The Washington Post April 28, 2013

Five myths about electric cars

By Chris Paine

by Chris Paine Chris Paine is a filmmaker whose documentaries include "Who Killed the Electric Car?" ,"Charge" and "Revenge of the Electric Car."

The troubles of electric-car-maker Fisker Automotive have fueled another round of debate about whether plug-ins can live up to their promises. The California start-up, which had already halted production and laid off most of its employees, missed a federal loan paymentMonday and told a congressional hearing on Wednesday that bankruptcy may be unavoidable. This is likely the end of the road for Fisker. But definitely not for electric cars. Let's dispel some myths.

1. The electric car is dead.

This myth is partly my fault, perpetuated by the title of my 2006 documentary, "Who Killed the Electric Car?" The signs back then weren't promising. Under pressure from car companies and other lobbyists, California rolled back its Zero-Emission Vehicle

mandate, which had helped get nearly 5,000 electric cars on the road. The change in the regulation freed carmakers to round up the cars they had leased — and then surreptitiously crush them.

Thankfully, it takes more than a crusher to kill a technology. Today, almost all the major automakers, along with a cast of new players, are investing in and building plug-in cars. California's mandate has also made a comeback, and other states are considering similar rules.

Fisker's struggles can be attributed, in part, to the fact that start-ups in any industry have a high rate of failure, and launching a start-up in the automotive sector is especially expensive. That makes it all the more impressive that Fisker's rival Tesla turned a quarterly profit this year.

A new report from IEE, part of the Edison Foundation, projects that between 5 million and 30 million electric cars will be on U.S. roads by 2035. "The electrification of the vehicle fleet is a foregone conclusion," says former GM vice chairman (and former electric-car-basher) Bob Lutz.

Economics, politics and technology all played a role in the turnaround. Soaring gas prices in 2008 got everyone complaining. U.S. manufacturers, stuck with large inventories of low-mileage SUVs and facing bankruptcy, watched with envy as Toyota rode the buzz from its Prius hybrid to become the world's No. 1 carmaker. The chief executives of Detroit's Big Three further reassessed after being chastised for flying corporate jets to congressional bailout hearings in November 2008. When they returned to Washington two weeks later, they arrived in electric hybrids. Since then, partly with the help of government loans (some already repaid), electric-car technology has made big strides.

2. Electric cars can't get people where they need to go.

I've been driving electric cars for 15 years and have yet to run out of power. But ask people what their biggest hesi-ta-tion is about electric vehicles, and they're most likely to say something about the cars leaving them stranded. This myth is so pervasive that General Motors applied to trademark the name for it: "range anxiety." A controversial New York Times test drive in February of Tesla's Model S, which ended up needing a tow to a charging station, seemed to confirm the fear.

But that test drive — covering more than 500 miles in temperatures as low as 10 degrees — was not your everyday trip. The average American drives fewer than 40 miles a day. That's well within the 75-mile-plus range of most electric cars. And while batteries do run down faster in extreme cold, on a normal day Tesla's Model S can go as far as 265 miles on a single charge.

The answer to range anxiety for many carmakers is the plug-in hybrid, an electric car with a backup gasoline engine. The Chevrolet Volt, the Toyota Prius Plug-In and the

Ford C-Max Energi all use electric power for the first 20 to 50 miles (or most daily trips) and then switch to gasoline for longer drives.

3. Charging is a headache.

Charging an electric car can be as simple as plugging it into a wall outlet. But AC outlet charging is slow, taking between eight and 24 hours. So it's not usually the method of first resort.

That's why most plug-ins are sold with charging docks that work in a home garage and can charge a car in four to eight hours, allowing drivers to treat their cars like their cellphones: topping them off periodically or charging them up overnight.

I didn't have my own garage when I first leased an electric car, so I often used a public charging station within walking distance of my home. There are now 5,734 public stations in the United States, many with multiple charging points. The newest generation will charge your car nearly 10 times faster than home stations and 50 times faster than an AC outlet. Tesla just installed several of these supercharger stations on the East and West coasts, and Nissan recently announced plans to install 500 in the coming months.

4. Electric cars aren't any better for the environment.

Electric cars have clear environmental benefits: They don't require gasoline, they don't pollute from tailpipes, and they operate at 80 percent efficiency (vs. about 20 percent for internal-combustion engines).

Skeptics will cite a 2012 report from the Union of Concerned Scientists as evidence that electric cars aren't as green as some people make them out to be. That study correctly notes that autos powered by coal-generated electricity are little better for the environment than small gas-powered cars. But the same report concludes that "consumers should feel confident that driving an electric vehicle yields lower global warming emissions than the average new compact gasoline-powered vehicle." That's because only 39 percent of U.S. electricity comes from coal. With the retirement of old power plants and the addition of cleaner energy sources, electric cars will have even greater advantages for the environment.

Another environmental concern is about batteries. Won't they end up in landfills like billions of disposable batteries do? No. Even gasoline-car batteries avoid that fate when they are exchanged and recycled. And electric-car batteries are valuable as energy-

storage devices after life on the road. Backup power systems for utilities, businesses and homes create a secondary market for these batteries before their elements are recycled.

5. Most people will never be able to afford an electric car.

At $102,000, the base price of a 2012 Fisker Karma was clearly beyond the reach of most drivers. Tesla, too, was critiqued for the assumptions built into its recent claim that a Model S could be leased for $500 a month. (The Washington Post calculated that the monthly cost would be closer to $1,000.)

But these two luxury cars have targeted the high-end market. By contrast, the cost of leasing a Nissan Leaf ($199 a month with $1,999 down) is equivalent to leasing a compact gasoline car such as the Mazda3 — except you don't have to pay for gas.

Keeping electric car sticker prices from decreasing right now are low production volumes and the cost of batteries. But a 2012 McKinsey report estimates that the price of lithium-ion batteries could fall dramatically by 2020.

As the cost of electric-car technology trends downward and the price of oil trends upward, electric cars should prove the more affordable and, based on my experience, more enjoyable choice.

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