

A submission to the Tasmanian Energy Strategy

From Dr. Andrew E. Fluck

Thank you for the opportunity to provide public comment on the draft Tasmanian Energy Strategy. I put forward three ideas which may improve the revised version of the document.

1. The Growth of photovoltaic solar provides a business opportunity for Tasmania

The actual amount of energy produced by PV solar (both domestic and commercial installations) is missing from the draft strategy. Forecast capacity growth from 70MW to 300MW by 2024 will be affected by feed-in tariffs and network charges. This compares with total production capacity of 2600MW from Hydro Tasmania's dams and power stations (ie currently 2.7% of state energy capacity with potential to grow to 11.5%). However, comparing capacity does not compare energy production (dams can operate at night, but solar PV does not). Whilst Hydro Tasmania produces 9000 gigawatt hours (GWh) of electricity energy per annum¹ the total energy production from solar PV is not stated in the draft strategy. The absence of such crucial detail does not inspire confidence in the draft strategy document.

As new solar PV installations come on stream, the energy produced is consumed locally, making more of Hydro Tasmania's production available for export at premium prices over the BassLink interconnector. Since Hydro electricity production can be switched on rapidly and suffers no additional costs for warming up as for thermal power stations, Hydro Tasmania can choose to sell at times of peak mainland demand far more rapidly than competitors.

Thus solar PV offer genuine business opportunities for Hydro Tasmania, since it frees up productive energy production capacity which can subsequently be sold at premium rates.

2. Domestic solar PV installations already pay networking charges

The Electricity Supply Industry Expert Panel (2011, p. 20-22²) has already commented on the lack of transparency of billing to non-contestable customers. Nevertheless, fixed charges appear on domestic bills and account for distribution and transmission costs (ibid, p. 22, Office of the Tasmanian Economic Regulator).

¹ <http://www.hydro.com.au/energy>

² http://www.electricity.dpac.tas.gov.au/_data/assets/pdf_file/0018/141804/Tasmanian_Electricity_Pricing_Trends.pdf

Figure 1: Extract from domestic electricity bill (October 2014)

Charge	Quantity	Rate(\$)	Amount
*Transmission Loss Factor: 0.9811000			
*Distribution Loss Factor: 1.0478000			
Direct Debit discount			
Direct Debit Discount	93 Day/s	-0.055	-5.12
Residential Legacy Feed-in-Tariff 110			
Energy	1,084 kWh	-0.28283	-306.59
Residential light and power - Tariff 31			
Fixed Charges	93 Day/s	0.87677	81.54
Energy Charge	1,259 kWh	0.24717	311.19
Off-peak with afternoon boost period - Tariff 61			
Fixed Charges	93 Day/s	0.21519	20.01
Energy Charge	872 kWh	0.12001	104.65
Total			205.68
Includes GST payable of			18.70

Figure 1 illustrates the presentation to a domestic consumer. It is worth noting that fixed charges occur more than once, despite the provision of a SINGLE powerline to the premises. It is difficult for domestic customers to understand these multiple charges for the same provision.

Furthermore, given this single provision, it would be unreasonable to charge for solar PV production which uses precisely the same powerline for supplying energy into the grid. This would be interpreted as yet a third charge for exactly the same infrastructure.

3. Prosumers must be recognized as a new class of participants in the energy market

In the draft strategy, consumers feature strongly (70 mentions). Energy businesses (producers) are not quite as prominent (18 mentions). Despite this difference, it is quite clear the draft strategy divides participants in the energy market into these two distinct groups.

Solar PV and other small scale producers do not fit neatly into this duopoly. Nor, on closer examination, do energy businesses. For instance, hydro-electric power stations cannot operate without computerized and electrically controlled water-flow regulators; so they consume electricity. Thus, even traditional energy businesses are prosumers, albeit with differences of scale to domestic solar PV installations.

When modelling the economics of energy production and distribution, there are considerable efficiencies in using the same infrastructure for gathering power from the grid and exporting power using the exact same equipment. These efficiencies should result in lower distribution and transmission costs for local Tasmanians.

These lower costs should be shared with all participants in the energy market: consumers, energy businesses and prosumers.