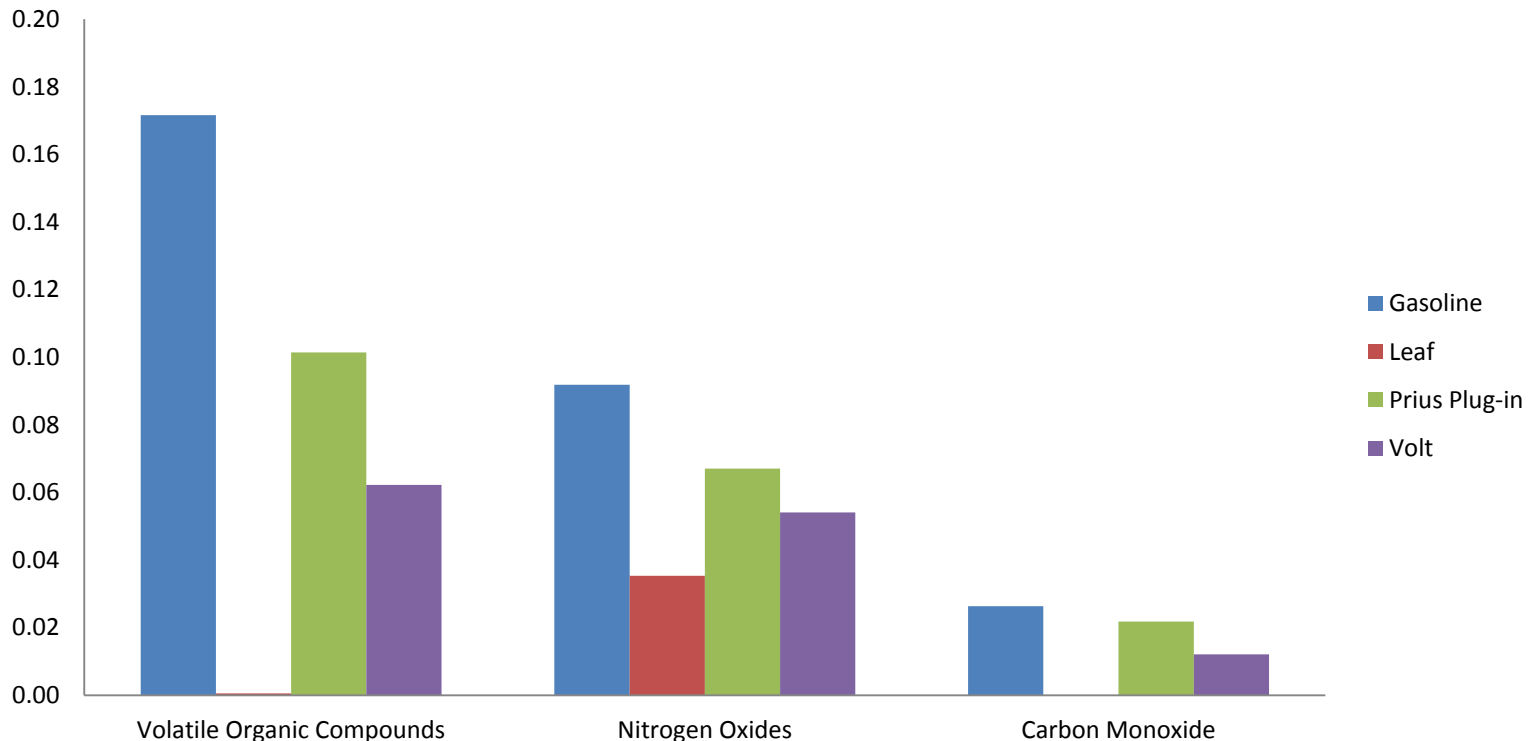
# Statewide fuel cost savings

- Variables are gas cost, EV penetration levels
- 2% EVs by 2020- consumers save \$40-57 million/yr
- 5% EVs by 2030 – consumers save up to \$200 million/yr

Source: M. Salisbury, : **Air Quality and Economic Benefits of Electric Vehicles in New Mexico,2014: [www.swenergy.org](http://www.swenergy.org)**

# Benefits for Air Quality

Pollution (grams per mile)



Source: M. Salisbury, : **Air Quality and Economic Benefits of Electric Vehicles in New Mexico, 2014: [www.swenergy.org](http://www.swenergy.org) ; based on Argonne National Labs GREET model**

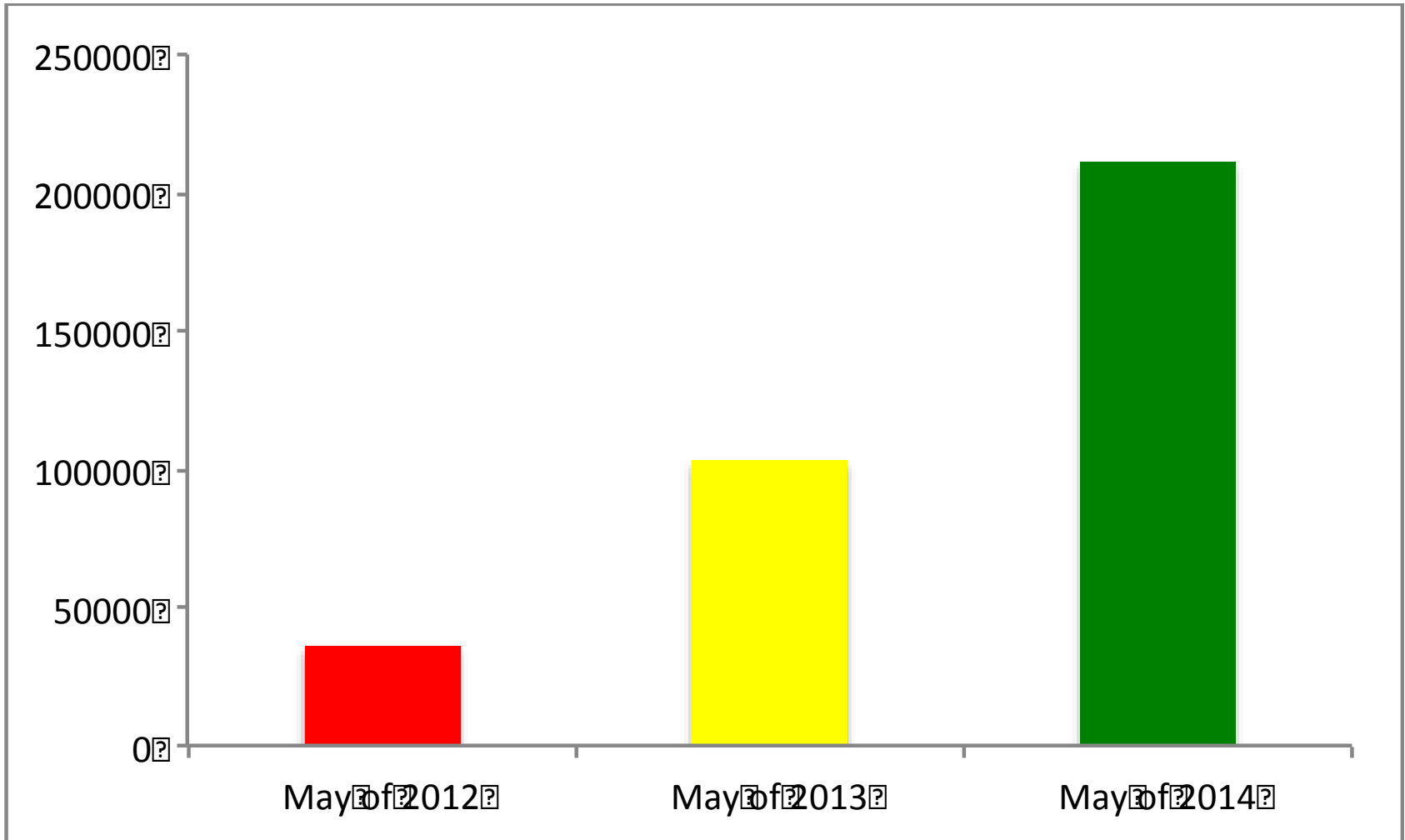
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# EVs can meet transportation needs of most New Mexicans – urban and rural

- The average commute time in New Mexico is 21 minutes (2012 American Community Survey)
- Total per vehicle daily vehicles miles travelled averages 38 miles (Federal Highway Administration data)
- A Nissan Leaf has an 80 mile range, a Chevy Volt has 40 miles before switching to gas



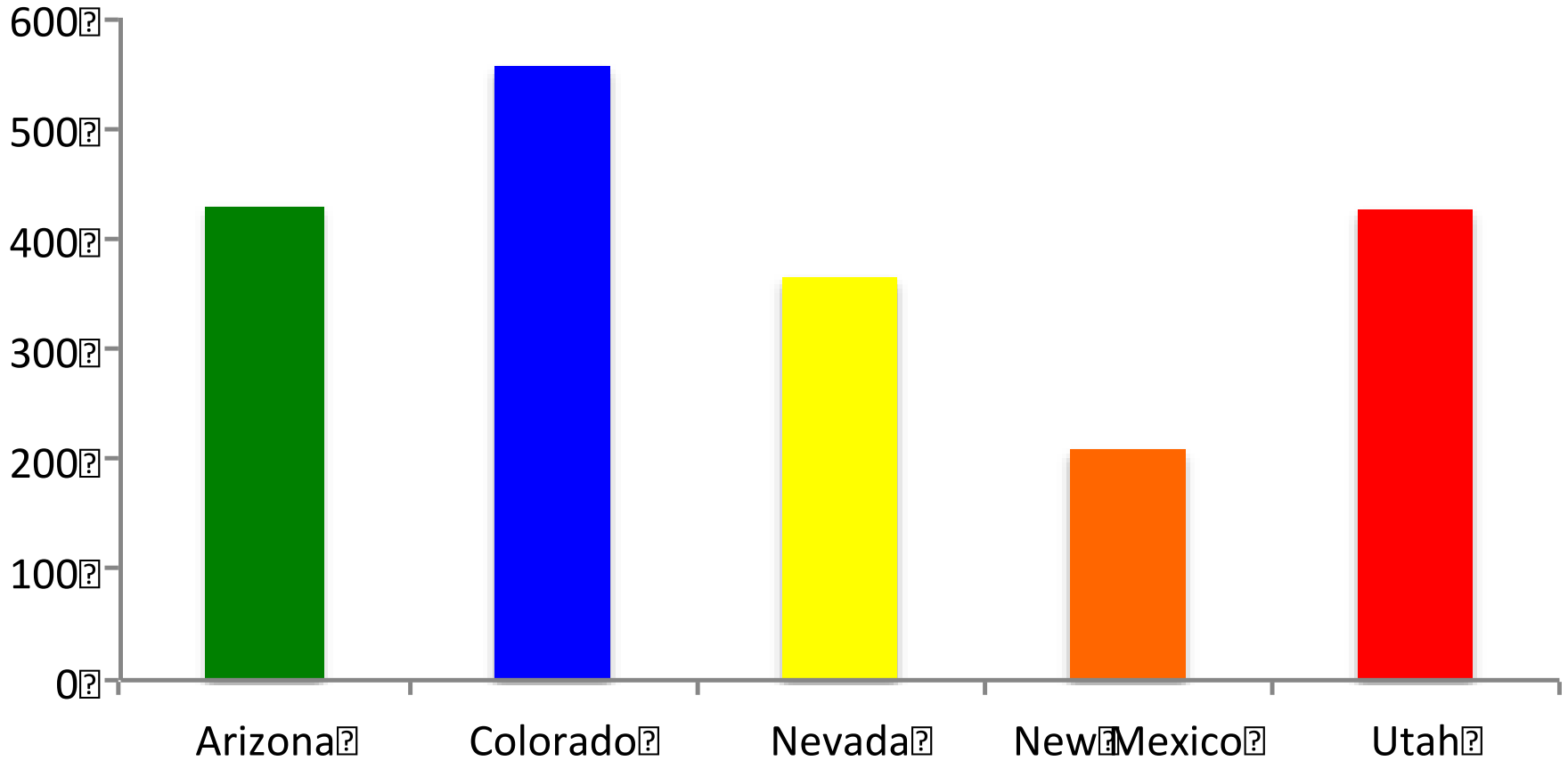
# Nationwide numbers of EVs growing rapidly



Source: Electric Drive Transportation Association,  
<http://electricdrive.org/index.php?ht=d/sp/i/20952/pid/20952>

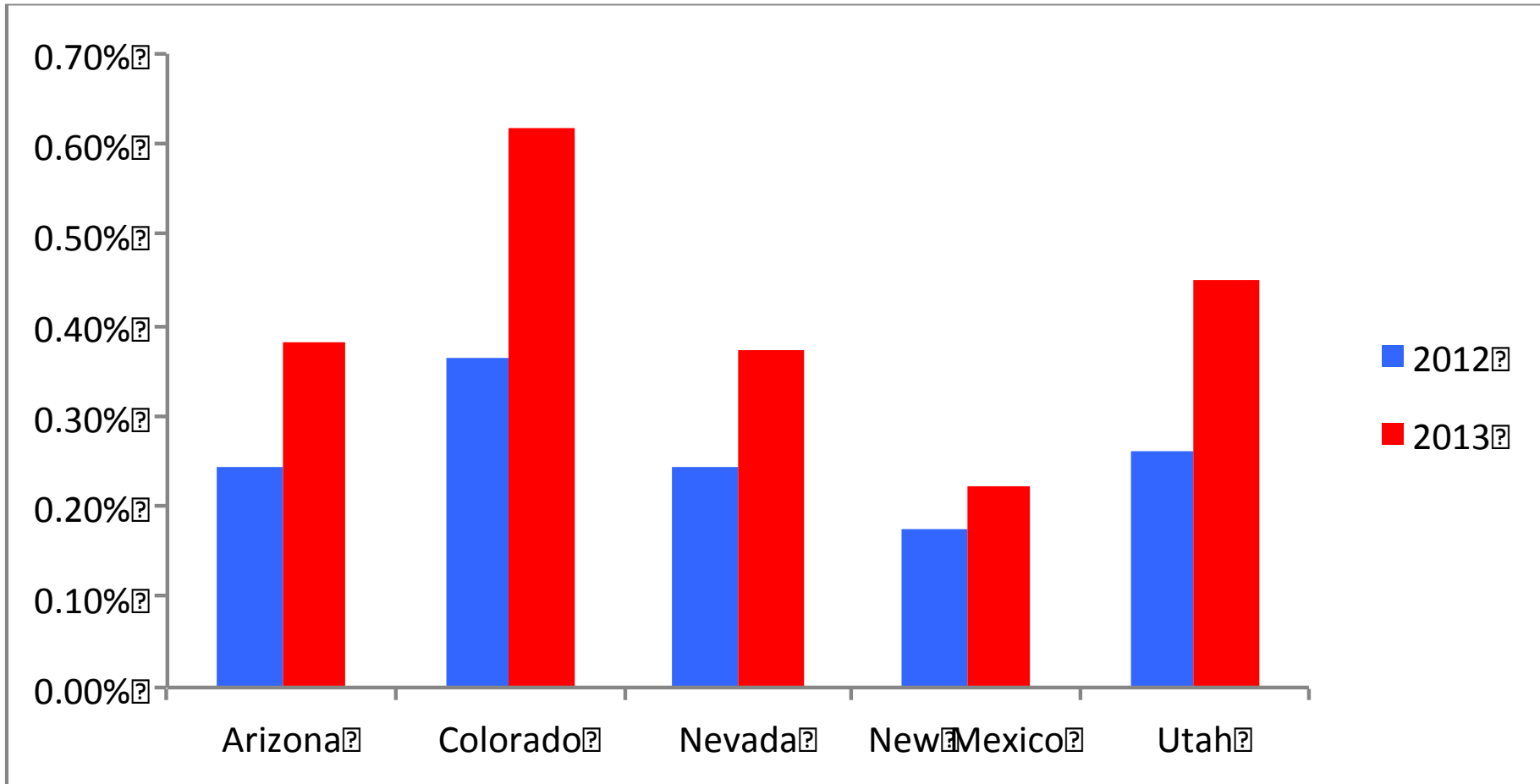
But New Mexico is falling behind.....

# EVs per million residents



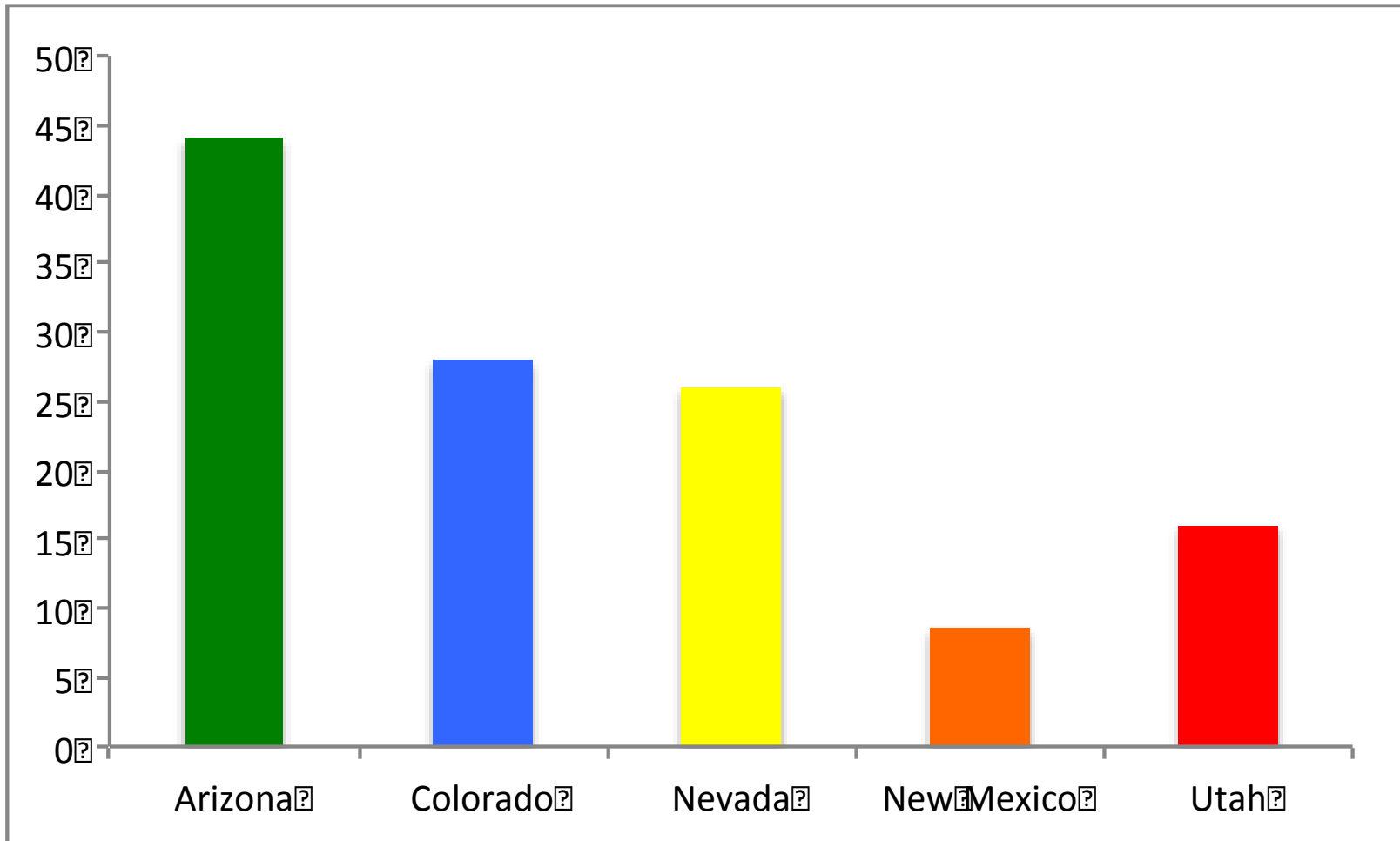
Data from Polk / IHS Automotive

# 2012 and 2013 EV sales



Sales as a percentage of new vehicle sales range from 0.2% in NM to 0.6% in CO;  
Data from Polk / IHS Automotive

# Public charging stations per million residents



Source: US Department of Energy Alternative Fuel Data Center,  
[http://www.afdc.energy.gov/fuels/electricity\\_locations.html](http://www.afdc.energy.gov/fuels/electricity_locations.html)

# Recent EV legislation in CO

- HB 14-1326 - \$15,000 tax credit for medium duty electric trucks and buses
- HB 13-1110 - \$30 EV decal fee for roads, \$20 for EV charging
- SB 13-70 – Fleet vehicle alt fuel requirements
- SB 13-254 – Performance contracting for EVs
- HB 13-247 - \$6,000 tax credit for EVs
- HB 12- 1258 – Deregulated resale of electricity for charging, required net metering for solar for charging

# Proposed legislation

- Based on HB 14-136, sponsored by Rep Jim Trujillo
- \$30 annual fee on electric vehicles to pay into the road fund
- \$2500 tax credit for buying an EV
- 30% tax credit for commercial charging station, cap of \$3,000
- 30% tax credit for commercial charging station with solar, cap of \$5,000
- Cap at no more than \$3 million/year

# Proposed annual EV fee

- Principle: EVs should pay a fair share of road and bridge maintenance
- EV uses as much energy as a gasoline vehicle that gets 99 MPG
- Average vehicle travels 13,000 miles/year
- 17 cents gas tax = \$22/year
- Round up to \$30

# EVs also bring in more excise tax than comparable conventional vehicle

- Before tax credits, EV costs about \$10,000 more than comparable gasoline vehicle
- At 3% sales tax, EV pays \$300 more upfront sales tax; goes to Local Gov road fund and Highway Infrastructure Fund
- Averaged over 10 year lifetime this is an additional \$30/year



# Proposed tax credit to encourage purchase of EVs

- The two states in the southwest with the largest sales of EVs have supportive state legislation
- Colorado has a \$6,000 tax credit, and uses registration fees on EVs to pay for EV charging – has 3 times the % of EV sales as NM
- Utah has a \$1,500 tax credit, and has 2 times the % of EV sales as NM
- We propose \$2,500 in NM

# EV Charging

Most charging occurs at home – but New Mexico also needs both workplace and public charging infrastructure



Type	Installed Cost	Charging time
Level 1 ( 120 V)	\$1,000-1250	Adds 2-5 miles range in an hour
Level 2	\$5,000-10,000	Adds 10-20 miles in an hour
DC fast Charge	\$25,000-125,000	Full charge in 20 minutes

# Solar + EV charging

- Solar + EVs = zero emissions



Image courtesy of [Inhabit.com](http://Inhabit.com)

# Proposed Tax Credit for Charging

- 30% of cost of the charger
- Capped at \$3,000; or \$5,000 if powered by solar
- Not for home charging- only workplace and public charging

# Estimated benefits of legislation

- \$48 million in additional EV sales over next three years
- \$12 million in additional federal tax credits to NM residents
- Fuel savings to consumers over 4 years of \$4 million
- \$6 million investment in 600 new charging stations

# Estimated fiscal impact

- At current sales levels vehicle credit \$500,000 /yr
- Triple to level in CO. - \$1.5 million/yr
- Charging tax credits - \$500,000/yr at 125 stations/yr
- Total should be well below \$3 million cap

# Please support EV legislation

- Positions New Mexico in advanced energy economy
- Saves consumers \$ at the pump
- Keeps fuel \$ in New Mexico
- Reduces air pollution
- Ensures that EVs pay a fair share for roads



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