Re: High voltage to power electric cars.

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- *From*: John Larkin <jjlarkin@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
- *Date*: Sat, 10 May 2008 13:07:04 −0700

On Sat, 10 May 2008 12:04:07 −0700 (PDT), "sinebar@xxxxxxxxxxxxx"
<sinebar@xxxxxxxxxxxxx> wrote:

> Please bear in mind that I am not an electrical engineer so my
> knowlege is somewhat limited. Now my question.
> I presume that storing high voltage at low current is more efficient
> than storing low voltage at high current?

Not really. There's a very wide voltage range over which electronic
chargers and motor controllers can work well.

> I also presume that
> capacitors can be charged much faster than a lead acid battery?

Only because capacitors store such a tiny amount of energy compared to
batteries.

What matters is joules (or horespower−hours) per pound and per cubic
foot. Changing the voltage rating of a capacitor or of a battery
doesn't materially alter that ratio [1], and batteries are hugely
better than caps, by a factor ballpark 1000:1.

John

[1] any bunch of batteries, or of capacitors, can be connected in
series (high voltage, low current) or in parallel (opposites) but the
energy storage capacity doesn't change. There's no free lunch.

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