

Re: Solid oxide fuel cell car?

Source: <http://sci.tech-archive.net/Archive/sci.energy.hydrogen/2006-03/msg00026.html>

- *From:* <d>
 - *Date:* Mon, 13 Mar 2006 21:17:23 -0600
-

I could dig up some links but the advantage of solid oxide over membrane fuel cells is the ability to internally reform fuel.

You need water as the source of hydrogen. The fuel cell combine oxygen ions with the hydrogen regenerating the water.

"Dan Bloomquist" <public21@xxxxxxxxxxxx> wrote in message
[news:YTpRf.2723\\$kg.1627@xxxxxxxxxxxxxxxxxxxx](mailto:news:YTpRf.2723$kg.1627@xxxxxxxxxxxxxxxxxxxx)

d wrote:

Internally generated H₂O underdoes the following reaction:

$\text{CO} + \text{H}_2\text{O} = \text{CO}_2 + \text{H}_2$ which is driven by internally generated heat.

It is the same type reaction that allow reformation of CH₃ to H₂ in

natural

gas produced H₂ gas. It also the same type reaction that allows

cellulose

and carbohydrates to be converted into CO and H₂ in a wood gasifier.

Is there anyone around here with fuel cell expertise?

As I recall it is $2\text{CO} + \text{O}_2$ in the SOFC and $2\text{H}_2 + \text{O}_2$. I don't recall 'reformation' taking place in the cell. But I could be wrong as I'm not checking.

Next expert?

--

Re: Solid oxide fuel cell car?

"We need an energy policy that encourages consumption"
George W. Bush.

"Conservation may be a sign of personal virtue, but it is not a
sufficient basis for a sound, comprehensive energy policy."
Vice President Dick Cheney