



Market Performance – Overview

Index	Percentage change			Fixed Income	Yield	Change in basis points		
	Week	YTD	12 months			Week	YTD	12 months
(Australia) S&P / ASX200	0.5%	0.8%	4.2%	(Australia) 2-year gov bonds	1.93%	(3.5)	1.4	26.5
(Japan) Topix	0.7%	11.1%	24.6%	(Australia) 5-year gov bonds	2.34%	(3.2)	0.6	48.7
(Singapore) FTSE Strait Times Index	2.2%	14.3%	14.1%	(Australia) 10-year gov bonds	2.82%	(1.8)	4.9	65.4
(Hong Kong) Hang Seng	3.3%	29.4%	18.8%					
(South Korea) Kospi 200	0.0%	21.6%	21.1%					
(US) S&P 500	1.2%	13.9%	18.0%					
(US) Dow Jones Industrial	1.6%	15.2%	24.7%					
(UK) FTSE 100	2.0%	5.3%	7.5%					

Currency	Rate	Week	YTD	12 months
AUD to USD	0.7769	(0.8%)	7.7%	2.5%

News Headlines and Key Sector Developments

The Australian market finished the week 0.51% higher with the S&P/ASX200 ending at 5711 points, as the share market rally on Friday helped the index to close in the black for the week. The Australian dollar finished the week 0.82% lower to end at US77.69 cents. The local currency continued to weaken following Thursday's weak retail sales data as traders lowered their expectations for an Australian interest rate hike next year.

India's second tender for 1,000 MW of wind power generation has drawn record low bids of just INR 2640 (A\$ 52) per MWh, the government announced on Thursday.

A total of 41 large-scale renewable energy projects with a total capacity of about 4,330 MW have been committed so far this year in Australia, the Clean Energy Council reports. The schemes will require an "unprecedented wave of investment" surpassing AUD 8.7 billion and create a total of 4,680 new direct jobs", the industry peak body said in a statement.

The Clean Energy Finance Corporation (CEFC) confirmed on Tuesday it will provide AUD 98 m of debt for the 88MWac Bannerton project, Victoria's largest solar farm. The CEFC said that construction on the facility is about to begin. It has backed the project as the sole debt financier.

Batteries provided by Samsung have been chosen for the second big battery storage project in South Australia, a 30MW/8MWh facility to be built on Yorke Peninsula that will work with a local wind farm and rooftop solar to create a renewable energy micro-grid. The contract was awarded this week by transmission company ElectraNet to the Adelaide-based Consolidated Power Projects, that will work with international energy firm ABB and Samsung to deliver the project. The project will cost \$30 million with ARENA contributing up to \$12 million.

The Gullen Range solar farm, the first in Australia to be co-located with a wind farm has begun generation into the grid. The 10MW solar farm is adjacent to the 165MW Gullen Range wind farm, and both are owned by New Gullen Range Wind Farm, a company owned 25% by Chinese renewable energy giant, Goldwind and 75% by Beijing Jingneng Clean Energy.

Macquarie Infrastructure and Real Assets (MIRA) and Singapore's sovereign wealth fund GIC have completed their acquisition of 31.7% of the voting shares of Philippine geothermal power producer Energy Development Corp (PSE:EDC).



IMPORTANT DISCLAIMER: This report has been prepared by LCC Asia Pacific Pty. Limited ("LCC"). The research is based on information obtained from sources believed to be accurate and reliable. LCC does not guarantee the accuracy, reliability, completeness or suitability of any such information and makes no warranty, guarantee or representation, expressly or impliedly about this research. LCC accepts no obligation to correct or update the information. No opinion or recommendation is made within this research. This report is not intended to be, nor should it be relied on, as a substitute for professional advice. This report should not be relied upon as the sole basis for any investment decision or planning, and LCC does not accept any responsibility on this basis for actions made.



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	14,927	23.36	22.76	23.62	22.60	▼ (2.6%)	8.7x	11.4x
APA.AX	APA Group	Wind O, OP	9,026	8.43	8.10	8.54	8.05	▼ (3.0%)	12.6x	20.8x
CSR.AX	CSR Ltd	Solar R, C	2,375	4.72	4.71	4.84	4.62	▼ (0.4%)	7.0x	9.3x
IFN.AX	Infigen Energy Ltd	Wind PD, O, OP; Solar PD	713	0.77	0.75	0.78	0.74	▼ (2.0%)	8.0x	12.7x
ORG.AX	Origin Energy Ltd	Wind O, OP; Solar R, C	12,429	7.43	7.08	7.53	7.05	▼ (5.3%)	23.5x	38.4x
RFX.AX	RedFlow Ltd	Battery OEM	49	0.10	0.09	0.10	0.09	▼ (5.3%)	n.m.	n.m.
WND.AX	Windlab Ltd	Wind, Solar PD	113	1.75	1.68	1.75	1.68	▼ (4.0%)	24.5x	25.9x
RNE.AX	Renu Energy Ltd	Wind, Solar PD	11	0.02	0.02	0.02	0.01	— 0.0%	n.m.	n.m.
RDSA.A	Royal Dutch Shell	Solar, PD	323,078	77.32	77.42	78.66	77.37	▲ 0.1%	8.7x	22.2x
BOSH.BO	Bosch Ltd	Battery OEM	12,661	404.93	413.87	414.95	400.24	▲ 3.2%	31.7x	40.8x
SUZL.BO	Suzlon Energy Ltd	Wind OEM, DB	1,607	0.30	0.30	0.31	0.29	▼ (0.6%)	7.4x	8.8x
ABG.MC	Abengoa SA	CST OEM, PD, DB	383	0.05	0.04	0.05	0.04	▼ (9.2%)	n.m.	n.m.
ENOR.MC	Elecnor SA	Wind PD, DB; Solar PD, DB	1,584	17.67	18.24	18.24	17.22	▲ 2.6%	9.4x	13.4x
GAM.MC	Gamesa	Wind OEM	12,223	16.41	17.98	18.16	16.39	▲ 7.9%	10.7x	17.9x
GAS.MC	Gas Natural SDG SA	Wind D	27,610	27.83	27.64	28.38	26.96	▼ (2.1%)	8.3x	13.5x
VWS.CO	Vestas Wind Systems A/S	Wind PD	24,509	114.03	113.95	117.51	111.42	▼ (0.5%)	7.7x	9.6x
SIEGn.DE	Siemens AG	Wind OEM, DB	153,230	179.51	180.62	182.74	178.43	▲ 0.5%	10.6x	14.1x
S92G.DE	SMA Solar Technology AG	Solar Inverter OEM	1,857	49.60	53.61	55.27	49.84	▲ 7.2%	8.5x	28.9x
ALSO.PA	Alstom SA	Wind OEM, DB	11,916	53.37	54.20	54.64	53.31	▲ 0.0%	14.6x	20.0x
AREVA.PA	Areva SA	CST OEM, PD, DB	2,558	6.75	6.75	6.71	6.70	— 0.0%	n.m.	n.m.
ENGIE.PA	Engie SA	Wind O, OP	52,527	21.50	21.61	21.88	21.42	▼ (0.3%)	6.9x	12.7x
MALA.KL	Malakoff Corporation Bhd	Wind I	1,583	0.32	0.32	0.33	0.31	▼ (2.4%)	5.8x	11.6x
005930.KS	Samsung Electronics Co Ltd	Battery OEM	413,585	2855.00	2860.58	2994.46	2836.03	— 0.0%	5.5x	8.4x
051910.KS	LG Chem Ltd	Battery OEM	30,873	428.98	437.34	441.81	404.43	— 0.0%	7.6x	11.9x
JLG.L	John Laing Group PLC	Wind I	1,770	4.85	4.82	4.83	4.74	▼ (1.1%)	8.4x	8.4x
ENPH.O	Enphase Energy Inc	Solar Inverter OEM	162	1.96	1.92	2.10	1.84	▼ (1.2%)	n.m.	n.m.
CSIQ.O	Canadian Solar Inc	Solar Panel OEM, R, C, PD	1,230	21.38	21.28	22.13	21.11	▼ (1.0%)	35.2x	35.2x
FSLR.O	First Solar Inc	Solar Panel OEM, DB	6,480	59.17	62.05	62.90	58.27	▲ 5.9%	11.3x	31.0x
HQCL.O	Hanwha Q Cells Co Ltd	Solar Panel OEM	875	10.95	10.46	11.06	10.30	▼ (0.2%)	13.2x	13.2x
SPWR.O	SunPower Corp	Solar Panel OEM, R, C, DB	1,275	9.23	9.14	9.50	9.02	▼ (1.8%)	n.m.	n.m.
TSLA.O	Tesla Motors Inc	Battery OEM	76,662	437.73	459.37	463.51	426.41	▲ 5.5%	95.1x	n.m.
DQ.N	Daqo New Energy Corp	Solar Panel OEM	412	37.50	39.16	39.54	36.64	▲ 5.7%	4.7x	6.8x
GE.N	General Electric Co	Wind OEM, DB, I	271,808	30.93	31.39	32.04	30.90	▲ 1.7%	16.6x	25.5x
JKS.N	JinkoSolar Holding Co Ltd	Solar Panel OEM	1,016	31.85	31.23	33.08	31.02	▼ (2.0%)	30.2x	30.2x
SOL.N	ReneSola Ltd	Solar Panel OEM	115	2.96	3.02	3.02	2.87	▲ 1.7%	49.3x	n.m.
TSL.N	Trina Solar Ltd	Solar Panel OEM	1,410	15.24	15.25	15.27	14.29	— 0.0%	n.m.	n.m.
YGE.N	Yingli Green Energy Ltd	Solar Panel OEM	54	2.91	3.04	3.08	2.87	▲ 3.9%	n.m.	n.m.
MEL.NZ	Meridian Energy Ltd	Wind PD, O, OP	6,782	2.62	2.64	2.65	2.57	▲ 0.8%	14.8x	27.4x
TLT.NZ	Tilt Renewables Ltd	Wind PD, O, OP; Solar PD	602	1.88	1.92	1.92	1.86	▲ 1.2%	9.7x	24.0x
TPW.NZ	TrustPower Ltd	Wind PD, O, OP	1,590	5.05	5.07	5.08	4.95	▲ 0.3%	11.2x	14.3x
1088.HK	China Shenhua Energy Co Ltd	Wind I	77,769	3.01	3.23	3.30	3.01	▲ 7.5%	7.8x	7.8x
1165.HK	Shunfeng International Ltd	Solar Panel OEM	306	0.07	0.07	0.07	0.07	▲ 0.9%	20.2x	n.m.
1211.HK	BYD Co Ltd	Battery OEM	36,076	12.27	13.27	13.51	11.81	▲ 12.0%	15.2x	27.4x
0002.HK	CLP Holdings Ltd	Wind PD, O, OP	33,038	13.05	13.08	13.20	13.06	▼ (0.1%)	10.8x	15.2x
0579.HK	Beijing Jingneng Clean Energy	Wind O, OP	2,470	0.36	0.36	0.37	0.36	▲ 0.9%	6.3x	9.9x
RATCH.BK	Ratchaburi Electricity PCL	Wind PD, I; Solar PD, I	3,032	2.06	2.09	2.09	2.06	▲ 1.5%	15.8x	20.7x
ABBN.S	ABB Ltd	Solar Inverter OEM, DB	69,762	31.50	32.18	32.29	31.25	▲ 1.9%	11.8x	15.3x
002202.SZ	Xinjiang Goldwind S&T Co Ltd	Wind OEM, DB, OP, I	8,397	2.50	2.51	2.64	2.46	— 0.0%	17.9x	17.9x
300118.SZ	Risen Energy Co Ltd	Solar Panel OEM	2,385	2.67	2.64	2.68	2.57	— 0.0%	14.3x	14.3x
601016.SS	CECEP Wind-Power Corp	Wind I	2,988	0.71	0.72	0.74	0.70	— 0.0%	38.2x	38.2x
6758.T	Sony Corp	Battery OEM	59,991	47.49	47.44	48.60	47.13	▼ (0.2%)	6.3x	10.4x
8002.T	Marubeni Corp	Wind I	15,127	8.71	8.70	8.84	8.68	▼ (0.2%)	15.5x	28.1x
8015.T	Toyota Tsusho Corp	Wind I	15,194	41.71	42.91	43.26	41.88	▲ 2.3%	10.6x	15.4x
8031.T	Mitsui & Co Ltd	Wind PD, O, OP	33,753	18.78	18.79	19.05	18.75	▼ (0.5%)	15.2x	27.5x

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



IMPORTANT DISCLAIMER: This report has been prepared by LCC Asia Pacific Pty. Limited ("LCC"). The research is based on information obtained from sources believed to be accurate and reliable. LCC does not guarantee the accuracy, reliability, completeness or suitability of any such information and makes no warranty, guarantee or representation, expressly or impliedly about this research. LCC accepts no obligation to correct or update the information. No opinion or recommendation is made within this research. This report is not intended to be, nor should it be relied on, as a substitute for professional advice. This report should not be relied upon as the sole basis for any investment decision or planning, and LCC does not accept any responsibility on this basis for actions made.