

## Sorry, But Tesla's Cool Electric Cars Can't Compete As Long As Fracking Exists

*By Donald L. Luskin and Michael Warren*

If you were among the brave few who bought a Tesla Roadster in 2008, you purchased your government-subsidized \$100,000-plus electric car when a barrel of oil cost as much as \$162 in today's dollars. "Peak oil" was an article of faith — as crude supplies ran out, ever-higher oil prices would destroy demand for the internal combustion engine and other fossil-fuel monstrosities.

But now, if you're one of the 500,000 wannabe Tesla owners who, according to CEO Elon Musk, has put down a \$1,000 deposit on a \$35,000 Model 3, the company's new mass-market electric sedan, you're probably just as familiar with a fashionable new green conceit. Now the article of faith is "peak demand" for oil, the idea that electric cars will soon make oil obsolete.

Funny how green logic seems to work. It doesn't matter whether there's too much demand for oil or too little — either way, oil is doomed.

Sadly, for Mr. Musk and all the true believers, peak demand for oil, supposedly driven by Tesla's and other automakers' rapid rollout of electric vehicles, is mostly hype, just as peak oil was a decade ago.

Yes, cost reductions in battery technology have lowered the price for electrics and will continue to do so, but the shale revolution in oil production — virtually unimagined in 2008 when Tesla debuted its first model — has cut global crude prices by more than half, making increasingly efficient conventional vehicles unbeatably cost-effective.

At today's oil prices, which are still high by long-term historical standards — there is no economic incentive to pay a premium price for electric. For example, even assuming oil at \$50 per barrel, a 2017 Ford Focus with a conventional engine is about \$6,000 to \$7,000 cheaper in terms of total cost of ownership over 15 years, compared to the all-electric version (without subsidies), or even the hybrid.

To be sure, the learning curve has narrowed the manufacturer's suggested retail price for an all-electric Focus to only \$14,000 more than the conventional version — while in 2012, it was about \$16,000 more. That's some progress, but not much. The key is the cost of the battery, which would have to come down by half to make all-electric cars competitive with today's internal combustion engines at today's oil prices.

The learning curve will continue to make electrics cheaper over time. But frackers learn too, as do designers of internal combustion engines, so oil will get cheaper and conventional engines will get better mileage. Electrics don't have to just get cheaper to compete — they have to get much cheaper.

Indeed, electrics will have to get much less expensive to compete in the markets that will provide the bulk of automotive sales growth over the coming decades — developing economies where first-time

buyers in an emerging middle class will prize low cost above all. In many such economies, electrics will have to compete against ultracheap, conventional Western models that can use inexpensive local fuels.

And especially in China, there's a seemingly paradoxical environmental challenge. Increased electricity demand would have to be met mostly by burning coal. So in Beijing and other Chinese megalopolises where air pollution is already a serious health and quality-of-life issue, it's actually greener to power automobiles with gas-guzzling internal combustion engines.

Meanwhile, in developed economies, mere cost-parity, even if it could be achieved, would be no guarantee of dominant market share gains for electrics. Consumers also care about reliability, range, charging time and availability of charging stations. As energy economist Vaclav Smil has shown, large-scale "energy transitions" take generations to develop the necessary infrastructure and consumer acceptance.

Why then is Tesla's stock so richly valued? The market capitalization of the electric-auto innovator exceeds that of iconic U.S. automakers Ford and General Motors. But that has more to do with Ford's and GM's own weaknesses. Tesla's market cap is less than one-third of Toyota's. As to Tesla's profitability relative to any of these three rivals — well, better not to ask.

Why then is the price of oil so low? It doesn't mean oil is becoming obsolete, any more than the low price of computer chips today means they are becoming obsolete. Global demand for oil is at all-time highs and rising, approaching 100 million barrels per day. The frackers, just like the semiconductor makers before them, are getting better at what they do.

It's no paradox that oil demand is rising while prices are falling. It's Econ 101 — the cheaper oil gets, the more demand there should be. In fact, over the past three years, as oil prices have fallen, U.S. SUV and truck sales have increased, halting years of seemingly relentless improvement in fuel economy for new vehicles.

Investors and drivers, feel free to keeping loving Tesla. Innovation is good. Competition is good. How can you not love a car so red-hot that you can put it into "Ludicrous Mode" at the flick of a touch screen.

But absent some kind of green regulatory shock — highly unlikely under the Trump administration — there aren't going to be any compelling economic incentives for a massive switch to electric vehicles, at least not any time soon. The frackers are going to have to keep on fracking.

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