

EV and Hybrid Break-Even: Three Different Questions

Break-even mileage, break-even premium, and break-even fuel price are three different thresholds. A live simulation of the underlying tradeoff, plus which engine answers which.

"Does it pay off" is actually three separate break-even questions

An EV or hybrid usually costs more upfront and less to run, and "break-even" gets used loosely to mean three different thresholds: how many miles a year you'd need to drive, how big a purchase premium is still justified by the fuel savings, and how high (or low) fuel and electricity prices would need to move to change the answer. Each is a genuinely different number, solved by a different engine, and mixing them up is why "I drive enough to break even" and "the premium is worth it" can both feel true or false independently of each other.

Try it: cumulative savings against the purchase premium

This is a simplified illustration, not the full comparison, it uses just the fuel/energy cost gap (the same M-05 methodology the engines use) against a purchase premium, ignoring financing and depreciation differences the full engines include. Enter a premium and your driving/fuel numbers to see roughly which year the fuel savings catch up.

Purchase premium

6000

Annual miles

12000

Gas MPG (comparison car)

30

Gas price (\$/gal)

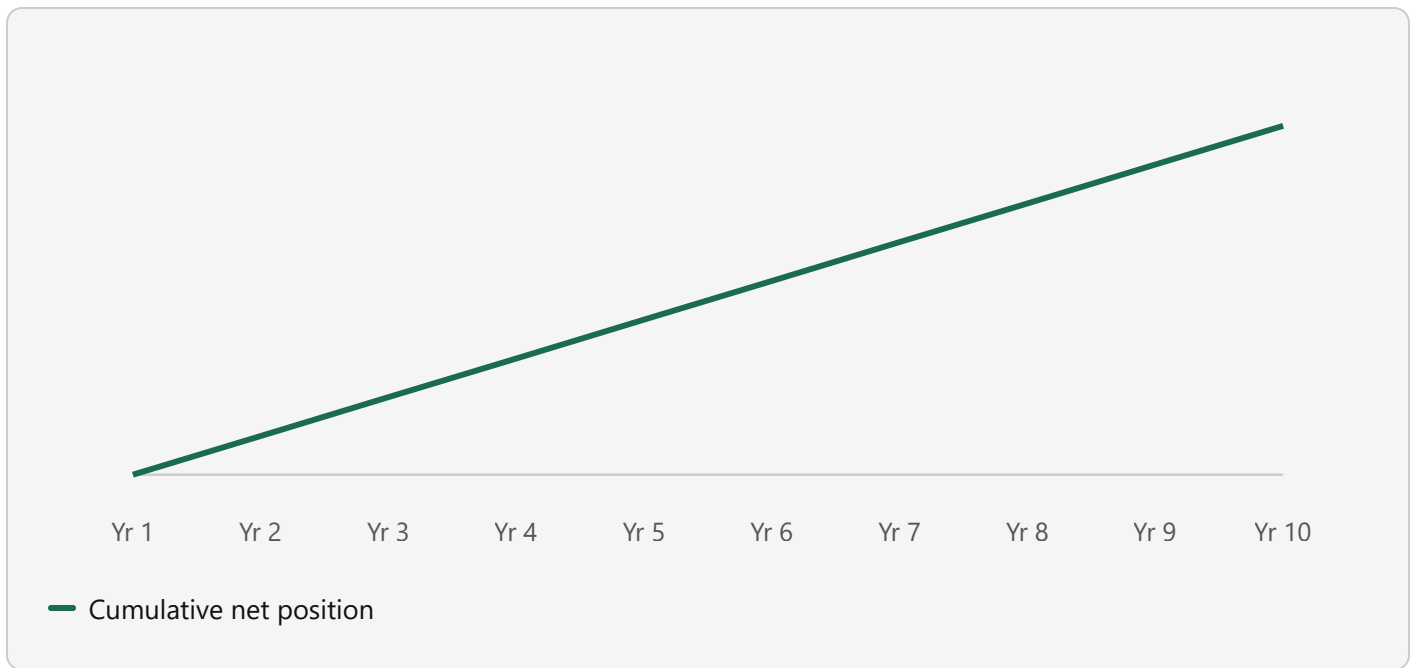
3.50

EV kWh/100 miles

30

Electricity rate (\$/kWh, mostly home)

0.15



Crossover around year 8, based on \$817/yr in fuel/energy savings alone against a \$6,000 premium.

Question 1: how many miles a year do I need to drive?

EV vs Gas Break-Even Mileage and Gas vs Hybrid Break-Even Mileages solve for the annual mileage threshold at your specific horizon, holding your price premium fixed. A low-mileage driver can do everything right and still never reach the crossover within a normal ownership period, not because the vehicle is a bad choice generally, but because there aren't enough miles for the per-mile savings to add up.

Question 2: how much premium is actually justified?

EV Price Premium Break-Even and Hybrid Price Premium Break-Even run the same relationship the other direction, holding your actual annual miles fixed and solving for the maximum premium your driving pattern can justify. This is the more useful question once you're comparing two specific trim levels or two specific vehicles with a known price gap between them.

Question 3: what would fuel or electricity prices have to do?

Gas Price Needed for EV to Pay Off, Gas Price Needed for Hybrid to Pay Off, and Electricity Price Break-Even vs Gas hold your miles and premium fixed and solve for the price threshold instead, useful when you're confident in your driving pattern but uncertain which way fuel or electricity prices are headed over your ownership period.

What to check before trusting any of these three

- Which variable you're actually uncertain about, miles, premium, or price, since that determines which of the three engines answers your real question.
- Whether you're comparing EV vs gas, hybrid vs gas, or EV vs hybrid, each pairing has its own dedicated engine rather than one universal comparison.
- That a premium justified by fuel savings alone may look different once financing and depreciation are added back in, run the full [EV vs Gas Cost Calculator](#) for the complete picture.

Related calculators

EV vs Gas Break-Even Mileage

How many miles a year would I need to drive for an EV to reach total-cost crossover with gas?

Gas vs Hybrid Break-Even Mileage

How many miles a year would I need to drive for a hybrid to pay off its premium?

EV Price Premium Break-Even

What is the most an EV should cost for its charging savings to actually pay off?

Hybrid Price Premium Break-Even

What is the most a hybrid should cost for its fuel savings to actually pay off?

Gas Price Needed for Hybrid to Pay Off

How high would gas prices need to go for my hybrid's fuel savings to pay off its premium?

Gas Price Needed for EV to Pay Off

How high would gas prices need to go for my EV's charging savings to pay off its premium?

Electricity Price Break-Even vs Gas

How high would a flat electricity rate need to go before my EV loses its cost advantage?



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