How Uncle Sam Underwrites Coal-Powered Automobiles

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Tesla Motors recently announced that its latest model, the Tesla 3, will be released at the end of 2017. Almost 400,000 pre-orders have already been placed for the fan favorite that boasts a celebrity clientele including Cameron Diaz, Leonardo DiCaprio, and George Clooney. For $35,000 you, too, can be the proud owner of the environmental solution of the future: a coal-powered automobile, subsidized by Uncle Sam.

The Tesla 3 stands out in a class of cars that overpromise and under-deliver. The promise? Just by buckling up, you are part of the solution to saving the world from toxic carbon emissions, the compounds that draw the ire of any environmentally conscious citizen. On a daily basis, you, too, can be Captain Planet, a bona fide American hero.

But reality looks a little different. Like all electric vehicles (EVs), the Tesla relies on a battery. This battery requires an electric charge: You plug it in, like a household appliance, then wait three or four hours for it to charge. And that electricity has to come from somewhere.

Where does it originate? Sixty-eight percent of the electricity generated in the United States is generated from fossil fuels, and half of that amount, or one-third of the total electricity generated, comes from coal. In some states, such as Kentucky and Wyoming, around 90 percent of electricity is produced from coal. And coal-fired power plants are the number-one source of carbon emissions.

In effect, Tesla and other electric-vehicle makers have done something clever and appealing: They have replaced carbon emissions you can see with carbon emissions you can't see, at least not coming out of the tailpipe. In fact, if your electric vehicle is charged with electricity from a coal-fired power plant, it is estimated to emit 15 ounces of carbon per mile, a full 3 ounces per mile more than a similar gasoline-powered vehicle.

But that's just the beginning. Under the hood you'll also find the wonderful, innovative lithium batteries that Teslas rely on to hold their charge. In 2013, the Environmental Protection Agency described these batteries as having the "highest potential for environmental impacts," with lithium mining resulting in greenhouse-gas emissions, environmental pollution, and human-health impacts. The Union of Concerned Scientists, a group that specializes in "science for a

healthy planet and safer world," agrees: For long-range electric vehicles such as Tesla, manufacturing emissions are 68 percent higher than for conventional cars. So in order just to break even with a conventional car on environmental damage, you should expect to drive your EV a lot: around 75,000 miles, assuming your state has a European-like energy portfolio, and more if it doesn't. But that can be hard to do, because the need for frequent recharging and the slow degradation of battery capacity make long trips increasingly difficult. And if your EV is powered by coal, as is the case in many U.S. locations, it will actually cause an increase in environmental impacts of 17 to 27 percent as compared with a conventional car.

To be sure, EVs work well for some drivers, and there's no reason to discourage their development. Consumers are free to spend their money on coal-powered automobiles, even if the strategy is ultimately environmentally destructive. But the U.S. government's spending billions of dollars to subsidize Tesla on environmental grounds is indefensible, given the reality of Tesla's environmental impacts.

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