

# ▾ Trends in Global, United States, and California ZEV Markets

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# Global EV Sales

- 6.6 Million EV Sales Globally in 2021 (3x increase since 2019)
- Driven primarily by China and Europe
  - China – roughly 3.4 million (roughly half of global EV sales)
  - Europe – 2.3 million (half plug-in hybrids)
- USA – EV sales doubled to more than 500,000
  - California leads nation with roughly 180,000 EV registrations (9.5% market share vs 4.5% nationwide)
- Other regions/nations are lagging
  - Many developing nations are lagging (Brazil, India, Indonesia – EV share is below 1%)
  - Japan – sales stagnant and remain below 1%

Sources: <https://www.iea.org/commentaries/electric-cars-fend-off-supply-challenges-to-more-than-double-global-sales>,  
<https://www.cncda.org/wp-content/uploads/Cal-Covering-4Q-21.pdf>

# Global EV Sales

- Governments throughout the world are imposing strict requirements on new vehicle sales to encourage adoption of EVs
  - European Commission: Proposing zero CO2 emission standard by 2035
  - USA Federal Government: 50% electrification target by 2030
  - California: 100% ZEV sales by 2035
- Automakers are investing heavily in EVs
  - VW: Half EVs by 2030
  - Ford: 40-50% EVs by end of decade
  - Toyota: 3.5 million EV sales per year by 2030

Source: <https://www.iea.org/commentaries/electric-cars-fend-off-supply-challenges-to-more-than-double-global-sales>

# Current Market Characteristics

- Unprecedented supply shortages and high demand are resulting in substantial increases in the prices of new vehicles (including EVs).
  - Example: Price of least expensive Model 3 is now roughly \$45,000, up from \$35,000 three years ago.
- Long wait lines for sought after vehicles.
  - Example: F150 Lightning. Over 200,000 reservations; 3 year wait
- New vehicle inventory on dealer lots is very low.

# Lack of New Vehicles Has Impacted Used Vehicle Marketplace

- The persistent lack of inventory of new vehicles and substantial demand has resulted in unprecedented increases in the prices of used vehicles (including EVs).
- Average new and used vehicle prices in December 2021 (Edmunds/CNN):
  - New – Roughly \$46,000, up 14% from a year earlier.
  - Used – Roughly \$30,000, up 29% from a year earlier.
- EVs Only
  - New – \$56,400, up about 6.2% from a year earlier (KBB)
  - Used – \$39,600, up about 15% from a year earlier (Recurrent Auto)

Sources: <https://www.cnn.com/2022/01/20/business/car-prices-easing-2022/index.html>; <https://www.prnewswire.com/news-releases/eight-straight-new-vehicle-prices-mark-another-record-high-in-november-2021-according-to-kelley-blue-book-301442015.html>; <https://www.recurrentauto.com/research/used-electric-vehicle-buying-report>

# Looking Towards the Future

- Current vehicle supply shortages are driven by shortages of certain key components, such as microprocessors.
  - Relief expected later this year and into 2023.
- Is future EV supply secure?
  - Manufacturers are investing heavily in expanding capacity.
  - Dealers are investing heavily in facilities to service and sell EVs.
  - However, costs of key components (e.g., Lithium) are increasing dramatically.
  - High supply-chain reliance on China.

Source: <https://www.ft.com/content/31870961-dee4-4b79-8dca-47e78d29b420>

Questions?