



What automakers are saying about fuel cell vehicles...

Aston Martin

Dr. Ulrich Bez, Aston Martin CEO: "The technology for [electric cars] will not become truly usable until at least 2020. Real-world driving will highlight their weaknesses... It is not something Aston Martin is working on, and it will not represent a true alternative to the combustion engine for a long time"....Dr. Bez reportedly called for the automotive industry to focus its efforts on the fuel cell and suggests that governments should invest resources for their development.

<http://green.autoblog.com/2009/09/23/aston-martin-dismisses-fully-electric-cars-calls-for-fuel-cells/> (9/23/2009)

Daimler

Dieter Zetsche, Daimler CEO: "The chances further down the road seem to me better on the fuel-cell side than on the battery-electric side."....Hydrogen, he said, beats electric batteries at moving cars long distances without refueling. Hydrogen can also power big, roomy sedans much more readily than batteries.

http://www.businessweek.com/magazine/content/09_40/b4149000135061.htm?chan=globalbiz_europe+index+page_top+stories
(9/22/2009)

Ford

Gerhard Schmidt, chief technology officer for Ford's research and advanced engineering: "I'm still convinced that there's a place for fuel cell technology when you look to the future where fossil fuels are not available in the quantity that is needed and battery technology only has limited mileage."

http://news.cnet.com/8301-11128_3-10432371-54.html (1/11/2010)

GM

Britta Gross, Hydrogen and Electrical Infrastructure Commercialization manager: "...hydrogen gets you certain performance benefits that you don't get from other alternative fuels. The advantages are too big to discard. We can't just assume batteries are going to solve all our problems."

<http://green.autoblog.com/2009/08/31/gms-britta-gross-promotes-both-sides-of-the-hydrogen-ev-fence/> (8/31/2009)

Charles Freese, Executive Director of Fuel Cell Activities: ...fuel cell vehicles could be "commercialized" by 2015, and cost "competitive" by 2022. "It hits this tipping point in a roughly 2022 timetable," he said.

<http://www.detnews.com/article/20090925/AUTO01/909250352/1148/AUTO01/Hydrogen+s+prospects+for+autos+refreshed>
(9/25/2009)

Honda

Takanobu Ito, Honda CEO:

"I think the ultimate eco car is a fuel cell car."

<http://www.detnews.com/article/20100121/AUTO01/1210362/1148/auto01/2-jobs-work-for-Honda-president> (1/21/2010)

"We continue to believe that a fuel cell electric vehicle is the ultimate solution to reduce CO2 emissions. A fuel cell car IS a full electric vehicle. But rather than use electricity from the grid, a fuel cell vehicle generates electricity on board and refills more quickly. The development cost must come down and there must be a major expansion of the hydrogen fueling infrastructure. But make no mistake. As a vehicle, the Honda FCX Clarity is ready now. Further, Honda is unique in making long-term investments to develop the refueling infrastructure for alternative fuel vehicles.

This month, we will begin operation of a next-generation solar hydrogen station at our Los Angeles R&D center. This compact system was designed for daily home refueling of a fuel cell electric vehicle. Honda engineers were

able to eliminate the compressor entirely to greatly reduce the size of the system to fit in the user's garage. The potential of a solar hydrogen station is one reason a fuel cell electric vehicle is the ultimate eco-car – the best path to reduce CO₂."

<http://green.autoblog.com/2010/01/12/honda-ceo-takanobu-ito-announces-that-cura-will-add-a-hybrid/> (1/12/2010)

- "The performance of batteries is evolving and there are possibilities. But the energy that can be stored is less than an internal combustion engine can produce, and with current battery technology electric vehicles are city commuters."
- "Honda has, from an early stage, worked on fuel cell vehicles. Battery EVs are heavy, not fun to drive and aren't reliable, and when it comes to cars lighter is better. FCVs are going in that direction."
- "We can do cost reduction and mass production of the technology. It's simple to produce fuel cells; it's the chemicals they use that cost money, along with the precious metals. But we can cut the cost of those, too."

<http://www.dailytech.com/Honda+CEO+Says+Clean+Diesel+Too+Tough+Salespeople+to+Blame+for+Image+Problems/article17101.htm> (12/11/2009)

He went on to say that while batteries are evolving, he didn't believe they would ever get to a stage where their performance would be acceptable as the primary energy carrier. Instead he said that "people would become more aware of the limits of BEVs" and come back to hydrogen fuel cells.

<http://green.autoblog.com/2009/10/22/honda-ceo-people-will-embrace-fuel-cells-when-they-realize-batt/> (10/22/2009)

"Over the long term, the advancement of electromotive technologies is an important factor for the reduction of CO₂ emissions. Among potential solutions, we believe that the fuel cell electric vehicle will be the ultimate form for automobiles in the future as it has advantages such as zero CO₂ emissions in use, can travel considerable distances without refueling and can be quickly refueled."

<http://www.theautochannel.com/news/2009/10/21/482084.html> (10/21/2009)

"Although batteries are evolving, I don't think they can catch up with fuel cells."

http://www.businessweek.com/magazine/content/09_40/b4149000135061.htm?chan=globalbiz_europe+index+page_top+stories (9/22/2009)

Takashi Moriya, General Manager for Technology Research: "Fuel-cell cars will become necessary...We're positioning it as the ultimate zero-emission car."

<http://www.bloomberg.com/apps/news?pid=20601087&sid=afMZ1CSLb2EQ#> (8/12/2009)

Nissan

Carlos Ghosn, head of Renault-Nissan: For him, the only real alternative is fuel cell cars running on hydrogen.

"It is a very promising concept."

<http://news.bbc.co.uk/2/hi/business/8501348.stm> (2/9/2010)

Mark Perry, Director of Product Planning: "Zero emission vehicles are clearly our focus and we believe it's the future state of transportation. Some segments of the market in the near term may best be served by high efficiency internal combustion engines, diesels, hybrids or extended range electric vehicles [also known as plug-in hybrids]." He added that these technologies are "all bridge technologies to the time when battery electric vehicles and fuel cell vehicles can cover every market segment."

<http://www.hybridcars.com/news/honda-and-nissan-consider-plug-hybrids-25759.html> (4/28/2009)

Toyota

Craig Scott, manager of Toyota's Advanced Technologies Group: "There are a ton of 'ifs' conspiring against batteries. People on the other side underestimate the challenge of electric-vehicle infrastructure. There are a very large percentage of people who don't have garages to plug into. And it will take billions to upgrade to a smart grid, so that, come 5 pm, you don't plug in and take down the neighborhood. Take where we were in 1996 and where we are in 2009, and you'll see the fuel cell has had leaps and bounds greater development than the EV. The fuel cell vehicle used to have to tow around its power train in a gigantic trailer. Now we have refueling in 3 to 4 minutes and a range over 400 miles." By comparison, Scott claims that today's EV's are still plagued with

short ranges and have "almost identical charge times" to that of Toyota's electric RAV4 in 1997.

http://www.popularmechanics.com/technology/industry/4335827.html?nav=RSS20&src=syn&dom=yah_buzz&mag=pop (11/4/2009)

Justin Ward, Advanced Powertrain Program manager: "We have some confidence the vehicle released around 2015 is going to have costs that are going to be shocking for most of the people in the industry. They are going to be very surprised we were able to achieve such an impressive cost reduction."

http://subscribers.wardsauto.com/ar/toyota_fuel_cell_090716/wall.html?return=http://subscribers.wardsauto.com/ar/toyota_fuel_cell_090716/ (7/16/2009)

USCAR statement (Chrysler, Ford, GM – 7/14/2009)

"Only hydrogen fuel cell electric vehicle technology offers the promise of true-zero emissions, superior efficiency and uncompromised functionality. Regardless of their individual strategies, the USCAR members are firm in their belief that hydrogen-FCVs will be an important powertrain option in our future of sustainable transportation."

http://www.uscar.org/guest/article_view.php?articles_id=312

Letter of Understanding (Daimler, Ford, GMC/Opel, Honda, Hyundai, Kia, Renault/Nissan - 9/9/2009)

The signing manufacturers strongly anticipate that a significant number of fuel cell vehicles will be commercialized from 2015 onwards. This number is aimed at a few hundred thousand units over life cycle on a worldwide basis. As every vehicle manufacturer will implement its own specific production and commercial strategies as well as timelines, commercialization of electric vehicles with fuel cells may occur earlier than in the above-mentioned expected year. http://www.hondanews.eu/en/news/index.pmode/modul_detail,0,1241-DEFAULT,21,text,1/index.pmode

"H2 Mobility" Initiative (Daimler, Shell, Linde, EnBW, NOW, OMV, Total and Vattenfall – 9/10/2009)

Leading industrial companies agree upon a build-up plan for a nationwide infrastructure in Germany, with significant expansion of hydrogen fuelling stations network by the end of 2011....Leading vehicle manufacturers are pursuing the development and commercialization of electric vehicles with fuel cells. Commercialization with several hundred thousand units is anticipated from 2015 onwards.

<http://www.daimler.com/dccom/0-5-7165-1-1236356-1-0-0-0-0-12080-7165-0-0-0-0-0.html>