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(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	A2	2004	Fuel cell/battery hybrid	66kW/PEM	Ballard	220km	N/a	175km/h	Gaseous hydrogen		
BMW	Series 7 (745 h) (Sedan)	2000	ICE (fuel cell APU)	5kW/PEM	UTC	180mi/300km	N/a	140 mph	Gasoline/Liquid hydrogen	Limited intro in 2000 (Munich Airport Hydrogen Vehicle Project)	
Daihatsu	MOVE EV - FC (micro van)	1999	Fuel cell/battery hybrid	16kW/PEM	Toyota	N/a	N/a	N/a	Methanol		
	MOVE FCV - K II (mini vehicle)	2001	Fuel cell/battery hybrid	30 kW/PEM	Toyota	75mi/120km	N/a	65mph/105km/h	Compress. hydrogen @ 3600 psi	Japan road testing started in early 2003.	
Daimler-Chrysler	NECAR 1 (180 van)	1994	12 fuel cell stacks	50kW/PEM	Ballard	81mi/130km	N/a	56mph/90km/h	Compress. hydrogen @ 4300 psi		
	NECAR 2 (V-Class)	1996	Fuel cell	50kW/PEM	Ballard	155mi/250km	N/a	68mph/110km/h	Compress. hydrogen @ 3600 psi		
	NECAR 3 (A-Class)	1997	2 fuel cell stacks	50kW/PEM	Ballard Mark 700 Series	250mi/400km	N/a	75mph/120km/h	10.5 gal. of Liquid methanol	First methanol reforming FCV	
	NECAR 4 (A-Class)	1999	Fuel cell	70kW/PEM	Ballard Mark 900 Series	280mi/450km	N/a	90mph/145km/h	Liquid hydrogen		
	Jeep Commander 2 (SUV)	2000	Fuel cell/ (90 kW) battery hybrid	50kW/PEM	Ballard Mark 700 Series	118mi/190km	24 mpg (gasoline equiv.)	N/a	Methanol	Jeep Commander 1 came out in 1999.	
	NECAR 4 - Advanced (California NECAR)	2000	Fuel cell	85kW/PEM	Ballard Mark 900 Series	124mi/200km	53.46 mpg equiv. (CaFCP est.)	90mph/145 km/h	4 lbs. (1.8kg) of Compress. hydrogen @ 5,000 psi		
	NECAR 5 (A-class)	2000	Fuel cell	85kW/PEM	Ballard Mark 900 Series	280mi/450km	N/a	95mph/150km/h	Methanol		
	NECAR 5.2 (A-class)	2001	Fuel cell/battery hybrid	85kW/PEM	Ballard Mark 900 Series	300mi/482km	N/a	95mph/150km/h	Methanol	Awarded a road permit for Japanese roads. Completed CA - DC drive.	
	Sprinter (van)	2001	Fuel cell	85kW/PEM	Ballard Mark 900 Series	93mi/150km	N/a	75mph/120km/h	Compress. Hydrogen @ 5,000 psi	Delivered to Hamburg parcel service, 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	54kW/PEM	Ballard Mark 900 Series	300mi/483km	30 mpg equiv.	80mph/129km/h	Catalyzed chemical hydride - Sodium Borohydride	Uses Millennium Cell's 'Hydrogen on Demand' system with a 53 gallon fuel tank	
	F-Cell (A-class)	2002	Fuel cell/battery hybrid	85kW/PEM	Ballard Mark 900 Series	90mi/145km	56 mpg equiv.	87mph/140km/h	4 lbs. (1.8kg) of Compress. hydrogen @ 5,000 psi	60 fleet vehicles in US, Japan, Singapore, and Europe started in 2003 - small fleet in Michigan operated by UPS.	

	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	
ESORO	Hycar	2001	Fuel cell/ battery hybrid	6.4kW/ PEM	Nuvera	224mi 360km	N/a	75mph 120km/h	Compress. Hydrogen	Switzerland's first FCV	
Fiat	Seicento Elettra H2 Fuel Cell	2001	Fuel cell/ battery hybrid	7kW/ PEM	Nuvera	100mi 140km	N/a	60mph 100km/h	Compress. hydrogen		
	Seicento Elettra H2 Fuel Cell	2003	Fuel cell/ battery hybrid	N/a	Nuvera	N/a	N/a	N/a	Compress. hydrogen	Being investigated for use in Milan, Italy, where gasoline and diesel fueled vehicles are banned on smoggy days.	
Ford Motor Company	P2000 HFC (sedan)	1999	Fuel cell	75kW/ PEM	Ballard Mark 700 Series	100mi 160km	67.11 mpg equiv. (CaFCP est.)	N/a	Compress. hydrogen	First FCV by Ford	
	Focus FCV	2000	Fuel cell	85kW/ PEM	Ballard Mark 900 Series	100mi 160km	N/a	80mph 128km/h	Compress. hydrogen @ 3,600 psi		
	THINK FC5	2000	Fuel cell	85kW/ PEM	Ballard Mark 900 Series	N/a	N/a	80mph/ 128km/h	Methanol		
	Advanced Focus FCV	2002	Fuel cell/ battery hybrid	85kW/ PEM	Ballard Mark 900 Series	180mi 290km	~50 mpg equiv.	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	
GM	Sintra (mini-van)	1997	Fuel cell	50kW/ PEM	N/a	N/a	N/a	N/a	N/a	Wants to be 1 st automaker to sell 1 million FCVs profitably	
**Hydrogenics works with GM on FC development	Zafira (mini-van)	1998	Fuel cell	50kW/ PEM	Ballard	300mi 483km	80 mpg equiv.	75mph 120km/h	Methanol	GM has ceased efforts regarding methanol (2001)	
	Precept FCEV Concept only	2000	Fuel cell/ battery hybrid	100kW/ PEM	GM**	500mi 800km (est.)	108 mpg equiv. (est.)	120mph 193km/h	Hydrogen (stored in metal hydride)	These are concept projections	
	HydroGen 1 (Zafira van)	2000	Fuel cell/ battery hybrid	80kW/ PEM	GM**	250mi 400km	N/a	90mph 140km/h	16 gal. of Liquid hydrogen	GM plans to sell 75kW hydrogen stationary fuel cell generators in 2005	
	HydroGen 3 (Zafira van)	2001	Fuel cell	94kW/ PEM	GM**	250mi 400km	N/a	100mph 160km/h	Liquid hydrogen	Being used by FedEx Corp. in Tokyo, Japan from 6/2003 – 6/2004	
	Chevy S-10 (pickup truck)	2001	Fuel cell/ battery hybrid	25kW/ PEM	GM**	240mi 386km	40 mpg	70 mph	Low sulfur, clean gasoline (CHF)	GM has partnership with Toyota on reforming	
	AUTOmomy 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	94kW/ PEM	GM**	80mi 129km	~41 mpg (gas equiv.)	97mph 160km/h	4.4 lbs. (2kg) Compress. h2 @ 5,000 psi	Uses HydroGen3's powertrain, so range & mpg theoretically could = HydroGen3	
	Advanced HydroGen 3 (Zafira van)	2002	Fuel cell	94kW/ PEM	GM**	170mi 270km	~55 mpg (gas equiv.)	~100mph 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.	
	Diesel Hybrid Electric Military truck	2003	Fuel cell APU	5kW/PEM	Hydrogenics	N/a	N/a	N/a	Low pressure metal hydrides	Turbo diesel ICE/battery hybrid with PEM FC APU. Under eval. for US Army's new fleet of 30,000 light tactical vehicles.	

	Sequel	2005	Fuel cell/battery hybrid	73kW/PEM	GM	300mi	N/a	N/a	8kg Compress. h2 @ 10,000 psi		
GM (Shanghai) PATAAC	Phoenix (Mini van)	Oct. 2001	Fuel cell/battery hybrid	25kW / PEM	Shanghai GM**	125mi 200km	N/a	70mph 113km/h	Compress. hydrogen	Seventh FCV prototype out of China	
Honda	FCX-V1	1999	Fuel cell/battery hybrid	60kW/PEM	Ballard Mark 700 Series	110mi 177km	N/a	78mph 130km/h	Hydrogen (stored in metal hydride)		
	FCX-V2	1999	Fuel cell	60kW/PEM	Honda	N/a	N/a	78mph 130km/h	Methanol	Honda has strict focus on pure hydrogen FCVs (2001)	
	FCX-V3	2000	Fuel cell/Honda ultra capacitors	62kW/PEM	Ballard Mark 700 Series	108mi 173km	N/a	78mph 130km/h	26 gal. of Compress. hydrogen at 3600 psi		
	FCX-V4	2001	Fuel cell/Honda ultra capacitors	85kW/PEM	Ballard Mark 900 series	185mi 300km	-50 mpg (gas equiv.)	84mph 140km/h	130 L (3.75kg) Compress. H2 @ 5,000 psi	Completed Japanese road testing - 1st FCV to receive CARB & EPA emission certs.	
	FCX	2002	Fuel cell/Honda ultra capacitors	85kW/PEM	Ballard Mark 900 series	220mi 355km	-50 mpg (gas equiv.)	93mph 150km/h	156.6 L Compress. hydrogen @ 5000 psi	Have 4 in Japan, 5 in L.A., 3 in San Francisco	
	Kiwami concept	2003	Fuel cell	N/a	N/a	N/a	N/a	N/a	Hydrogen	Unveiled at Tokyo Motor Show	
Hyundai	Santa Fe SUV	2000	Ambient-pressure Fuel cell	75kW/PEM	UTC Fuel Cells	100mi 160km	N/a	77mph 124km/h	Compress. hydrogen		
	Santa Fe SUV	2001	Ambient-pressure Fuel cell	75kW/PEM	UTC Fuel Cells	250mi 402km	N/a	N/a	Compress. hydrogen		
	Tucson	2004	Fuel cell	80kW PEM	UTC Fuel Cells	300km	N/a	150km/h	Compress. hydrogen	Will demonstrate 32 Tucson FCVs under DOE's Hydrogen Fleet and Infrastructure Demonstration and Validation Project by 2009	
Kia	Sportage	2004	Fuel cell	80kW PEM	UTC Fuel Cells	300km	N/a	150km/h	Compress. hydrogen		
Mazda	Demio (compact passenger car)	1997	Fuel cell/ultra capacitor hybrid	20kW/PEM	Mazda	106mi 170km	N/a	60mph 90km/h	Hydrogen (stored in metal hydride)		
	Premacy FC-EV	2001	Fuel cell	85kW/PEM	Ballard Mark 900 Series	N/a	N/a	77mph 124km/h	Methanol	Awarded road permit for Japanese roads in 2001 - undergoing public road testing	
Mitsubishi	SpaceLiner Concept only	2001	Fuel cell/battery hybrid	40kW/PEM	N/a	N/a	N/a	N/a	Methanol		
	Grandis FCV (mini-van)	2003	Fuel cell/battery hybrid	68kW PEM	Daimler Chrysler/ Ballard	92mi 150km	N/a	87mph 140km/h	Compress. Hydrogen		
Nissan	R'nessa (SUV)	1999	Fuel cell/battery hybrid	10kW/PEM	Ballard Mark 700 Series	N/a	N/a	44mph 70km/h	Methanol	Partnership with Renault for gasoline fueled FCV until 2006	
Made prototypes w/ each fuel cell stack	Xterra (SUV)	2000/2001	Fuel cell/battery hybrid	85kW/PEM	Ballard Mark 900 Series & UTC Fuel Cells	100mi 161km	N/a	75mph 120km/h	Compress. hydrogen	Will begin driving trials in California and Arizona.	
	X-TRAIL (SUV)	2002	Fuel cell/battery hybrid	75kW/PEM	UTC Fuel Cells (Ambient-pressure)	N/a	N/a	78mph 125km/h	Compress. hydrogen @ 5,000 psi	Approved for Japanese Public road testing - 3 leased to Japanese gov.	

	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	
PSA Peugeot Citron	Peugeot Hydro-Gen	2001	Fuel cell/battery hybrid	30kW/PEM	Nuvera	186mi/300km	N/a	60mph/95km/h	Compress. hydrogen		
	Peugeot Fuel Cell Cab "Taxi PAC"	2001	Fuel cell/battery hybrid	55kW/PEM	H Power	188mi/300km	N/a	60mph/95km/h	80 Liters Compress. hydrogen @ 4300 psi		
	H2O fire-fighting Concept only	2002	Battery/ fuel cell APU	N/a	N/a	N/a	N/a	N/a	Catalyzed chemical hydride - Sodium Borohydride	Uses Millennium Cell's 'Hydrogen on Demand' system	
Renault	EU FEVER Project (Laguna wagon)	1997	Fuel cell/battery hybrid	30kW/PEM	Nuvera	250mi/400km	N/a	75mph/120km/h	Liquid hydrogen	Partnership with Nissan on gasoline fueled FCV	
Suzuki	Covie Concept only	2001	Fuel cell	N/a	GM	N/a	N/a	N/a	N/a		
	Mobile Terrace	2003	Fuel cell	N/a	GM	N/a	N/a	N/a	Hydrogen	Unveiled at Tokyo Motor Show	
Toyota	RAV 4 FCEV (SUV)	1996	Fuel cell/battery hybrid	20kW/PEM	Toyota	155mi/250km	N/a	62mph/100km/h	Hydrogen (stored in metal hydride)		
	RAV 4 FCEV (SUV)	1997	Fuel cell/battery hybrid	25kW/PEM	Toyota	310mi/500km	N/a	78mph/125km/h	Methanol		
	FCHV-3 (Kluger V/ Highlander SUV)	2001	Fuel cell/battery hybrid	90kW/PEM	Toyota	186mi/300km	N/a	93mph/150km/h	Hydrogen (stored in metal hydride)	Toyota is developing a Japanese residential 1kW stationary fuel cell system for 2005	
	FCHV-4 (Kluger V/ Highlander SUV)	2001	Fuel cell/battery hybrid	90kW/PEM	Toyota	155mi/250km	N/a	95mph/152km/h	Compress. Hydrogen @ 3,600 psi	Completed Japanese road testing	
	FCHV-5 (Kluger V/ Highlander SUV)	2001	Fuel cell/battery hybrid	90kW/PEM	Toyota	N/a	N/a	N/a	Low sulfur, clean gasoline (CHF)	Partnered with GM on gasoline CHP reforming technology	
	FCHV (Kluger V/ Highlander SUV)	2002	Fuel cell/battery hybrid	90kW/PEM [122 hp]	Toyota	180mi/290km	N/a	96mph/155km/h	Compress. hydrogen @ 5,000 psi	Total of 18 leased in California and Japan	
	FINE-S Concept only	2003	Fuel cell	N/a	N/a	N/a	N/a	N/a	N/a	Toyota's freedom of design concept	
VW	EU Capri Project (VW Estate)	1999	Fuel cell/battery	15kW/PEM	Ballard Mark 500 Series	N/a	N/a	N/a	Methanol	Involved Johnson-Matthey, ECN, VW, and Volvo	
	HyMotion	2000	Fuel cell	75kW/PEM	N/a	220mi/350km	N/a	86mph/140km/h	13 gal. Of Liquid Hydrogen		
	HyPower	2002	Fuel cell/ super-capacitors hybrid	40kW/PEM	Paul Scherrer Institute	94mi/150km	N/a	N/a	Compress. hydrogen		

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