

Re: Edwin Black – Internal Combustion

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- *From:* admin@xxxxxxxxxxxxxxxx
 - *Date:* 28 Dec 2006 11:41:54 –0800
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Bob Eld wrote:

<admin@xxxxxxxxxxxxxxxx> wrote in message
news:1167326823.168430.177500@xx

Cut...

Hydrogen is actually a fuel carrier from the past. The hydrogen fuel cell was invented in about 1838. The first hydrogen bus was in Australia in 1934. The first hydrogen tractor in US was an Allis–Chalmers in 1954. First US hydrogen van was made by GM in 1956. Today's modern German navy operates 5 hydrogen submarines. Hydrogen buses abound in Scandanvia. Hydrogen is just the fuel carrier of course. It must cracked or electrolyzed. When it does so in an ICE, that creates a conventional internal combustion machine. When hydrogen powers a fuel cell, it creates an electric car. I wonder if you have ever driven a hydrogen car.

Have you spoken to any the many scientists who are working on bacterial hydrogen. Craig Venter, mapper of the Human Genome is one of them. Pls see http://www.venterinstitute.org/press/news/news_2004_09_29.php. Also see pls http://www.theregister.co.uk/2005/04/26/bacteria_hydrogen_production/ or google "hydrogen bacteria."

cut....

Yes, I am well aware of hydrogen's history and view it as one of the many negatives. For example the fuel cell was invented 170 years ago, as you point out, yet it is still not developed as a commercial success. Why is that? Could it be that it really isn't very viable or competitive and that at every step along the way there have been superior alternatives? Look at the development of virtually every other motive device since then by comparison. All of these things developed in the 1930's through the '50's that you mention also illustrates hydrogen's short comings. If these things were actual viable machines and not experimental tinker–toys, at least some of them would have long ago become commercial successes, but that is not the

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case. For over 100 years refined petroleum products have fueled our society. As we move away from petroleum, it is convenient, high energy dense liquids like ethanol and bio-oils that will lead the way. Hydrogen is a dark horse for many reasons the most significant is its pitifully poor volumetric energy density requiring high pressure compression or energy wasteful liquification to even be considered. By contrast competing fuels can safely be carried in tin cans. That alone dooms hydrogen. Furthermore a simple analysis shows that it requires five times the infrastructure in terms of tanks, pipe lines, trucks, compressors, and the rest to handle, move and store hydrogen as it does convenient liquid fuels. How are you going to compete with that and who will pay for it? Believe what you want but the market will decide.

Honda's FCX-based Home Energy Station, GM's Sequel-based Home Energy Station, bacterial-generated hydrogen and many other form of distributed generation require no hydrogen infrastructure. Infrastructure is the big lie of alt fuel.

Hydrogen has not been developed over the decades for the same reason that electric was subsumed by petroleum interests. I suggest if you want to know the real details, you read Internal Combustion for energy history and future, Banking on Baghdad for the history of oil and petropolitics. Try <http://www.internalcombustionbook.com/> or <http://www.bankingonbaghdad.com>.

Hydrogen is hardly the only answer. It is one of many that weave in and out of efficiency questions, brown and green generation, the transportation sector, non-transport petroleum use, joules in joules out, and rational discussion of economics and so-called efficiency. All of the aforementioned must be filtered through petropolitics and petroterrorism. Truly, it is too complex to glibly ratiocinate in a snip and snap blog. A conversation would be helpful but that is not possible. Unfortunately.

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