# Why An Electric Vehicle

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# Are EVs Falling In Popularity?

- Subsidies have been removed-US BEV Sales 1st Half 2026 Were About 5.8%. Used Sales About 10%. China New Car Sales of BEVs is about 38% through August. Gas cars=49% BEVs 17%. Southeast Asia up 80%
- China exported 2.4M EVs and Plug Ins First Half ’26
- Europe Saw BEV Sales of 30% in August
- Ethiopia banned ICEV in 2024
- Norway 98% BEV
- Gas prices
- Ending EV leases

# Types of EVs

- Battery Electric Vehicle-electric motor driven only
- Plug in Hybrid EV-can drive on pure electricity for 20 to 50 miles
- Mild Hybrid-The electric motor never turns the wheels by itself. Start Stop, assists gas engine and powers electronics
- Full Hybrid-Can drive on pure electricity at low speeds or short distances
- Extended Range EV-gas engine that charges the electric motor
- Maintenance

# Fundamental Considerations

- Greenhouse Gas Emissions Are Endangering The Planet
  - 28% of them are from transportation sources
  - In the U.S. 57% of transportation emissions are attributable to cars and light duty trucks
  - A typical ICEV (22 mpg) releases about 4.6 metric tons of $CO_2$ annually.

# Fundamental Considerations Con't

- EVs have a larger $CO_2$ footprint. Breakeven is about 15-20k miles or about 1.5-2 years. Gas cars pollute for their lifetime

- Oil and gas extraction with fugitive emissions associated with wells and pipelines, transport, refining and delivery to gas stations. Mining affects the environment too. Tradeoff

- The grid - not all cars electric immediately

- ICEV only 20% efficient. Burn and repeat and environmental harm. EVs 90% efficient.

- Cardiovascular and respiratory effects: Keck School of Medicine of USC found that for every 200 zero-emissions vehicles (ZEVs) added, nitrogen dioxide levels fell by 1.1% in California neighborhoods.

# Batteries

- Most expensive part of the car
- Seldom need replacing. Can last 200-300k miles
- Most EVs warrant them for 100,000 miles
- BYD (world's largest EV manufacturer) 5 minute charge 10-70% and incredible range. Production-ready
- Research by EV FireSafe revealed that there is a 0.0012% of an EV's battery catching fire, compared to a 0.1% chance for an ICEV.
- Batteries ARE recyclable
- Sodium-cheaper, safer, temperature friendly, no esoteric metals



# Chinese Cars

- Technologically and esthetically superior
- China owns the battery world. 50,000 mile journey
- Subsidized by the government and inexpensive. Flooding the market
- Europe/Canada/Australia/Mexico/Americas/Africa-worldwide
- Will they come to the US?

# Charging

- Levels one, two, three
- NACS
- NEVI, Ionna, WalMart, gas stations, Tesla (3090 locations, ~37000 stalls)
- Easy roadtripping, reasonable charging times. Modern EVs approaching 300 miles of range on average
- Cost: Level 3~$.25-.60/kwh

# Can Cars Drive Themselves?

- Tesla full self driving (supervised FSD) compared to Supercruise, Bluecruise, Mercedes, BMW, Rivian, Lucid, Waymo
- FSD-8 Billion miles and constantly learning with AI
  - 1 crash every 5,500,000 miles (Tesla Reported)
  - U.S. Average: 1 crash every 660,000 miles

# Should An EV Be In Your Future?

- Safety Of A Tesla-FSD, 5+ Rating From NHTSA/IIHS
- Very Little Maintenance
- Charge In Your Garage -Avoid Gas Stations ~A Blast To Drive
- $11 For A Full Charge (357 mi) vs ~$47 for an ICEV at 30 mpg if gas is $4/gallon

# For More Info

https://www.bgr.com/2118575/most-annoying-electric-vehicle-myths/



RE: Tesla, its CEO has created a political flashpoint, but the cars, in my opinion, represent the vanguard for capability and safety that others are attempting to match. I think of the tens of thousands of employees that labor to do the right thing for the environment and for the safety of the drivers of Tesla cars.

*Mike*

*And Finally*

**What's Your Verdict? With instant torque, no turbo lag, a pleasurable driving experience, low maintenance, cost savings and environmental benefits, the great majority of EV drivers report they would never go back to driving an ICE vehicle. Maybe you're on the fence about electric cars. A test drive to experience all that these amazing vehicles offer would be advisable. Try it, you'll like it.**

# A Good Looker
# (The Car Is Nice Too)



# Shifting The Playing Field

- Subsidies for oil and gas reached $13 B in tax code allowances and $35 B in federal production handouts

- Many oil and gas projects take advantage of tax preferences, which can reduce the after-tax costs of investing in drilling for oil and gas, for example.

- Oil Change International estimates that the OBBB contained subsidies worth an additional $4 billion per year for fossil fuel interests.

- Not inclusive of environmental and health costs

| BBB provision | Target industries | Description |
|---|---|---|
| Cut clean electricity investment/production tax credits (45Y and 48E) | **Wind, solar, storage, and other clean energy** | *Repeals tax credits for wind and solar projects unless they can meet a significantly shorter timeline for construction or interconnection. Starts with supply chain restrictions in January 2026. Full repeal for wind and solar in December 2027.* |
| Ended credit for homeowners to add clean energy systems to their homes (25D) | **Clean energy** | *Removes 30 percent credit for homeowners who would install clean energy systems such as rooftop solar after December 31, 2025.* |
| Ended the manufacturing production tax credits for wind energy components (45X) | **Wind** | *Removes tax credit for any wind energy component produced and sold after December 31, 2027.* |
| Increased acreage rents on public lands | **Wind** | *Increases price per acre (or by production rate, if greater) to lease public land for wind projects.* |
| Increased capacity fees on public lands | **Wind and solar** | *Increases capacity fees so that wind and solar projects now pay a flat percentage of their proceeds (or acreage rent, if greater).* |
| Lowered royalty rates | **Oil, gas, and coal** | *Lowered royalty payments to between 12.5 percent for oil and gas and 7 percent for coal.* |
| Made metallurgical coal eligible for a tax credit as a critical mineral under the advanced manufacturing tax credit (45X) | **Coal** | *Gives credit to coal producers through 2029 at a rate of 2.5 percent of the production costs, regardless of whether coal production occurs inside or outside of the United States. Includes coal that is exported to foreign steelmakers.* |
| Mandated oil, gas, and coal lease sales | **Oil, gas, and coal** | *Requires quarterly lease sales in WY, NM, CO, UT, MT, ND, OK, and NV. Also requires lease sales in the Western Arctic and the Arctic Refuge as well as offshore leases in the Gulf of Mexico and Cook Inlet.* |
| Placed a restriction on clean energy manufacturing, critical mineral recycling, and industrial decarbonization projects (48C) | **Wind, solar, storage, and other clean energy** | *Removes credit for projects that were not placed in service within two years. Rescinded credit can no longer be reissued to other projects.* |
| Rescinded lease nomination fee | **Oil and gas** | *Removes the requirement for developers to pay a $5/acre fee to nominate acres for lease, a policy to discourage speculative leasing* |
| Restored noncompetitive leasing | **Oil and gas** | *Requires the Bureau of Land Management to reoffer leases that did not sell at auction for a much lower fee of $3/acre the next day.* |
| Revised treatment of the intangible drilling costs deductions | **Oil and gas** | *Allowed companies with large intangible drilling costs to lower or entirely eliminate liability under the Corporate Alternative Minimum Tax.* |