

# Re: Noble metals in hydrogen energy

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- *From:* Fred Kasner <[fkasner@xxxxxxxxxxxxxx](mailto:fkasner@xxxxxxxxxxxxxx)>
  - *Date:* Fri, 25 Apr 2008 14:14:29 -0500
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Don Lancaster wrote:

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jai wrote:

Hi,  
I am working on separation chemistry of platinum noble metals, namely Pd, Rh, Ru. I learn that these metals are of wide interest in fuel cells, etc due to their hydrogen storage capacity. I have some queries regarding this.

Does anyone working on using these metals for hydrogen storage and energy?

cm

A storage medium (not very good storage at that) is not what very expensive Au, Pt, etc., are good for. LaNi<sub>5</sub> (lanthanum nickel five) is a good absorber of H<sub>2</sub> but still expensive.  
FK

The best hydrogen storage media are heptane and iso-octane.

## Re: Noble metals in hydrogen energy

Nothing else comes remotely close for storage density.  
Nor is anything ever likely to.

Don, what about the C load in that storage container? How do you combust only the H in the  $C_xH_y$  compound? The water cycle will take care of the heavier load of the  $H_2O$  in the atmosphere. But (and I don't believe that  $CO_2$  is the main cause of the global warming) how do you avoid producing too much additional  $CO_2$  if you want to use H as a fuel?  
FK

By sourcing the heptane or isooctane in a carbon neutral manner.

Carbon neutral makes infinitely more sense than carbon free because (1) the carbon appears to be essential for proven safe storage as a dense room temperature liquid, and (2) a significant portion of the energy is carbon based.

Carbon free ain't gonna hack it.

<http://www.tinaja.com/glib/morenrgf.pdf>

Carbon neutral? How? Almost all the claims of carbon neutrality are a snare and a delusion. As for  $CO_2$  sequestration I see this as a major disaster in the making. Remember the African lake that belched a big bubble of  $CO_2$  that killed several villages of people. I can see the same people who are scared to death about storage of nuclear reactor waste embracing storage of  $CO_2$  waste in the ground and not understanding how many people would die before a big emission bubble had diluted enough to no longer be a major danger to high density population regions. Swimming pools storage of nuclear waste will put off for a very long time the energy shortage problem. And during that time the inability to develop new biocides for bacteria and virii will reduce the world population enough to diminish the food and fuel limitation problems.

FK