

Feed-in tariffs – transition to Full Retail Competition

Introduction

The Tasmanian Government is reforming the State's electricity industry to meet four key objectives:

- Lowest sustainable electricity bills.
- Long-term safe, secure and reliable supplies of electricity.
- Maximise the value of Tasmania's low carbon advantage and the brand benefits of clean Tasmanian electricity.
- Financial viable state-owned electricity businesses that run efficiently and effectively and maximise the overall economic benefits to Tasmania.

With the introduction of FRC on 1 January 2014 and the exit of Aurora Energy from the Tasmanian electricity retail market, the Tasmanian Government must put in place new feed-in tariff (FiT) arrangements to ensure that existing and new customers who export electricity to the grid will receive a fair and reasonable rate for this energy through the transition and into the future.

Feed-in tariffs: Transition to Full Retail Competition – Issues Paper

On 15 May 2013, an Issues Paper was released to inform consideration of the options available to Government to maintain feed-in tariff arrangements once the current voluntary Aurora Energy scheme ceases with the introduction of full retail competition from 1 January 2014.

Comments on the Issues Paper have been invited, with a closing date of 7 June 2014.

The Issues Paper included some simple illustrative examples of the possible impact of possible changes in the feed-in tariff rate, as it would apply to one configuration of solar PV installation with one set of electricity consumption characteristics.

Treasury has received several comments in relation to the worked examples in the Issues Paper, suggesting that the examples do not necessarily reflect their experience or the likely impact of a change in the feed-in tariff rate on their particular circumstances. In particular, comments have been received that query the choice of export ratio and the calculation of on-premises consumption spread across tariffs 3I and 4I.

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Supplementary Information

It is difficult to calculate an individual's likely financial benefits from a solar PV installation, as there are many variables. The Issues Paper noted that predictions around individual customer impacts are inherently problematic because of significant differences between customers and so to some extent this situation was anticipated and was unavoidable.

However, to better inform discussion of the options relating to feed-in tariffs and to provide a broader range of the possible impacts across a broader set of customers, the Electricity Reform Project team has prepared this supplementary paper for publication prior to the close of the consultation period on the Issues Paper.

The project team is issuing this supplementary paper to ensure that as many customers as possible can have confidence that their individual circumstances have been understood and fairly represented in the consideration of the continuation of feed-in tariff arrangements beyond the close of the voluntary Aurora Energy scheme.

The attached tables provide an indication of the value of avoided imported electricity, the value of exported electricity and the total financial benefit for deciles of export ratios, where the export ratio is the ratio of electricity generated by distributed generation that is exported to the grid compared to electricity generated by distributed generation that is consumed on the premises.

The scenarios presented compare a range of installation configurations, installation sizes and feed-in tariff rates, specifically:

- installation sizes of 3kW and 4.5kW;
- feed-in tariff rates of 1:1, 7c/kWh and no FiT; and
- where the net export is calculated based entirely on tariff 31 (light and power) or where the net export is calculated based on tariff 31 and tariff 41 or 42 (hot water or hot water and space heating).

All other assumptions are as presented in the Feed-in Tariff Issues Paper.

Need more information?

To view a copy of the Feed-in Tariffs Issues Paper or for more information about the Tasmanian energy reforms:

Visit our website at: www.electricity.tas.gov.au

Email: Electricity.Reform@treasury.tas.gov.au or write to us at:

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Example 1				
Total annual electricity consumption (60:40 split between tariff 41 and tariff 31)		8 000kWh		
Net export tariff		Tariff 31 only		
Installation size		3kW (assume 4 000kWh per year) ✓		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		1:1		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	1111	2117	1111 ✓
90%	111	1000	2006	1111 ✓
80%	222	889	1895	1111 ✓
70%	333	778	1784	1111 ✓
60%	445	667	1672	1111 ✓
50%	556	556	1561	1111 ✓
40%	667	445	1450	1111 ✓
30%	778	333	1339	1111 ✓
20%	889	222	1228	1111 ✓
10%	N/A	N/A	N/A	N/A

Low Export Ratio scenarios cannot physically be achieved as total generation consumed on premises at this export ratio exceeds the assumed total consumption.

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Example 2				
Total annual electricity consumption (60:40 split between tariff 41 and tariff 31)		8 000kWh		
Net export tariff		Tariff 31 only		
Installation size		3kW (assume 4 000kWh per year)		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		7c/kWh		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	280	2117	280
90%	111	252	2006	363
80%	222	224	1895	446
70%	333	196	1784	529
60%	445	168	1672	613
50%	556	140	1561	696
40%	667	112	1450	779
30%	778	84	1339	862
20%	889	56	1228	945
10%	N/A	N/A	N/A	N/A

Low Export Ratio scenarios cannot physically be achieved as total generation consumed on premises at this export ratio exceeds the assumed total consumption.

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Example 3				
Total annual electricity consumption (60:40 split between tariff 41 and tariff 31)		8 000kWh		
Net export tariff		Tariff 31 only		
Installation size		3kW (assume 4 000kWh per year)		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		No FiT		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	0	2117	0
90%	111	0	2006	111
80%	222	0	1895	222
70%	333	0	1784	333
60%	445	0	1672	445
50%	556	0	1561	556
40%	667	0	1450	667
30%	778	0	1339	778
20%	889	0	1228	889
10%	N/A	N/A	N/A	N/A

Low Export Ratio scenarios cannot physically be achieved as total generation consumed on premises at this export ratio exceeds the assumed total consumption.

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Example 4				
Total annual electricity consumption (60:40 split between tariff 41 and tariff 31)		8 000kWh		
Net export tariff		Tariff 31 only		
Installation size		4.5kW (assume 6 000kWh per year)		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		1:1		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	1 667	2 117	1 667
90%	167	1 500	1 950	1 667
80%	333	1 334	1 784	1 667
70%	500	1 167	1 617	1 667
60%	667	1 000	1 450	1 667
50%	834	834	1 283	1 667
40%	889	667	1 228	1 556
30%	N/A	N/A	N/A	N/A
20%	N/A	N/A	N/A	N/A
10%	N/A	N/A	N/A	N/A

Low Export Ratio scenarios cannot physically be achieved as total generation consumed on premises at this export ratio exceeds the assumed total consumption.

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Example 5				
Total annual electricity consumption (60:40 split between tariff 41 and tariff 31)		8 000kWh		
Net export tariff		Tariff 31 only		
Installation size		4.5kW (assume 6 000kWh per year)		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		7c/kWh		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	420	2117	420
90%	167	378	1950	545
80%	333	336	1784	669
70%	500	294	1617	794
60%	667	252	1450	919
50%	834	210	1283	1044
40%	889	168	1228	1057
30%	N/A	N/A	N/A	N/A
20%	N/A	N/A	N/A	N/A
10%	N/A	N/A	N/A	N/A

Low Export Ratio scenarios cannot physically be achieved as total generation consumed on premises at this export ratio exceeds the assumed total consumption.

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Example 6				
Total annual electricity consumption (60:40 split between tariff 41 and tariff 31)		8 000kWh		
Net export tariff		Tariff 31 only		
Installation size		4.5kW (assume 6 000kWh per year)		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		No FiT		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	0	2117	0
90%	167	0	1950	167
80%	333	0	1784	333
70%	500	0	1617	500
60%	667	0	1450	667
50%	834	0	1283	834
40%	889	0	1228	889
30%	N/A	N/A	N/A	N/A
20%	N/A	N/A	N/A	N/A
10%	N/A	N/A	N/A	N/A

Low Export Ratio scenarios cannot physically be achieved as total generation consumed on premises at this export ratio exceeds the assumed total consumption.

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Example 7 – (30% Export Ratio case corresponds to Example A in Issues Paper)				
Total annual electricity consumption (60:40 split between tariff 4I and tariff 3I)		8 000kWh		
Net export tariff		Tariff 3I and Tariff 4I		
Installation size		3kW (assume 4 000kWh per year)		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		1:1		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	1111	2117	1111
90%	85	1000	2032	1085
80%	169	889	1948	1058
70%	254	778	1863	1032
60%	339	667	1778	1006
50%	423	556	1694	979
40%	508	445	1609	953
30%	593	333	1524	926
20%	677	222	1440	900
10%	762	111	1355	873

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Example 8 – (30% Export Ratio case corresponds to Example C in Issues Paper)				
Total annual electricity consumption (60:40 split between tariff 41 and tariff 31)		8 000kWh		
Net export tariff		Tariff 31 and Tariff 41		
Installation size		3kW (assume 4 000kWh per year)		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		7c/kWh		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	280	2117	280
90%	85	252	2032	337
80%	169	224	1948	393
70%	254	196	1863	450
60%	339	168	1778	507
50%	423	140	1694	563
40%	508	112	1609	620
30%	593	84	1524	677
20%	677	56	1440	733
10%	762	28	1355	790

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Example 9 – (30% Export Ratio case corresponds to Example B in Issues Paper)				
Total annual electricity consumption (60:40 split between tariff 41 and tariff 31)		8 000kWh		
Net export tariff		Tariff 31 and Tariff 41		
Installation size		3kW (assume 4 000kWh per year)		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		No FiT		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	0	2117	0
90%	85	0	2032	85
80%	169	0	1948	169
70%	254	0	1863	254
60%	339	0	1778	339
50%	423	0	1694	423
40%	508	0	1609	508
30%	593	0	1524	593
20%	677	0	1440	677
10%	762	0	1355	762

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Example 10				
Total annual electricity consumption (60:40 split between tariff 41 and tariff 31)		8 000kWh		
Net export tariff		Tariff 31 and Tariff 41		
Installation size		4.5kW (assume 6 000kWh per year)		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		1:1		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	1 667	2 117	1 667
90%	127	1 500	1 990	1 627
80%	254	1 334	1 863	1 588
70%	381	1 167	1 736	1 548
60%	508	1 000	1 609	1 508
50%	635	834	1 482	1 469
40%	762	667	1 355	1 429
30%	889	500	1 228	1 389
20%	1 016	333	1 101	1 349
10%	1 143	167	974	1 310

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Example 11				
Total annual electricity consumption (60:40 split between tariff 41 and tariff 31)		8 000kWh		
Net export tariff		Tariff 31 and Tariff 41		
Installation size		4.5kW (assume 6 000kWh per year)		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		7c/kWh		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	420	2117	420
90%	127	378	1990	505
80%	254	336	1863	590
70%	381	294	1736	675
60%	508	252	1609	760
50%	635	210	1482	845
40%	762	168	1355	930
30%	889	126	1228	1015
20%	1016	84	1101	1100
10%	1143	42	974	1185

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Example 12				
Total annual electricity consumption (60:40 split between tariff 41 and tariff 31)		8 000kWh		
Net export tariff		Tariff 31 and Tariff 41		
Installation size		4.5kW (assume 6 000kWh per year)		
Notional annual electricity bill (ie if there was no solar PV installed)		\$2 117		
Feed-in tariff rate		No FiT		
Export ratio	Savings from avoided purchases, \$	Credit for exported electricity, \$	Actual electricity bill, \$	Total financial benefit, \$
100%	0	0	2117	0
90%	127	0	1990	127
80%	254	0	1863	254
70%	381	0	1736	381
60%	508	0	1609	508
50%	635	0	1482	635
40%	762	0	1355	762
30%	889	0	1228	889
20%	1016	0	1101	1016
10%	1143	0	974	1143