

A bright shine in small solar fixes

Published in the Climate Spectator online, Tuesday 14 February 2012

*The best strategy is to keep our options open, writes **Tony Wood**.*

Matthew Wright's criticisms of the Grattan Institute report '[No easy choices: which way to Australia's energy future](#)', are either incorrect or miss the point of our analysis ([Blind spots on our solar future](#), February 8).

Individuals such as Mr Wright may have good reasons to support or oppose particular technologies. However, based on a detailed assessment, our overall conclusion is that there is no obvious winner or loser among the range of low-emission options that Australia has for its electricity future. We need to keep them all in play to deliver a low-emission future at lowest cost. There is no easy choice or quick fix. In the report, we identified the major cost reductions in solar PV that have been occurring over the last few years, as developers respond to government programs around the world, including feed-in tariffs. There is some way to go before rooftop solar PV is competitive with a number of other low-emission alternatives. Battery storage would also appear to be some way from being commercially viable, and we did not assess this aspect in any further detail.

The extent to which solar panels on home rooftops substitute for more than electricity at the wholesale level is complex, unless the householder disconnects the home from the electricity grid. Otherwise, even if the home system generates a substantial proportion of the usage, the distribution company still incurs the cost of supplying and maintaining the poles and wires, the meter still has to be read and the retailer will still need to send an invoice and collect the payments.

The fact that current charging regimes do not always reflect these costs does not change the underlying economics, which are what matters if we are to reduce emissions at the least cost to the community in the long run. Domestic solar PV's real value comes when it is able to reduce the capital investment in the grid needed to meet peak demand, and solar can sometimes do this. This issue was specifically explored by Helen Morrow of Grattan Institute in her December article in Climate Spectator ([The right way to value solar](#), December 21).

Whether gas prices increase at the same time that solar costs reduce, depends on one's perspective. Domestic gas prices on the east coast of Australia may well move upwards towards export parity as major LNG projects are commissioned. This was highlighted during the recent Climate Spectator Webinar on the future of gas, in which I participated. However, global gas prices have fallen dramatically in the last few months, to the extent that the US may even become an exporter. It is by no means clear how gas prices will evolve in the coming years, and the environmental challenges of both coal seam gas and shale gas will influence the outcome. The potential for solar thermal power to be combined with heat storage was directly recognised in our report. Solar thermal power, with storage or combined with gas, is a very promising development, although it is still early days. Our report identifies both the potential and the challenges for solar thermal power, including the fact that solar thermal projects have been struggling to achieve commercial close in recent times, partly due to the cost reductions achieved by solar PV.

Any judgement of the success of feed-in tariffs depends on the objective. If the objective is to deliver a lot of solar PV systems, then feed-in tariffs have done so, and may be more effective than other renewable energy policies such as Renewable Energy Targets. However, if the objective is to address climate change at the lowest cost, then the picture looks very different. The cost of emissions reduction delivered by feed-in tariffs is very high as estimated by the Productivity Commission. This comes back to a central point in our report: government support for low-emission technologies should

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have cost reduction and overcoming market barriers as its central rationale, and not just deployment of a favourite technology.

CCS, geothermal and nuclear energy are dismissed somewhat cursorily in Mr Wright's article. When faced with the challenge of decarbonising our electricity system in less than 40 years, our report concludes that it is highly unlikely that this can be achieved at affordable cost with wind and solar, or even with any narrow subset of the technology options available today. The assessments in the government's economic modelling do include a substantial element of geothermal and CCS. Our report has not endorsed these model projections. We simply make the point that, from today's perspective, generating most of our electricity from these two technologies within a few decades is equally unlikely.

Finally, our report very clearly lays out the economic arguments for and against nuclear. Again, there is no clear answer for reasons that the report fully explores. And so, we conclude that it is unwise to dismiss or pursue nuclear without allowing for both the possibility that it will be very expensive, and the possibility that it will be relatively cheap.

In summary, the Grattan Institute assessed a range of technologies against an over-arching public policy objective and concluded that Australia will struggle to meet its carbon emissions targets with reasonable electricity prices unless governments act now to reduce costs in the future. There is no technology bias or preferred outcome. Indeed, the central argument is that we are faced with great uncertainty, and should neither pick the winner nor eliminate the loser. The best strategy is to keep our options open.

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