Subject: : Conservation
Topic: : We won't see profits from Shale Gas.
Re: We won't see profits from Shale Gas.
Author: : geebee
Date: : 2013/10/31 17:54:17
URL:

Quote:

pcray1231 wrote:
geebee,

It's not a situation of being unable to build more. It's not durability, etc. It's not even cost (though that is a factor).

It's stability.

I'm talking specifically of wind and solar here. Geothermal, hydro, biomass, etc. are renewables that can be much more stable, and thus are mostly immune to this issue.

Since the wind isn't always blowing, and the sun ain't always shining, you need to have enough capacity to cover their share anyway. Now, if you build enough of them over a large enough area, you may not have to cover their share entirely. Statistical treatment of their outputs over time can give you their LOWEST expected output. That lowest output is all you can "count" on. You must have capacity to cover the rest. You don't always have to USE that excess capacity. i.e. when the wind is blowing and the sun is shining you can shut down a coal plant or two as needed. But nor can you let ANY plant sit unused for long periods and start it up on demand.

Also, the transmission grid has to be able to handle the peaks and valleys. If you need X amount of electricity in PA, that's all fine and good. But there's a big difference in the way the grid operates between bringing it from sources in the NE vs., say, solar sourced in the SW. Making that switch on the fly isn't an easy matter.

Based on our grid, most estimates say solar + wind can max out at about 10% of capacity. That's a VAST improvement over today. Add that to the roughly 20% of hydro we already have, and 30% of capacity for renewables ain't too shabby at all. Further, that's not considering geothermal and bio, which both have plenty of room to grow.

Germany's weather and grid may be different, and their max may be different, but they likewise have a max for solar+wind.

Energy storage could also improve our situation. However, batteries are a long ways from being able to handle this amount of power output. That said, there are other methods of energy storage. For instance,

~~you could build a dam. Let wind+solar pump water up into it at their own pace. Then you can release~~ it through a hydro turbine on demand. Or, you could let wind + solar generate electricity separate from the grid, and use it for hydrolysis of water. i.e. make hydrogen. That hydrogen can then be used on demand as a fuel for transportation or electricity generation, as needed. There are many other such examples of energy storage.

Elon Musk thinks his batteries are 2-3 years away - don't forget he has the cash from Tesla AND Solar City being put into it, Tesla is already supplying hybrid batteries for the RAV4 and Boeing have consulted them re the Dreamliner battery problems.

I understand your arguments about peaks and flows and stability and they are valid - the same peaks and flows hydrocarbon based steam powered regional stations face every day.

But there is a vital vital difference - the consumer is the producer or the provider of his own power rather than buying it from another producer and in fact he sells it to a reseller like National Grid rather than the power production co's - so when he needs power he can get it from another provider, even across the atlantic soon, the UK buys and sells power to France and Germany all the time.

And we are going to have to agree to disagree about your 10% - today, First Solar blew the doors off its results, its now doing $5.2bn of sales this year and is adding 25% capacity by next year.

That is just one player in the field- which someone remarked tonight now has the same sales value as Heinz Ketchup and sauces division....or a month of Amazons sales.

so in short, i see fracking as a short term stop gap with inumerable environmental dangers, and unneccessary with what we will have coming online in 5-10 years.

I spoke to my BiL who is a Seismic Manager at BP Amoco Expo and he is in charge of 3D Depth imaging, he stated that all fluids will eventually reach the surface one way or another - as liquid, gaseous or solid material.

His view is that fracking fluid should be treated like nuclear waste - buried very deep, incased in metres of concrete in geologically stable areas, which is obviously not the case and imposible to do on a practical basis due to the fissures being mined.

GB