



Honda FCX Clarity Ready to go

"The electric vehicle has the future", says one. "No, natural compressed gas is the fuel of tomorrow", someone else states. Yet another car maker concentrates on traditional petrol engines, but combined with hybrid technology. If it is up to Honda, hydrogen is the solution to all problems. To show how far Honda has progressed with hydrogen technology two examples of the revolutionary "FCX Clarity" came to Europe. Autozine managed to get one for a very first test drive.

To be able to explain what makes the Honda FCX Clarity so special, it is necessary to first explain the problem this car tries to solve. Fossil fuels, like petrol and diesel, slowly run out. Also, burning these fuels causes a lot of pollution. Most oil comes from politically unstable countries and many Western countries would prefer not to depend on those governments.

Electrical car

A popular solution to the problems stated above is the electrical car. This has zero emissions and electricity can be generated in so many ways that it can be regarded as an infinite source. Also, electricity can be generated in environmentally friendly ways; by windmills and solar cells.



But electricity is hard to store. Batteries are big, heavy and inefficient. This is why most electrical cars can only travel a short distance and then need to be charged for a long time.

Hydrogen

And this is where the hydrogen car comes to the rescue. Basically the hydrogen car is also an electric vehicle, but one that has its own power plant on board. This power plant is also known as a "fuel cell" and uses hydrogen (H₂) as its fuel.

This is much lighter, more efficient and uses less space than batteries. The only emission from converting hydrogen into electricity is water, which certainly doesn't pollute.



But if one reads between the lines this only moves the problem from the car to the fuel maker: a hydrogen car doesn't pollute itself, but the hydrogen has to be produced somehow and that can pollute after all. Fortunately several solutions are available to solve this problem. This first one is to once again use environmentally friendly power sources and apply "electrolysis" to separate water into hydrogen and oxygen.

For this test drive hydrogen was used from Höchst. This German company supplies chlorine to the industry. Hydrogen is a by-product of chlorine production and it can now be put to use. Hydrogen is also a by-product of oil refining and can now be utilised as an alternative fuel.

Going the distance

The FCX Clarity has a 171 litre tank in which the hydrogen is stored at a pressure of 350 bar. With this the car can cover a distance of 458 km (284 miles). The tank takes a big heap out of the luggage space, which is still pretty large.



The FCX weighs 1,625 kg and that is comparable to a conventional car of this size. So the FCX solves most of the problems of an electrical car: it can travel a serious distance, and isn't overweight because of a huge number of batteries.

Design

Also: the FCX Clarity doesn't look like a toy of some experimenting techies. Even better: because the electric motor takes up less space than a traditional internal combustion engine, the designers had much more freedom. In the first place this led to a very aerodynamic car. The engineers also managed to give the FCX a perfect weight balance and focus on safety.



As to safety: Honda promises that the FCX is just as safe as any other model. All usual airbags and electronic gadgets are also available on this revolutionary Honda. Because of the special colour scheme and materials (made from corn!) the interior looks futuristic. The FCX offers ample space in the front and rear.



Driving

Despite all special technology underneath, the FCX drives like a normal car. And that was Honda's goal: new technology should offer all advantages of a traditional car, but at the same time solve problems. Driving the FCX requires no special skills, at most some getting used to.

When the start-button is pressed there's no sound from a roaring engine, only a futuristic display comes to life. The FCX has no gears, there's just a little lever to select forward or reverse. While a traditional internal combustion engine delivers most power at a certain number of revolutions per minute, the electric motor offers its full power at any speed. A gearbox is therefore not required.

This makes the FCX very comfortable: no matter what speed, there's just a humming noise comparable to a tube. At full throttle a slight beep/whistle can be heard, but that's all. Also the noise from the tyres and wind are minimal, even at top speed (99 mph).



The 134 PS / 256 Nm strong electric motor performs very well. While the acceleration power is fine, there's no real

sensation because the acceleration is linear. A diesel/petrol engine will build up to a certain peak and that's much more exciting. This doesn't mean the FCX lacks character: in many ways the FCX offers more comfort than even the most refined petrol engine combined with the best automatic gearbox!

Handling

Also because of its fair size, the FCX drives like a large limousine. The suspension is firm, yet comfortable. As stated before the FCX isn't unusually heavy, so it is much more dynamic than battery powered cars.



There are only 22 FCX Clarities in the whole world (10 in Japan, 10 in the USA and 2 in Europe). Despite this car doesn't feel like a prototype or experimental vehicle at all. And that's why the FCX has one huge drawback: it isn't for sale yet!

The head of the development team, Sachito Fujimoto, came to Europe to answer questions from journalists. When asked when the FCX Clarity will go on sale he gave this answer: "It is my goal in life to be the first customer for an FCX before I retire". A look at his resume reveals that Fujimoto is now 52 years of age. In Japan one retires at 60, so please be patient.



Conclusion

Is the Honda FCX Clarity the car of the future? An exclusive first drive certainly gives the feeling of testing a car that will make history. Not only from a technical point of view the FCX Clarity is a milestone, but the car also drives far better than average.

But the question remains if the fuel cell will really break through and end all problems. The required hydrogen has to be produced in an environmentally friendly way, otherwise the problem is just moved. If there is a big advancement in battery technology, generating electricity from hydrogen becomes superfluous. Also, when the government makes alternatives like bio-ethanol or natural compressed gas (CNG) much cheaper, those might eventually win the race.

If the fuel cell breaks through, Honda has a sure winner ready to go. ■



Specifications

Honda FCX Clarity Hydrogen

Size and weight

Length	485 cm
Width	185 cm
Height	147 cm
Wheelbase	280 cm
Kerb weight	1625 kg
Trailer	unknown
Trailer - braked	unknown
Fuel capacity	171 l
Luggage space	unknown



Engine and performance

Capacity	unknown
Cylinders / valves	unknown
Max power	134 bhp @ 1 rpm
Max torque	256 Nm @ 1 rpm
Drive	voorwielen
Acceleration 0 - 62 mph	unknown
Top speed	160 km/h
Average mileage	unknown
Mileage urban	unknown
Mileage extra urban	unknown
CO2 emissions	unknown



Price

Price	£ 0
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