The Hybrid Vehicle and Alternative Fuel Report
The 10th Anniversary Edition
March 30, 2015

The fine print: This report 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. At the end of the report is a list of all articles summarized, with hyperlinks to internet sources where available. Some articles may require free registration or paid subscriptions to access. The Hybrid Vehicle and Alternative Fuel Report (ISSN: 1946-1011) is compiled, written, and edited by Thomas L. R. Smith, Ph. D., Economic Analysis Branch of the Budget and Financial Analysis Division, Washington State Department of Transportation. Contact The Hybrid Vehicle and Alternative Fuel Report’s editor at smithtm@wsdot.wa.gov or (360) 705-7941. Contributions of news items, original articles, positive comments about The Report, and cookies are welcome. Please send cookies. And not the computer kind.

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The Hybrid Report is ten years old! It happens every year at this time: The Hybrid Report is another year older and there does not seem to be anything we can do to stop it. With this issue, we celebrate ten years, a full decade, one tenth of a century, of publication. The first issue of The Report appeared in electronic inboxes the first day of April, 2005 under the title The Hybrid, Fuel, and Vehicle Report. Originally a monthly publication, we added an edition on the 15th of each month and slowly moved the publication date of the other edition to the 30th of the month, so we celebrate March 30th as our birthday. That way, when April 1st rolls around, readers will not mistake the Anniversary Edition for an April Fools’ joke. We could just as easily celebrate on the 15th of April, but this way we get our cards, presents (diamonds are appropriate for a 10th anniversary), and cake two weeks earlier.1 From a subscriber list of just eight coworkers, The Hybrid Report now goes to 740 people (that we know about) around the world. Out of that number, our friends at the National Security Agency2 tell us that about 20% of our subscribers actually open our emails and click on the links to The Report. A number of our subscribers also forward The Report to their friends and coworkers or post The Report on their websites and social media pages. Our subscription list includes readers from other state DOTs; other state, local, and federal government agencies; educational institutions around the country; several news organizations; environmental and consulting organizations; and members of the public. We are also listed in the International Serials Data System Register (the ISSN in the upper right hand corner) and at least three automakers and PRNewswire list us as “accredited media.” So, coming to you from our office suite high atop the Washington State Department of Transportation Headquarters Building in Olympia, Washington, it’s time for the Tenth Anniversary Edition of The Hybrid Vehicle and Alternative Fuel Report.

1 We assume there is a hold up at the post office, because we haven’t received any, yet.
2 The editor served in a Military Intelligence brigade his last two years in the Army. And yes, we know all about oxymora.
HYBRIDS

Sometimes, hybrid owners walk away from them without turning them off, since they don’t always have an engine noise to cue them that the vehicle is still on. For many hybrid owners, that just results in a minor inconvenience like running down the batteries. But if you do that in a garage, it can cause carbon monoxide to build up when the engine kicks back on after the batteries are depleted. General Motors is recalling 64,000 Chevy Volts to fix the problem, Automotive News (Colias, March 12, 2015) notes. At least two people have been injured from carbon monoxide build up. In addition to the warning chime that is on the Volt that sounds when a driver gets out of the vehicle without turning it off, Chevy will update software that will turn the vehicle off after idling for too long.

VW plans to concentrate on plug-in hybrids instead of pushing into electric vehicles, Automotive News Europe (Beene, March 12, 2015) says. VW will build plug-in versions of most models while they wait for better battery technology. The company thinks that fully-electric cars are too far off, but they should be able to electrify most of their cars as hybrids with little cost or effort. Once batteries are better, then VW thinks it will be well positioned for electric cars.

The CEO of high performance carmaker McLaren says that in ten years, half of their cars will be hybrid, Car Scoops (Tudose, March 14, 2015) scoops. Mike Flewitt said in an interview at the Geneva Autoshow says that one of the challenges to hybridization is that it adds weight to a car that depends on light weights. But the company says they will meet the challenge.

Illinois suspended its Alternate Fuels Rebate Program and will not take rebate applications for plug-in hybrid, electric vehicles, or other alternative fuel vehicles purchased in 2014, Charge Electric Vehicles Magazine (Brents, March 25, 2015) mentioned. The program, around since 1998, provided up to $4,000 in rebates to qualified applicants. The Illinois EPA did not provide a reason for suspending the program and said there are no plans to revive it.

Avis tries harder: The rental car company added 100 Toyota Yaris hybrid cars to its London fleet, Fleet World (Middleton, March 16, 2015) found. The Yaris, better known on this side of the pond as the Prius, is offered at Heathrow and Stanstead airports and locations in Central London. The cars are also exempt from London’s congestion charge. Avis plans to expand the Yaris fleet to Gatwick and Luton Airports.

A blind man in England was hit by a silent hybrid car while crossing the street. Twice. By the same car. At the same intersection, the Birmingham Mail (Authi, March 26, 2015) posted. Blind pedestrian Karl Denning stopped and listened for traffic before stepping into the street. It was not until he heard the Prius’s breaks squeal that he realized a car was coming, but by then it was too late. Mr. Denning was not hurt, so the driver apologized and both went their separate ways. A month later, crossing the same street,
the same driver hit the same pedestrian. He escaped serious injury the second time as well. Since Mr. Denning’s second performance as a Prius hood ornament, he has applied for and received a guide dog. Mr. Denning is also campaigning to have sound generators installed in silent vehicles. The European Union calls for devises to installed by 2021. With Mr. Denning’s track record, he could be hit several more times before then, so he would like them installed sooner.

In a related article, The Daily Mail (Doughty, March 25, 2015) reports that there was a 54% increase in accidents involving pedestrians and silent cars from 2012 to 2013 and that walkers are 40% more likely to be hit by a hybrid or electric than an internal combustion engine car. According to Guide Dogs, a charity that provides guide dogs in the United Kingdom, that even dogs have difficulty recognizing the hazard from silent vehicles.

ELECTRIC VEHICLES

While many jurisdictions in the United States are contemplating road users chargers and other fees placed on electric vehicles to make up for the loss of revenue from not paying gas tax, Japan is going to repay electric car drivers for some of their tolls, Japan Times (March 13, 2015) tells. The Ministry of Economy, Trade, and Industry wants to study charger use on Japan’s expressway and are offering rebates of 20,000 yen ($164) per month to a total of 60,000 yen ($492) to participants in the study. The study begins in April and continues to March 2016.

Toyota has issued a recall on its all-electric RAV4 because a software glitch inadvertently shifts the vehicle to neutral, International Business Times (Young, March 12, 2013) tells. The faulty parts were built for Toyota by Tesla. Tesla has not commented on the recall. Tesla also makes components for Daimler electric cars.

Car-sharing service Uber is testing BYD electric cars in Chicago, NDTV Gadgets (Reuters, March 14, 2015) gushes. UberX drivers can lease or buy the Chinese-made BYD e6 as part of the test. There are 25 BYD electric cars participating in the test in Chicago. Uber plans to expand the test to other cities.

Miami, Florida, was the site of the first Formula E race in the United States, Reuters (Adams, March 14, 2015) reported. Electric race cars, drivers, and fans turned up in Miami on March 14. The Formula E circuit began in Beijing last September. Ten cities around the world either have hosted or will host the race. Formula E race cars look like Formula 1 cars. A high-pitched whine comparable to a dentist’s drill replaces the roar of gasoline engines; however, Formula E cars achieve the same speeds as their Formula 1 counterparts. The purpose of Formula E racing is to serve as a test ground for ideas that may eventually find their way into regular cars.
The Provincial Government of British Columbia has announced an incentive program to encourage electric vehicles, *Global News* (Azpiri, March 17, 2015) gloats. Under the Government’s Scrap-It Program, anyone who trades in a car made before 2000 can get a $3,000 rebate. This is the second time the British Columbians have offered a rebate. When the last rebate ended, electric car sales dropped. However, there may have been other market forces at work.

Meanwhile, Professor John Axsen of Simon Fraser University says that rebates are not enough to encourage people to buy electric cars, *News 1130* (Abshire, March 24, 2015) elucidates. Dr. Axsen estimates that the British Columbian rebate program will double electric vehicle sales, but the Government should consider additional steps. The good doctor suggests the Province should consider adopting California’s Zero Emission Vehicle Mandate, which requires companies to market a certain percentage of zero emission vehicles in order to sell in the jurisdiction. Dr. Axsen says that about 1/3 of the Province’s car buyers would buy electric, or at least are interested in them, but the cars are not available.

Tesla can sell cars in New Jersey, once again, *Charged Electric Vehicle Magazine* (Morris, March 19, 2015) chases. Tesla sold cars in New Jersey until April 2014 when the Motor Vehicle Commission ruled that Tesla violated state law by selling vehicles direct to customers. The New Jersey legislature passed a new law and Governor Christie signed, allowing Tesla to sell cars in the state.

In order to stimulate or facilitate electric car growth, we must build a robust charging infrastructure, or so goes a pillar of faith among electric car supporters. But that may not be true according to a study published in *Transportation Research Part D: Transport and Environment*. The study asks if seeing public chargers makes the public more interested in buying them. It also answers, with “no.” According to the study, “Is awareness of public charging associated with consumer interest in plug-in vehicles?” (Bailey, Miele, & Axsen, May 2015), governments may have more impact, not in subsidizing charging networks, but in the cars themselves.

Electric car supporters want the robust charging infrastructure, mentioned above, to alleviate range anxiety. Tesla is countering range anxiety by a software upgrade to its cars that, in the words of Tesla CEO, “makes it almost impossible for a Model S driver to run out of range unintentionally” (Musk, quoted in Nelson, *Automotive News*, March 19, 2015). The software update provides two new features, Range Assurance and Trip Planner. One of the features communicates with the Tesla charging network and plans your next charge based on the availability of chargers. It will also warn drivers if their charge is low.

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3 That’s in Canada.

4 Math lesson: doubling a tiny number still gives you a tiny number, e.g., 1% x 2 = 2%. 

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Orange EV of Riverside, Missouri, and Kalmar Ottawa of Ottawa, Kansas, are teaming up to build a Zero-Emission, Electric Terminal Tractor, the companies announced in a press release. Kalmar Ottawa, which claims to have invented the terminal tractor\(^5\), will use Orange EV’s technology in their T2 tractor. Kalmar is offering incentives that reduce the price to make the vehicle competitive with diesel yard tractors.

Renault took a different tack to relieve range anxiety: it increased the range of its electric Zoe from 130 to nearly 150 miles, *Automotive News Europe* (Gain, March 27, 2008) said. Renault and Nissan plan to eventually extend the range of this vehicle and the Leaf to close to 200 miles.

It is also a tenet of faith that electric cars reduce greenhouse gas and fuel usage. But, according to *Smithsonian Magazine* (Zielinski, March 19, 2015), they also reduce the temperature of cities. This is due to the efficiency of gas engines verses electric motors. Gas engines are inefficient and most of the energy produced is lost as heat. Electric motors generate less heat. According to work done by Hunan University and Michigan State, buildings in urban areas don’t allow heat from cars and heating and air-conditioning systems to dissipate. By shifting to electric vehicles, Beijing, for example could reduce its average summer temperature by two degrees. You can read the actual report at *Scientific Reports*.

Cambridge Econometrics (March 9, 2015) conducted a study on electric cars in the United Kingdom to assess their potential impacts. Among the findings from *Fuelling Britain’s Future*: the potential to cut carbon dioxide emissions by up to 47%, reducing the total cost of vehicle ownership, and reduction of the import of oil by up to 40%. The report notes that as the price tag of cars rise, the other expenses of car ownership decline, with the total impact being positive for the individual owner and neutral to slightly positive to the economy as a whole.

Ecotricity Group in the United Kingdom is suing Tesla for interfering in negotiations with Ecotricity’s efforts to build a charging network, *Automotive News Europe* (Bloomberg, March 26, 2015) erupted. Both companies have been meeting with other companies that operate highway rest areas, but Ecotricity claims that Tesla has been encouraging companies to go back on agreements already established. A UK court ordered Tesla to present memoranda and meeting documents relevant to the case.

\(^5\) When we were in the business, we referred to these as yard dogs.
ALTERNATIVE FUELS

Intelligent Energy has developed a 134 horsepower fuel cell stack that could be used by automakers who license the technology, *Hybrid Cars* (Crowe, March 13, 2015) crowns. The fuel cell engine is intended to reduce the cost of fuel cells and can be mass produced. The company is working with Suzuki to make the systems in Japan.

A common criticism about alternative fuel vehicles is that they cost more than their internal combustion engine counterparts. Toyota, according to *Manufacturing* (Szal, March 16, 2015), wants to price its hydrogen vehicle to compete with diesel cars. When the hydrogen Mirai goes on the market sometime this year, it will cost $57,000, but Toyota hopes to bring the price down from that. The original estimate was that the car would cost $100,000.

The Ohio State University (OSU) has a compressed natural gas (CNG) fuel station in the works, *Columbus Business First* (Knox, March 17, 2015) fires. The university is taking bids to build the station and construction should begin in February 2016 for a November opening. OSU has four CNG buses and plans to add more CNG vehicles to its fleet. It is unknown if the station will be open to the public, or just for OSU’s use.

If you are thinking about converting your fleet, assuming you have a fleet, to propane autogas, *Government Fleet* (Mika, March 2015) floats nine questions you should ask. The first is whether to use vehicles that burn just propane or can switch between propane and regular fuels. Next, the fleet manager needs to decide if they will convert existing vehicles to propane or buy new vehicles. Other questions are where to fuel and where to service the vehicles. Fleets can run in-house operations or go outside. There are other questions, but you can read the article.

Daimler is investing €1 billion ($1.06 billion) to modernize the engine factory near Stuttgart where it will build fuel cell powertrains for Mercedes-Benz, *Automotive News Europe* (Reuters, March 18, 2015) says. The plant will also build hybrid powertrains as well. Daimler will make further investments in the engine facility in the coming years.

COMING TO A LOCATION NEAR YOU: The latest news on new charging stations which may or may not be somewhere close to you.

**United States:** Buellton, California, between Santa Barbara and Santa Maria just opened a ChargePoint charger at City Hall, the *Lompoc Record* (Pierce, March 11, 2015) recorded. Chargers will be charged 35¢ per kilowatt hour to charge.

The Asheville-Buncombe Technical Community College in Asheville, North Carolina, installed a DC quick charger the *Asheville Citizen-Times* (Staff, March 13,
2014) cites, and that is no bunk. The school also installed two level two chargers. The chargers are available to the public, but the school only plans to charge enough to recover costs.

The Oxford Hotel and Tetherow Lodges in Bend, Oregon, added three chargers at each hotel, *The Bend Bulletin* (Hamway, March 15, 2015) bounces. There are two Tesla chargers at each hotel and one charger available to the other 99%.

Staunton, Virginia’s city council gave Robert Pingry of Ryder/Pingry Properties permission to install two charging stations, *The News Virginian* (Law, March 14, 2015) said. Mr. Pingry does not know, yet, how much he will charge chargers. We are sure that once the chargers are installed, they will spring up in Staunton like flowers on the wall.

San Mateo, California’s city council authorized the construction of a Freedom Station at the Downtown Transit Center, the *San Mateo Patch* (Schiavone, March 18, 2015) dispatched. The Freedom Station by NRG eVgo consists of two Level 2 and two DC Fast chargers. The City is also looking at other sites for chargers.

Visitors to Boulder, Colorado, have three new ChargePoint chargers available at the Best Western Plus Boulder Inn, the *Longmont Times-Call* (Winkel, March 19, 2015) called. It is, reportedly, the first hotel in the county to install car chargers.

Rutland, Vermont, in the center of the State, opened a new DC Fast Charger, the Pulitzer Prize winning *Rutland Herald* (Colton, March 25, 2015) heralded. The Freedom Station was installed by Green Mountain Power and Drive Electric Vermont. Rutland County only has two fully-electric cars, but its strategic location in Vermont could assist other electric car owners.

**Around the World:** The Holiday Inn Express in Vernon, British Columbia, opened to new fast charging stations *Global News* (March 12, 2015) notes. The Okanogan Mountains hotel is letting the public charge for free.

Coquitlam, also in British Columbia, near Vancouver, installed two chargers at City Hall, *The Tri-City News* (Staff Writer, March 20, 2015) triangulated. Chargers can charge for two hour periods.

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6 It appears that the term “bunk” originated because the Representative for Buncombe County, North Carolina, was prone to exaggeration and falsehoods. When he spoke, it was often written off as “more from Buncombe” later shortened to “just more bunk,” or so my father told me. He was from Buncombe, so he should know.

7 Home of The Statler Brothers.

8 Lew DeWitt, “Flowers on the Wall,“ from The Statler Brothers’ *Flowers on the Wall*, Columbia, 1965, UNICHAPPELL MUSIC INC.

Point Cook Town Centre in Melbourne, Australia, opened a new charging station that is free to shoppers, the Wyndham Leader (Anderson, March 16, 2015) led.

Southern Railway installed five chargers at Three Bridges Station in Three Bridges, south of Gatwick Airport in England, the Crawley News (March 16, 2015) crowed. This is part of Southern’s plan to install 50 chargers at 13 stations on their system.

ARTICLES REFERENCED


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That is all.