



ELECTRIC VEHICLES (EVs)

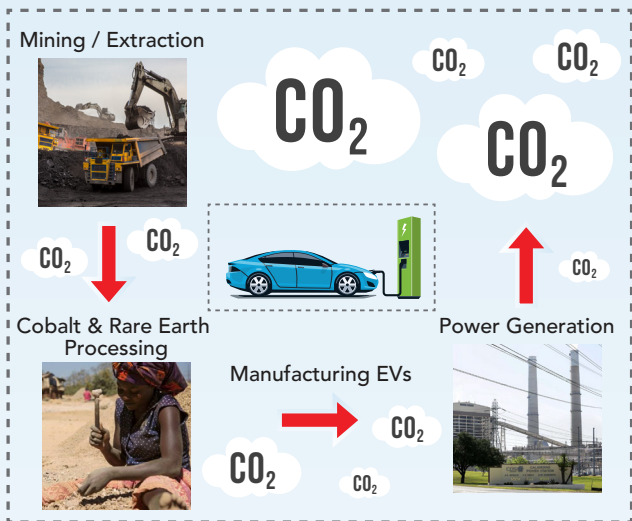


MYTH



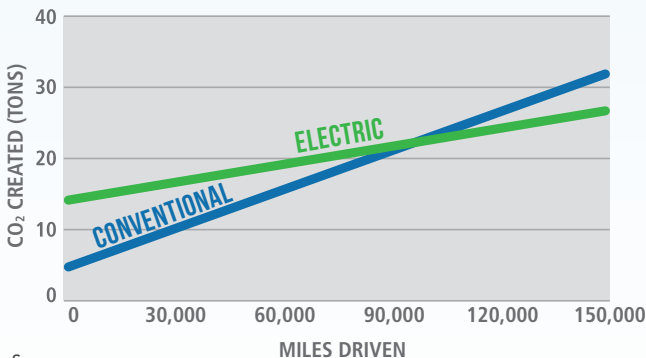
FACT

SIGNIFICANT EMISSIONS FROM EVs LIFE CYCLE



- Life cycle of emissions from EVs is significant - from mining raw materials to fabrication to delivery to the showroom
 - 2X as much CO₂ emissions are generated compared to cars fueled by gasoline
 - Before it leaves the showroom, 12 tons of CO₂ emissions have already been generated vs 6 tons of CO₂ emissions from cars fueled by gasoline
- 25 tons of CO₂ emissions are needed to make an EV that can drive similar range as a car fueled by gasoline
- You have to drive an EV 80,000-90,000 miles to offset the same amount of CO₂ emissions as a car fueled by gasoline (from electricity usage and battery manufacturing)

CO₂ PRODUCED OVER THE LIFE OF THE VEHICLE



Sources:

Graham Conway, Southwest Research Institute <https://www.youtube.com/watch?v=S1E8SQde5rk&feature=youtu.be>; <https://www.swri.org/podcast/ep21>



THE FACTS



ELECTRIC VEHICLES (EVs)

THE MARKET FOR EVs IS SMALL

- 2% of vehicles sold in the U.S. in 2019 were EVs
- 50% of EV sales in the U.S. are in California, and these are mostly concentrated in Los Angeles, San Francisco & San Diego
- According to International Energy Agency (IEA), EVs are expected to comprise only 8% of vehicle sales in the U.S. by 2030
- Less than 1% of vehicles registered in San Antonio

EV OWNERSHIP IS NOT EQUITABLE

- Typically, only people with high-incomes, high educational attainment, and who own homes can afford the high price tag and charging equipment
- Residential installation of EV 240-volt charging station cost ~\$2,000 and increase electrical bills by about \$500-\$600 annually
- Non-residential installation of EV 240-volt charging station costs ~\$3,000- \$6,000

SOCIAL AND ENVIRONMENTAL CONSEQUENCES

- According to the United Nations Conference on Trade and Development (UNCTAD) the exploitation of raw materials used to make EVs can have negative social and environmental consequences
 - Child labor used to mine for cobalt in the Democratic Republic of Congo
 - Acid mine drainage from abandoned mining sites can pollute nearby rivers and drinking water
 - Dust from mining cobalt and lithium can contain toxic metals linked to respiratory problems and birth defects
 - Indigenous communities must contend with miners for access to communal land and water

Sources:

United Nations Conference on Trade and Development (UNCTAD), 2020, Commodities at a Glance EIA <https://www.eia.gov/tools/faqs/faq.php?id=427&t=3>
ChargePoint, AFDC, Tesla
US Dept. of Energy Fuels Data Center