

Truck Might Actually Make Hydrogen Power Happen



Nikola

Let's do the joke first: Hydrogen's the fuel of the future, they say. And it always will be.

Because for all the upsides—combining zero emissions driving with the ease of refueling in just a few minutes—[hydrogen fuel cells have gotten approximately nowhere](#). It's the chicken and egg thing: No one wants to buy a car without a refueling infrastructure to back it up, and no one wants to build those hydrogen stations without customers to serve.

Now, a startup truck manufacturer has big plans to change that by taking a lesson from Elon Musk, and providing both *pollo* and *heuvo*. And, if it can convince truckers to try out a new kind of driving, it might finally deliver the future of hydrogen that always seems to be in transit, never arriving.

Last week, the Nikola Motor Company (rhymes with *Ricola*) unveiled the Nikola One, an 18-wheeler powered by a 320-kWh battery (Tesla's most capable car gets 100 kWh) with a hydrogen fuel cell generator that keeps it charged on the road. Tanked up, the truck will have up to 1,200 miles of range, along with the [performance benefits of electric propulsion](#), like piles of torque and a low center of gravity.

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Nikola

Starting around 2020, Salt Lake City-based Nikola plans to lease its Tesla of trucks for between \$5,000 and \$7,000 a month. Crucially, that includes free hydrogen fuel for the first seven years or million miles, available at hundreds of stations Nikola plans to build across the country.

This plan looks, well, let's say ambitious—but then, so did Tesla's Supercharger setup: In 2012, the electric car company moved to soothe range anxiety among potential buyers by building an international network of proprietary stations where they could recharge for free. (Starting January 1, the [charge-for-life deal is kaput.](#)) Nikola aims to entice individual truckers and fleets into going with hydrogen by making sure they've got somewhere to fill up, for free. Nikola would keep those stations stocked by building solar farms to generate the energy needed to create hydrogen fuel.

Right now, fuel cell vehicles work only where the infrastructure needs are minimal. Cities around the world have started operating hydrogen-powered buses, because you need just one place to fill up, not a whole network. Sandia National Laboratories researchers think [a hydrogen-powered ferry service could work in San Francisco](#) because, yup, you only need one or two places to fill up.

Fuel of the Future



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Planes Could Finally Make Hydrogen Fuel Cells Useful



50 Years of Making Hydrogen Cars, and Still No One Cares



Boy, Honda's Not Giving Up This Whole Hydrogen Car Thing

Trucks need more infrastructure, but not a ton more. Nikola CEO Trevor Milton says 364 stations across the US should suffice. They'd sit about 400 miles apart, comfortable range for a truck that can triple that distance. Milton bases that number on computer analysis of common trucking routes, and says his company would start by building up the network in one to-be-determined region in 2018, and spread from there.

This good news for everyone who thinks the most abundant element in the universe is a good way to make things move is that, unlike Tesla, Nikola will let anybody pump hydrogen, for a modest price. "You're gonna have nationwide infrastructure now," Milton says.

Even a few dozen stations would be a major boost over the 31 currently operating in the US—one each in Massachusetts, Connecticut, and South Carolina, with the rest in California. That means [automakers](#)

[like Toyota and Honda](#), which [actually sell \(some\) hydrogen-powered cars](#), could piggyback off Nikola's investment. "We're all about proliferation of hydrogen as a fuel," says Toyota spokesperson Brian Lyons. If someone else is paying for it, even better.

Yet that rosy future only pans out if Nikola can sell enough trucks to justify building that infrastructure, and stick around to keep it running. That's hardly a given, because truckers aren't risk-takers, says Jim Mele, editor-in-chief of *Fleet Owner* magazine. Looking at Nikola's offer, he says, "The numbers sound right, but there's no way to know if they're true." The explosion-friendly nature of the stuff that took down the *Hindenburg* isn't even the problem here—hydrogen's safe if handled properly. It's that this scheme is based on a whole lot of *new*: new technology, new company, new infrastructure, new business model.

If any of that goes wrong, the trucker loses money. "Reliability's a huge thing," Mele says. "People would be cautious about it."

Hydrogen fuel cells wouldn't be the first technology to flunk the trucking test: In 1964, *Fleet Owner* [featured a turbine-powered truck](#). "It was going to revolutionize trucking," Mele says. "I don't see any of them on the road."

But hey, maybe Nikola can get truckers on board—and finally deliver that hydrogen future the world's been waiting on.