

# Fuel-cell cars cruise onto the market

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Fuel-cell powered cars that emit only water vapor when driven have been in the works for decades, but progress seemed to keep stalling. Now, according to an article in *Chemical & Engineering News* (C&EN), the weekly newsmagazine of the American Chemical Society, the wait is over. Motorists can finally lease or buy hydrogen-powered, fuel-cell cars, but the road ahead for these vehicles still faces some bumps.

C&EN Senior Correspondent Mitch Jacoby reports that the concept of fuel cells dates back to the 1800s. But the technology didn't achieve reliability until the 1960s and 1970s, when NASA used [fuel-cell](#) devices in the *Gemini* and *Apollo* missions. In some ways, fuel cells can be compared to their distant cousin, the battery. In both devices, electrodes extract electricity from [chemical reactions](#). However, unlike batteries, fuel cells do not store the chemicals needed for the reactions: They draw oxygen in from outside air, and a fuel gets replenished at the pump. Getting fuel cells to work at a reasonable price point has been a slow process, but with growing manufacturing experience and steady improvements to efficiency, [fuel](#)-cell cars entered the retail market in 2015.

But how quickly the market will grow remains uncertain for a variety of reasons. Degradation and durability of components remain a concern. The relatively high cost keeps the cars out of reach for many consumers. Additionally, there are currently only 29 retail hydrogen filling stations in the U.S.—and they're all in California. But researchers are continuing to search for ways to lower costs and make improvements, betting that more and more private motorists will want to own one of these vehicles

in the future.

**More information:** Fuel-cell cars finally drive off the lot,  
[cen.acs.org/articles/95/i38/Fuel-cell-cars-finally-drive.html](https://cen.acs.org/articles/95/i38/Fuel-cell-cars-finally-drive.html)

Provided by American Chemical Society

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