Re: Solar−hydrogen home power system?

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From: Don Lancaster (*don_at_tinaja.com*)
Date: 10/18/04

Date: Sun, 17 Oct 2004 18:21:27 −0700

Glenn Martin wrote:
>
> *"Don Lancaster" <don@tinaja.com> wrote in message*
> *news:4172DB18.722DAB97@tinaja.com...*
> >
> > *Solar pv electricity is ridiculously too valuable to waste on hydrogen*
> > *generation.*
> > *The system would be a net energy sink and a net destroyer of gasoline.*
> >
> > *See http://www.tinaja.com/glib/energfun.pdf*
> >
>
> *Don, I'm confused here. Surely a method of storing excess power*
> *generation makes more sense than letting the daylight go to waste.*

Not when most of the value of the excess power is instantly destroyed,
as irrevocably happens during electrolysis.

Most PV
> *battery systems lose charge in relatively short order. A properly sealed*
> *hydrogen tank should hold its' contents for months if not years. This would*
> *allow you to 'store sunlight' as it were in the long days of the summer to*
> *fill out the short days of the winter.*
> *....and it could fuel leaf blowers!*

Such a tank would cost far more than the energy value of the hydrogen it
was holding.
A net energy sink is guaranteed.

Energy density of STP hydrogen is 2.7 watthours per liter.
Energy density of gasoline is 9000 watthours per liter.

>
> *Glenn Martin*

The value of a kilowatt hour of electicity is ridiculously higher than
the value of a kilowatt hour of unstored hydrogen gas. Because of a
fundamental thermodynamic property called "exergy", most of the value of

the electricity is instantly and irrevocably destroyed during electrolysis.

Electrolysis is exactly the same as 1:1 exchanging US dollars for Mexican pesos. It is wildly and laughingly unsuitable for high value electrical sources such as grid or pv solar.

Electricity NEVER gets cheap enough for electrolysis to make sense for bulk hydrogen energy aps.
There ALWAYS will be more intelligent uses for the electricity.

Synchronous grid storage is by far the most cost effective pv method today.

See http://www.tinaja.com/glib/energfun.pdf for a detailed analysis.

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Many thanks,
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Please visit my GURU's LAIR web site at http://www.tinaja.com