

Laugh at High Gas Prices With a 282-MPG VW

By Chuck Squatriglia [✉](#) July 03, 2008 | 7:30:00 AM Categories: [Concept Cars](#), [Fuel Economy](#)



With gas prices going through the roof and regulators requiring cars to be ever more miserly, Volkswagen is bringing new meaning to the term "fuel efficiency" with a bullet-shaped microcar that gets a stunning ~~282~~ 235 mpg.

Volkswagen's had its super-thrifty One-Liter Car concept vehicle -- so named because that's how much fuel it needs to go 100 kilometers -- stashed away for six years. The body's made of carbon fiber to minimize weight (the entire car weighs just 660 pounds) and company execs didn't expect the material to become cheap enough to produce the car until 2012.

But VW's decided to build the car two years ahead of schedule.

According to Britain's *Car* magazine, VW has approved a plan to build a limited number of One-Liters in 2010. They'll probably be built in the company's prototype shop, which has the capacity to build as many as 1,000 per year. That's not a lot, but it's enough to help VW get a lot of attention while showing how much light weight and an efficient engine can achieve.

VW unveiled the slick two-seater concept six years ago at a stockholder's meeting in Hamburg. To prove it was a real car, Chairman Ferdinand Piech personally drove it from Wolfsburg to Hamburg. At the time, he said the car could see production when the cost of its carbon *monocoque* dropped from 35,000 Euros (about \$55,000) to 5,000 Euros (about \$8,000) -- something he figured would happen in 2012. With carbon fiber being used in everything from airliners to laptops these days, VW's apparently decided the cost is competitive enough to build at least a few hundred One-Liters.

VW's engineers -- who spent three years developing the car -- made extensive use of magnesium, titanium and aluminum to bring it in at less than one-third the weight of a Toyota Echo. According to *Canadian Driver*, the front suspension assembly weighs just 18 pounds. The six-speed transmission features a magnesium case, titanium bolts and hollow gears; it weighs a tad more than 50 pounds. The 16-inch wheels are carbon fiber. The magnesium steering wheel weighs a little more than a pound. How much of the concept car's exotic hardware makes it to the production model remains to be seen.

Low weight only gets you so far in the quest for ultimate fuel economy; aerodynamics plays a big role. The One-Liter is long and low, coming in at 11.4 feet long, 4.1 feet wide and 3.3 feet tall. It features an aircraft-

like canopy, flat wheel covers and a belly pan to smooth the airflow under the car. The engine cooling vents open only when needed, and video cameras take the place of mirrors. The passenger sits behind the driver to keep the car narrow. The car has a [coefficient of drag](#) of 0.16; the average car comes in around 0.30 and the Honda Insight had a Cd of 0.25.

As for the engine, the concept had a one-cylinder diesel engine producing 8.5 horsepower and 13.5 foot-pounds of torque. Car says the production model will use a two-cylinder turbodiesel for a little more oomph. Doubling the number of cylinders is sure to cut fuel economy, so VW may install a [diesel-hybrid drivetrain](#). The engine turns off at stop lights to save fuel, then automatically restarts when the driver depresses the accelerator pedal.

(Update: The car reportedly has anti-lock brakes, stability control and airbags. According to *Canadian Driver*, "Volkswagen says the One-Liter Car is as safe as a GT sports car registered for racing. With the aid of computer crash simulations, the car was designed with built-in crash tubes, pressure sensors for airbag control and front crumple zones.")

What's it gonna cost? Car quotes "one well-placed insider" who says the One-Liter could have a sticker price of anywhere from 20,000 to 30,000 Euros (about \$31,750 to \$47,622). That's a lot of money. But then, the One-Liter, despite its diminutive size, is a lot of car.

Note/Update: Turns out the 282 mpg figure refers to Imperial gallons; the proper figure when converted to U.S. gallons is 235 mpg.

Photos by Volkswagen









