



Gas-Powered Cars Cheaper to Fuel Than Electric in Late 2022

Drop in gas prices gives cost advantage back to ICE-powered vehicles for the first time since the second quarter of 2021

East Lansing, MI–January 24, 2023: 2022’s final quarter finally brought relief at the pump for drivers of traditional Internal Combustion Engine (ICE) vehicles as the cost to drive 100 miles dropped by more than \$2. With the cost for electricity also trending upward during the year, mid-priced ICE cars became more economical to fuel than their Electric Vehicle (EV) counterparts for the first time in 18 months.

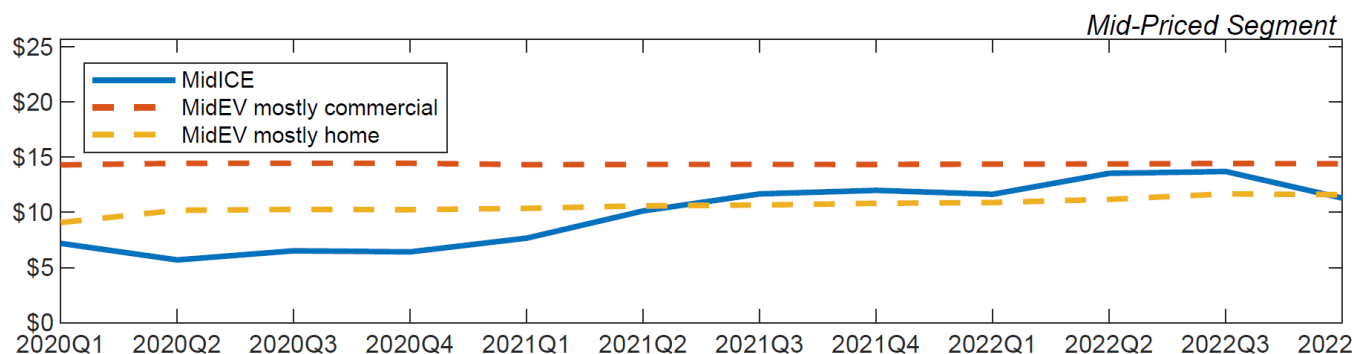
In Q4 2022, typical mid-priced ICE car drivers paid about \$11.29 to fuel their vehicles for 100 miles of driving. That cost was around \$0.31 cheaper than the amount paid by mid-priced EV drivers charging mostly at home, and over \$3 less than the cost borne by comparable EV drivers charging commercially.

Drivers of luxury EVs continued to a fueling cost advantage, regardless of charging method.

Findings by Vehicle Type

- **Mid-priced vehicles**—In this market segment, fueling ICE vehicles was more economical than comparable EVs in the 4th quarter, regardless of charging primarily at home or commercially.
- **Luxury cars**—Drivers of high-end electric vehicles still enjoyed a significant fueling cost advantage, but the gap narrowed in Q4. Assuming mostly home charging, the cost benefit to fuel a luxury EV vs. a luxury ICE car dropped from \$11.20 per 100 miles to \$7.56.
- **Pickup trucks, entry-priced cars**—ICE vehicles are still the only widely available options in these two segments.

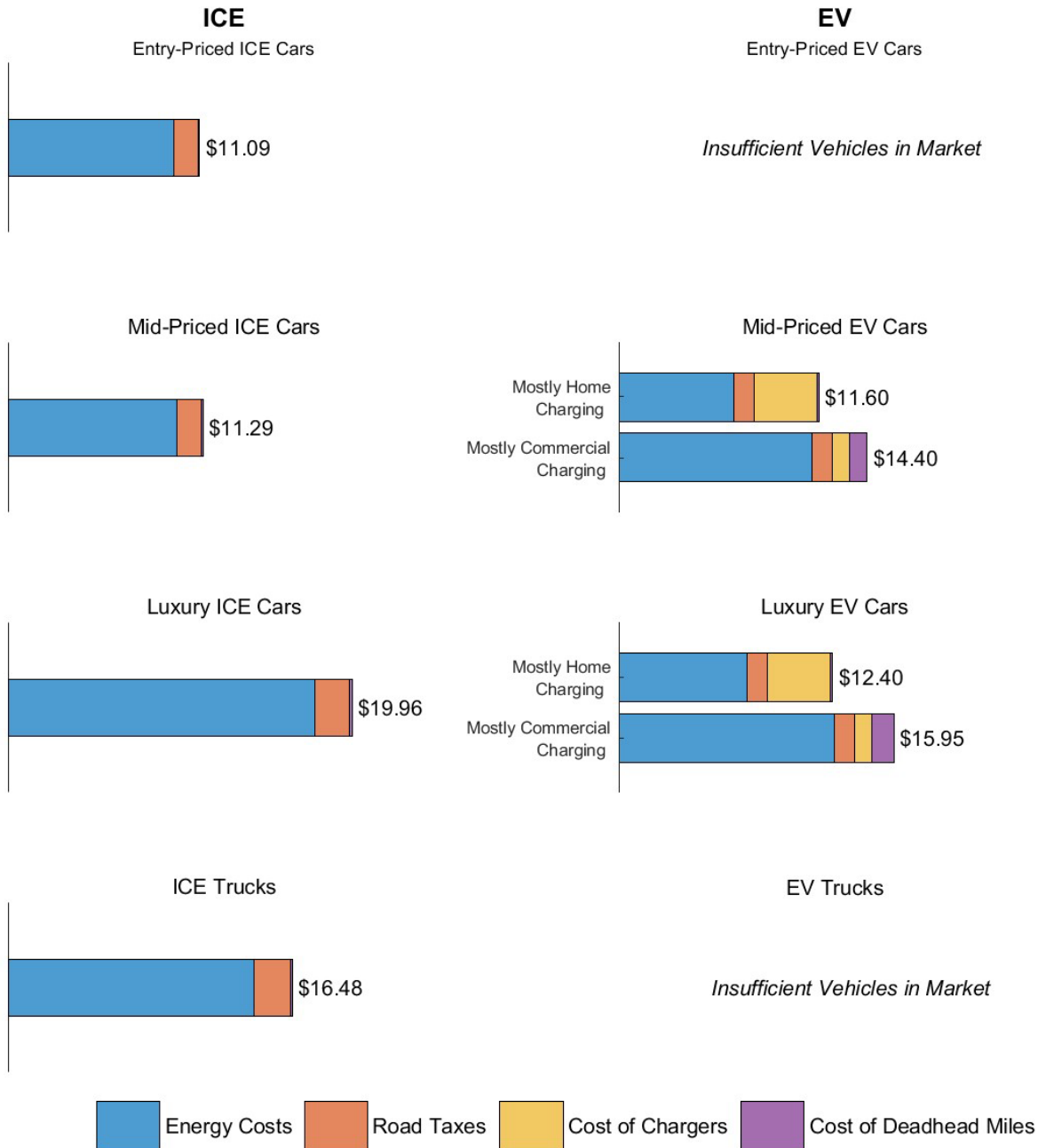
Cost Comparison Over Time



Source: Anderson Economic Group research (January 2023).

Cost of Fueling Electric and Internal Combustion Engine Vehicles

Direct Monetary Costs per 100 miles, 2022Q4



Source: Anderson Economic Group research.
 Methodology described in *Real World Costs of Fueling EVs and ICE Vehicles, 2d ed.*
 Costs are calculated for vehicles driving 12,000 purposeful miles per year, and include energy (gasoline or electricity); road taxes and fees; amortized cost of pump or charger; and deadhead miles.
 Base data: gasoline and residential utility rates from EIA; segments, use cases and commercial charging rates from AEG; taxes, fees, and rates as levied in the State of Michigan.

Approach

Anderson Economic Group calculates all four categories of costs for fueling EVs and ICE vehicles across benchmarks representing real-world U.S. driving conditions, including:

1. The cost of underlying energy (gas, diesel, electric)
2. State excise taxes charged for road maintenance
3. The cost to operate a pump or charger
4. The cost to drive to a fueling station (deadhead miles)

All use cases reflect 12,000 miles/year, with the cost of residential charging equipment amortized over five years. Calculations are based on energy prices and taxes in the state of Michigan. Benchmarks for ICE vehicle drivers assume the use of commercial gas stations. For EV drivers, we consider both drivers who routinely charge at home and those who rely primarily on commercial chargers.

AEG Expert Commentary

“The run-up in gas prices made EVs look like a bargain during much of 2021 and 2022,” says AEG’s Patrick Anderson. “With electric prices going up and gas prices declining, drivers of traditional ICE vehicles saved a little bit of money in the last quarter of 2022.”

Obtaining the AEG Report

The 2nd edition of *The Real-World Cost of Fueling EVs and ICE Vehicles* (2021) includes extensive notes on methodology. It is available at: AndersonEconomicGroup.com/second-edition-real-world-cost-of-fueling-evs-and-ice-vehicles.

Also see the company’s Automotive Dashboard, which tracks the auto industry (including electric vehicles) along with related economic metrics: AndersonEconomicGroup.com/auto-dashboard.

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About Anderson Economic Group

Anderson Economic Group is one of the most recognized boutique consulting firms in the United States. The company has offices in East Lansing, Michigan and Chicago, Illinois. AEG’s clients include universities, state governments, nonprofits, manufacturers, suppliers, trade associations, and automobile dealers. The automobile industry has been an area of specialization for the experts at AEG since our founding in 1996.