

The Economics of Purchasing a Fuel-Efficient Vehicle

As gas prices continue to creep higher, many people are experiencing significant pain at the pump. A typical response to higher fuel prices is to consider trading your current vehicle for a more fuel-efficient or even an alternative fuel vehicle. At first glance, comparing the cost filling up a tank gas, this may appear to be a good decision; however, there are many more factors to consider.

The United States Department of Energy's website fueleconomy.com tracks miles per gallon and annual fuel estimates of vehicles from 1985 to the present. A 2003 4WD SUV (6 cylinder) has an estimated 15 MPG and annual fuel costs of \$4,082 (15,000 annual miles). In a side-by-side comparison, a 2009 Hybrid car has an estimated 34 MPG and annual fuel costs of \$1,799. Trading your older model SUV for a smaller hybrid vehicle would result in annual fuel savings of \$2,283.

But before you rush to your nearest car dealer, there are a few more numbers you need to consider, including the price of a new car, depreciation, the estimated trade-in value of you current vehicle, current loan principle, financing costs, down payment amount, etc. Using the same two vehicles, a 2003 4WD SUV and a 2009 Hybrid, let's walk through the following example.

Assume your SUV has a trade-in value of \$3,745* and is paid in full, not including taxes, insurance, and maintenance, your monthly car expense is limited to fuel costs, in this scenario \$340/month assuming \$4.08/gallon gasoline and driving approximately 1250 miles/month. The new car cost of the 2009 hybrid is \$26,010*, including a 10 percent down payment and your trade-in, your new loan amount is \$19,665. Although vehicle-financing rates will vary assuming the terms of 4.99% for 36 months, your monthly principal and interest payment for the new car is \$590. Add on you monthly gasoline expenses of \$150 and your new monthly car expenditures are \$739. Based on your monthly gasoline savings, it will take you over twelve years to recoup the extra cost of the new car, not to mention your monthly car expenses will increase by \$399.

	2003 SUV 4WD	2009 Hybrid
New Car Cost*	\$0	\$26,010
Current Trade-In Value*	\$3,745	N/A
Down Payment	N/A	\$2,600
Financing costs (APR%)	0%	4.99%
Term of Loan	0	36 months
Miles per Gallon	15	34
Current Gasoline Price	\$4.08	\$4.08
Est. Yearly Gasoline Expense (15,000 miles)	\$4,082	\$1,799
Total Monthly Car Expense (Loan & Gasoline)	\$340	\$739
Time to recoup new car		Over 12 year (145 months)

Granted this is just one scenario, there are several if/then situations, which may influence the outcome. First, let's assume you pay cash for the new Hybrid to avoid the financing expenses. This move would reduce your repayment period from 145 months to 137 months. Now, let's consider the possibility of even higher gasoline prices. Many nightly news shows have reported the potential for \$7.00/gasoline. If you replace the \$4.08/gallon gasoline with \$7.00/gasoline in the example above, your new Hybrid will be seven-years old before you recoup the additional expenses.

So, is there a scenario when it is wise to consider the purchase of the new more fuel-efficient vehicle? The answer is most likely yes; however, the circumstances will be very specific.

* Kelly Blue Book (www.kbb.com) pricing estimates