



Market Performance – Overview

Index	Percentage change			Fixed Income	Yield	Change in Yield (basis points)		
	Week	YTD	12 months			Week	YTD	12 months
(Australia) S&P / ASX200	(2.2%)	(4.0%)	2.0%	(Australia) 2-year Gov. bonds	2.05%	8.1	5.5	27.0
(Japan) Topix	(4.1%)	(8.4%)	8.8%	(Australia) 5-year Gov. bonds	2.37%	4.3	1.3	7.6
(Singapore) FTSE Strait Times Index	(2.6%)	0.5%	9.4%	(Australia) 10-year Gov. bonds	2.66%	(3.6)	(1.6)	(9.5)
(Hong Kong) Hang Seng	(3.8%)	1.3%	24.6%					
(South Korea) Kospi 200	(3.2%)	(3.8%)	10.5%	Currency	Rate	Week	YTD	12 months
(US) S&P 500	(6.0%)	(3.2%)	10.3%	AUD to USD	0.7696	(0.2%)	(1.4%)	0.9%
(US) Dow Jones Industrial	(5.7%)	(4.8%)	13.9%					
(UK) FTSE 100	(3.4%)	(10.0%)	(5.7%)					

News Headlines and Key Sector Developments

The Australian market finished the week 2.16% lower with the S&P/ASX200 ending at 5821 points after trade war worries rattled investors and wiped billions off the value of the stock market. The Australian dollar finished the week 0.25% lower to end at US76.96.

Construction has begun on Pacific Hydro's, 80MW Crowlands Wind Farm near Ararat in regional Victoria, marking the fruition of a ground-breaking Melbourne-based bulk buy renewables project developed by a consortium of 14 of leading local universities, cultural institutions, corporations and Councils.

The Victorian Government's has announced the results of its energy storage initiative. The two winning projects are being delivered by private consortia Edify Energy and Spotless Sustainability Services and supported by \$25 million from the Victorian Government and matched funding from the Australian Renewable Energy Agency. The Tesla 25MW/50MWh battery will be integrated with the Gannawarra Solar Farm, south-west of Kerang and will store renewable energy produced on site. The second battery is a 30MW/30MWh system connected directly to a vital grid intersection at a substation at Warrenheip, near Ballarat. Construction has already begun, with both projects expected to be operational in time for next summer's peak.

Neoen - French renewable energy developer, the owner and operator of the Tesla big battery in South Australia, has begun work on the Bulgana green power hub in Victoria, again combining a major wind farm with battery storage. The \$350 million project will include a 194MW wind farm and a 20MW/34MWh battery storage facility using Tesla lithium-ion Powerpacks and is being described as the first agribusiness partnership of its kind in the world.

A Victorian government-backed plan to convert some of the state's abandoned gold mine shafts into pumped hydro energy resources will undergo full feasibility studies, after initial investigations returned promising results.

The Jupiter Wind Farm, proposed for development south-east of Tarago by Australian-Spanish joint venture EPYC, was in late February rejected by the department as fundamentally unsuitable to the site and surrounds. The rejection came despite the proposed project having been downsized by almost half, to a total of 54 turbines, nearly three years after being sent back to the drawing board for the first time. As a result, the proponents of the wind farm have withdrawn their application to develop the project.



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Australian Wind and Solar

Edition 103 for the week ending 23 Mar 2018 | Published 26 Mar 2018 WWW.LCCASIAPACIFIC.COM



Ticker	Company Name	Australian Activities	Market Cap (A\$ m)	Open Price	Close Price	Week High	Week Low	Weekly change (%)	EV/EBITDA	EV/EBIT
AGL.AX	AGL Energy	Wind PD, O, OP; Solar R, C, PD, O, OP	13,901	21.63	21.21	22.08	20.91	▼ (3.1%)	8.3x	11.2x
APA.AX	APA Group	Wind O, OP	9,144	8.10	7.75	8.15	7.72	▼ (4.8%)	12.4x	20.6x
CSR.AX	CSR Ltd	Solar R, C	2,592	5.34	5.14	5.39	5.14	▼ (3.2%)	6.4x	8.2x
GNX.AX	Genex Power	Solar PD, OP	93	0.31	0.31	0.31	0.28	▼ (1.6%)	n.m.	n.m.
IFN.AX	Infigen Energy Ltd	Wind PD, O, OP; Solar PD	553	0.59	0.58	0.60	0.57	▼ (2.5%)	6.9x	10.8x
ORG.AX	Origin Energy Ltd	Wind O, OP; Solar R, C	15,739	8.72	8.95	9.29	8.65	▲ 1.2%	20.5x	29.8x
RFX.AX	RedFlow Ltd	Battery OEM	66	0.14	0.13	0.14	0.12	▼ (10.7%)	n.m.	n.m.
WND.AX	Windlab Ltd	Wind, Solar PD	107	1.51	1.60	1.60	1.50	▲ 6.7%	6.9x	7.0x
RNE.AX	Renu Energy Ltd	Wind, Solar PD	15	0.02	0.02	0.02	0.02	— 0.0%	n.m.	n.m.
BOSH.BO	Bosch Ltd	Battery OEM	10,596	359.25	346.08	362.94	339.75	▼ (3.3%)	25.9x	33.4x
SUZL.BO	Suzlon Energy Ltd	Wind OEM, DB	1,154	0.23	0.22	0.24	0.21	▼ (6.8%)	11.6x	15.0x
ABG.MC	Abengoa SA	CST OEM, PD, DB	377	0.04	0.04	0.05	0.04	▼ (2.0%)	32.0x	n.m.
ENOR.MC	Elecnor SA	Wind PD, DB; Solar PD, DB	1,908	21.69	22.02	22.24	21.51	▲ 1.7%	10.1x	15.3x
GAM.MC	Gamesa	Wind OEM	14,446	20.47	21.30	22.01	20.49	▲ 3.6%	20.8x	845.6x
GAS.MC	Gas Natural SDG SA	Wind D	29,908	29.97	30.01	30.51	29.79	▲ 0.0%	10.2x	18.4x
VWS.CO	Vestas Wind Systems A/S	Wind PD	20,202	92.81	94.14	96.56	91.75	▲ 2.5%	6.0x	7.9x
SIEGn.DE	Siemens AG	Wind OEM, DB	138,378	170.38	162.80	172.65	161.80	▼ (4.6%)	9.1x	13.2x
S92G.DE	SMA Solar Technology AG	Solar Inverter OEM	3,063	89.19	88.27	95.41	84.74	▲ 0.5%	16.7x	s
ALSO.PA	Alstom SA	Wind OEM, DB	12,743	55.42	57.60	58.79	54.90	▲ 4.4%	13.2x	18.5x
AREVA.PA	Areva SA	CST OEM, PD, DB	2,558	6.75	6.75	7.06	7.04	— 0.0%	n.m.	n.m.
ENGIE.PA	Engie SA	Wind O, OP	51,591	21.35	21.27	21.79	21.16	▼ (1.4%)	6.7x	12.5x
MALA.KL	Malakoff Corporation Bhd	Wind I	1,461	0.29	0.29	0.29	0.29	▲ 1.2%	5.9x	11.7x
005930.KS	Samsung Electronics Co Ltd	Battery OEM	427,006	3103.72	2983.05	3106.65	2975.85	▼ (3.7%)	3.9x	5.6x
051910.KS	LG Chem Ltd	Battery OEM	33,332	507.79	472.18	503.38	470.38	▼ (5.8%)	6.5x	9.6x
JLG.L	John Laing Group PLC	Wind I	2,307	4.66	4.72	4.79	4.60	▲ 2.1%	8.1x	8.1x
ENPH.O	Enphase Energy Inc	Solar Inverter OEM	537	5.73	6.28	6.46	5.69	▲ 2.6%	n.m.	n.m.
CSIQ.O	Canadian Solar Inc	Solar Panel OEM, R, C, PD	1,283	20.09	22.19	22.47	19.93	▲ 10.5%	10.9x	10.9x
FSLR.O	First Solar Inc	Solar Panel OEM, DB	9,591	89.92	91.80	97.04	90.05	▲ 1.4%	13.8x	22.2x
HQCL.O	Hanwha Q Cells Co Ltd	Solar Panel OEM	851	10.42	10.17	11.27	10.15	▼ (4.5%)	39.0x	39.0x
SPWR.O	SunPower Corp	Solar Panel OEM, R, C, DB	1,407	9.09	10.06	10.90	9.11	▲ 7.6%	n.m.	n.m.
TSLA.O	Tesla Motors Inc	Battery OEM	66,185	422.50	391.82	425.42	390.40	▼ (5.9%)	15,133.6x	n.m.
DQ.N	Daqo New Energy Corp	Solar Panel OEM	17,457	59.08	64.44	68.41	57.72	▲ 4.7%	4.1x	5.3x
GE.N	General Electric Co	Wind OEM, DB, I	147,471	18.63	16.98	18.74	16.92	▼ (8.4%)	59.6x	n.m.
JKS.N	JinkoSolar Holding Co Ltd	Solar Panel OEM	925	24.37	23.99	27.74	21.89	▼ (4.4%)	n.m.	n.m.
SOL.N	ReneSola Ltd	Solar Panel OEM	124	3.38	3.26	3.51	3.25	▼ (0.5%)	49.7x	n.m.
TSL.N	Trina Solar Ltd	Solar Panel OEM	1,410	15.24	15.25	14.96	14.00	— 0.0%	n.m.	n.m.
YGE.N	Yingli Green Energy Ltd	Solar Panel OEM	37	2.19	2.03	2.23	2.01	▼ (5.2%)	n.m.	n.m.
MEL.NZ	Meridian Energy Ltd	Wind PD, O, OP	7,066	2.74	2.77	2.82	2.73	▼ (1.0%)	14.1x	24.5x
TLT.NZ	Tilt Renewables Ltd	Wind PD, O, OP; Solar PD	533	1.73	1.71	1.74	1.67	▼ (0.6%)	10.5x	36.1x
1088.HK	China Shenhua Energy Co Ltd	Wind I	86,707	3.59	3.35	3.62	3.28	▼ (6.7%)	7.5x	7.5x
1165.HK	Shunfeng International Ltd	Solar Panel OEM	211	0.06	0.05	0.06	0.05	▼ (7.6%)	19.5x	n.m.
1211.HK	BYD Co Ltd	Battery OEM	32,727	12.55	11.58	12.58	11.49	▼ (5.7%)	13.4x	24.2x
0002.HK	CLP Holdings Ltd	Wind PD, O, OP	33,348	12.99	13.20	13.46	13.01	▲ 0.4%	9.7x	13.4x
0579.HK	Beijing Jingneng Clean Energy	Wind O, OP	2,196	0.34	0.32	0.34	0.32	▼ (2.3%)	5.9x	9.3x
RATCH.BK	Ratchaburi Electricity PCL	Wind PD, I; Solar PD, I	3,145	2.19	2.18	2.22	2.17	▼ (1.5%)	16.6x	22.1x
ABBN.S	ABB Ltd	Solar Inverter OEM, DB	65,746	31.33	30.32	31.76	30.10	▼ (3.5%)	10.6x	13.6x
002202.SZ	Xinjiang Goldwind S&T Co Ltd	Wind OEM, DB, OP, I	12,907	3.89	3.93	4.12	3.72	▲ 1.6%	23.8x	23.8x
300118.SZ	Risen Energy Co Ltd	Solar Panel OEM	2,049	2.47	2.27	2.51	2.23	▼ (7.3%)	11.0x	11.0x
601016.SS	CECEP Wind-Power Corp	Wind I	2,576	0.67	0.62	0.67	0.62	▼ (6.0%)	30.1x	30.1x
6758.T	Sony Corp	Battery OEM	80,075	66.59	63.23	67.62	62.28	▼ (3.7%)	5.3x	7.5x
8002.T	Marubeni Corp	Wind I	16,305	9.57	9.38	9.78	9.33	▼ (1.5%)	14.7x	29.4x
8015.T	Toyota Tsusho Corp	Wind I	15,222	46.41	42.99	47.09	42.75	▼ (5.6%)	9.6x	13.8x

Codes

PD	Project Development	DB	Design & Build
O	Owner	OEM	Original Equipment Manufacturer
OP	Operator	R	Residential Solutions
I	Investor	C	Commercial Solutions

Source: Thomson Reuters, LCC research



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