



Australian CleanTech Index

1Q FY18

Quarterly Performance Report

October 2017

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1. Australian CleanTech Index Overview

The Australian CleanTech Index provides the definitive measure of the performance of Australian listed cleantech stocks. The cleantech industry is split into a number of sub-sectors as detailed in the table below. Each of the sub-sectors contains companies that have both environmental and economic benefits.

Solar Thermal and Photovoltaics	Waste Management & Recycling
Wind Generation	Energy Efficiency & Biomaterials
Biofuels	Green Buildings
Water	Energy Storage & Fuel Cells
Environmental Services	Wave, Tidal & Hydro
Low Emissions Vehicle Technologies	Biogas
Carbon Trading	Geothermal – Hot dry rocks and conventional

The cleantech sector is fundamentally different to Socially Responsible Investments (SRI) or Environmental, Social and Governance (ESG) performance. SRI and ESG look at incremental improvements in company performance and can be seen as ‘operational hygiene’ measures that find the best in class. Cleantech focuses on companies whose output positively enhances the communities and ecologies in which they reside. It is about doing ‘more good’ rather than ‘less bad’.

With 78 companies falling under the coverage of the Index and with a combined market capitalisation, after its rebalance, of \$36 billion, the ACT Australian CleanTech Index presents a comprehensive picture of the Australian cleantech industry’s growth in a single measure.

The Index is weighted by market capitalisation and is benchmarked against both the ASX200 and the ASX Small Ordinaries. The rules for the formulation and management of the Index have been developed with reference to global best practice. An overview of these rules is provided in the annual performance report.

The ACT Australian Cleantech Index is updated each month and published on the Australian CleanTech website at www.auscleantech.com.au, and in numerous domestic and international publications.

Monthly results can be emailed directly to interested parties by subscribing at <http://www.auscleantech.com.au/Pages/cleantech.html>.

2. Australian CleanTech Index Performance 1Q FY18

Australian CleanTech Index outperformed the ASX200 for the month of September and the first quarter of FY18.

The Australian CleanTech Index rose from 59.69 to 60.18 over the month recording a 0.83% gain. This compared to the ASX200 loss of 0.56% and the ASX Small Ordinaries gain of 0.58%. The Australian CleanTech 20 recorded a gain of 0.80% for the month.

Over the first quarter of the 2018 fiscal year, the Australian CleanTech Index recorded a gain of 1.6%, ahead of the ASX200's loss of 0.7% but behind the ASX Small Ordinaries' 3.1% gain.

The twelve month figures remain ahead of both the ASX200 and the ASX Small Ordinaries. Over the last 12 months, the Australian CleanTech Index recorded a gain of 7.6%, 3.1% ahead of the ASX200. **Over the last 3 years, the Australian CleanTech Index still leads the ASX200 by over 40%.**

Percentage Change	FY14	FY15	FY16	FY17	SEP'17	1Q FY18	6 Mnths	12 Mnths	3Yrs	5Yrs
Australian CleanTech Index	19.6%	16.6%	21.3%	13.1%	0.83%	1.6%	6.3%	7.6%	53.7%	75.2%
Australian CleanTech 20	19.6%	16.0%	18.4%	14.8%	0.80%	1.7%	7.2%	9.0%	51.9%	73.5%
ASX200	12.3%	1.3%	-4.3%	9.4%	-0.56%	-0.7%	-3.2%	4.5%	7.3%	29.8%
ASX Small Ords	9.6%	-2.8%	10.4%	3.6%	0.58%	3.1%	2.3%	-0.3%	14.4%	9.0%

The market capitalisation after its rebalance of the 78 stocks in the Australian CleanTech Index is A\$36.1 billion. With 13 companies being added to the Index at this rebalance, it is no surprise that this is another new high for the sector market capitalisation.

Best and Worst Stocks

The best and worst performers in terms of share price performance over the month and the quarter are shown in the table below.

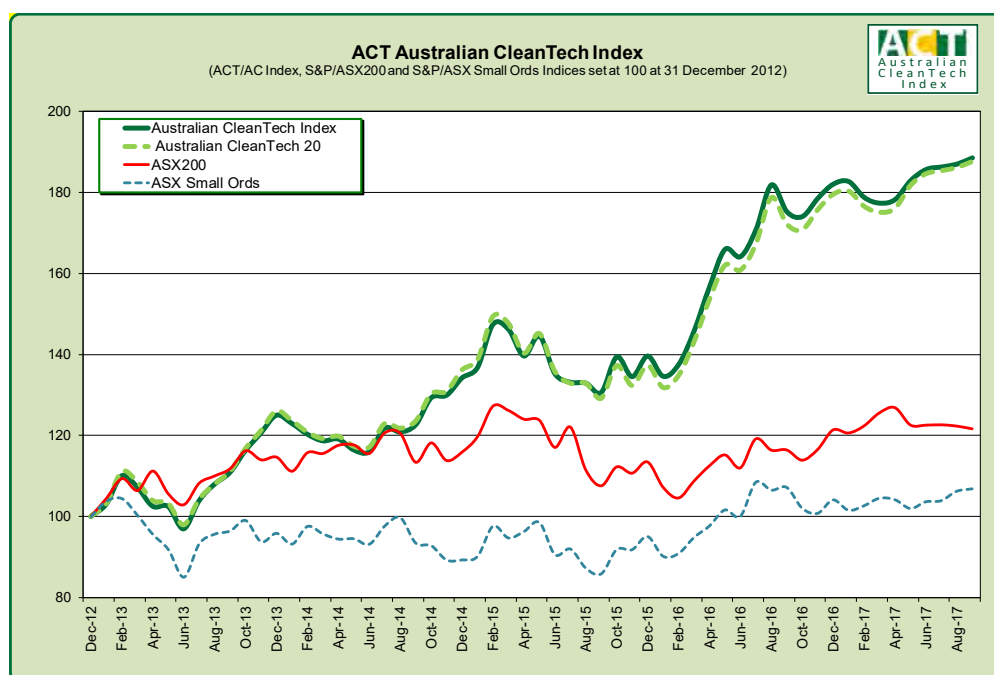
The month's performance was driven by 8 companies with gains of more than 15%. The greatest percentage gains were recorded by **Quantum Energy (QTM)**, **Actinogen (ACW)** and **Protean Wave Energy (POW)**. The greatest gain in market capitalisation over the month was from **Galaxy Resources (GXY)**.

These gains were partially offset by 7 companies recording losses of more than 15% led by **ReNu Energy (RNE)**, **Water Resources Group (WRG)**, **Traffic Technologies (TTI)** and **Volt Power Group (VPR)**. The greatest loss in market capitalisation over the month was from **Sims Metal Management (SGM)**.

The quarter's performance was driven by 13 companies with gains of more than 25%. The greatest gains were recorded by **Environmental Group (EGL)**, **Lithium Australia (LIT)** and **Papyrus Australia (PPY)**.

These losses were partially offset by 8 companies recording losses of more than 25% led by **Water Resources Group (WRG), Australian Vanadium (AVL) and ReNu Energy (RNE)**.

September 2017	
Best Performers Share Price Gain > 15%	Worst Performers Share Price Loss > 15%
Quantum Energy Actinogen Bluglass BuildingIQ Pro-Pac Packaging Galaxy Resources Orocobre Protean Wave Energy	Fluence Corp Water Resources Group SciDev) Traffic Technologies Volt Power Group Carnegie Clean Energy ReNu Energy
1Q FY18	
Best Performers Share Price Gain > 25%	Worst Performers Share Price Loss > 25%
Quantum Energy CleanTeQ Papyrus Australia AnaeCo Bluglass BuildingIQ Volt Power Group Galaxy Resources Lithium Australia Orocobre Protean Wave Energy Environmental Group Australian Ethical Investment	Leaf Energy Water Resources Group Range International Eden Innovations Australian Vanadium RedFlow Carnegie Clean Energy ReNu Energy



Index Rebalance

The Australian CleanTech Index underwent its quarterly rebalancing at the end of September which took account of recent share issues and other corporate activity. No companies were removed from the Index.

Mostly driven by the mining sector finally seeing cleantech as the industry of the future, there have been thirteen companies added the Index at this rebalance.

- **Cobalt Blue Holdings Limited (ASX:COB)** is a cobalt exploration and development company. The Company is focused on developing the Thackaringa Cobalt Project in New South Wales. The Company focuses on achieving commercial production of cobalt and commercializing technical advances in the use of cobalt. The Thackaringa Cobalt Project covers an area of approximately 60 square kilometers and is located in western New South Wales (over 20 kilometers west of Broken Hill).
- **Collaborate Corporation Limited (ASX:CL8)** is engaged in the operation of peer-to-peer and online marketplaces. The Company operates in the collaborative consumption business. It operates three businesses: DriveMyCar, MyCaravan and Rentoid. It enables owners and renters to transact directly with each other, monetizing assets.
- **PYROLYX AG (ASX:PLX)** - German company that has developed a specialised process that transforms waste tyres into high grade, valuable raw materials, primarily recovered Carbon Black, as well as pyrolysis oil and steel recovered from the Pyrolyx process.
- **Windlab Limited (ASX:WND)** is an Australia-based renewable energy development company. The Company is engaged in developing, constructing and operating wind energy projects around the world. Its portfolio of wind farm development sites totals to approximately 7000 megawatts (MW) of potential capacity across North America, Australia, New Zealand and Southern Africa. Its development portfolio consists of approximately 48 projects.

Graphite Explorers and Producers

- **Bass Metals Limited (ASX:BSM)** is an Australia-based graphite producer. The Company is principally engaged in the mineral exploration and site care and maintenance activities in Tasmania. The Company is an investor in the operating Graphmada graphite mine in Madagascar. The Graphmada graphite mine is situated in eastern Madagascar, approximately 100 kilometers by sealed highway from the export port of Tamatave.
- **Battery Minerals Limited (ASX:BAT)** engages in the exploration of mineral properties in Africa. The company primarily explores for graphite and zinc deposits. It has interests in the Montepuez Central Graphite and Balama Central Graphite projects located in Cabo Delgado province of Mozambique; and Zinc project in Gabon. The company was formerly known as Metals of Africa Limited and changed its name to Battery Minerals Limited in December 2016. Battery Minerals Limited was incorporated in 2011 and is based in West Perth, Australia.
- **Black Rock Mining Limited (ASX:BKT)**, formerly Green Rock Energy Limited, is an Australia-based graphite producer. The Company owns graphite tenure in the

Mahenge region, Tanzania.

- **First Graphite Limited (ASX:FGR)**, formerly MRL Corporation Limited, focuses on mineral exploration. Its segments include Mining and exploration activities, and Corporate services. It is engaged in the exploration and development of high-grade projects in Sri Lanka. It is a developer and producer of high technology graphene materials.
- **Graphex Mining Limited (ASX:GPX)** is engaged in the exploration and development of mineral resources, with a focus on the Chilalo Graphite Project in Tanzania. The Company's Chilalo Graphite Project is located in south-east Tanzania, within the Mozambique belt, which is known for hosting coarse flake graphite deposits. Chilalo is host to the coarse flake Shimba graphite deposit.
- **Kibaran Resources Limited (ASX:KNL)** is an Australia-based company, which is engaged in the exploration and evaluation of its tenements in graphite-focused mineral resources in Tanzania in East Africa, including feasibility work on the Epanko Project and marketing of graphite.
- **Novonix Limited (ASX:NVX)** explores for and develops flake graphite deposits in Queensland, Australia. It has interests in the Mount Dromedary project, which is located to the north of Cloncurry. The company was formerly known as GRAPHITECORP Limited and changed its name to Novonix Limited in July 2017. Novonix Limited was founded in 2012 and is based in Brisbane, Australia.
- **Syrah Resources Limited (ASX:SYR)** is a supplier of graphite products. The Company's principal activities include the construction and development of the Balama Graphite Project in Mozambique; development of sales and marketing arrangements with targeted customers; continued assessment of the use of high quality graphite from the Balama Graphite Project as an input into the production of battery anode material and industrial products, and development of downstream, battery anode material strategy.
- **Volt Resources Limited (ASX:VRC)**, formerly Mozambi Resources Limited, is a graphite exploration company. The Company is focused on the exploration and development of its existing Namangale Graphite Project in Tanzania and the identification of further assets globally.

One company also changed its names during the period:

- **Fluence Corporation Ltd (ASX:FLC)** is the new name for Emefcy Group (Ltd) after it merged with RWL Water LLC. Fluence Corporation's vision is becoming the leading global provider of fast to deploy decentralized and packaged water and wastewater treatment solutions, already a A\$17 billion market in 2016, excluding the China rural market opportunity. Fluence has experience in operating in over 70 countries worldwide and employs more than 300 highly trained water professionals around the globe. Fluence provides local, sustainable treatment and reuse solutions while empowering businesses and communities worldwide to make the most of their water resources.

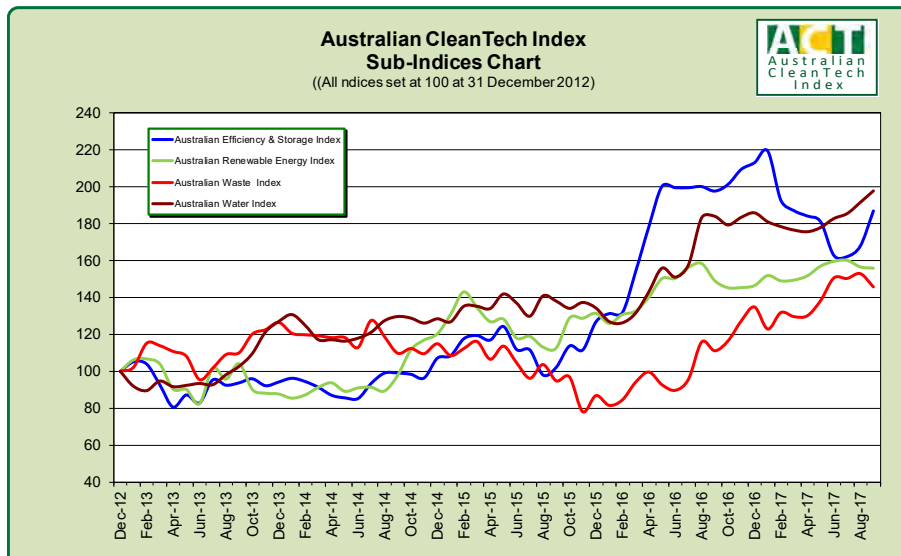
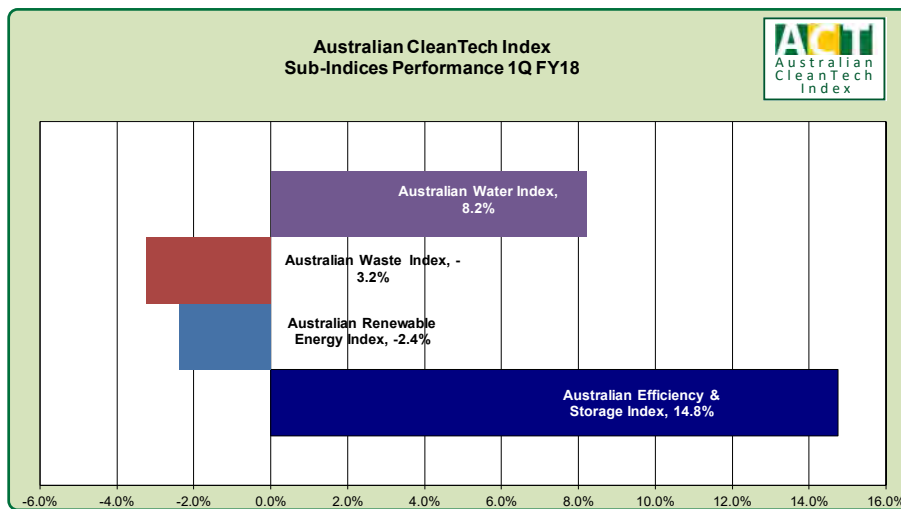
3. Component Sub-Indices

To provide an analysis of the Australian CleanTech Index, a number of sub-indices have been developed. The performance of each of these sub-indices over the last five financial years and during 1Q of FY18 is shown in the table and charts below.

The best performing sectors for the three months to September 2017 were the Australia Efficiency & Storage Index and the Australian Water Index.

Australian CleanTech Sub-Indices

	FY13	FY14	FY15	FY16	FY17	1Q FY18
Australian Efficiency & Storage Index	-27.9%	2.9%	31.0%	78.1%	-18.4%	14.8%
Australian Renewable Energy Index	-22%	10%	29.5%	27.4%	6.2%	-2.4%
Australian Waste Index	-3.4%	18.3%	-7.4%	-14.3%	68.0%	-3.2%
Australian Water Index	-14.6%	26.3%	16.1%	10.3%	21.1%	8.2%



4. Component Companies on 30 September 2017

The largest 20 largest Index constituents by market capitalisation on 30 September 2017 are provided in the table below. These companies will form the constituents of the Australian CleanTech 20 until the index is rebalanced again on 31 December 2017.

Market Cap Ranking	Company	Ticker
1	Meridian Energy	MEZ
2	Mercury NZ Ltd	MCY
3	Reece Australia Holdings	REH
4	Contact Energy	CEN
5	Sims Metal Management	SGM
6	Cleanaway Waste	CWY
7	Reliance Worldwide Corp	RWC
8	Galaxy Resources	GXY
9	Syrah Resources	SYR
10	Orocobre	ORE
11	Nanosonics	NAN
12	Bingo Industries	BIN
13	Infigen Energy	IFN
14	CleanTeQ	CLQ
15	Tox Free Solutions	TOX
16	Beacon Lighting Corp	BLX
17	Fluence Corp	EMC
18	Eden Innovations	EDE
19	Pacific Energy	PEA
20	Metro Performance Glass	MPP

Syrah Resources was the one new entrant to the Australian CleanTech 20 at this rebalance replacing Neometals

Each of the constituents in the Australian CleanTech 20 has a market capitalisation of more than \$169m.

For a full listing of all companies included in the Australian CleanTech Index, please email your request to index@auscleantech.com.au.

6. China CleanTech Index

Australian CleanTech, through its Beijing-based Chinese operations, publishes the China CleanTech Index. This index tracks all 161 Chinese-based listed cleantech companies with a combined market capitalisation of US\$314 billion and provides the definitive measure of Chinese cleantech stocks for global markets. The charts below show the performance of the China CleanTech Index against its benchmarks and also show the relative performance of the China CleanTech Index against the Australian CleanTech Index.

Full details of the China CleanTech Index can be downloaded from www.sinocleantech.com, where it is also possible to sign up to receive the monthly performance reports.

