Re: En Nahud, Sudan yesterday

Source: http://sci.tech−archive.net/Archive/sci.astro/2007−02/msg00148.html

- *From*: "gb6724@xxxxxxxxx" <gb6724@xxxxxxxxx>
- *Date*: 6 Feb 2007 09:12:02 −0800

On Feb 6, 10:00 am, "gb6...@xxxxxxxxx" <gb6...@xxxxxxxxx> wrote:

> On Feb 6, 9:49 am, "gb6...@xxxxxxxxx" <gb6...@xxxxxxxxx> wrote:
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> > On Feb 6, 9:22 am, "gb6...@xxxxxxxxx" <gb6...@xxxxxxxxx> wrote:
> >
> > > Bush sees one thing, a simple logic can tell otherwise.
> > >
> > > A gas engine is stronger than an electric.
> > >
> > > Fuel cell technology is 60 percent efficient, meaning the
> > > energy
> > > produced by the electric engine powered by hydrogen fuel
> > > cell
> > > (producing electricity out of hydrogen) could be used to
> > > generate
> > > 60 percent of the hydrogen back.
> > >
> > > Clearly elementary school kids can see that a gasoline engine
> > > is more powerful than an electric engine. When hydrogen
> > > produces
> > > electricity, the electricity is used for running an electric
> > > motor.

But since hydrogen can be used as a replacement to gasoline as hydrogen gas is highly explosive as oline gas, a burning hydrogen
is expected to produce multiples of energy compared to the power
of an electric engine.

The only reason hydrogen is not used is because its production
in a chemical plant is more expensive that the price of gas (roughly double).

Simple assumptions:

An engine burning hydrogen gas produces more energy than an
electric engine.

A lot of processes done in a chemical factory (including handling,
the cost to maintain a company, taxes, salaries, packaging, delivery costs can be avoided if the hydrogen is produced inside
a car by getting it from water using the energy of the hydrogen
powered combustion engine via a powerful electrolysis).

The produced hydrogen gas from the electrolysis fed directly to the combustion engine (no need to compress and
store the hydrogen as liquid, this too saves cost and energy).

One can calculate the overall energy equivalent to a full tank of gas.

A full tank of gas is equivalent to 5 times the size (but much lighter) liquid hydrogen gas tank. Liquid hydrogen is measured by

the kilogram. The output is clean electric energy. Its cost to fill using current technologies is more than double to gasoline,
and the output energy may be sufficiently strong, but has weaker
engine in terms of electric horsepower than a gasoline engine.
Electric hydrogen fuel cell technology is used in some busses in Chicago.

Simple logic: If hydrogen can be used as a replacement to gasoline and produce the same power, then a combustion engine's power should produce more energy than an electric engine. True or false? True.

Believe in the truth, not in the lie.

So, we have a combustion engine running on hydrogen gas which can produce more energy than the energy of a 'running'
fuel−cell engine.

A full tank of gas would burn in roughly the same time if using fuel cell or burning the hydrogen as gas, in both cases the full tank may need to be larger than gasoline tanks for storage.

The energy produced by this engine is clearly not strong enough to reproduce the same amount of hydrogen in a fuel cell−driven electric engine, but I question the same for a much more powerful combustion engine where the hydrogen gas that is highly explosive burns. I am using the power of exploding hydrogen gas, not an electrical or a chemical, but the energy derived from an exploding power of hydrogen gas that runs the engine as the exploding power of gasoline. One uses very little hydrogen gas to produce a powerful explosion that drives the combustion engine at high power.

There is no perpetual mobile here as energy exists and 'not converted', but uses an existing resourse and comes from burning hydrogen (which is highly explosive and this explosive power is used to run a combustion engine).

The binding energy of H and O depends on a lot of environmental factors.

For example, one can extract water out of air. Air has humidity. To extract this water, air needs to be compressed sufficiently. That's how air conditioners work. During summer in high heats, the air conditioner produces a lot of water. It is easier to extract water in the summer from the air by compressing the air. At some occasions, water is easier to extract than in others from the air, and water is easier extracted when it is a warmer humid air by compression, meaning less energy is needed to produce water from air by compression if the air is warm and humid. An ordinary air conditioner can extract an impressing amount of water from the air if the air is heated but not overheated 50 percent humidity and 50 degrees Celcius the water flows from the air conditioner, that is when air conditioners can often burn out when running at maximum power in very hot places. But even in Nevada where it can be 60 degrees Celsius in the Summer and hardly any humidity, the heat allows water to come as a waste product from an air conditioner (that 10 percent humidity just pours like water in the 60C temperature, and doesn't sit around for years like cactuses.)

Energy even for electrolysis depends on the environment. Very cold air cannot be used to extract water from air, or a lot more energy is needed for compressing the air to get water. Some environmental circumstances are better than others for using little energy to gain access to the needed resource, like hydrogen in the air or water.

One bases this technology based on an existing car, and intends to replace the power with hydrogen gas. A running motor produces heat, and this heat is used as a heater in cars. The heat of the motor can be used to warm the air so water can be extracted from the air at a needed speed, even when humidity in the air is 10%.

Of course this car is designed to hold water in the gas tank, so if it all goes dry, one would rely on having to pump water into the car's gasoline tank.

Yes it is possible with energy to extract water from the air.

Yes it is possible using electricity to produce hydrogen out of water (at 60 percent energy efficiency).

Yes it is possible to use hydrogen gas as a replacement for gasoline engines.

Yes a combustion engine is more powerful than an electric engine (for the same amount of fuel). As being more powerful, it can make up for that 40 percent 'electric' efficiency, as the power of exploding hydrogen for an engine is stronger than the power of an electric current. Here energy is burned, there it flows. There is a difference in energy output.

Now energy as electric, and energy as burning/ combustion. What is the difference?

Electric energy is stored as a differential, like a battery, burning hydrogen is not the same.

> The most important is that the two have nothing
> to do with each other. Fuel cell cannot be compared
> to burning hydrogen. One cannot have the same
> formula. However the combustion energy of hydrogen
> since more explosive, more powerful as a chemical
> process, should produce enough for a specific
> need to extract hydrogen from the air.

> One takes the simple facts we all observed in life:
>
> An explosive energy is a car produced by gasoline
> and replacable by the highly explosive hydrogen gas,
> should produce more mechanical energy then electric
> engines in terms of horsepower.
>
> One can produce energy by means of battery and
> electricity, gets a cleaner environment, or one can
> burn fuel or hydrogen and get similar and higher
> horsepower than electric motors.
>
> Simple observation. This is more powerful.
> That is 60 percent energy efficient. Use this
> to make up for the energy loss, as this is more
> powerful this way.

Even Bush could understand that burning hydrogen
produces more horsepower than an electric
engine, and yet fuel cell storing hydrogen needs
a big gas tank to get the energy of a bus with
compatible energy capabilities (sufficient speed,
distance capabilities as busses that go with
conventional gasolene).

The burning energy of hydrogen produces the same
or more power as gasoline. It burns the same amounts
of kilograms as gasoline in a car's engine, meaning
one needs to produce 50 kilograms of hydrogen to
run a car's combustion engine and use 9 liters (kilograms)
of fuel per 100 kilometers on average.

Comparing, with hydrogen fuel cell, the same amount
of fuel can be used to produce the same amount of
distance with a full tank, but with less horsepower.

If we have more horsepower, we have more energy,
we have multiples of energy (200 horsepower vs.
60).

It means we could have roughly 3 times the horsepower

when using hydrogen as a combustion. That is more energy output than what was needed to produce the hydrogen.

I am not arguing about a zero point energy where everything is about beating the zero point energy of perpetual machines. I am saying that burning hydrogen is a lot more powerful than building fuel cell batteries.

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