

Re: What about producing water?

Source: <http://sci.tech-archive.net/Archive/sci.energy.hydrogen/2006-08/msg00557.html>

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 - *Date:* Thu, 17 Aug 2006 01:05:19 +0100
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"G. R. L. Cowan" wrote:

hhc314@xxxxxxxx wrote:

G. R. L. Cowan wrote:

(2) the hydrogen would be coming from water in the first place.

Why do you assume that. Virtually no hydrogen produced today comes from water, and hasn't been since the "water gas" or "producer's gas" process was obsoleted when most municipal "illuminating gas" plants shut-down during the early 1950s with the availability of natural gas.

Also, recall that the source of energy for the above hydrogen production processes employed the combustion of coke and coal, which produced a mixture of H₂ and CO. (As in "go and stick your head in the oven".)

Today, essentially no commercial quantities of hydrogen are produced from water, but are produced from the reformation of methane and various other hydrocarbons.

So the remaining question is: If you're going to produce your hydrogen from water, what is the energy source used to accomplish this decomposition? Nuclear? Oil? Coal? (The order of magnitude energy required to produce a useful quantity of hydrogen to support realistic transportation needs is clearly far beyond the practical capabilities of photo-voltaic hydrolysis.) Also, what happens to the carbon?

Should I guess that considerations such as the above are the same things that tempered you faith in hydrogen?

No, carbon-free energy obviously is very abundant.

It was more a matter of noticing that hydrogen plus containment is a lot heavier per kWh than, say, aluminum plus containment.

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A hypothetical aluminum-burning vehicle drive with a bicameral fuel tank so as to save the Al_2O_3 for sending back to the aluminum plant is at its heaviest when the car will no longer go, but that tank then is *still* lighter tank an equivalent hydrogen tank, because it is so much smaller.

That, and aluminum doesn't tend to mix with air and blow up upon escaping containment. If you frequent grocery stores, you'll know aluminum containment can be a thin cardboard box.

The fly in the ointment is that turning Al_2O_3 back into Al is hopelessly energy inefficient.

Graham

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