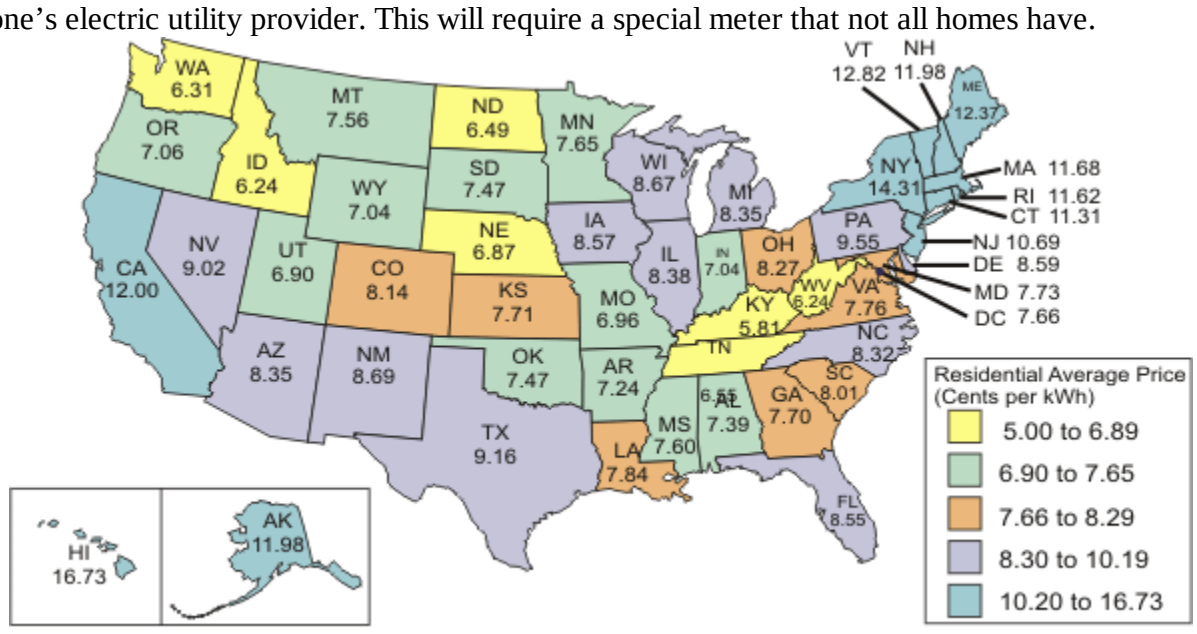
GM-VOLT : Chevy Volt Electric Car Site

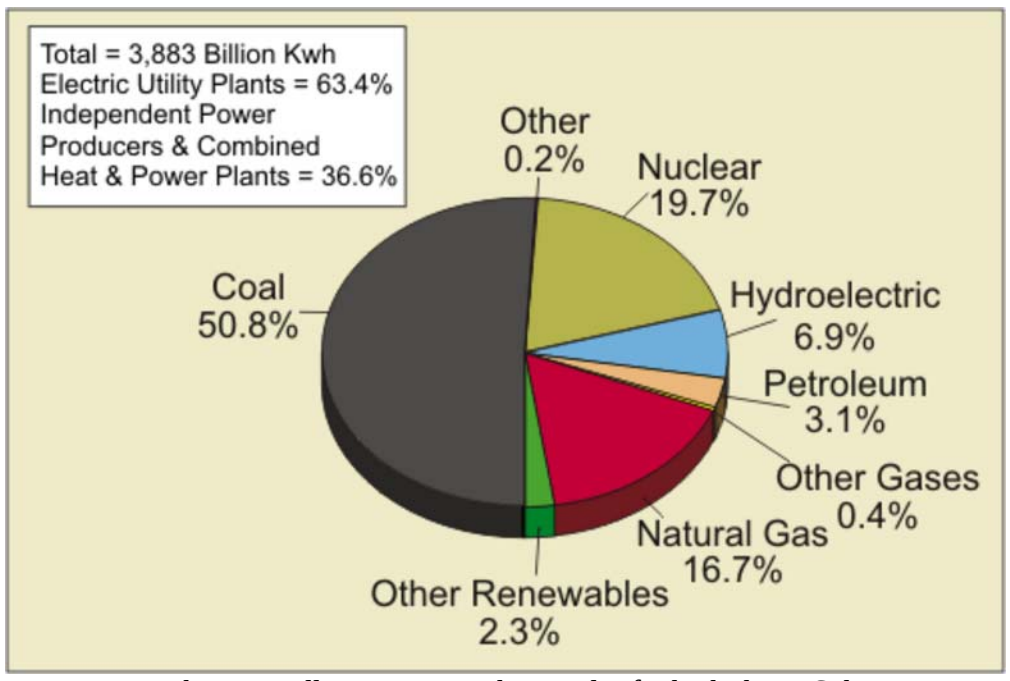
Chevy Volt: Reasons For Use and Cost Of Operation

REASONS TO BUY A VOLT:
There appear to be three leading reasons people are interested in buying a Chevy Volt, in order of importance:
To achieve freedom from oil use
To achieve cost savings
To protect the environment
This first cause is a rallying point. Consumers around the world are getting annoyed about giving an ever increasing amount of money to mostly middle-eastern nations, without protection from price swings and with continued increased costs. This is blended with some political and philosophical unease. People mostly wish to achieve autonomy from having to rely on these outside countries for their automotive energy needs. GM calls this concept “energy security”.
The second reason is closely related to the first. As oil prices continue their historic climb, it simply costs more and more to drive a gas-powered car. There are concerns that world oil production may be at or reaching a peak, after which prices will soar indefinitely. If the energy source for cars could come from a more stable stock of multiple energy sources such as coal, wind, solar, hydroelectric, and nuclear combined, it is possible that prices will remain stable. Also, it is hoped that by using energy from the electric grid, cost of operation will be lower than using gas.
The third reason is important, but not necessarily to all. Some remain unconvinced about global warming based on man-made CO2 production. Others believe it is the burning of fossil fuels than may be destroying the world for future generations, and are motivated to reduce their “carbon footprint”.
COST OF OPERATION:
The Volt can drive for 40 miles on a single full electric charge of it’s battery pack. It is a known fact that the battery pack will be allowed to drain down from 80% to 30% before the gas-generator kicks in. Since the battery pack holds 16 KWH of energy, that means 8 KWH will get you 40 miles. The cost of a KWH from the electric grid varies considerably depending on location and time of use. Usually, off-peak hours, from 9PM to 10AM will have the lowest rates from one’s electric utility provider. This will require a special meter that not all homes have.



Source: Energy Information Administration, Form EIA-861, “Annual Electric Power Industry Report.”

The map above shows the average retail price of electricity in the U.S. by state in 2003. It ranges from around 6 cents/KWH to 17 cents/KWH. The U.S. average for 2007 is 10.65 cents. To see the numbers for the current year click here. If we use the average, the cost to recharge the Volt will be $0.85, and the range for 2007 will be from 48 cents to $1.34 depending where you live. Clearly for 40 miles of driving at present gas and electric prices, there will be a very significant cost savings. Of course, there is some uncertainty of where these numbers will be when the Volt arrives in 2010.
After the first 40 miles, the combustion engine generator will kick in. This will keep the battery at a 30% state of charge. This 3-cylinder 1L engine will get 50 mpg fuel efficiency. To calculate the fuel efficiency for drives longer than 40 miles use the following formula: Total MPG = 55*M/(M-40)
ENERGY DIVERSITY AND SECURITY
There is also strong energy security value for driving this car. The following graph illustrates where the power of the electric grid comes from:



Certainly the renewable sector has room to grow, but overall you can see that coal, of which the U.S. has a tremendous supply, is the main source of electric energy. So in actuality, the Volt is a coal-burning car.

This may dissatisfy certain environmentalists. But widespread adoption of this vehicle will likely lead to increased consumer adoption of home-generated renewable energy such as solar panels, whose prices are dropping and efficiencies are increasing. This will allow one to drive “for free” and be independent.

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53,178 people are on it now!

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The definitive source of real-time, news, information, and discussion about the Chevy Volt electric car and related topics.

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Volt test-drive first impressions (good)
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The Day I Didn't Charge My Chevy Volt Getting More than 40 MPG Was Easy
Motor Trend Explains the Volt's Powertrain
Chevrolet Volt Electric Drive Propulsion System Unveiled
GM: Chevrolet Volt Has a Typical EV Range of 25 to 50 Miles
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Currently **105 Users** Online, Most Users Online Was **1,290** on July 27, 2010 @ 1:55 pm

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