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The new Ford F-150 Lightning is not the electric vehicle we've been waiting for

To truly change the game and reach the mass market, electric vehicles need to be much cheaper.

By Umair Irfan | May 21, 2021, 8:20am EDT



The electric Ford F-150 Lightning is slated to go on sale next year. | Bill Pugliano/Getty Images

Ford's electric version of America's most American pickup truck, the F-150, is here. "This sucker's quick," President Joe Biden said Tuesday when he **took one for a spin** in

Dearborn, Michigan.

The Lightning's debut is a big moment for the auto industry and for truck buyers. Before the Covid-19 pandemic, Ford was selling on average **100 F-150s per hour**. The model has been the bestselling light truck in the US for more than four decades, and the whole Ford F-series line generates **more profit than McDonald's**.

Five of the **10 bestselling vehicles in America** last year were pickup trucks, adding up to 2.4 million units. Meanwhile, **total electric vehicle sales** in the US from all manufacturers in 2020 were less than 300,000. So getting even a tiny sliver of these trucks to run on electrons would give electric vehicles a massive boost.

But at nearly \$40,000 for the base model and more than \$90,000 for one that's fully loaded, the truck is still far from the mass-market electric vehicle that's needed to shrink the climate impacts of the auto industry and push gasoline and diesel off the road.

President Biden has made electric vehicles one of the tentpoles of his strategy to limit climate change. Cars and light trucks produce **60 percent** of greenhouse gas emissions in the transportation sector, which is the largest source of carbon dioxide in the US. The **White House's \$2 trillion infrastructure** proposal carves out \$174 billion for electric vehicle subsidies, charging stations, and more. So electrifying the most popular trucks in the country provides a jolt to Biden's climate ambitions.

At the moment, however, electric vehicles make up a paltry 2 percent of new car sales in the US. Evidence from **countries like Norway** shows that buyers will switch to electric cars if they cost less, which right now requires a suite of subsidies and incentives to

accomplish. Estimates show that between **20 percent** and half of all light-duty cars and trucks would need to be electric by 2030 to meet goals of limiting global warming this century to less than 2 degrees Celsius.

Getting to this level of electric penetration will require more than strapping batteries to already popular cars; the auto industry will need to invest far more in building and marketing electric vehicles much cheaper than Ford's new offering, even at the expense of their fossil fuel-powered offerings.

The F-150 Lightning has a long road ahead

The **Ford F-150 Lightning** has an **impressive list of specs**: A range between 230 and 300 miles, up to 10,000 pounds of towing capacity, 563 horsepower and 775 pound-feet of torque, and enough juice to outrun its gasoline and diesel brethren.

It can even do things that conventional pickup trucks can't, such as store cargo in its 14.1 cubic foot **frunk**, or front trunk, and power a home with its battery for up to three days. Ford is already taking reservations and is poised to start selling the truck next year, fulfilling a **pledge made more than two years ago**.

The competition is raring to go. The Lightning will go wheel-to-wheel with electric trucks from dedicated EV manufacturers like **Tesla** and **Rivian**, which are roughly in the same price category (though none have begun sales yet). GMC is also planning an **electric Hummer**.

Though the prices for these trucks may discourage some buyers, new technologies often start at the top of the market and trickle down. Large-scale production could drive down costs, and the success of these trucks could inspire further electrification in other cars.

But in the US, trucks are not simply utility vehicles. They're an aspiration, and a statement about the driver, as much as they're towing or hauling machines. They're fodder for **country music** and **front in culture wars**. (No one is writing songs about

Gators and **Bobcats**.) For many truck buyers, having a big, gurgling engine under the hood is the point.

Lawmakers could provide subsidies to attract more price-conscious buyers, but the **White House** has explicitly said that “incentives will not go towards expensive luxury models.” Ford still qualifies for the federal tax credit available for electrics, so the sticker price for the base model Lightning could drop to around \$32,000. Its conventional counterpart, the **Ford F-150 SuperCab**, starts at \$33,000. But the tax credit **will eventually run out**, as it already has for Tesla, after Ford sells **200,000** electric vehicles.



President Joe Biden has made electric vehicles like the F-150 Lightning a plank of his climate change strategy. | Nicholas Kamm/AFP via Getty Images

Ford also is trying to get back to the F-150's utilitarian roots. A key part of its target market for the Lightning is fleet buyers and businesses that need trucks for hauling and towing. Since electric vehicles typically have lower operating, maintenance, and fueling

costs, they can save money over time, even with a higher sticker price. Those savings multiply when buying in bulk.

However, to truly gain ground, electrics can't just imitate conventional cars and trucks — they'll need to overtake them in terms of price and performance. That's one of the lessons of wind and solar power, which became the dominant source of new energy around the world — and are poised to become the **largest sources of electricity** — because they are cheaper than conventional power plants. In some markets, building new renewable power **costs less than running existing coal generators**.

Car companies are indeed developing lower-cost, mass-market electric vehicles. Chevrolet has the \$31,000 **Bolt**. Nissan has the \$31,000 **Leaf**. But they're still far more expensive than compact cars in the \$20,000 range like the Toyota Corolla and Honda Civic. The real game-changer will be an electric vehicle that both does more and costs less.

And for the manufacturers, the toughest test may end up being whether their electric vehicles can generate a profit without any subsidies. If they can, then they'll have their own incentive to keep developing and marketing electrics.

We also need to start thinking about driving less overall

Electric cars are better than gasoline and diesel, but building and charging them still takes resources. Even better is not driving at all.

Many parts of the world are still dependent on cars and trucks, with few alternatives for getting around. So electric vehicles still have an important role to play in these markets. But in the US, three-quarters of vehicle trips are **less than 10 miles**. That's a major opportunity for other electric alternatives like buses, bikes, and scooters.

Because of the Covid-19 pandemic, Americans have been driving less — a total of 2.83 trillion miles in 2020, compared to 3.3 trillion in 2019, according to the **Federal Highway Administration**. That reduced emissions by nearly 170 million metric tons and caused a

2 percent drop in roadway fatalities. What the numbers show is that driving less reduces pollution and improves public health and suggest that continuing to reduce driving will have major societal benefits.

It's unlikely that a major auto manufacturer like Ford would want to drive consumers away from their products by telling them to stop driving. But reducing greenhouse gas emissions overall requires a more holistic approach, and it will take more than tax credits and chargers to make it happen. High-end electric trucks can be part of the journey, but they're not the destination.

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