

Re: Destroy this argument....

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- *From:* dave.walters@xxxxxxxxxxxx
 - *Date:* 31 Mar 2007 15:35:53 -0700
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On Mar 31, 2:34 pm, "R.H. Allen" <kka...@xxxxxxxxxxxx> wrote:

dave.walt...@xxxxxxxxxxxx wrote:

R,
I think the \$26 Billion had to do with Portugal, not California, at least that is the way thread seemed to of trickled down.

My mistake. California's PV subsidy program is \$2.8 billion, not \$26 billion.

But you are right...solar is best when rates ARE high (like today, at \$77/MWhr down from \$100 an hour ago, as it happens). But with a larger base load from nuclear, I'd question if rates would get up that high. It's an interesting economic question.

I'm not saying that increasing the proportion of base load derived from nuclear will make costs rise significantly, I'm saying that using nuclear to meet peak demand would be a very expensive way of doing so.

Under a real regulated system like we had perviously, you'd never get high rates, period. But with this insane anarchy of the market, who knows?

The same holds true for a carbon tax. The big nuclear energy folks at GE and Westhinhouse WANT a cabon tax because it boosts both their wind turbine market AND their nuclear market.

Agreed.

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On price. In PG&E's jurisdiction, the pricing is somewhat lower than you wrote (and PG&E is the states biggest jurisdiction) runs something like this:

11 cents kWh for the first 200 used (if you 'base line' is 200 kWh, but that's average) and 14 cents kWh after this first 200. But, this is only 17% of the state...residences are SMALL despite the building of all the new housing here...it's actually gone down in the last 10 years as an overall % of usage.

According to the residential rate schedules posted at PG&E's web site, the most commonly paid rates (as I understand it) fall into the following tier structure: \$0.114/kWh for baseline usage, \$0.130/kWh for 101–130% of baseline, \$0.227/kWh for 131–200% of baseline, \$0.317/kWh for 201–300% of baseline, and \$0.364/kWh over 300% of baseline. How many people actually reach those higher tiers, I don't know — I know it isn't everybody — but PG&E claims that the average rate paid is \$0.163/kWh, so a very significant number of customers are exceeding 130% of baseline and hitting that \$0.227/kWh tier.

Of course, there are other residential rate schedules; some are cheaper, some are more expensive. But as I said, my understanding is that most users in California are on the plan I described above. I could be wrong, but that's what I've been led to believe by folks more familiar with the California electricity industry than I.

The big players are urban commercial, suburban light industrial and industrial for 83% of usage.

I'm rather curious where you get your figures on that. According to both the Department of Energy, residences accounted for 33% of electricity consumption in California in 2005. According to the California Energy Commission, it was 31%, but for PG&E it was 34%.

So...at the end of the month, I'm paying \$140 a megawatt hour! PG&E is buying it and producing it at from \$30 to \$66 dollars a MW hr. Someone is making a killing. At any rate, any source that comes in under \$90/MWhr is, theoretically, doable.

One of the issues that folks often miss when it comes to PV is that a self-generator (e.g., a home or business with solar panels on the roof) competes against retail utility prices, rather than the utility's cost of generation. In other words, if PV can be had for \$100/MWh it might not make economic sense for the utility, but if you're paying \$140/MWh it may nevertheless make sense for you to install PV on your roof yourself. Now, that *is* a little bit of a skewed argument, since it's cheaper for your utility to generate PV than it is for you to do so

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(partly because of economies of scale, but in large part because of differences in financing and accounting — for example, your utility can get an investment tax credit, but you can't).

I see nuclear as the 60 to 80% doable base loading (with variable loading for these plants) running then at 60% to 80% capacity with everything else coming in for peak: gas turbines, wind, solar, hydro (which actually is pretty big in California) and other forms of power to make up the difference.

Again, we're on the same page there.

So you know, California has to weird peak power times. There is actually a high load period from around 1100 hours through 1500 hours, then it dips a few thousand MWs and back up again at 20 or 21 hours. So, where solar can come in is during the first peak. But the bulk of the 28,000 MWs (for today) can only really be provided economically be cheap base load.

The curve could be seen here:

<http://oasis.caiso.com/>

Interesting site — thanks! I can obtain this sort of data through connections at certain US utilities, but I wasn't aware that anybody made it so freely available. This could be very useful for me....

Glad I can help. Thanks for my rate schedule also...I didn't even know there was \$.22/kWhr rate! Fuck me...I'm in that at least half the year I'm sure. Oh well.

I got the 17% from the head of the California Energy Commission and it was widely distributed during our fight for public power in San Francisco in 2001 (which we lost by only 500 votes!!!). I'll look at my old company's web site at pge.com and see the % they are putting up. Also the CECs where you got this specific data.

My idea was that we should use building codes in sun-plenty areas for all new homes, since the cost, at \$30k on average for a 5kw or so system is only 6% or so of new homes. They could even regulate the minimum size by square footage.

You make a good point about the retail rate...which is a point I think I made on this thread or another than anything than can come in say under 8 cents is doable, period, regardless of how it's produced. The

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question is, and our debate of course, is what makes the most sense? [or even more if, as in PG&E's territory, the price people are paying is \$140/MWhr. It is interesting.

I don't see nuclear at all costing more than this. I think 5.6 cents for DCNPP power and it'll be lower when the plant is paid off, in about 5 years I think. That's true, interestingly, for most nuclear in the US, it's the *most* profitable form of base load power there is. Most numbers nationally are way lower than this.

All the Gen III+ plants are coming in from \$1300 to \$2100 KW overnight costs. This is in large part why this new, much safer plants, are being built. I think China still has some faux Gen III plants (really 2 1/2) still in the final stages of construction but all the new builds are these advanced plants. They are our only hope, really, to fight off coal on a per MW basis, and, eventually, replace it.

David

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