

## Toyota Unveils FCHV-adv Prototype with 830 km (516 mi) Range

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Toyota recently unveiled their newest fuel cell vehicle, the FCHV-adv, which can run 830 km (516 miles) on one tank of hydrogen gas. The FCHV-adv, which is based on the Highlander SUV, is able to start and run in temperatures of -30 degrees Celsius (-22 degrees Fahrenheit). The FCHV-adv has been certified by the Japanese government and will be leased in limited supply to Japanese government agencies starting at the end of this year.



*photo from Motor Trend*

This radical improvement in range (the previous generation model only had a 205 mile range) comes from a wide range of changes aimed at improving efficiency. Toyota doubled the hydrogen tank's pressure to 70 MPa and increased the tank's volume from 148 liters to 156 liters. Additionally, a new Membrane Electrode Assembly (MEA) in the fuel cell prevents waste water from the fuel cell from interfering with the 90-hp nickel-metal hydride battery. The FCHV-adv also benefits from improved aerodynamics, lighter weight (from the use of aluminum body panels), a more efficient regenerative-braking system, and more energy-efficient electronics. Toyota claims overall efficiency has been improved by 25%.

Toyota has not revealed whether or not it plans to export the FCHV-adv, and the pricing and production numbers have not been released. However, FCHV-adv's will be used to transport G8 leaders during the Hokkaido Tokoyo Summit in Japan next month.

### Sources:

"Toyota develops improved hydrogen fuel-cell vehicle". Reuters. 6 June 2008.  
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"Toyota's hydrogen SUV prototype makes headway in Japan". Motor Trend. 6 June 2008.  
<http://wot.motortrend.com/6253409/green/toyotas-hydrogen-suv-prototype-makes-headway-in-japan/index.html>