Re: Best Books on Hydrogen Future Possibilities

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- *From*: Don Lancaster <don@xxxxxxxxxx>
- *Date*: Thu, 03 Jan 2008 16:06:04 −0700

Gary wrote:

> I'm a total layman / novice. But for some reason I find myself thinking a lot about the possibilities of hydrogen.
>
> I'd like to get some books that explain the possibilities and obstacles for hydrogen. I'd like to avoid anything that is all hype but also avoid books that can't imagine a future that doesn't exist yet. Not looking for anything too technical, but I'm not stupid either, so if there is a little background in the chemestry needed to explain things, that't fine too.
>
> So, suggestions for the best books?
>
> Thanks,
> Gary

Here are the arguments against the hydrogen economy:

1. Terrestral hydrogen is ONLY an energy carrier or transfer media and NOT a substance capable of delivering net NEW BTU's to the on−the−books economy.

2. Terrestral hydrogen creation is inefficient as considerably more energy of usually much higher quality has to be input than is eventually returnable.

3. No large terrestral source of hydrogen gas is known. Water, of course, is a hydrogen sink and, by fundamental chemical energitics, is the worst possible feedstock.

4. The CONTAINED energy density of terrestral hydrogen by weight is a lot LESS than gasoline. And drops dramatically as the tank is emptied. The energy density of hydrogen gas by volume

is a ludicrous joke.

5. Virtually all bulk hydrogen is produced by methane reformation. And thus is EXTREMELY hydrocarbon dependent.

6. Hydrogen has the widest explosive range known, the least spark energy required for ignition, and has no known colorants or odorants. Its flame is often invisible or nearly so.

7. There is more hydrogen in a gallon of gasoline than there is in a gallon of liquid hydrogen.

8. No effective vehicle compatible means of hydrogen storage is known that is remotely as cheap, safe, dense, and convenient as carbon bonded hydrides.

9. No infrastructure exists for gaseous hydrogen distribution. Pipelines in particular raise major density and embrittlement issues.

10. Electrolysis from high value sources such as grid, wind, or pv is totally useless as a hydrogen source because of the staggering loss of exergy. There ALWAYS will be more intelligent things to do with the electricity.

11. Improper burning of hydrogen produces highly polluting nitrous oxides.

12. Terrestrial hydrogen is basically a POLLUTION AMPLIFIER that INCREASES the pollution of its underlying sources. It is utterly ludicrous to claim that hydrogen is in any manner, way, shape, or form "nonpolluting".

13. Hydrogen rots most metals through embrittlement.

14. "Carbon Neutral" solutions would appear better than "Carbon Free" because (A) A significant measure of the energy of most fuels is in its carbon fraction, (B) Carbon appears to be essential for convenient and safe room temperature liquids, and (C) Reformation is not required or else is simpler, cheaper, and wastes less energy.

15. An optimal hydrogen storage solution exists by carbon bonding as in heptane or iso−octane. Both of these room temperature liquids ain't broke.

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Many thanks,

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