



The Hybrid Vehicle and Alternative Fuel Report
 July 30, 2009

The fine print: This is a summary of articles appearing in popular, business, and technical media referring to the impact of fuel costs and fuel efficiency on vehicle technology, development, and markets appearing during the last half of July, 2009. At the end of the report is a listing of all articles summarized, with hyperlinks to internet sources where available. Some hyperlinks may require free registration or paid subscriptions to access. The appearance of articles, products, opinions, humor (such as it is), and links in this summary does not constitute an endorsement of the same by the Washington State Department of Transportation. Photos and other artwork included in the report are either included with permission or are in the public domain. *The Hybrid Vehicle and Alternative Fuel Report* (ISSN 1946-1011) is compiled by Thomas L. R. Smith, Ph. D., Economic Analysis Section, Budget and Financial Analysis Office of the Washington State Department of Transportation. Contact the editor at smithtm@wsdot.wa.gov or (360) 705-7941. Contributions of articles and positive comments about *The Report* are welcome.

TABLE OF CONTENTS	
HYBRIDS.....	1
ALTERNATIVE FUELS.....	2
ASSORTED TECHNOLOGY	3
SUBSCRIBING TO THE HYBRID REPORT.....	4
ARTICLES REFERENCED	4

HYBRIDS

There are many reasons people buy hybrid cars. Saving money on gas and reducing carbon emissions are two of the popular reasons. It seems, though, according to an insurance group study, that hybrid owners may not be doing such a good job on the later. According to the study, hybrid owners put 25% more miles on their cars than non-hybrid owners, *USA Today* (2009) says. Apparently, hybrid drivers get more traffic tickets, too. Farmers Insurance Group has seen the study, which also claims that hybrid cars cost more to repair, but Farmers still plans to give discounts to hybrid car owners, according to *The Wall Street Journal* (Kuykendall, 2009). Brian Dwyer, a senior vice president at Farmers, says the insurance industry is not clear why hybrid owners drive more—did they drive more before and bought hybrids to reduce costs, or did they begin driving more after they bought hybrids? Mr. Dwyer also postulates that hybrid owners get more tickets because they tend to live and drive in urban areas where more tickets are generated.

An Israeli firm, ETV Motors, has developed a turbine-electric hybrid, *Reuters* reports (Rabinovitch, 2009). The test engine has been installed in a Toyota Prius. The company, based in Herzliya * just north of Tel Aviv, Israel, says their vehicle is a series hybrid, which means the turbine engine extends the range of the batteries. See ETV’s website [here](#).

A federal court judge has suspended the city of Boston’s rule requiring cab owners to buy new hybrids, according to a *Boston Globe* (Bierman, 2009) story. The cab owners claimed that they were willing to buy used hybrids to meet Boston’s rule, however, they fought the rules in court claiming Boston infringed on the federal

*The editor underwent “tests” at a hospital in Herzliya in 1991.

The Hybrid Vehicle and Alternative Fuel Report

July 30, 2009

2

government's authority to set fuel economy standards. This argument was used successfully by New York cabbies.

ALTERNATIVE FUELS

The Houston Chronicle ran a Bloomberg News (2009) article that oil company BP has ended its experiment with making biofuels from a tree called jatropha and will concentrate on other sources of biofuels such as switch grass, corn-cobs, and wood. BP was in a joint venture with D1 Oils. D1 will continue operating the jatropha biofuel plants originally set up in the joint venture.

Those who watch the oil industry say that Exxon Mobile's recent move into algae-based ethanol is very significant. Many critics of oil companies claim that their forays into alternative fuels and technologies are merely window dressing. But, a *New York Times* article says that market-watchers claim Exxon Mobile's move shows a significant change because the company was adamantly opposed to biofuels and biofuel research for so long. Just six months ago the CEO of Exxon said that they weren't investing in alternative fuel research because the technology was old and ineffective. Since then, Exxon has announced several new initiatives from the algae biofuel product to natural gas and electric car research (Howell, 2009). The move was also commented on by *Commodity Research Bureau* (2009) and *Commodity Online* (Crigger, 2009).

Ethanol is, of course, alcohol, so it seems appropriate that the Karl Strauss Brewing company is providing brewery waste products to GreenHouse for use in GreenHouse's home appliance-sized ethanol refinery, *MonagaBay.com* (2009) relays. GreenHouse's unit is designed for homes or small businesses. The refinery only needs 3 kilowatts of electricity to produce a gallon of ethanol. I am just summarizing the article, here. I really have no idea if that's good or bad, except that a gallon of ethanol apparently produces 23 kilowatts.

Carl Lund, a distinguished professor at the University of Buffalo, tells the *UB Reporter* that when looking at alternative sources of energy, you have to look at the raw material and work through the process that produces the fuel. That way, you can reveal the unintended consequences of various choices: things such as hydrogen fuel has to start with natural gas and petroleum wells and that biofuels from soy beans or corn would require all the agricultural land in the country for energy purposes. Professor Lund does say that since oil will run out in decades, we need to look at all possibilities (Hsu, 2009).

BP and DuPont are looking at new biofuel source called, variously, butanol or biobutanol, *The New York Times* says. Well, the fuel is not really that new. Early in the 20th century, it was a popular fuel source and the Japanese used butanol during World War II to fuel their air force. The fuel was very expensive to make, so other types of

The Hybrid Vehicle and Alternative Fuel Report

July 30, 2009

3

fuels pushed it out of the market. New technology and rising fuel prices are renewing interest in the fuel. Proponents of the fuel say that butanol has more energy than ethanol, while the ethanol people says that a bushel of corn will produce more ethanol than it will butanol (Galbraith, 2009).

According to Ecclesiastes 1:9, “there is nothing new under the sun,” unless you’re talking about SolarFuel made through a process called helioculture. *The Boston Globe* says a company called Joule Biotechnologies traps sunlight, carbon dioxide, water, and their own “proprietary organisms” to make this new fuel (Ailworth, 2009).

ASSORTED TECHNOLOGY

A new study by a University of California, Berkeley economist says that the electric cars will “account for 64% of U. S. light-vehicle sales by 2030 and comprise 24% of the U. S. light-vehicle fleet” (Becker, 2009). This study also says that increased use of electric vehicles will lower fuel imports, improve the trade deficit, increase employment, and lower health costs. The study has been covered in several news outlets, but you can see the actual report [here](#).

An issue with electric cars is they don’t have a very large cruising radius, so they will mostly be used as commuter vehicles. Element, the new “eco-chic” brand in the Starwood Hotels management group has a plan to help long-distance electric car travelers. The company will install charging stations at its new hotels. Element will put its first charge station in operation at its new Lexington, Massachusetts location (*Hotels*, 2009). The hotel’s charging station can accommodate electric cars and trucks, plug-in hybrids, and Segway scooters.

July 20th was the 40th anniversary of the first moon landing. This event brought out a *USA Today* (Jones, 2009) story about the first electric off-road vehicles: the Lunar Roving Vehicles used in three of the Apollo missions on the moon. The vehicles totaled 56 miles traveled. The vehicles were powered by a ¼ horsepower electric motor on each wheel.

Tesla Motors opened its Seattle dealership just in time for my birthday. The store opened on July 24th and had an open house on Saturday the 25th and Sunday the 26th. Customers were treated to rides in the \$100,000 Tesla roadster. The store is at 435 Westlake Ave. N. near Amazon’s headquarters, the *Seattle Times* reports (Dudley, 2009). I did not go to the open house. My wife said I could not have a \$100,000 roadster for my birthday. I went to a Mariner’s game instead.

A *Los Angeles Times* article we found by way of *The Detroit News* chronicles the difficulties that BMW has experienced in getting its electric Mini out to the public. There may be some lessons here for those interested in getting large numbers of electric

The Hybrid Vehicle and Alternative Fuel Report

July 30, 2009

4

vehicles into the fleet. Some of the problems BMW has had are: 1) their quick charging electric cable and home charging stations were not approved by Underwriter's Laboratories, 2) their home charging stations also needed to meet a patchwork of federal, state, and local safety and zoning regulations, and 3) problems coordinating installation with local contractors installing home systems. These problems have irritated customers and delayed getting as many cars in circulation as the company desired (Neil, 2009).

Two billion dollars in stimulus funds handled by the federal Department of Energy will go out to companies with the aim of pushing battery development for electric cars, *The Washington Post* (Mufson, 2009) posted. The article highlights some of the 122 companies and their projects that are lining up for the funds. Most of the companies are looking at lithium-ion battery manufacture.

SUBSCRIBING TO THE HYBRID REPORT. *The Hybrid Report* comes in two formats: a PDF version sent to your email address and a PDF living at a WSDOT website. If you want to receive the PDF click this link: [Hybrid Report PDF Distribution List](#). If you want to be notified when *The Report* is updated on the Website, click this link: [Hybrid Report Website Update Distribution List](#). If you want both, click this: [Hybrid Report Web and PDF Distribution Lists](#). Finally, if you are already on one of our subscription lists, but no longer want to receive this fine publication, click this link: [Remove from Distribution List](#). These links will activate an email; just send it without adding any text and modern technology will handle the rest.

ARTICLES REFERENCED

- Ailworth, E. 2009, July 27. Carbon dioxide, sun, and secret ingredient are firm's fuel recipe. *The Boston Globe*. Available: http://www.boston.com/business/technology/articles/2009/07/27/carbon_dioxide_sun_and_secret_ingredient_are_firms_fuel_recipe/
- Becker, T. A. 2009, July 14. *Electric vehicles in the United States: A new model with forecasts to 2030*. Berkely: Center for Entrepreneurship & Technology, University of California, Berkely. Available: http://cet.berkeley.edu/dl/CET_Technical_Brief_Economic.pdf
- Bierman, N. 2009, July 24. Judge blocks Hub's rule on hybrid cab fleet. *The Boston Globe*. Available: http://www.boston.com/news/local/massachusetts/articles/2009/07/24/judge_blocks_hubs_rule_on_hybrid_cab_fleet/
- Bloomberg News. 2009, July 17. BP exits jatropa biofuel project to focus on ethanol. *The Houston Chronicle*. Available: <http://www.chron.com/disp/story.mpl/business/6533823.html>
- Commodity Research Bureau. 2009, July 20. CME group ethanol outlook report. *Inside Futures*. Available: <http://www.insidefutures.com/article/107969/CME>

The Hybrid Vehicle and Alternative Fuel Report

July 30, 2009

5

- Crigger, L. 2009, July 20. Exxon Mobil and the future of algae-based biofuel. *CommodityOnline*. Available: <http://www.commodityonline.com/news/Exxon-Mobil-and-the-future-of-algae-based-biofuel-19706-3-1.html>
- Dudley, B. 2009, July 21. Roadster rides! Tesla Motors opens in Seattle this weekend. *Seattle Times*. Available: http://seattletimes.nwsourc.com/html/technologybrierdudleysblog/2009510959_roadster_rides_tesla_motors_op.html
- Galbraith, K. 2009, July 16. Biobutanol creeps towards the market. *The New York Times*. Available: <http://greeninc.blogs.nytimes.com/2009/07/16/biobutanol-creeps-toward-the-market/>
- Hotels*. 2009, July 20. Element to install electric car charging station. Available: <http://www.hotelsmag.com/article/CA6671983.html>
- Howell, K. 2009, July 16. Some see Exxon investments into alt energy signaling 'paradigm shift' for Big Oil. *The New York Times*. Available: <http://www.nytimes.com/gwire/2009/07/16/16greenwire-some-see-exxon-investments-into-alt-energy-sig-14080.html>
- Hsu, C. 2009, July 22. Start with raw material when assessing alternative fuels. *UB Reporter*. Available: http://www.buffalo.edu/ubreporter/2009_07_22/lund_lecture
- Jones, B. 2009, July 17. First electric off-roaders? Three Apollo lunar rovers let astronauts rack up 56 total moon miles. *USA Today*. Available: <http://content.usatoday.com/communities/driveon/post/2009/07/68494788/1>
- Kuykendall, L. 2009, July 27. US hybrid-auto insurance leader says being green pays. *The Wall Street Journal*. Available: <http://online.wsj.com/article/BT-CO-20090727-712209.html>
- MonagaBay.com* 2009, July 16. Beer waste to be used for home biofuel production. Available: http://news.mongabay.com/2009/0716-beer_biowaste.html
- Mufson, S. 2009, July 25. A jump-start for new battery plants. *The Washington Post*. Available: <http://www.washingtonpost.com/wp-dyn/content/article/2009/07/24/AR2009072403163.html>
- Neil, D. 2009, July 23. Critics attack BMW's electric Mini E. *The Detroit News*. Available: <http://www.detnews.com/article/20090723/AUTO03/907230353/1149/AUTO01/Critics-attack-BMW-s-electric-Mini-E>

The Hybrid Vehicle and Alternative Fuel Report July 30, 2009

6

Rabinovitch, A. 2009, July 21. Jet turbine could power hybrid electric car. *Reuters*.
Available: <http://www.reuters.com/article/GCA-GreenBusiness/idUSTRE56K1SC20090721>

USA Today. 2009, July 17. Hybrid car owners drive more and get more traffic tickets,
study finds. Available: <http://content.usatoday.com/communities/driveon/post/2009/07/68494710/1>