

## Re: Destroy this argument....

---

*Source:* <http://sci.tech-archive.net/Archive/sci.energy/2007-03/msg00227.html>

---

- *From:* "R.H. Allen" <[kkarie@xxxxxxxxxxx](mailto:kkarie@xxxxxxxxxxx)>
  - *Date:* Thu, 29 Mar 2007 16:39:57 -0400
- 

theCase wrote:

- 1) The sun is not available 24 hours. Even the "sunny" location cited has sun 1/3 of the time needed (3300 / 24 x 365)
- 2) Electricity is a relatively "local" use item. Meaning it's generally uneconomical to transport over 500 miles or so.

Not really a concern, unless you're planning to build a massive power plant in the middle of nowhere. I'm not sure why you would do that with any type of plant, PV or otherwise. Or perhaps I just miss your point....

- 3) Weather systems can produce cloudily conditions that span over large areas (e.g. all of Europe can have a cloudy period lasting days).
- 4) People want their electricity 24 x 7.

Combine the above points one can see the need to provide a backup capability for solar almost equal to the base load, hence one is almost creating two systems, a solar one and a backup conventional one. Not very economical.

Nobody has yet shown, to my knowledge, that utility-scale PV systems will require more backup than any other utility generator. In fact, I suspect at this stage that it could only be shown through simulation, as I doubt there's enough field data available yet to make the case from real experience. Gathering such data to use as support for bigger decisions later on down the road is one of the motivations for building small plants like the one in Portugal.

Not only that, but the cost of having a conventional backup generator sitting around doing nothing can be quite a bit less than having it generate electricity. The capital cost of a natural gas turbine is tiny compared to its fuel cost, so having it sitting around doing nothing does not incur much additional expense — a few cents per kWh at most. Depending on how the PV and electricity markets change in the future, it is entirely plausible that before long it will be cheaper to have an operating PV plant with a mostly idle conventional backup (incurring small fuel costs) than to have a conventional generator alone (incurring large fuel costs).

I'm all for solar, but the reality is powering a whole country/region via solar generated electricity only works as long as one has a

Re: Destroy this argument....

conventional turbine ready to pick up the full load when the sun is not available.

Actually, the reality is that powering a whole country or region from ANY single fuel source is impractical. Coal, for example, gets really expensive when you try to use it to meet peak demand, especially in areas with hot summers and lots of air conditioners.

.