

12 March 2019

Mr Shane Rattenbury
Minister for Climate Change and Sustainability
GPO Box 1020
CANBERRA ACT 2601

Dear Mr Rattenbury,

Request for Approval for Reasonable Costs Determination

In accordance with the Electricity Feed-in (Large-scale Renewable Energy Generation) Amendment Bill 2017, Clause 20B, Evoenergy is making this application seeking Ministerial Approval for a large feed-in tariff (FiT) Reasonable Costs Determination. Evoenergy in this submission is applying for a Reasonable Cost Determination for 2019/20 of \$52,028,901.

The reasonable costs apply to Evoenergy's obligations under the Electricity Feed-in (Large Scale Renewable Energy Generation) Act 2011, section 20A, for the 2019/20 financial year to enable Evoenergy to make the Feed-in-Tariff (FiT) support payments and administer the FiT support payments scheme.

As required Evoenergy has included the projected FiT support payments and the cost for administering the FiT support scheme for:

- The 2017/18 (preceding) financial year;
- The 2018/19 (current) financial year;
- The 2019/20 financial year; and
- The subsequent four financial years, being 2020/21 to 2023/24.

The methodology used by Evoenergy in developing this budget submission is:

- Forecasting the annual output of each individual contracted generator for each year of the forecast period. For commissioned generators, the historical generation is assessed and a forecast is then collated, generally by extrapolation, if applicable, or by applying a capacity factor based on historical information or comparable generators. For future generators, that are not yet commissioned, an annual capacity factor is applied that has been derived from comparable generators operating in the NEM. This can be a mixture of either the capacity factor from the existing generators contracted to the ACT, or other comparable NEM generators based on generator capacity, geographical location and topology.
- Forecasting the NEM regional pool prices for South Australia, Victoria and NSW. The forecast average pool price for each future quarter has been sourced from an independent expert, being Jacobs Australia for this year's submission.
- Applying a discount factor to the NEM Pool Price to reflect more accurately the pool price against the generation periods. The discount factor is calculated for solar and wind generation and is based on historical data derived from generation and pool price coincident production.
- The forecast generation and pool prices (adjusted by the pool discount factor) are then matched for each quarter in the forecast period, and then applied against the individual generator contract prices to calculate an estimated annual settlement for

each generator. The final generator totals are then collated to derive an annual total.

In 2017/18 there was an over recovery of \$34.6m that was agreed to be paid back in equal amounts over the 3 year period from 2018/19 to 2020/21. This requires paying back \$11.5m in each year from 2018/19 to 2020/21, plus adjustments for interest. However, because 2018/19 payments for the large feed-in-tariff were lower than forecast, additional amounts must be paid back in 2019/20 and 2020/21 to achieve a full repayment by the end of 2020/21. In order to smooth the annual revenue requirement, an additional \$5.0m will be repaid in each year of 2019/20 and 2020/21. Specifically, the estimated total over-recovery for 2018/19 will be repaid in equal shares over 2019/20 and 2020/21.

It is important to note that the interest payments from 2019/20 onward are based on the rate of return in Evoenergy's revised regulatory proposal¹ and are held constant over time. In reality, the interest will be based on the AER's final determination², and will be updated annually for the cost of debt. Evoenergy will true-up any difference between the actual and estimated rates of return when submitting future reasonable cost determinations. The submitted budget is detailed below.

Forecast (\$'000)	2017/18 Actual	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Total Large Feed in Tariff scheme related payments	14,331.5	37,414.6	68,569.5	70,792.6	49,515.6	45,115.2	36,869.8
Repayment of 2017/18 Over Recovery		(11,531.9)	(11,531.9)	(11,531.9)			
Smoothing 2018/19 Over Recovery			(5,008.7)	(5,008.7)			
Total Large Feed in Tariff scheme related revenue	39,115.0	32,010.3	52,028.9	54,252.0	49,515.6	45,115.2	36,869.8
Feed-in Tariffs (large scale) payments	14,208.20	37,287.6	68,438.7	70,657.9	49,376.8	44,972.3	36,722.5
Feed in Tariff Administration costs	123.3	127.0	130.8	134.7	138.8	142.9	147.2
Total Large Feed in Tariff scheme related payments	14,331.5	37,414.6	68,569.5	70,792.6	49,515.6	45,115.2	36,869.8

Note: large feed-in-tariff payments have been forecast, and actual payments may differ. As a result, the smoothing in 2020/21 may need to be higher or lower than shown above in order to achieve a full repayment by the end of 2020/21. Repayments and smoothing may also differ due to changes in the rate of return which is used to calculate interest adjustments.

If you have any queries please call [redacted] or [redacted]

We look forward to your assistance with regards to this matter.

Yours sincerely

John Knox
CEO

¹ Submitted to the AER on 29 November 2018.

² Expected to be released in April 2019.

ActewAGL

Time weighted average prices (\$/MWh, \$Jun 2015)

Year	Quarter	SA	TAS	VIC	NSW	QLD
2018	Q2	115	100	101	94	77
2018	Q3	73	68	70	56	50
2018	Q4	61	55	56	50	44
2019	Q1	91	83	86	85	75
2019	Q2	78	68	70	56	47
2019	Q3	62	57	58	50	46
2019	Q4	56	49	50	45	41
2020	Q1	78	66	68	60	55
2020	Q2	79	68	70	53	46
2020	Q3	57	52	52	47	43
2020	Q4	57	50	50	47	43
2021	Q1	73	62	64	59	56
2021	Q2	76	66	68	50	45
2021	Q3	58	52	53	49	45
2021	Q4	60	53	54	53	46
2022	Q1	82	74	76	87	75
2022	Q2	86	78	80	74	57
2022	Q3	86	81	83	81	69
2022	Q4	74	67	69	70	59
2023	Q1	95	86	89	97	86
2023	Q2	104	93	97	89	67

Time weighted average prices (\$/MWh, nominal dollars)

Year	Quarter	SA	TAS	VIC	NSW	QLD
2018	Q2	121	105	107	99	81
2018	Q3	77	73	74	59	53
2018	Q4	65	59	60	53	47
2019	Q1	98	89	93	91	81
2019	Q2	85	74	76	60	51
2019	Q3	67	62	63	55	50
2019	Q4	62	53	54	49	45
2020	Q1	86	72	75	66	61
2020	Q2	88	76	78	59	51
2020	Q3	63	57	58	52	48
2020	Q4	64	56	56	53	49
2021	Q1	82	70	72	67	64
2021	Q2	86	75	77	57	51
2021	Q3	66	60	61	55	52
2021	Q4	69	61	63	61	53
2022	Q1	94	86	88	101	86
2022	Q2	100	90	93	86	66
2022	Q3	101	95	98	95	80
2022	Q4	88	78	81	82	70
2023	Q1	113	102	106	116	102
2023	Q2	124	111	115	106	80

	SA	Vic	NSW
2018-19	\$81.30	\$75.63	\$65.83
2019-20	\$75.48	\$67.29	\$57.23
2020-21	\$73.87	\$65.69	\$57.30
2021-22	\$82.31	\$76.07	\$75.77

Release date	Assumptions
06/08/2018	<ul style="list-style-type: none">- Assumptions are the same as the 2018 Q2 forecast with the following exceptions: Demand has been updated to match AEMO's 2018 Electricity Forecasting Insights Update publication Demand is generally higher in most states due to increased outlook for electric vehicle uptake The exception is Queensland, where there is less demand due to reduced LNG production

Document change log

The purpose of the changelog is to track the evolution of the workbook over time.

Author	Date	Summary of changes
--------	------	--------------------

--	--	--

Input data and assumptions

The purpose of this sheet is to record assumptions and sources. In general a 'hard coded' data points should be here

Name	Value	Unit	Date updated	Data source
Number of 2020 ACT households	197 146	Households	30/08/2018	Based on net increase in ACT household number between 2012 and 2016 census (ie difference added to 2016 number)
NSW 2017-18 NEM nominal price	\$82.23	\$/MWh	06/08/2018	AEMO website
NSW 2018-19 NEM nominal price	\$65.83	\$/MWh	06/08/2018	Jacobs Q3 2018 NEM price forecast
NSW 2019-20 NEM nominal price	\$57.23	\$/MWh	06/08/2018	Jacobs Q3 2018 NEM price forecast
NSW 2020-21 NEM nominal price	\$57.30	\$/MWh	06/08/2018	Jacobs Q3 2018 NEM price forecast
Victoria 2017-18 NEM nominal price	\$92.30	\$/MWh	06/08/2018	AEMO website
Victoria 2018-19 NEM nominal price	\$75.63	\$/MWh	06/08/2018	Jacobs Q3 2018 NEM price forecast
Victoria 2019-20 NEM nominal price	\$67.29	\$/MWh	06/08/2018	Jacobs Q3 2018 NEM price forecast
Victoria 2020-21 NEM nominal price	\$65.69	\$/MWh	06/08/2018	Jacobs Q3 2018 NEM price forecast
South Australia 2017-18 NEM nominal price	\$98.12	\$/MWh	06/08/2018	AEMO website
South Australia 2018-19 NEM nominal price	\$81.30	\$/MWh	06/08/2018	Jacobs Q3 2018 NEM price forecast
South Australia 2019-20 NEM nominal price	\$75.48	\$/MWh	06/08/2018	Jacobs Q3 2018 NEM price forecast
South Australia 2020-21 NEM nominal price	\$73.87	\$/MWh	06/08/2018	Jacobs Q3 2018 NEM price forecast
Hornsedale 1, 2 & 3 Wind Farms NEM discount factor	78.2%	% regional NEM price	10/07/2018	EPSDD records/calcs of Evoenergy FIT support payments
Ararat Wind Farm NEM discount factor	88.3%	% regional NEM price	10/07/2018	EPSDD records/calcs of Evoenergy FIT support payments
Sapphire and Crookwell wind farms NEM discount factor	88.8%	% regional NEM price	10/07/2018	IT Power Assessment of Current and Future Wind and Solar NEM Prices report (commissioned by EPSDD) March 2017 - 2020 NSW wind discount factor (most conservative discount factor)
Royalla Solar Farm NEM premium factor	103.1%	% regional NEM price	10/07/2018	EPSDD records/calcs of Evoenergy FIT support payments
Mugga Lane Solar Park NEM premium factor	103.2%	% regional NEM price	10/07/2018	EPSDD records/calcs of Evoenergy FIT support payments
Williamsdale Solar Farm NEM premium factor	103.5%	% regional NEM price	10/07/2018	EPSDD records/calcs of Evoenergy FIT support payments
ACT 2020-21 electricity supply	3 031 000	MWh	07/05/2018	2018 Emissions Factor report (excludes EV demand)
Estimated ACT solar rooftop solar generation in 2020-21	60 500	MWh/yr	07/05/2018	2018 Emissions Factor report (excludes behind-the-meter PV generation)
Royalla solar farm MLF 2018-19	1.01780		07/05/2018	AEMO Marginal Loss Factor report for 2018-19
Maoneng Mugga Lane MLF 2018-19	1.02000		07/05/2018	AEMO Marginal Loss Factor report for 2018-19
Community solar MLF 2018-19	1.03860		07/05/2018	Same as Royalla solar farm AEMO Marginal Loss Factor report for 2018-19
Sapphire I MLF 2018-19	0.88210		07/05/2018	AEMO Marginal Loss Factor report for 2018-19
Hornsedale I & II MLF 2018-19	0.97440		07/05/2018	AEMO Marginal Loss Factor report for 2018-19
Ararat MLF 2018-19	0.96910		07/05/2018	AEMO Marginal Loss Factor report for 2018-19
Coonooer bridge MLF 2018-19	1.01390		07/05/2018	AEMO Marginal Loss Factor report for 2018-19

ACT 2020 large-scale renewable energy calculations

Electricity Consumption

2020-21 ACT electricity services supply	MWh	3,031,000	%	Notes
				Excludes EV demand

Renewable Energy Contributions

NSW below-baseline hydro generation	MWh	92,000	3%	
Above-baseline RET generation	MWh	\$34,000	18%	
GreenPower	MWh	0	0%	
Small-scale solar - exported to grid	MWh	60,500	2%	Includes behind-the-meter generation
Large-scale renewables contribution	MWh	2,235,429	76%	Now based on sum of planned capacity releases
Total renewables		3,001,939	99.0%	Final renewable energy percentage
100% renewable energy generation surplus/deficit	MWh	-29,061		

ACT 2020 share of national Renewable Energy Target	21%
ACT 2020 GreenPower purchases	0.0%
ACT 2020 rooftop solar	2%
Total	23%

Feed-in tariff price

Solar 1	\$/MWh	\$186.00
Community solar	\$/MWh	\$200.00
Wind 1 - Vic	\$/MWh	\$81.90
Wind 1 - NSW	\$/MWh	\$87.00
Wind 2 - SA	\$/MWh	\$92.00
Wind 2 - NSW	\$/MWh	\$85.10
Wind 2 - SA	\$/MWh	\$77.00
Next Gen - SA	\$/MWh	\$78.00
Next Gen - NSW	\$/MWh	\$90.40

Wholesale price of electricity

NSW - 2020-21	\$/MWh	\$57.95
Vic - 2020-21	\$/MWh	\$65.69
SA - 2020-21	\$/MWh	\$73.87

Value of NEM sales

Community solar - ACT/NSW	\$/MWh	\$57.30
Rayella Solar Farm - ACT/NSW	\$/MWh	\$59.08
Mugg Lane Solar Park - ACT/NSW	\$/MWh	\$58.13
Williamdale Solar Farm - ACT/NSW	\$/MWh	\$59.31
Coonover Bridge Wind Farm - Vic	\$/MWh	\$59.91
Ararat Wind Farm - Vic	\$/MWh	\$58.00
Horsedale 1, 2 & 3 Wind Farms - SA	\$/MWh	\$57.77
Sapphire and Crookwell 2 wind farms - NSW	\$/MWh	\$50.88

Average FIT support payments

	MLF adjusted net FIT	Total gross FIT	Notes	
Large-scale solar - NSW - Rayella	\$/yr	\$4,647,480	\$6,865,534	
Large-scale solar - NSW - Williamdale	\$/yr	\$3,833,034	\$2,731,946	
Large-scale solar - NSW - Mugg Lane	\$/yr	\$2,605,096	\$3,934,081	
Community solar - NSW	\$/yr	\$243,607	\$346,800	
Wind 1 - Vic - Coonover Bridge	\$/yr	\$1,749,291	\$6,868,066	
Wind 1 - Vic - Ararat	\$/yr	\$8,365,116	\$33,637,900	
Wind 1 - SA - Horsedale 1	\$/yr	\$14,116,910	\$38,115,600	MLF included twice to reflect MLF-1
Wind 1 - NSW - Sapphire 2	\$/yr	\$13,139,839	\$31,116,537	MLF included twice to reflect MLF-1
Wind 2 - SA - Horsedale 2	\$/yr	\$8,124,957	\$11,113,082	MLF included twice to reflect MLF-1
Next-gen renewables - SA - Horsedale 3	\$/yr	\$873,080	\$32,307,600	Next Gen Renewables gross FIT includes ESC; MLF included twice to reflect MLF-1
Next-gen renewables - NSW - Crookwell 2	\$/yr	\$12,947,114	\$72,490,550	Next Gen Renewables gross FIT includes ESC; MLF included twice to reflect MLF-1
Total cost	\$/yr	\$76,481,223	\$204,571,696	

Reconciliation with Ewoenergy reasonable cost determination calcs

	Above total	Ewoenergy costs	Difference -	Difference %
Solar	\$9,365,117	\$8,607,882	\$757,235	7.2%
Wind	\$67,136,106	\$86,996,124	-\$19,860,018	-29.6%
Solar without com solar	\$70,673,840	\$95,663,956	-\$24,990,116	-35.4%
Total without com solar	\$76,237,816	\$95,663,956	-\$19,426,140	-25.5%

Total FIT support payments per year

	Household annual cost	Household weekly cost
Solar	\$ 519	\$0.36
Community solar	\$ 50	\$0.01
Wind 1 - Vic - Coonover Bridge	\$ 54	\$0.07
Wind 1 - Vic - Ararat	\$ 517	\$0.33
Wind 1 - SA	\$ 530	\$0.57
Wind 2 - NSW	\$ 5	\$0.08
Wind 2 - SA	\$ 517	\$0.32
Next-gen renewables - SA	\$ 5	\$0.35
Next-gen renewables - NSW	\$ 525	\$0.48
Total	\$ 1,177	\$3.89

Pass-through cost calculations

Number of households	197,146
Residential % of consumption	40.43%
Cost per household per annum	\$165.84
Cost per household per week	\$31.00

Was \$5.68 before Hazelwood closure NEM prices, \$3.27 before 2017 revised wind discount factors and \$4.60 before April 2017 NEM forecast

This tab is to graph quarterly pass through costs and renewable energy generated. This tab is included on the same webpage as the publication of EvoEnergy's pass through cost reporting

Quarter	Quantity of eligible electricity supplied this quarter (MWh)	Fit Support payment paid or payable	Fit support paid or payable per quantity of electricity supplied (\$/MWh)
Q1 2014-15	4,585	\$685,577	\$ 150
Q2 2014-15	11,128	\$1,690,373	\$ 152
Q3 2014-15	10,472	\$1,550,267	\$ 148
Q4 2014-15	7,212	\$1,089,363	\$ 151
Q1 2015-16	9,054	\$1,341,307	\$ 148
Q2 2015-16	11,370	\$1,565,603	\$ 138
Q3 2015-16	10,253	\$1,391,527	\$ 136
Q4 2015-16	26,746	\$1,508,994	\$ 56
Q1 2016-17	31,700	\$1,794,179	\$ 57
Q2 2016-17	37,696	\$2,834,189	\$ 75
Q3 2016-17	82,135	\$1,446,489	\$ 18
Q4 2016-17	126,575	\$123,827	\$ 1
Q1 2017-18	208,442	\$2,141,483	\$ 10
Q2 2017-18	178,330	\$4,695,694	\$ 26
Q3 2017-18	191,968	\$3,702,443	\$ 19
Q4 2017-18	189,876	\$3,966,111	\$ 21

