Re: Solar−hydrogen home power system?

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From: ZZBunker (*zzbunker_at_netscape.net*)
Date: 10/18/04

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william.mook@mokindustries.com (william mook) wrote in message
news:<407c5321.0410180340.4a40770e@posting.google.com>...
> Bob Suruncle <bob99sur@hotmail.com> wrote in message
news:<807I3KRJ38278.1268634259@anonymous.poster>...
> > In article <4172DB18.722DAB97@tinaja.com>
> > Don Lancaster <don@tinaja.com> wrote:
> > >
> > >
> > > 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
> > >
> > > −−
> > > Many thanks,
> > >
> > > Don Lancaster
> >
> > Does this mean that William Mook is out to lunch when he talks
> > about making hyrdrogen from solar panels?
>
> Mention my name and I appear! :)
>
> Okay, here's the deal, afaik with Mr. Lancaster. He's assuming at the
> outset that solar panels are $6 per watt.
>
> Assuming zero operating costs you still have time value of money to
> deal with.
>
> So, at 8% discount rate and say a 15 year lifespan, you've still got
> to pay 60 cents or something like that per year, to pay for the time
> value of money.

But that is not the time value of money, which is why the US Congress loses money, and the Stocks markets don't. That's the time value of a bank. Which is not money. Since you have no access to a bank, other that

what the bank insurance company allows. Which is
why it's usually called real estate by people with
jobs, and it's often called the unemployment line,
or the army by economists.

Since the discount rate is not an energy rate,
and can't be set to a fixed value for all
banks, by the idiots in the Fed.

The US discount rate is 90% railroad and farm subsidies,
not exchange rates. Which is why every 10 years
for the last 100 years, we've had to tell US bankers, that we're putting
you idiots and your idiotic Lawyers out−of−buiness
again, for your sheer malfeasance and cliff−hanger stupidity.

The energy rate is not what the kw−hr meter
on a bank reads.
It's what the odometer reads on the meter readers truck.

>
> Periods of low interest and low government spending − will have lower
> discount rates and rapid growth in energy use. Periods of high
> interest and high government spending − will have higher discount
> rates and slowing or downturn in energy use. But 8% is a good average
> number. Higher rates will attract lots of capital. Lower rates will
> be a non−starter.
>
> Note I said SPENDING − not taxing − so tax breaks without some sort of
> plan to reduce spending won't help. Nixon learned that, and so will
> Bush if he makes it to a second term.
>
> So, at $6 per watt you're paying 60 cents a year for your fixed
> capital cost hardware.
>
> Now, the sun only shines so many hours a year. Somewhere between
> 1,400 and 2,400 hours in most places. So each watt of installed
> capacity produces between 1.4 and 2.4 kWh.
>
> Once you have your time value of money and your insolation level, you
> can figure the cost of your energy;
>
> $0.30 per kWh − if each watt produces 2 kWh of energy per year −
> which can be more or less depending on insolation and discount rates.
>
> Now, each watt over the course of its 15 year life will this $0.30 per
> kWh energy will total 30 kWh costing a grand total of $9.00 ($6.00 for
> the capital cost $3.00 for th etime value of money cost.)

> *>*
> *> Fuel costs for conventional energy are around $0.02 per kWh. So, this*
> *> adds up to $0.60 for 30 kWh for fuel.*
> *>*
> *> Now it costs energy to make a thing − and energy is something capital*
> *> owners spend their interest payments on. So, part of that $9.00 buys*
> *> energy. If we spend more than 6.7% of our economy on fuel − we will*
> *> have a net energy loss with these numbers (we've omitted a lot of*
> *> other costs that are low, but not zero − so let's say that 6.7% of the*
> *> economy is energy related to acount for that)*
> *>*
> *> And that's what Don is getting at I think.*
> *>*
> *> Now, lookee what happens when the numbers are $0.06 per watt instead*
> *> of $6.00! All the costs are 1/100th the costs calculated above so we*
> *> can say*
> *>*
> *>*
> *> 30 kWh $0.09 −− $0.003 per kWh −*
> *>*
> *> This is 15% the cost of fuel alone in power generation. Clearly*
> *> energy made at this price is a benefit! We take 6.7% of the $0.09 and*
> *> divide it by the 30 watts and add this correction to the cost as above*
> *> − we're still ahead of course. This is just a correction term when*
> *> the prices are this low.*
> *>*
> *> So, Don's statements, if made clearly and concisely − complete with*
> *> all the assumptions he's making and the logcial process spelled out*
> *> once and for all − can be converted into a price point that must be*
> *> achieved by PV for hydrogen to make sense. And when you do that −*
> *> following the numbers I've given here − (and reasonable people can*
> *> disagree with what the real number is precisely) − you end up with a*
> *> number like $0.60 per peak watt, for hydrogen. For other markets you*
> *> have;*
> *>*
> *> $60.00 per peak watt − price of PV at the outset of the technology*
> *> $6.00 per peak watt − current price of PV*
> *> $1.85 per peak watt − without battery − utility fill in during*
> *> day*
> *> $1.85 per peak watt −electric utility (must include battery)*
> *> $0.60 per peak watt − hydrogen production (must include*
> *> electrolyzer)*
> *> $0.35 per peak watt − synthetic oil production (must include*
> *> reactors)*
> *> $0.18 per peak watt − synthetic oil from carbon−dioxide*
> *>*
> *> So, what if you achieve $0.06 per peak watt? What then? Well, you*
> *> end up with $8.90 per barrel synthetic oil from carbon dioxide. And a*
> *> change in the way the world thinks about solar energy.*
> *>*
> *>*

> >
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