

Land of Confusion: Chevy Volt Gets 60 MPG Rating

The EPA muddies the waters.



Conceivably Tech

(conceivably-tech^[1])

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Other

The EPA has finally released the fuel-efficiency rating for **General Motors'** (NYSE: GM) Chevy Volt. Actually, there are three ratings that may be more confusing than helpful and are a reminder of just how difficult it is will be to rate the fuel economy of a hybrid/electric vehicle.

How do you measure the fuel efficiency of a hybrid vehicle -- those cars that can run on electric for a certain distance? The truth of the matter is that this will not only depend on your driving style and the climate you live in, but also on the distances you travel each day. You and your neighbor could be driving the same high-tech hybrid, but you could end up with a gas mileage not much better than that of a current **Toyota** (NYSE: TM) Prius, while your neighbor gets triple digits.

In the case of the Volt, the EPA released three different ratings. The all-electric rating is a 93 MPG equivalent (there is a 149-horsepower electric motor), while the gasoline-assisted mode (there is an 80-horsepower combustion engine that charges the battery) is rated at 37 MPG and the combined rating is 60 MPG. The EPA also determined that the Volt will get about 35 miles per charge and another 344 miles with the support of a filled 9.5-gallon gasoline tank.

These numbers are highly theoretical, and the most valuable statement may be that the Volt can travel for a range of somewhere around 400 miles, which is what GM has stated. But the EPA rating is far off the 230 MPG rating that GM had hoped for. The EPA's MPG numbers come down to plain math and reflect a reasonable assumption of how power consumption can be compared with gasoline consumption. According to the EPA, the Volt will consume about 36 kilowatt hours per 100 miles, which compares with the 39 kilowatt hours observed by Edmunds^[2]. GM states that a full charge of the battery pack should cost about \$1.50 on average and take about seven hours on a 120-volt line. The EPA stated only that the charge will take about four hours on a 240-volt line.

Based on that number, the EPA estimates the Volt's electric driving range to be about 35 miles on average, which seems to be realistic, given that GM currently says the car will get about 25 miles in sport mode and up to 50 miles in regular mode. We also heard that especially careful driving can get you into the 60-mile range, which would put the overall range of the Volt into the 400-mile neighborhood. An interesting side note is that the Volt is configured not to drain its entire battery while driving. The combustion engine will be activated when the battery reaches a charge state of about 35% and will ensure a maintenance level of charge to optimize the battery life and allow consumers to take advantage of cheap electricity costs, rather than waste gasoline. In theory, the Volt's battery could deliver a much higher mileage.

The Volt EPA label is somewhat unique and is different not only from regular ratings but also from that of the electric-only **Nissan** (OTC BB: NSANY.PK) Leaf^[3], as Volt has the gasoline rating and does not show a differentiation between city and highway driving.

We had a chance to drive the Volt recently^[4] and noticed that the car itself stated a lifetime fuel efficiency of 126 MPG, which is based on GM's electricity-to-gasoline conversion and not on the EPA formula. The MPG rating indicated by the car is infinite, *if* the Volt drives on electric power only. There is an obvious transparency gap and there is no way for the consumer to understand how efficient the car really is and whether it is as efficient as the EPA states. Consumers will also have to learn what electric efficiency means. How much is 36 kilowatt hours? What does it compare to? What does it cost, especially in markets that have huge fluctuations in electricity prices that depend on the time and volume of consumption

and have dramatic regional variations? Charging the Volt may cost you only \$1.50 during the night in Detroit, but it could cost you \$5 in California if you aren't aware of your power cost at any given time.

At least the EPA's estimation that the Volt will cost you \$601 in power every year is a rather useless and potentially misleading number.

If you're considering a Chevy Volt with an interest in range and related cost, this car is much more a math exercise than any car we're aware of. If you look at the Nissan Leaf EV, you know you have only 73 miles per charge^[5]. Here you have about 35 miles, and you can get another 350 miles or so if you need it, but your mileage and cost will change dramatically.

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