One thing we have learnt this week – energy storage

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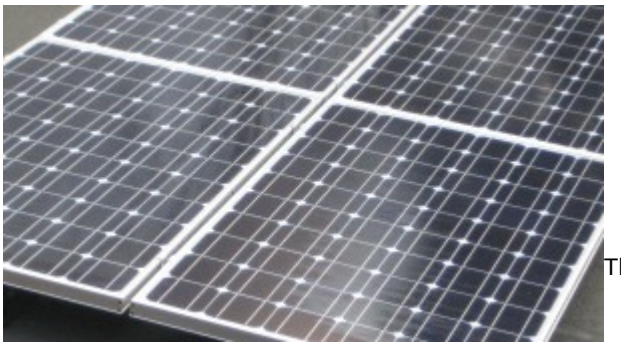

This week I read an article claiming that a company involved in energy storage could put in as much as 30MWp of domestic capacity a week by working with a cable TV installer. This got me interested in their product and thinking about the idea of energy storage. How helpful would energy storage be at the domestic level in grid management in managing renewables (especially solar) output? I'm not going to mention the companies name since its not generally this blog's place except in exceptional circumstances to give commercial plugs (if I do its certainly not since I'm paid for it). The first thing to say I felt the price was OK. The second thing to consider was if I was going to buy one where would I put it? In the picture it looks a bit larger than a domestic boiler and like modern boilers mounts on the wall. Again I think I can solve this problem. It when I look at the technical details that my doubts started. Firstly at the moment the unit uses lead acid batteries. I would far prefer lithium ion and think that within a year or so that could be cheaper. The second problem is more puzzling. The energy storage unit seems to be designed to work in DC and thus seems to require the wiring of your house with additional DC circuits the idea being to run LED lights and devices that use transformers directly from DC. This is an idea I have heard before, that we should switch to DC since so many things we use run on DC (electronics) and we would cut out the inefficiencies of conversion from one to the other. Its not an idea I really hold with since not everything runs on DC, we would need to put additional wiring in our houses, its more dangerous and when you think about we would need to buy new power connectors to connect our phones etc. to the circuits. DC is also less efficient. The last thing all got me thinking about is would small scale energy storage make the grid easier to manage? The answer is no. Or at least not without smart metering. When you think about it without the utilities would have no idea how much we have generated or at what rate we were using it up. Energy storage is vital to iron out renewable variability and economically if the energy can be supplied cheaply enough at the domestic scale then it makes very good economic sense. I think energy storage at the domestic level is coming. At high penetration it will massively lower the need for central generation (at least at the brighter parts of the year) However, in the short to medium term this may not make the grid easier to manage. Some current articles on energy storage can be seen here and here
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