













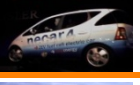









Fuel Cell Vehicles (From Auto Manufacturers)













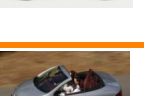





Automaker	Vehicle Type	Year Shown	Engine Type	Fuel Cell Size/type	Fuel Cell Mfr.	Range (mi/km)	MPG Equivalent*	Max. Speed	Fuel Type	Commercial Intro.	Picture
Audi	Q5 HFC	2010	Fuel cell/ battery hybrid	98 kW PEM	N/a	N/a	N/a	N/a	Compress. Hydrogen @ 700 bar	Prototype	
	A2	2004	Fuel cell/ battery hybrid	66 kW PEM	Ballard	137 mi 220 km	N/a	109 mph 175 km/h	Compress. hydrogen		
AVL List GmbH	AVL FCC: 4-5 persons commuter for company internal usage or private fields	2010	EV with FC range extender	3 kW PEM	N/a	94 mi/150 km (at full load and traveling 12.5 mph/20 km/h)	N/a	19 mph 30 km/h	34L CGH @ 200bar	Prototype serves for technology demonstration and as research platform. Developed in cooperation with Tongji University	
AvtoVAZ	Lada Antel-2	2003	Fuel cell/ battery hybrid	Alkaline fuel cell	N/a	219 mi 350 km	N/a	N/a	Compress. hydrogen @ 400 bar	Debuted at the 2003 Moscow Auto Show.	
	Lada Antel-1	2001	Fuel cell/ battery hybrid	Alkaline fuel cell	N/a	155 mi 250 km	N/a	50 mph 80 km/h	Compress. hydrogen @ 250 atm.		
BMW	Fuel-cell hybrid electric 1-Series	2009	Fuel cell/ battery hybrid	5 kW PEM	UTC Power	N/a	N/a	N/a	N/a	Prototype. 4-cylinder gas engine for high speed driving, electric power unit used for city driving. Electric energy generated by 5kW fuel cell Auxiliary Power Unit (APU) and stored temporarily in high-performance capacitors.	
	Series 7 (745 h) (Sedan)	2000	ICE (fuel cell APU)	5 kW PEM	UTC	180 mi 300 km	N/a	140 mph 87 km/h	Gasoline/ Liquid hydrogen	Limited intro in 2000 (Munich Airport Hydrogen Vehicle Project)	
Daihatsu	MOVE FCV – K II (mini vehicle)	2001	Fuel cell/ battery hybrid	30 kW PEM	Toyota	75 mi 120 km	N/a	65 mph 105 km/h	Compress. hydrogen @ 3600 psi	Previous model used methanol. Japan road testing started in early 2003.	
Daimler	Ener-G-Force	2012	Fuel cell	N/a	N/a	N/a	N/a	N/a	H2 generated from water stored on the vehicle's roof	Concept off-road law enforcement vehicle developed for the 2012 Los Angeles Design Challenge	
	Mercedes-Benz F 125i	2011	Fuel cell/ plug-in battery hybrid	N/a	N/a	30 mi (46 km) on battery power and 595 mi (952 km) on H2	80 mpg	137 mph 220 km/h	Compress. H2	Concept vehicle	
	Mercedes-Benz F 800	2010	Fuel cell/ battery hybrid	N/a	N/a	18 mi (29 km) on battery power plus 375 mi (600 km) on H2	N/a	N/a	Compress. H2	Concept vehicle	
	Mercedes-Benz B-Class F-Cell	2009	Fuel cell	90 kW PEM	N/a	239 mi 385 km	54 mpg	105 mph 170 km/h	Compress. hydrogen	Small series production starts in 2009. 70 to be deployed in Los Angeles & San Francisco by 2012	
	Mercedes-Benz Blue Zero F-Cell	2009	Fuel cell/battery hybrid	N/a	N/a	>250 mi >400 km	81 mpg	N/a	Na	Unveiled at the 2009 Detroit Auto Show. Small series production starts in late 2009.	

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	EcoVoyager	2008	Fuel cell/ battery hybrid	45 kW PEM	N/a	300+ mi 483+ km	N/a	115 mph 185 km/h	Compress. hydrogen @ 10,000 psi	Range of charged battery is 40mi/64km. H2FC extends range to more than 300 mi.	
	F600 HYGENIUS	2005	Fuel cell/ battery hybrid	60 kW PEM	N/a	250 mi 400 km	N/a	105 mph 169 km/h	Hydrogen		
	Jeep Treo	2003	Fuel cell	N/a	N/a	N/a	N/a	N/a	N/a	Unveiled at Tokyo Motor Show – drive by wire technology	
	A-Class F-Cell	2002	Fuel cell/ battery hybrid	85 kW PEM	Ballard Mark 900 Series	90 mi 145 km	56 mpg	87 mph 140 km/h	Compress. hydrogen @ 700 bar	60 fleet vehicles in US, Japan, Singapore, and Europe started in 2003 – small fleet in Michigan operated by UPS.	
	NECAR 5.2 (A-class)	2001	Fuel cell/ battery hybrid	85 kW PEM	Ballard Mark 900 Series	300 mi 482 km	N/a	95 mph 150 km/h	Methanol	Awarded a road permit for Japanese roads. Completed CA – DC drive.	
	Sprinter (van)	2001	Fuel cell	85 kW PEM	Ballard Mark 900 Series	93 mi 150 km	N/a	75 mph 120 km/h	Compress. hydrogen @ 5,000 psi	Delivered to Hermes as part of the W.E.I.T. hydrogen project, also used by UPS	
	Natrium (Town & Country Mini Van)	2001	Fuel cell/ (40 kW) battery hybrid	54 kW PEM	Ballard Mark 900 Series	300 mi 483 km	30 mpg	80 mph 129 km/h	Catalyzed chemical hydride - sodium borohydride	Uses Millennium Cell's 'Hydrogen on Demand' system with a 53 gallon fuel tank	
	Jeep Commander 2 (SUV)	2000	Fuel cell/ (90 kW) battery hybrid	50 kW PEM	Ballard Mark 700 Series	118 mi 190 km	24 mpg	N/a	Methanol	Jeep Commander 1 came out in 1999.	
	NECAR 4 - Advanced (California NECAR)	2000	Fuel cell	85 kW PEM	Ballard Mark 900 Series	124 mi 200 km	53 mpg	90 mph 145 km/h	4 lbs. (1.8kg) of Compress. hydrogen @ 5,000 psi		
	NECAR 5 (A-class)	2000	Fuel cell	85 kW PEM	Ballard Mark 900 Series	280 mi 450 km	N/a	95 mph 150 km/h	Methanol		
	NECAR 4 (A-Class)	1999	Fuel cell	70 kW PEM	Ballard Mark 900 Series	280 mi 450 km	N/a	90 mph 145 km/h	Liquid hydrogen		
	NECAR 3 (A-Class)	1997	2 fuel cell stacks	50 kW PEM	Ballard Mark 700 Series	250 mi 400 km	N/a	75 mph 120 km/h	10.5 gal. of Liquid methanol	First methanol reforming FCV	
	NECAR 2 (V-Class)	1996	Fuel cell	50 kW PEM	Ballard	155 mi 250 km	N/a	68 mph 110 km/h	Compress. hydrogen @ 3600 psi		
	NECAR 1 (180 van)	1994	12 fuel cell stacks	50 kW PEM	Ballard	81 mi 130 km	N/a	56 mph 90 km/h	Compress. hydrogen @ 4300 psi		
Dongfeng Motor Corp.	ChuTian 1	2005	Fuel cell	25 kW	N/a	N/a	N/a	N/a	N/a	Developed in conjunction with the Wuhan University of Technology	
ESORO	Hycar	2001	Fuel cell/ battery hybrid	6.4 kW PEM	Nuvera	224 mi 360 km	N/a	75 mph 120 km/h	Compress. hydrogen	Switzerland's first FCV	
Fiat/Alfa Romeo	MiTo	2010	N/a	N/a	N/a	N/a	N/a	N/a	N/a	2 will serve as shuttles/demonstration cars in Oslo, Norway	
Fiat	Panda	2007	Fuel cell	60 kW PEM	Nuvera	125 mi 200 km	N/a	81 mph 130 km/h	Compress. hydrogen	3 delivered to municipality of Mantova	



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	Seicento Elettra H2 Fuel Cell	2003	Fuel cell/battery hybrid	7 kW PEM	Nuvera	N/a	N/a	31 mph, 50 km/h with fuel cell alone/ 62.5 mph, 100km/h with battery	Compress. hydrogen	Being investigated for use in Milan, Italy.	
	Seicento Elettra H2 Fuel Cell	2001	Fuel cell/battery hybrid	7 kW PEM	Nuvera	100 mi 140 km	N/a	60 mph 100 km/h	Compress. hydrogen	Performed at the time without degradation for more than 3,000 km	
Ford Motor Company	Airstream concept vehicle/ HySeries Edge	2007	Fuel cell plug-in hybrid	HySeries Drive	Ballard	305 mi 491 km	80 mpg	85 mph 137 km/h	N/a	Electric motor powered by lithium-ion batteries-the fuel cell acts as on-board "generator" to recharge batteries during transit. Charged battery range is 25mi/40km. H2FC extends range by a further 280mi/450km.	 
	Explorer	2006	Fuel cell/battery hybrid	60 kW PEM	Ballard	350 mi 563 km	35 mpg	N/a	10 kg hydrogen at 700 bar		
	Advanced Focus FCV	2002	Fuel cell/battery hybrid	85 kW PEM	Ballard Mark 900 Series	180 mi 290 km	-50 mpg	N/a	8.8 lb. (4kg) Compress. H2 @ 5,000 psi	3 year demonstration in Vancouver beginning late 2004. 30 fleet vehicles in Sacramento, Orlando and Detroit	
	Focus FCV	2000	Fuel cell	85 kW PEM	Ballard Mark 900 Series	100 mi 160 km	N/a	80 mph 128 km/h	Compress. hydrogen @ 3,600 psi		
	THINK FC5	2000	Fuel cell	85 kW PEM	Ballard Mark 900 Series	N/a	N/a	80 mph 128 km/h	Methanol		
	P2000 HFC (sedan)	1999	Fuel cell	75 kW PEM	Ballard Mark 700 Series	100 mi 160 km	67 mpg	N/a	Compress. hydrogen	First FCV by Ford	
GM	Provoq	2008	Fuel cell/battery hybrid	88 kW PEM	GM	300 mi 483 km	N/a	100 mph 160 km/h	Compress. hydrogen @ 10,000 psi	Uses GM's 5 th generation fuel cell stack. Range on one tank of hydrogen is 280 mi/450km; battery range is 20mi/32km.	
	HydroGen4	2007	Fuel cell/battery hybrid	93 kW PEM	N/a	200 mi 320 km	N/a	100 mph 160 km/h	N/a	European version of Equinox – will undergo tests in Berlin in 2008	
	Equinox FCEV	2006	Fuel cell/battery hybrid	93 kW PEM	N/a	200 mi 320 km	-39 mpg	100 mph 160 km/h	N/a	Leasing started in 2007: 100 vehicles in CA, NY, DC. In Berlin, leased as "HydroGen4" to 9 companies starting in 2008. 20 will be provided to the Hawaii Hydrogen Initiative.	
	Sequel	2005	Fuel cell/battery hybrid	73 kW PEM	GM	300 mi 483 km	N/a	N/a	8kg Compress. h2 @ 10,000 psi		
	Diesel Hybrid Electric Military truck	2003	Fuel cell APU	5 kW PEM	Hydrogenics	N/a	N/a	N/a	Low pressure metal hydrides	Turbo diesel ICE/battery hybrid with PEM FC APU	
	AUTONomy Concept only	2002	Fuel cell	N/a	N/a	N/a	Projected 100 mpg	N/a	N/a	GM's 2010 FCV concept Freedom of Design	
	Hy-Wire Proof of Concept	2002	Fuel cell	94 kW PEM	GM/ Hydrogenics	80 mi 129 km	-41 mpg	97 mph 160 km/h	4.4 lbs.(2kg) Compress. h2 @ 5,000 psi	Uses HydroGen3's powertrain, so range & mpg theoretically could = HydroGen3	
	Advanced HydroGen3 (Zafira van)	2002	Fuel cell	94 kW PEM	GM/ Hydrogenics	170 mi 270 km	-55 mpg	~100 mph 160km/h	6.8lbs. (3.1kg) Compress. h2 @ 10,000 psi	1 st FCV to incorporate 10,000 psi tanks (by Quantum). 6 placed in Washington DC.	

Automaker	Vehicle Type	Year Shown	Engine Type	Fuel Cell Size/type	Fuel Cell Mfr.	Range (mi/km)	MPG Equivalent*	Max. Speed	Fuel Type	Commercial Intro.	Picture
	HydroGen3 (Zafira van)	2001	Fuel cell	94 kW PEM	GM/ Hydrogenics	250 mi 400 km	N/a	100 mph 160km/h	Liquid hydrogen	Used by FedEx Corp. in Tokyo, Japan from 6/2003 – 6/2004	
	Chevy S-10 (pickup truck)	2001	Fuel cell/ battery hybrid	25 kW PEM	GM**	240 mi 386 km	40 mpg	70 mph 113 km/h	Low sulfur, clean gasoline	GM has partnership with Toyota on reforming	
	Precept FCEV Concept only	2000	Fuel cell/ battery hybrid	100 kW PEM	GM**	500 mi 800 km (est.)	~108 mpg	120 mph 193 km/h	Hydrogen (stored in metal hydride)	These are concept projections	
	HydroGen1 (Zafira van)	2000	Fuel cell/ battery hybrid	80 kW PEM	GM**	250 mi 400 km	N/a	90 mph 140 km/h	16 gal. of Liquid hydrogen		
	Zafira (mini-van)	1998	Fuel cell	50 kW PEM	Ballard	300 mi 483 km	80 mpg	75 mph 120 km/h	Methanol	GM has ceased efforts regarding methanol (2001)	
	Sintra (mini-van)	1997	Fuel cell	50 kW PEM	N/a	N/a	N/a	N/a	N/a	Wants to be 1 st automaker to sell 1 million FCVs profitably	
GM (Shanghai) PATAAC	Phoenix (Mini van)	2001	Fuel cell/ battery hybrid	25 kW PEM	Shanghai GM**	125 mi 200 km	N/a	70 mph 113 km/h	Compress. hydrogen	Seventh FCV prototype out of China	
GreenGT	LMP H2 prototype	2011	Fuel cell	300 kW	N/a	N/a	N/a	N/a	Compress. hydrogen	Formula racer made by Swiss automaker GreenGT. Will be raced in the 24 Hours of Le Mans in 2012, raced by 6-time Le Mans driver and 2-time winner Christian Pescatori. H2 to fuel the car will be generated by electrolysis	
Honda	FC Sport concept	2008	Fuel cell	PEM	Honda	N/a	N/a	N/a	Compress. Hydrogen	Showcased at L.A. Auto Show – 11/08	
	FCX Clarity	2007	Fuel cell	100 kW PEM	Honda	354 mi 570 km	N/a	100 mph 160 km/h	Compress. hydrogen	Small scale production of 200 vehicles between 2008-2010. Leasing in Southern California and Japan.	
	PUYO concept vehicle	2007	Fuel cell	N/a	N/a	N/a	N/a	N/a	N/a	Shown at 2007 Tokyo Motor Show	
	FCX concept vehicle	2006	Fuel cell	100 kW PEM	Honda	270 mi 434 km	N/a	100 mph 160 km/h	Compress. hydrogen		
	Kiwami concept	2003	Fuel cell	N/a	N/a	N/a	N/a	N/a	Hydrogen	Unveiled at Tokyo Motor Show	
	FCX	2002	Fuel cell/ Honda ultra capacitors	85 kW PEM	Ballard Mark 900 series	220 mi 355 km	~50 mpg	93 mph 150 km/h	156.6 L Compress. hydrogen @ 5000 psi	Have 4 in Japan, 5 in L.A., 3 in San Francisco	
	FCX-V4	2001	Fuel cell/ Honda ultra capacitors	85 kW PEM	Ballard Mark 900 series	185 mi 300 km	~50 mpg	84 mph 140 km/h	130 L (3.75kg) Compress. H2 @ 5,000 psi	Completed Japanese road testing - 1 st FCV to receive CARB & EPA emission certs.	
	FCX-V3	2000	Fuel cell/ Honda ultra capacitors	62 kW PEM	Ballard Mark 700 Series	108 mi 173 km	N/a	78 mph 130 km/h	26 gal. of Compress. hydrogen at 3600 psi		

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	FCX-V2	1999	Fuel cell	60 kW PEM	Honda	N/a	N/a	78 mph 130 km/h	Methanol	Honda has strict focus on pure hydrogen FCVs (2001)	
	FCX-V1	1999	Fuel cell/ battery hybrid	60 kW PEM	Ballard Mark 700 Series	110 mi 177km	N/a	78 mph 130 km/h	Hydrogen (stored in metal hydride)		
Hyundai	ix35	2012	Fuel cell/ battery hybrid	100 kW fuel cell	N/a	365 mi 587 km	N/a	100 mph 161 km/h	Hydrogen	Leases start in December 2012 (starting with Sweden, Denmark). Goal is 1,000 on the road by 2015.	
	Blue2 ("blue square")	2011	Fuel cell/ battery hybrid	90 kW PEM	N/a	N/a	98.6 mpg	N/a	N/a	Prototype	
	Tucson ix	2011	Fuel cell/ battery hybrid	100 kW PEM	N/a	403 mi 650 km	>70 mpg	N/a	Compress. hydrogen @ 700 bar	Testing 50 FCVs in 2011, limited supply available in 2012, Mass production in 2015.	
	Tucson ix35 FCEV	2010	Fuel cell/ supercap hybrid	100 kW PEM	N/a	230 mi 368 km	73 mpg	99 mph 160 km/h	Compress. hydrogen @ 350 bar		
	i-Blue concept	2007	Fuel cell	100 kW PEM	N/a	37 3mi 600 km	N/a	102 mph 165 km/h	Compress. hydrogen	Shown at Frankfurt Motor Show	
	Tucson II	2007	Fuel cell/ battery hybrid	100 kW PEM	Kia	230 mi 370 km	63.5 mpg	99 mph 160 km/h	Compress. hydrogen @ 700 bar		
	Tucson	2004	Fuel cell/ battery hybrid	80 kW PEM	UTC Fuel Cells	185 mi 300 km	N/a	93 mph 150 km/h	Compress. hydrogen @ 350 bar	Demonstrating 33 Hyundai Tucsons and Kia Sportage FCVs in the US between 2004-2009 and in Korea between 2006-2010.	
	Santa Fe SUV	2001	Ambient-pressure fuel cell	75 kW PEM	UTC Fuel Cells	250 mi 402 km	N/a	N/a	Compress. hydrogen		
	Santa Fe SUV	2000	Ambient-pressure fuel cell	75 kW PEM	UTC Fuel Cells	100 mi 160 km	N/a	77 mph 124 km/h	Compress. hydrogen		
Intelligent Energy	Fuel Cell Black Cabs	2011	Fuel cell	PEM	Intelligent Energy	>250 mi 400 km	N/a	N/a	Compress. hydrogen	Built by Intelligent Energy and a consortium, plans to deliver of a fleet to London in 2012.	
Kia	Borrego/ Mojave FCEV	2008	Fuel cell/ ultra-capacitor	115 kW PEM	Kia	426 mi 685 km	57 mpg	100 mph 160 km/h	Compress. Hydrogen @ 700 bar	Leasing to Seoul, Korea residents starting in 2009.	
	Sportage II	2008	Fuel cell/ battery hybrid	100 kW PEM	Kia	205 mi 328 km	54 mpg	93 mph 150 km/h	Compress. hydrogen @ 350 bar		
	Sportage	2004	Fuel cell	80 kW PEM	UTC Fuel Cells	185 mi 300 km	N/a	93 mph 150 km/h	Compress. hydrogen	Demonstrating 33 Hyundai Tucsons and Kia Sportage FCVs in the US between 2004-2009 and in Korea between 2006-2010.	
Mazda	Premacy FC-EV	2001	Fuel cell	85 kW PEM	Ballard Mark 900 Series	N/a	N/a	77 mph 124 km/h	Methanol	Awarded road permit for Japanese roads in 2001 – undergoing public road testing	
	Demio (compact passenger car)	1997	Fuel cell/ ultra capacitor hybrid	20 kW PEM	Mazda	106 mi 170 km	N/a	60 mph 90 km/h	Hydrogen (stored in metal hydride)		

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Michelin	Fuel Cell FAM F-City car	2011	Fuel cell/battery hybrid	N/a	N/a	N/a	N/a	N/a	N/a	The battery-powered vehicle will use the fuel cell as a range extender	
Microcab Industries Limited	H2EV	2011	Fuel cell/battery hybrid	1.5 kW	N/a	50-100 mi 80-160 km	N/a	40 mph 64 km/h	Compress. hydrogen	Spinoff company of Coventry University. Being demonstrated in Coventry and Birmingham.	
	Microcab	2008	Fuel cell	N/a	N/a	100 mi 160 km	N/a	30 mph 45 km/h	Compress. hydrogen	An Urban, ultra light, city speed, 'short hop' taxi system	
Mitsubishi	Grandis FCV (mini-van)	2003	Fuel cell/battery hybrid	68 kW PEM	Daimler Chrysler/ Ballard	92 mi 150 km	N/a	87 mph 140 km/h	Compress. hydrogen		
	SpaceLiner Concept only	2001	Fuel cell/battery hybrid	40 kW PEM	N/a	N/a	N/a	N/a	Methanol		
Morgan	LIFECar	2008	Fuel cell	22 kW PEM	QinetiQ	250 mi 402 km	N/a	80-85 mph 129-137 km/h	N/a		
Nissan	TeRRA	2012	Fuel cell	N/a	N/a	N/a	N/a	N/a	N/a	Concept vehicle, unveiled at the Paris Auto Show – 2012.	
	Effis (commuter concept)	2003	Fuel cell/battery hybrid	N/a	N/a	N/a	N/a	N/a	N/a	Unveiled at Tokyo Motor Show	
	X-TRAIL (SUV)	2002	Fuel cell/battery hybrid	75 kW PEM	UTC Fuel Cells (Ambient-pressure)	N/a	N/a	78 mph 125 km/h	Compress. hydrogen @ 5,000 psi	Approved for Japanese Public road testing – 3 leased to Japanese govt.	
Made prototypes w/ each fuel cell stack	Xterra (SUV)	2000/2001	Fuel cell/battery hybrid	85 kW PEM	Ballard Mark 900 Series & UTC Fuel Cells	100 mi 161 km	N/a	75 mph 120 km/h	Compress. hydrogen	Will begin driving trials in California and Arizona.	
	R'nessa (SUV)	1999	Fuel cell/battery hybrid	10 kW PEM	Ballard Mark 700 Series	N/a	N/a	44 mph 70 km/h	Methanol	Partnership with Renault for gasoline fueled FCV until 2006	
Pininfarina	Sintesi	2008	Fuel cell/battery hybrid	Four 20 kW PEMs	Nuvera	N/a	N/a	138 mph 222 km/h with battery boost / 118 mph 191 km/h FC power only	N/a	The four fuel cells are positioned near the wheels.	
PSA Peugeot Citroen	307cc FiSyPAC F/C Hybrid	2009	Fuel cell/battery hybrid (FC is range extender)	N/a	N/a	310 mi 496 km	62 mpg	N/a	N/a	Demo vehicle	
	H2Origin delivery van	2008	Fuel cell/battery hybrid	10 kW PEM	Intelligent Energy	186 mi 300 km	N/a	N/a	Compress. hydrogen	H2 tanks mounted on sliding rack under rear cargo area-can swap out new tanks as alternative to refilling at an H2 station.	
	H2O fire-fighting Concept only	2002	Fuel cell/battery APU	N/a	N/a	N/a	N/a	N/a	Catalyzed chemical hydride - Sodium Borohydride	Uses Millennium Cell's 'Hydrogen on Demand' system	
	Peugeot Fuel Cell Cab "Taxi PAC"	2001	Fuel cell/battery hybrid	55 kW PEM	H Power	188 mi 300 km	N/a	60 mph 95 km/h	80 Liters Compress. hydrogen @ 4300 psi		
	Peugeot Hydro-Gen	2001	Fuel cell/battery hybrid	30 kW PEM	Nuvera	186 mi 300 km	N/a	60 mph 95 km/h	Compress. hydrogen		
Renault	Scenic FCV H2	2008	Fuel cell/battery hybrid	90 kW	Nissan	150 mi 240 km	N/a	100 mph 161 km/h	N/a		

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	EU FEVER Project (Laguna wagon)	1997	Fuel cell/battery hybrid	30 kW PEM	Nuvera	250 mi 400 km	N/a	75 mph 120 km/h	Liquid hydrogen	Partnership with Nissan on gasoline fueled FCV	
Riversimple	Network Electric car	2009	Fuel cell	N/a	N/a	200 mi 322 km	300 mpg	50 mph 80 km/h	Hydrogen	Plans to run a 50-60 car UK pilot lease trial in 2012. Commercial vehicle production to start in 2013.	
Shanghai Automotive Industry Corp.	Shanghai	2007	Fuel cell	60 kW PEM	ShenLi	N/a	N/a	N/a	Low pressure hydrogen		
	Chao Yue III	2005	Fuel cell	50 kW PEM	ShenLi	230 km 144 mi	-69 mpg	76 mph 122 km/h	Low pressure hydrogen @ 20MPa	2.2kg fuel storage (two tanks)	
	Chao Yue II	2004	Fuel cell	43 kW PEM	ShenLi	122 mi 197 km	-61 mpg	73 mph 118 km/h	Low pressure hydrogen		
	Chao Yue I	2003	Fuel cell	40 kW PEM	ShenLi	N/a	-45 mpg	68 mph 110 km/h	Low pressure hydrogen	Developed in conjunction with Tongju University.	
Suzuki	SX4-FCV	2008	Fuel cell	80 kW PEM	GM	155 mi 250 km	N/a	93 mph 150 km/h	Compress. hydrogen	First subcompact FC vehicle developed by Suzuki & GM. Uses a 70MPa tank.	
	Mobile Terrace	2003	Fuel cell	N/a	GM	N/a	N/a	N/a	Hydrogen	Unveiled at Tokyo Motor Show	
	Wagon R FCV	2003	Fuel cell	50 kW PEM	GM	N/a	N/a	N/a	Compress. hydrogen	35 MPa storage rating for the two compressed H2 tanks.	
	MR Wagon FCV	2003	Fuel cell	80 kW PEM	GM	N/a	N/a	N/a	Compress. hydrogen	First FCV certified by Japan's Ministry of Land Infrastructure and Transport as a 70 MPa system (uses two 70 MPa tanks).	
	Covie Concept only	2001	Fuel cell	N/a	GM	N/a	N/a	N/a	N/a		
Swatch	Belenos ELV2 prototype	2012	Fuel cell/battery hybrid	25 kW	N/a	N/a	N/a	N/a	Liquid H2		
Tecnalia	H2CAR	2008	Fuel cell/battery hybrid	5 kW PEM	N/a	N/a	N/a	N/a	Low pressure hydrogen @ 200 bar	Developed by the Energy Unit / Basque Technological Corporation at Tecnalia (Spain)	
Toyota	FCV-R concept	2011	Fuel cell/battery hybrid	N/a	N/a	430 mi 700 km	N/a	N/a	Compress. Hydrogen @ 70 MPa	Unveiled at Tokyo Motor Show	
	FCHV-adv	2008	Fuel cell/battery hybrid	Toyota FC stack	N/a	515 mi 830 km	N/a	97 mph 155 km/h	N/a	Limited leasing in Japan started in 2008. 10 delivered to CT in 2010. Will place more than 100 with universities, private companies and government agencies in CA and NY	
	FINE-N Concept only	2003	Fuel cell/battery hybrid	N/a	Toyota	311 mi 194 km	N/a	N/a	Compress. hydrogen	Based on the Fine-S. Uses 70 MPa tank. Features by-wire braking, steering and throttle controls.	
	FINE-S Concept only	2003	Fuel cell/battery hybrid	N/a	Toyota	N/a	N/a	N/a	Compress. hydrogen	Toyota's freedom of design concept.	
	FCHV (Kluger V/ Highlander SUV)	2002	Fuel cell/battery hybrid	90 kW PEM [122 hp]	Toyota	180 mi 290 km	N/a	96 mph 155 km/h	Compress. hydrogen @ 5,000 psi	Total of 18 leased in California and Japan	

Automaker	Vehicle Type	Year Shown	Engine Type	Fuel Cell Size/type	Fuel Cell Mfr.	Range (mi/km)	MPG Equivalent*	Max. Speed	Fuel Type	Commercial Intro.	Picture
	FCHV-5 (Kluger V/ Highlander SUV)	2001	Fuel cell/ battery hybrid	90 kW PEM	Toyota	N/a	N/a	N/a	Low sulfur, clean gasoline	Partnered with GM on gasoline CHP reforming technology	
	FCHV-4 (Kluger V/ Highlander SUV)	2001	Fuel cell/ battery hybrid	90 kW PEM	Toyota	155 mi 250 km	N/a	95 mph 152 km/h	Compress. hydrogen @ 3,600 psi	Completed Japanese road testing	
	FCHV-3 (Kluger V/ Highlander SUV)	2001	Fuel cell/ battery hybrid	90 kW PEM	Toyota	186 mi 300 km	N/a	93 mph 150 km/h	Hydrogen (stored in metal hydride)		
	RAV 4 FCEV (SUV)	1997	Fuel cell/ battery hybrid	25 kW PEM	Toyota	310 mi 500 km	N/a	78 mph 125 km/h	Methanol		
	RAV 4 FCEV (SUV)	1996	Fuel cell/ battery hybrid	20 kW PEM	Toyota	155 mi 250 km	N/a	62 mph 100 km/h	Hydrogen (stored in metal hydride)		
Volvo	C30	2010	Hybrid fuel cell/plug-in electric	N/a	Powercell Sweden	248 mi 400 km	N/a	N/a	Hydrogen (reformed onboard from gasoline)	Still a concept vehicle	
VW	Passat Lingyu	2008	Fuel cell/battery	55 kW PEM	SAIC (Shanghai VW parent co.)	186 mi 300 km	N/a	93 mph 150 km/h	N/a	Developed by Shanghai Volkswagen and Tongji University for deployment in China – aiming for 2010.	
	Tiguan HyMotion	2008	Fuel cell/battery	80 kW HTFC*	VW	125 mi 200 km	N/a	87 mph 140 km/h	N/a	*VW-developed high temperature fuel cell	
	Space Up Blue	2007	Fuel cell/ battery	45 kW PEM	VW	155 mi 250 km	N/a	75 mph 120 km/h	N/a	Can go additional 62 miles (100 kilometers) range via a compact lithium-ion battery package	
	Touran HyMotion	2007	Fuel cell/ battery	80 kW PEM	VW	100 mi 161 km	N/a	87 mph 140 km/h	N/a		
	HyPower	2002	Fuel cell/ super-capacitors hybrid	40 kW PEM	Paul Scherrer Institute	94 mi 150 km	N/a	N/a	Compress. hydrogen	In 2010, made 1 st long-range test drive over Switzerland's Simplon Pass	
	HyMotion	2000	Fuel cell	75 kW PEM	Ballard	220 mi 350 km	N/a	86 mph 140 km/h	13 gal. Of Liquid Hydrogen		
	EU Capri Project (VW Estate)	1999	Fuel cell/ battery	15 kW PEM	Ballard Mark 500 Series	N/a	N/a	N/a	Methanol	Involved Johnson-Matthey, ECN, VW, and Volvo	

Note: mpg gas equivalent is based on conversion rate of 1 kg hydrogen = 1 gallon gasoline energy equivalent