

Peter Horan

A Fair Price for Solar Energy

9/2/16

To the Enquiry into the true value of distributed generation to Victorian Consumers

In May 2014, I installed a 3kW Solar PE system, fitted LED lighting throughout my home and purchased a hybrid car as the feed-in tariff was so low. As a result, I have benefited by saving about \$1,700 in petrol costs compared with the previous 12 months as my electricity costs did not change despite rising prices and charging the car regularly. My solar panels displaced 4MWh of energy generation in the year. Of course, the savings I quote ignore capital costs of the panels and the car, but they do suggest future costs and that the feed-in tariff is too low. It also suggests more battery storage would be useful, allowing me to reduce grid-derived energy.

A way of looking at the matter of a fair price is to compare the cost of energy storage with the cost of using the grid. For example, I could install sufficient battery storage so that I could disconnect from the grid. Or, I could rely entirely on the grid for storage, by feeding excess generation back to the grid during the day and drawing on the grid at night, using no local storage. In the first case, I must pay for the battery storage system. In the latter case, I pay for energy "storage" in the difference between the consumption price and the generation price, say 30c/kWh less 6c/kWh. There may well be an optimum balance of battery and grid.

Apart from benefits to me, practical electrical energy storage is new to the grid (excluding pumped storage hydroelectric generation) and a benefit to the power system as it could be called on for peak-power management. This, however, requires a major change on the part of energy distributors, who would need to interact with home generators/batteries and a re-thinking of the distribution system.

In response, in order, to the "observations" in the executive summary of the Proposed Approach Paper:

1. There is a significant economic benefit available provided electricity storage is taken into

account as well as solar PE.

2. My 3kW system displaces 4MWh per annum of traditional generation.

3. If distribution companies continue to work against solar PE by offering low prices for generation, people will install their own storage to avoid to cost of “grid-storage”. In my case, I pay 24c/kWh difference between (excess) generation and use.

4. Distribution companies need to exploit the benefits of storage by supporting energy users to install storage or by installing community storage systems. Some people may welcome rental of their roof for solar generation. Storage changes everything, and energy distributors ignore it at their peril.

5. in discussions with various people, it seems that where I live (Latitude 38°S), I receive an average of 1333h per annum of sun. That is, my 3kW system generated 4MWh of electricity. This is a clear environmental benefit.