Subject: OT: Cars, climate, and stuff . . . Posted by Sarah on Wed, 06 Jun 2007 05:41:20 GMT

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Saw two interesting documentaries recently on HBO related to some of our recent discussions.

One was "Who Killed the Electric Car?" which is just fascinating. I had no idea this thing ever happened, but they looked pretty cool. I think they had a winner there, which of course turns out to be the problem. Definitely worth a rent.

The other film I think was a "made for HBO." I'm not sure, but it was called "Too Hot Not to Handle." I was just about to turn it off after the first half hour of depressing climate change stuff, but then the second half switched to some really encouraging updates on the state of the various alternatives to fossil fuels. My personal favorite was solar, and it seems like perhaps solar technology is a lot farther along than I imagined.

Maybe some of you guys know something about solar and can tell me what you think of this . . . one of the solar scientists said that an array of solar panels a hundred miles square in one of our southwest deserts would fill the electrical demands of the entire USA! I realize that's a large chunk of desert, but if that kind of output is really possible, seems like a small sacrifice.

Here comes the sun, doot n doo doo . . .

S

Subject: Re: OT: Cars, climate, and stuff . . . Posted by dc[3] on Wed, 06 Jun 2007 06:03:18 GMT View Forum Message <> Reply to Message

I wish I could find the sources, but a lot of people are giving up on photovoltaic panels. They simply take too much energy to make and use too much rare materials, for the amount of energy they produce in their lifetime.

Up here in the Mojave, there is a field of mirrors that direct sunlight to a central tower where the heat makes steam which drives a turbine.

Looks like a great idea to me.

DC

btw, We owned several Saturns and know a bit about the electric

car saga from someone who serviced them. They were cool little cars, but very limited range and very expensive batteries to replace. Really kind of a technology dead-end. I think something like that will be useful at some point for an urban sort of car. "Sarah" <sarahjane@sarahtonin.com> wrote: >Saw two interesting documentaries recently on HBO related to some of our >recent discussions. >One was "Who Killed the Electric Car?" which is just fascinating. I had >idea this thing ever happened, but they looked pretty cool. I think they >had a winner there, which of course turns out to be the problem. Definitely >worth a rent. >The other film I think was a "made for HBO." I'm not sure, but it was >called "Too Hot Not to Handle." I was just about to turn it off after the >first half hour of depressing climate change stuff, but then the second half >switched to some really encouraging updates on the state of the various >alternatives to fossil fuels. My personal favorite was solar, and it seems >like perhaps solar technology is a lot farther along than I imagined. >Maybe some of you guys know something about solar and can tell me what you >think of this . . . one of the solar scientists said that an array of solar >panels a hundred miles square in one of our southwest deserts would fill >electrical demands of the entire USA! I realize that's a large chunk of >desert, but if that kind of output is really possible, seems like a small >sacrifice. >Here comes the sun, doot n doo doo . . .

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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Neil on Wed, 06 Jun 2007 06:33:11 GMT

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- 1.) A hundred square miles is NOTHING, expecially here in Texas; if what you say is true, there's no reason we couldn't power the entire U.S., plus sell solar energy to Canada & Mexico, by building a single giant solar array between El Paso or Van Horn, and Midland/Odessa.
- 2.) How much would it cost to build said solar array?

Neil

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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Sarah on Wed, 06 Jun 2007 06:40:11 GMT View Forum Message <> Reply to Message

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S

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"DC" <dc@spammersinhell.com> wrote in message news:46664e26$1@linux...
> I wish I could find the sources, but a lot of people are giving up
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>>S
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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Sarah on Wed, 06 Jun 2007 06:41:48 GMT

Well, you basically had the same question I did, which was, "If this is true, why aren't we doing it?!" I have no idea of the cost. I recorded the show though, so if they don't talk about cost there, I can at least get the names of the people proposing this.

S

```
"Neil" <OIUOIU@OIU.com> wrote in message news:46665527$1@linux...
> 1.) A hundred square miles is NOTHING, expecially here in Texas;
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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Deej [4] on Wed, 06 Jun 2007 07:12:09 GMT

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100 sq. miles is a lot of ground to cover. Kansas is 400 miles E/W and 200 miles N/S so picture this array covering 1/6 of an area the size of Kansas. Now picture how this would change the entire ecosystem of an area this size. Now picture a a few hundred ELF sabatouers in dune buggies with shotguns loaded with .00 buckshot and/or an equal number of doofusses (doofi???.....I never can decide) with 22's goin' "Look Jethro!!!......big shiny targets!!! hyuk!!! hyuk!!!!

Of course, I guess we could arm the perimeter of this thing with a few Ageis rotary cannons with interlocking fields of fire set to target on a movement censor and pretty much solve that problem..

sorry......just thought I'd add a bit of surreality to a perfectly logical thread.....

I haven't been over to the hot springs for my lithium soak in three days.....sorry.....

;0)

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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Sarah on Wed, 06 Jun 2007 08:23:53 GMT View Forum Message <> Reply to Message

I think it would be doofii.

S

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"DJ" <www.aarrrrggghhh!!!.com> wrote in message news:46665ffe@linux...
> 100 sg. miles is a lot of ground to cover. Kansas is 400 miles E/W and 200
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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Sarah on Wed, 06 Jun 2007 08:54:31 GMT View Forum Message <> Reply to Message

Oh, hang on . . . just noticed you said "a hundred square miles" . . . no, a hundred miles square, as in each side of the square is a hundred miles. But obviously, this doesn't mean necessarily all in one place. This is the guy who put this idea forth in the film http://www.mcdonough.com/full.htm Clearly a damn hippie out to destroy the economy.

Anyway, if you see the movie, there are a number of scientists talking about the state of solar power. Anyway, it was nice to see a climate change film that was encouraging in terms of alternatives.

S

"Sarah" <sarahjane@sarahtonin.com> wrote in message news:466658df\$1@linux...
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Subject: Re: Cars, climate, and stuff . . . Posted by Sarah on Wed, 06 Jun 2007 09:04:54 GMT View Forum Message <> Reply to Message

Good grief, there might be money to be made in this stuff . . .

http://www.wired.com/science/discoveries/news/2001/07/45056

S

"Sarah" <sarahjane@sarahtonin.com> wrote in message news:46664ab4@linux...

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Subject: Re: Cars, climate, and stuff . . . Posted by Sarah on Wed, 06 Jun 2007 09:26:43 GMT

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Sorry . . . got excited and did a little searching . . . heh.

http://www.prismsolar.com/

http://www.nanosolar.com/

http://www.lhup.edu/~dsimanek/solar.htm

http://www.ev1.org/

Oh, it just goes on and on. I guess you guys are capable of your own searches if you're interested. :)

S

Subject: Re: OT: Cars, climate, and stuff . . . Posted by dc[3] on Wed, 06 Jun 2007 14:14:00 GMT View Forum Message <> Reply to Message

I think they had leased out all the ones they had, but the lack of demand may refer to "enough demand to make full production possible". There are real issues with battery powered cars. They were a test bed and for that I think they did a good job.

DC

"Sarah" <sarahjane@sarahtonin.com> wrote:

>That sounds interesting (the mirrors thing.)

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Subject: Re: OT: Cars, climate, and stuff . . . Posted by wireline[12] on Wed, 06 Jun 2007 14:38:38 GMT View Forum Message <> Reply to Message

A great idea, unless you happen to be a land owner or actually live in Midland (like I do)...what you are considering here is either some taxing entity buying up a tremendous amount of acreage or just going in to take it...either way the cost would be astronomical (pun intended)...

Then factor in the idea that a solar collector must be kept relatively dust and dirt free to work...if you've ever been out here, you know that is impossible...even something as relatively simple as the Very Large Array telescopes in Soccorro NM can be a maintenance nightmare, and they don't rely on photo-electrical transduction.

As far as cost - i think start off at \$100 billion for just the land...then

factor in the cost of researching then actually developing something that does not currently exist and may or may not be feasible or even possible.

I like Deej's idea of interlocking phase cannons though...

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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Jamie K on Wed, 06 Jun 2007 15:22:33 GMT View Forum Message <> Reply to Message

We're building a large solar power plant in Colorado right now. Large plants can be cool for utilities, either direct photo-voltaic or mirrors powering a steam turbine.

Our plant will be PV but I think the turbine idea has advantages for a large plant.

The cool thing about PV though, is it doesn't have to be large in one location. Sure, you could buy 100 square miles and cover it, but you don't need to. You can split it up and distribute it throughout the demand area. So in Colorado, we also have a program to encourage people to install grid-tied solar PV systems.

We have decent solar exposure here. We also have a lot of rooftops out in the sunshine doing nothing but holding up shingles, tar and such.

By putting PV up on those rooftops we see multiple benefits:

1) We don't need to buy ANY additional land for solar.

- 2) We can use all that available rooftop sunshine to generate power.
- 3) At the same time we can shade the buildings below.
- 4) Building owners who want to make a PV investment can earn money over time on that investment by covering their own power needs and selling the excess to the power company.

It's fun to watch an electric meter run backwards!

5) We can avoid building other power plants, such as coal, to handle peak demand. Peak demand happens here primarily to run air conditioning, which is conveniently needed when the sun is out.

We cover that demand without generating pollution.

- 6) A distributed power system is less of a target for terrorism. You can't blow up every rooftop.
- 7) A distributed power system is more efficient, it generates the electricity where it's needed with less transmission loss.

Cheers,

-Jamie

www.JamieKrutz.com

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>>>> Definitely
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>>> panels a hundred miles square in one of our southwest deserts would fill
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>>> electrical demands of the entire USA! I realize that's a large chunk
> of
>>>> desert, but if that kind of output is really possible, seems like a small
>>>> sacrifice.
>>>>
>>>> Here comes the sun, doot n doo doo . . .
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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Jamie K on Wed, 06 Jun 2007 15:25:25 GMT View Forum Message <> Reply to Message

### DC wrote:

- > I wish I could find the sources, but a lot of people are giving up
- > on photovoltaic panels. They simply take too much energy to make
- > and use too much rare materials, for the amount of energy they
- > produce in their lifetime.

That's not true, actually.

Solar panels are a big win, energy-wise. The current standard is silicon-based. Thin film tech is also looking promising.

You'd better find the source so we can examine it under the light.

- > Up here in the Mojave, there is a field of mirrors that direct sunlight
- > to a central tower where the heat makes steam which drives a turbine.
- > Looks like a great idea to me.

That is a great idea for large plants.

## Cheers.

-Jamie

www.JamieKrutz.com

> DC

>

- > btw, We owned several Saturns and know a bit about the electric
- > car saga from someone who serviced them.
- > They were cool little cars, but very limited range and very expensive
- > batteries to replace. Really kind of a technology dead-end.
- > I think something like that will be useful at some point for an urban
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>> S
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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Jamie K on Wed, 06 Jun 2007 16:01:42 GMT

#### DC wrote:

- > I think they had leased out all the ones they had, but the lack of
- > demand may refer to "enough demand to make full production
- > possible". There are real issues with battery powered cars.
- > They were a test bed and for that I think they did a good
- > job.

Actually, some of the electric cars from that period (the ones that weren't deliberately crushed) are still running.

If you want to buy a Toyota RAV 4 EV from that time period, they're now going for around \$50,000 on ebay. Used.

Yes, there is a demand. :^)

The California electric cars from that period were (and those that weren't crushed still are) practical vehicles for the people that drove/drive them.

Since then, Chevron has gotten a hold of the battery patent and there is some talk that they may be making it difficult for car companies to use those proven batteries for future EVs.

But several other battery approaches are coming on strong based on lithium chemistry. Versions of these are being used in the upcoming Tesla (http://www.physorg.com/news94479761.html)and Phoenix (http://phoenixmotorcars.com/models/fleet-photos.html) vehicles. And maybe in the Zap X (http://www.zapworld.com/ZAPWorld.aspx?id=4560).

I'm not sure what batteries will be in the XM200 or XS500 (http://www.milesautomotive.com/showroom xs200.php).

The more affordable Zap Xebra (http://www.zapworld.com/ZAPWorld.aspx?id=188) and Zebra truck (http://www.zapworld.com/ZAPWorld.aspx?id=390) use lead/acid batteries. That's good enough for short trip, low speed city driving.

The Xebras are available right now. The others should become available over the next year or two.

Cheers,
-Jamie
www.JamieKrutz.com

> DC

```
>
> "Sarah" <sarahjane@sarahtonin.com> wrote:
>> That sounds interesting (the mirrors thing.)
>>
>> According to the movie, GM was not using the most up to date battery
>> options, probably because they'd already decided to scrap the model,
>> claiming lack of demand. Su-u-u-ure. Lack of demand. That makes sense.
>>
>> S
>>
>>
>> "DC" <dc@spammersinhell.com> wrote in message news:46664e26$1@linux...
>>> I wish I could find the sources, but a lot of people are giving up
>>> on photovoltaic panels. They simply take too much energy to make
>>> and use too much rare materials, for the amount of energy they
>>> produce in their lifetime.
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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Deej [4] on Wed, 06 Jun 2007 17:06:21 GMT View Forum Message <> Reply to Message

I like the idea Sarah, but I can tell you for a fact that every location on federal or state lands where this can be accomplished will require an EIS (environmental impact statement), and AE (archeological evaluation) and, depending on where it is, certain other bureaucratic regulations.....and would have to be bulldozed over the concerns of environmental groups because of an endangered cactus or bird/mouse/spider/fish/cricket or it will be almost as time consuming and expensive as buying or leasing these tracts from private landowners. If you go with the private sector, the first thing they will want is a lease with an expiration date. It will be hard to get something with an option o nenew every 20 years or so because they will want to tie the price of renewal to some kind of unrealistic \*future value\* index that they will dream up themselves and then try to justify by quoting the escalating prices of real estate in Aspen or Jackson Hole. Trust me.....I have been there/done that with wind turbine generators and methane gas wells.....oh yeah....they are going to want a certain number of KWH free of charge that would be enough for them to sell back to the grid and make a tidy annual income, tax free.

I'm not saying we shouldn't look into it though, just that it will be a \*lot\* more expensive and difficult than perhaps it should be. when all is said and done, putting these on federal or state lands would probably, in the end, be the most cost effective way acquire the land......as long as the grid itself was privately owned. If it becomes federally owned, our utility bills will become a tax and setting up a private solar array will not be possible because it will be considered tax evasion..

# Deej

```
"Sarah" <sarahjane@sarahtonin.com> wrote in message news:466677f9$1@linux...
> Oh, hang on . . . just noticed you said "a hundred square miles" . . . no,
> a hundred miles square, as in each side of the square is a hundred miles.
> But obviously, this doesn't mean necessarily all in one place. This is
> the guy who put this idea forth in the film
> http://www.mcdonough.com/full.htm Clearly a damn hippie out to destroy the
> economy.
> Anyway, if you see the movie, there are a number of scientists talking
> about the state of solar power. Anyway, it was nice to see a climate
> change film that was encouraging in terms of alternatives.
>
> S
>
> "Sarah" <sarahjane@sarahtonin.com> wrote in message
> news:466658df$1@linux...
>> Well, you basically had the same question I did, which was, "If this is
>> true, why aren't we doing it?!" I have no idea of the cost. I recorded
>> the show though, so if they don't talk about cost there, I can at least
>> get the names of the people proposing this.
>>
>> S
>>
>>
>> "Neil" <OIUOIU@OIU.com> wrote in message news:46665527$1@linux...
>>> 1.) A hundred square miles is NOTHING, expecially here in Texas;
>>> if what you say is true, there's no reason we couldn't power
>>> the entire U.S., plus sell solar energy to Canada & Mexico, by
>>> building a single giant solar array between El Paso or Van
>>> Horn, and Midland/Odessa.
>>>
>>> 2.) How much would it cost to build said solar array?
>>>
```

```
>>> Neil
>>>
>>>
>>>
>>>
>>> "Sarah" <sarahjane@sarahtonin.com> wrote:
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>>>sacrifice.
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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Deej [4] on Wed, 06 Jun 2007 17:15:01 GMT View Forum Message <> Reply to Message

- > Since then, Chevron has gotten a hold of the battery patent and there is
- > some talk that they may be making it difficult for car companies to use
- > those proven batteries for future EVs.

>

Are you serious??? I'm doing some contract work for Chevron right now. I have worked for them before and I know a bit about how inefficient and just plain ol' scooterfucked some of the thinking is there. It's been an uphill battle dealing with them here due to a number of things they have requested that I do that I have flat out refused to do. I'm going to look into this. I may just opt out of my dealings with them completely. Wouldn't be the end of the world.

Subject: Re: OT: Cars, climate, and stuff . . . Posted by Jamie K on Wed, 06 Jun 2007 17:27:44 GMT View Forum Message <> Reply to Message

Let us know what you find out. Here's a start:

"The battery we use is the NiMH, same as used in cameras and small cylinder AA, AAA, etc. Toyota-Panasonic formed a partnership "PEVE" to license and improve NiMH for EVs. Around this time, GM purchased the worldwide patent rights to the NiMH battery. Later, GM decided to sell those rights to Texaco, which then merged with Chevron. Chevron then put the battery rights under control of a Joint Venture, "COBASYS," and decided to fund a lawsuit against large-format (electric car battery) competitors such as Toyota-Panasonic.

Chevron's lawsuit led to a settlement agreement with PEVE (and Sanyo, etc.) whereby Toyota paid \$30M to Chevron, Toyota was granted the rights

to use "small-format" batteries on the Prius, and Toyota agreed not to build "large-format" versions of its batteries (needed for plug-in cars) for export to the U.S. until 2014. At least, that's what it seems to be; portions of the settlement agreement are still secret.

Hence, Chevron and GM together led to the end of Toyota's RAV4-EV program, it seems; at the current time, only Chevron is allowed to market "large-format" NiMH batteries in the USA, and Chevron has decided not to do so. In fact, Chevron won't sell its NiMH batteries to anyone except large fleets, it says. When I say Chevron, I am referring to their Joint Venture, "COBASYS," which is their unit controlling the batteries."

#### From:

http://www.ocweekly.com/index.php?option=com\_content2&ta sk=view&id=25134&Itemid=47

## Cheers.

-Jamie

www.JamieKrutz.com

#### DJ wrote:

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>

>

>

Subject: Re: OT: Cars, climate, and stuff . . . Posted by Deej [4] on Wed, 06 Jun 2007 17:29:25 GMT View Forum Message <> Reply to Message

thanks...will do.

"Jamie K" <Meta@Dimensional.com> wrote in message news:4666f028@linux...

```
> Let us know what you find out. Here's a start:
> "The battery we use is the NiMH, same as used in cameras and small
> cylinder AA, AAA, etc. Toyota-Panasonic formed a partnership "PEVE" to
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>>
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Subject: Re: OT: Cars, climate, and stuff . . .
Posted by Jamie K on Wed, 13 Jun 2007 19:36:09 GMT
View Forum Message <> Reply to Message
Hey Deej,
Did you find out anything interesting?
Cheers.
 -Jamie
 www.JamieKrutz.com
DJ wrote:
> thanks...will do.
"Jamie K" <Meta@Dimensional.com> wrote in message news:4666f028@linux...
>> Let us know what you find out. Here's a start:
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>>>
>>>
>
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Subject: Re: OT: Cars, climate, and stuff . . . Posted by Deej [4] on Thu, 14 Jun 2007 15:43:22 GMT View Forum Message <> Reply to Message

Not yet. Nobody's talkin.

```
"Jamie K" <Meta@Dimensional.com> wrote in message news:467048af$1@linux...

> Hey Deej,

> Did you find out anything interesting?

> Cheers,

- Jamie

> www.JamieKrutz.com

> DJ wrote:

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