

Economic Considerations.

I am not opposed to the phasing out of taxpayer-sponsored solar feed-in tariffs.

However, this needs to be accompanied by legislation to regulate the price offered by energy retailers to home solar PV (and other zero carbon emission, home-generated electricity) owners for net feed-in electricity to the grid.

Experience in NSW (and probably elsewhere) has shown that retailers are quite willing to deny any payment for this electricity if they are not forced to do so by legislation.

This is not a result of genuine free-market forces, as home electricity generators are held captive to the retailers by their connection to the grid.

The prime reason for installing home solar PV is to reduce or eliminate the amount of electricity a household needs to draw from the grid. This may be done purely for economic reasons, or may be accompanied by altruistic wishes to reduce the household carbon footprint. Whatever the reason, owners have at their own expense connected a generation system to the grid, and should be fairly compensated for the product of this investment.

Householders are charged for net draw on the grid at the market rate, be that a standard day rate or a time-of-use rate. It is only fair that they be paid at the appropriate spot wholesale market rate for net feed-in electricity. Technology exists to enable this.

In some cases a new "smart" meter may need to be installed, and the householder should be charged at the normal rates applying for household connection to the grid with that technology.

An alternative low-tech way of achieving approximately the same end is for producers to be paid at the average wholesale price for DAY-RATE electricity.

It is inappropriate to use the base-rate generation cost as a feed-in price, as this incorporates the distortion to the average electricity price caused by the inflexibility current base-load generators (esp. coal) to adjust to demand. Solar PV is not generated at times of minimum demand (11pm to 5am).

The net result of either of these alternative would be to cause no artificial distortion to the retail electricity market.

Technical Issues

Irregular demand for electricity is already handled by use of quick-response electricity generators, such as hydro-electricity (cheap) and gas turbine (relatively expensive). It is no great leap in price or technology to include irregular supply in this equation.

Supply of solar PV is largely predictable in the long and medium term (i.e. seasonal variation and forecastable weather variations), and short term variations caused by partial cloud cover is flattened out by geographical distribution. The effect of solar PV generation on grid stability is therefore adequately covered by current technology. As supply of solar PV increases, greater use could be made of reverse-cycle hydro generation to cover weather events.

The value of distributed home PV electricity generation to the grid has been amply demonstrated by recent heatwave events. Grid generation and distribution capacity was not exceeded by increased demand caused by use of air-conditioning. Air-conditioning is an increasing factor in critical peak electricity demand in (also increasing) extreme heatwave events. Further increases in domestic PV capacity will continue to moderate the effect on the grid of such events, reducing the need to both expand the grid capacity and the peak generation capacity from other sources.

The vast majority of domestic PV installations are oriented to maximise total electricity generation, resulting in a midday peak. A time-of-generation associated tariff would be an incentive to orient installations to flatten generation over the day, or to maximise summer afternoon generation, both of which would reduce the total PV generation, but more closely align it with demand.

Social Obligations

Encouragement of domestic PV installations would both assist in reaching progressively increasing greenhouse gas mitigation targets, and provide retailers with a source of "green" electricity to satisfy their statutory obligations. Rooftop solar does not require venture capital and does not need to untie any red or green tape, and is the simplest if not the cheapest way to provide "green" and distributed power.

For these reasons I believe that continuing mandatory feed-in tariffs should:

1. Continue to operate, and
2. Be constructed to encourage maximisation of generation of PV electricity at times favourable to grid stabilisation, and
3. Offer a fair return on investment for home-owners.