8 Reasons Why The Electric Car Will Not Be A Success Anytime Soon

[*http://www.businessinsider.com/the-electric-car-why-it-is-not-ready-for-mass-consumption-2011-12*](http://www.businessinsider.com/the-electric-car-why-it-is-not-ready-for-mass-consumption-2011-12)

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The electric car has been an area of debate in the auto industry for as long as anyone can remember.

On paper, electric motors are fantastic: instant torque, one moving part, and easy maintenance.

But in the real world there are a number of factors that combine to exemplify the weaknesses of the electric vehicle (EV).

If EVs were a new technology, we would not be giving them any grief. However, according to [PBS](http://www.businessinsider.com/blackboard/pbs) the [EV will be celebrating its 180th birthday next year](http://www.pbs.org/now/shows/223/electric-car-timeline.html) and it's simply still not an option for a majority of motorists.

You read that right: the notion of an EV has been around longer than the gasoline automobile and is yet to be adopted with wide acceptance.

In fact, just yesterday [Morgan Stanley cut their forecasts for EV penetration in the mainstream market and downgraded shares of electric car maker Tesla motors.](http://www.businessinsider.com/chart-of-the-day-morgan-stanley-lowers-its-electric-vehicle-penetration-estimates-2011-12)

In the last 180 years, there have never been any EVs that can be considered a resounding commercial success. There have been breakthroughs and revolutionary models, even cars that have given hope that electric would soon be the new standard, but none of them have had the desired impact.

General Motors is now on their second round of EV involvement with the Volt. However, [lackluster sales numbers and recent fires](http://www.businessinsider.com/chevy-volt-under-investigation-fire-battery-2011-11) have created doubt about its viability. And that is not to mention that the Volt is not an EV in the truest sense of the word.

The Volt is an extended-range EV, or EREV. A small gasoline engine recharges the batteries when energy runs low. That hardly works to reduce dependence on gasoline.

And we just want to clarify that we are not discussing hybrids along with EVs. The [Toyota](http://www.businessinsider.com/blackboard/toyota) Prius and others are successful vehicles, but they still have a heavy reliance on gasoline.

We have been thinking about this at length, and we just do not see the EV becoming a true solution for the masses anytime soon.

## 1. Range

This first issue in itself makes the electric car unusable for a majority of people. Tesla claims an almost 300 mile range for their two seat roadster. However, that mileage amount can only be reached under careful driving. That does not seem likely with the Tesla Roadster, as it is a two seat sportscar based on the Lotus Elise. The car encourages aggressive driving. Also, the Tesla roadster is a $100,000 investment. The reach is very limited. The Nissan Leaf, which is the top selling EV of 2011, has a claimed 100 mile range. On the flip slide, standard cars regularly get a range of 300-400 miles, and on certain occasions can get up into the 800 mile range. EVs are perfectly adequate to go around town or to run short errands. But the car is a harbinger of freedom; the idea behind it was to free people from the grid and get them exploring. Electric cars inherently limit a journey based on their small range, and thus destroy the spirit that created the car in the first place.

## 2. Charge Time

But if you run out of juice, why not just recharge? Sure! You can definitely do that. In the case of the Leaf, once the battery is depleted [it can take up to 20 hours to completely recharge on a 120 volt outlet,](http://www.nissanusa.com/leaf-electric-car/faq/list/charging#/leaf-electric-car/faq/list/charging) according to Nissan. On a 240 volt, it takes seven hours, and a 480 volt fast charge station takes 30 minutes. In our instant gratification broadband society, even waiting 30 minutes is an eternity. We timed a fuel stop in our personal car and it takes approximately four minutes. No contest  
  
3. Infrastructure

Other than the range issue, what truly plagues electric cars right now is the lack of a charging infrastructure. We used Nissan's [ChargePortal website](http://nissan.chargepointportal.net/external/nissanmap/) to find how many charge points were near our office. In a 10 mile range, there are just 11. New York City is ideal for electric cars, but 11 charging stations just are not enough to make it a convenient option for New Yorkers. We then checked for gas stations in the same area on fuelmeup.com. It showed us that [there are 35 filling stations in the same 10 mile radius](http://www.fuelmeup.com/display_all.php?city=New%20York&state=NY&zipcode=10010). The US Census has reported that there are [approximately 125,000 filling stations across the United States](http://www.census.gov/econ/industry/hist/h4471.htm). By the end of 2012,[it is expected that there will be 13,000 electric car charge points](http://www.nissanusa.com/leaf-electric-car/faq/list/charging#/leaf-electric-car/faq/view/21). While the infrastructure is growing, there will still be 90% less charge points available than gas stations next year.

## 4. Cost

The Chevrolet Volt and Cruze are approximately the same size. The Volt has a buy in of approximately $40,000. The Cruze starts at $18,000. If you include the available $7,500 tax credit for buying the Volt, that cost comes down to $32,500. Is the Volt worth the $14,000 premium over the Cruze, a car which already gets phenomenal city (25 MPG) gas mileage? If we say that gas costs $4 per gallon, the Cruze would need to be filled up 225 times before that $14,000 gap is brought to $0. According to GM,[the Cruze's range per tank is estimated to be 390 miles](http://www.chevrolet.com/cruze-compact-car/features-specs/), so that means the 225 fill ups would occur over the course of 88,000 miles. That is almost eight years of driving, and according to *The New York Times*, [Americans keep their cars for an average of around nine years.](http://www.nytimes.com/2009/03/22/automobiles/22USED.html) the Volt is kept for that long, it will only be saving you money for one year.

## 5. Pollution

When using the electric car, it is true that pollution is minimal to none. However, there are two factors that come in to play that may not be considered by the buyer:

* What power is used to charge the car?
* How are the batteries made and what happens when they are disposed?

Unless you have your own solar generator, the likelihood is that the electric car is actually being charged by coal or gas power, which are the most prevalent power generating stations in the world. They are also the most heavily polluting. We are not saying that one or two electric cars will create an issue, but the addition of hundreds of thousands or millions will put a strain on these plants, increasing pollution on their end. With other advanced alternative power sources still years off, this is a legitimate concern. Along with that, the nickel-hydride batteries that are in electric cars are created in a number of heavy polluting processes like nickel mining. [The nickel-hydride batteries also contain possible carcinogens,](http://auto.howstuffworks.com/fuel-efficiency/hybrid-technology/hybrid-cars-cause-pollution3.htm)according to *How Stuff Works*. To complete the battery construction process, they are shipped all over the world which adds additional pollutants. Disposal of the batteries are also an issue. With toxic materials within, the incorrect disposal by a junkyard or manufacturer could destroy the ecosystem of an area for generations.

## 6. Hydrogen

Hydrogen has been hailed as the future of transportation, and it very well could be. By using a fuel cell filled with liquid hydrogen, an electric motor can be operated which then produces only one emission: water. While this technology is amazing, costs and infrastructure plague hydrogen even more than electric cars. [Hydrogen filling stations are already incredibly limited and an investment of $1 million is required up-front to build one](http://wheels.blogs.nytimes.com/2011/12/06/in-u-s-hydrogen-cars-may-line-up-with-few-places-to-fill-up/?ref=automobiles), according to *The New York Times*. And that is for a station that has a limited user base at the moment.Storing hydrogen is also incredibly complicated and has not been perfected yet. Some cars, like the Honda FCX, have to store liquid hydrogen in a pressurized tank. Once storage of hydrogen is made simple, we do believe it will be the future of cars. But for now, it is not ready for prime time.

## 7. Government

Currently, government incentives are encouraging the purchase of electric cars in America with tax credits of up to $7,500 available. This brings the purchase price in range with comparable traditional models to make them a viable alternative for buyers. But there is only so long a tax incentive can last, and once the credit dries up, it is only a matter of time until electric car sales slow as well. The government providing these incentives is a short term solution to raise sales of these vehicles. With a third party reducing the costs, manufacturers are not encouraged to research and innovate in order to bring the true initial buy in down. So while the government is helping in the short term, the long term effects could be poisonous.

## 8. Ease of gasoline

And that brings us to the final point. Fossil fuels are a tried and true solution that are still working. While fuel costs have risen to new heights in the last few years, it is still unbelievably cheap for the journey it takes from ground to tank. From miles below the surface to refining to gas stations all around the world, the fact that fuel costs rarely go above $7 per gallon is amazing. Yes, gas powered cars do need to make some strides to bring the costs for consumers down, but the infrastructure is strong and gas powered cars are more efficient than ever. Will they be replaced? Definitely. Is it happening any time soon? Not a chance.