



# Australian CleanTech Index

**2015-16**

## Annual Performance Report

**July 2016**

To request further information or to be added to the distribution list for future ACT Australian CleanTech Index reports, please see [www.auscleantech.com.au/Pages/cleantech.html](http://www.auscleantech.com.au/Pages/cleantech.html) or contact John O'Brien, Managing Director, Australian CleanTech at [john.obrien@auscleantech.com.au](mailto:john.obrien@auscleantech.com.au)



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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 64 companies falling under the coverage of the Index and with a combined market capitalisation, after its rebalance, of over \$23.5 billion, the Australian CleanTech Index presents for the only complete 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 this annual performance report.



## The Definitive Measure of Australian Cleantech Industry Performance

The Australian CleanTech Index is updated each month and published on the Australian CleanTech website at [www.auscleantech.com.au](http://www.auscleantech.com.au), in the [Ethical Investor](#) magazine, in [Renew Economy](#) and in the international [Cleantech Investor](#) publication.

Monthly results can be emailed directly to interested parties by subscribing at [http://www.auscleantech.com.au/pages/ACT\\_Australian\\_Cleantech\\_Index.php](http://www.auscleantech.com.au/pages/ACT_Australian_Cleantech_Index.php).

## 2. Australian CleanTech Index Performance 2015-16

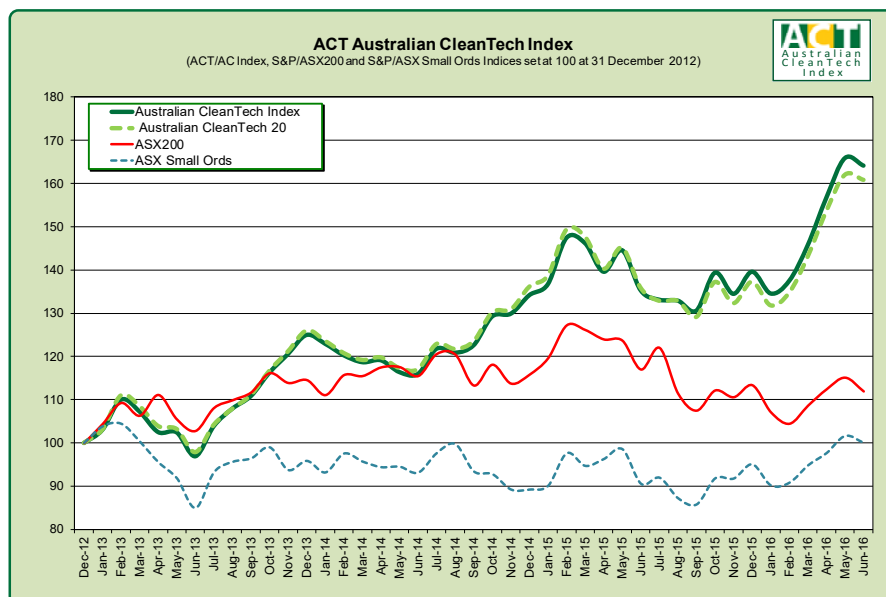
The Australian CleanTech Index outperformed both its benchmarks for the month of June 2016 and significantly outperformed the wider market for the full 2015-16 financial year.

Over the fourth quarter of the 2016 fiscal year, the Australian CleanTech Index recorded a gain of 12.6% compared to the ASX200's gain of only 3.0% and the ASX Small Ordinaries' 5.5% gain.

Finally, over the full 2016 fiscal year, the Australian CleanTech Index recorded a **strong gain of 21.3%, over 25% ahead of the ASX200's** loss of 4.3% and the ASX Small Ordinaries' gain of 10.4%.

This caps a stellar three years for the index with returns of nearly 70% for investors that have held the course.

Percentage Change	FY13	FY14	FY15	JUN'16	4Q FY16	2H FY16	FY16	3Yrs
<b>ACT Australian CleanTech Index</b>	-3.5%	19.6%	16.6%	<b>-1.1%</b>	12.6%	17.6%	<b>21.3%</b>	69.3%
<b>Australian CleanTech 20</b>	-2.0%	19.0%	16.0%	<b>-0.7%</b>	12.3%	17.1%	<b>18.4%</b>	64.3%
<b>ASX200</b>	17.3%	12.3%	1.3%	<b>-2.8%</b>	3.0%	<b>-1.3%</b>	<b>-4.3%</b>	8.9%
<b>ASX Small Ords</b>	-8.3%	9.6%	<b>-2.8%</b>	<b>-1.6%</b>	5.5%	5.2%	<b>10.4%</b>	17.7%



The market capitalisation of the 64 stocks in the Australian CleanTech Index is A\$23.5 billion, after its rebalance, falling from its peak of \$23.7 billion in May 2016 but a very long way up from its trough of A\$6.2 billion in July 2012.

The quarter’s performance was driven by 16 companies with gains of more than 20%. The greatest gains were recorded by CleanTeQ (CLQ), Environmental Group (EGL) and Emefcy Group (EMC). These gains were partially offset by 8 companies recording losses of more than 20% led by Intec (INL), Vmoto (VMT) and the once mighty Geodynamics (GDY).

The FY16 performance was driven by 17 companies with gains of more than 50%. The greatest gains were recorded by Eden Energy (EDE), Neometals (NMT) and Bluglass (BLG). These gains were partially offset by 9 companies recording losses of more than 30% led by EcoSave (ECV), Tag Pacific (TAG), Australian Renewable Fuels (ARW) and Intec (INL).

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

<b>Fourth Quarter FY16</b>		
<b>Worst Performers Share Price Loss &gt; 20%</b>	<b>Best Performers Share Price Gain &gt; 20%</b>	
Intec Beacon Lighting Corp Carnegie Wave Energy Vmoto Geodynamics Kalina Power HRL Holdings Pacific Environment	Infigen Energy Phoslock Water Solutions Emefcy Group CleanTeQ Bluglass Eden Energy Galaxy Resources Lithium Australia	Hazer Group Neometals Orocobre RedFlow Genex Power Orbital Corporation Environmental Group Australian Ethical Investment
<b>Full Year FY16</b>		
<b>Worst Performers Share Price Loss &gt; 30%</b>	<b>Best Performers Share Price Gain &gt; 50%</b>	
Tag Pacific Australian Renewable Fuels AnaeCo Intec Beacon Lighting Corp EcoSave SECOS Group Enerji Geodynamics	GO Energy Group Quantum Energy Infigen Energy Phoslock Water Solutions Water Resources Group CleanTeQ Bluglass Gale Pacific Eden Energy	Galaxy Resources Neometals Orocobre RedFlow Vmoto Kalina Power Ltd HRL Holdings Soil Sub Technologies

## Index Rebalance

The Australian CleanTech Index underwent its quarterly rebalancing at the end of June which took account of recent share issues and other corporate activity.

The changes that were made to the index constituents at this rebalancing were:

### Additions to the Index

- **Australian Vanadium Ltd (ASX: AVL)** - Australian Vanadium is an emerging vanadium producer focused on the Gabanintha deposit in Western Australia and leveraging opportunities within the emerging battery storage market. Its subsidiary, VSUN is developing and deploying energy storage solutions. [www.australianvanadium.com.au](http://www.australianvanadium.com.au)
- **BuildingIQ Ltd (ASX:BIQ)** – BuildingIQ is a leading Advanced Energy Optimization Solution, elevating the way power quality and energy is managed in complex buildings. BuildingIQ software extends the BMS/BAS value and can be cash flow positive in under 90 days. [www.buildingiq.com](http://www.buildingiq.com)
- **Protean Wave Power (ASX:POW)** – The Protean Wave Technology design comprises a small, durable ocean buoy that is tethered to a weight on the ocean floor. The design concept utilises a group of buoys, connected and packed closely together to form an array. Multiple arrays can then be combined to form a wave farm. [www.proteanwaveenergy.com](http://www.proteanwaveenergy.com)

### Removed from the Index

- **Alterra Ltd (ASX:1AG)** - Previously called Carbon Conscious (ASX:CCF) after the company has refocused its operations onto dairy farming.
- **Novariase Renewable Resources Ltd (ASX:NOE)** – Having been suspended from the ASX for over 15 months and with little prospect of relisting.
- **Ultimate Power & Energy (SIM:UPE)** – having been delisted from the SIM Venture Securities Exchange that has now ceased operations.

### 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 is shown in the table and charts below.

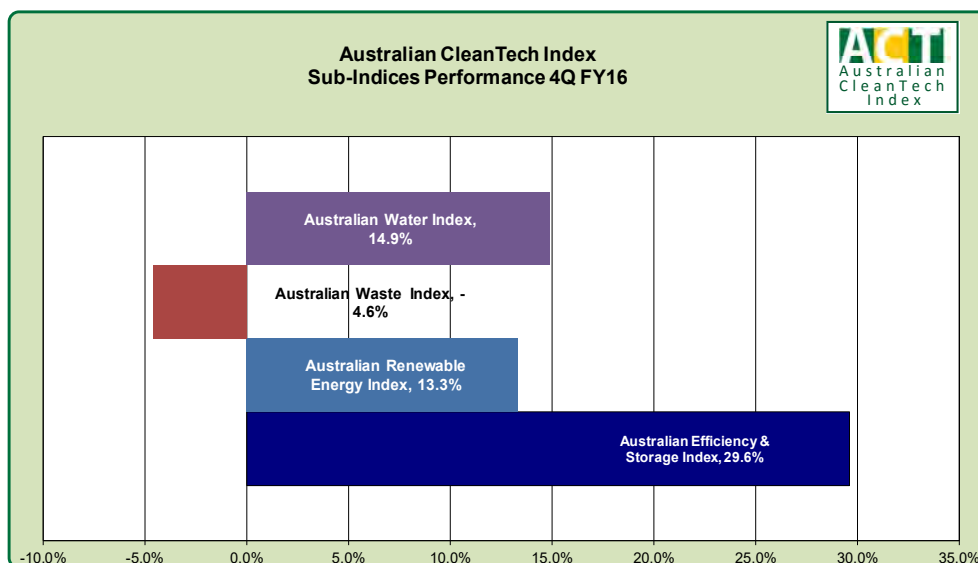
The best performing sector for the three months to June 2016 was the Australian Efficiency & Storage Index and the worst performer was the Australian Waste Index.

Over the 2015-16 financial year, the best performing index was again the Australian Efficiency & Storage Index, being driven by strong interest in energy storage and its suppliers such as lithium mines, with the Australian Waste Index showing the weakest performance.

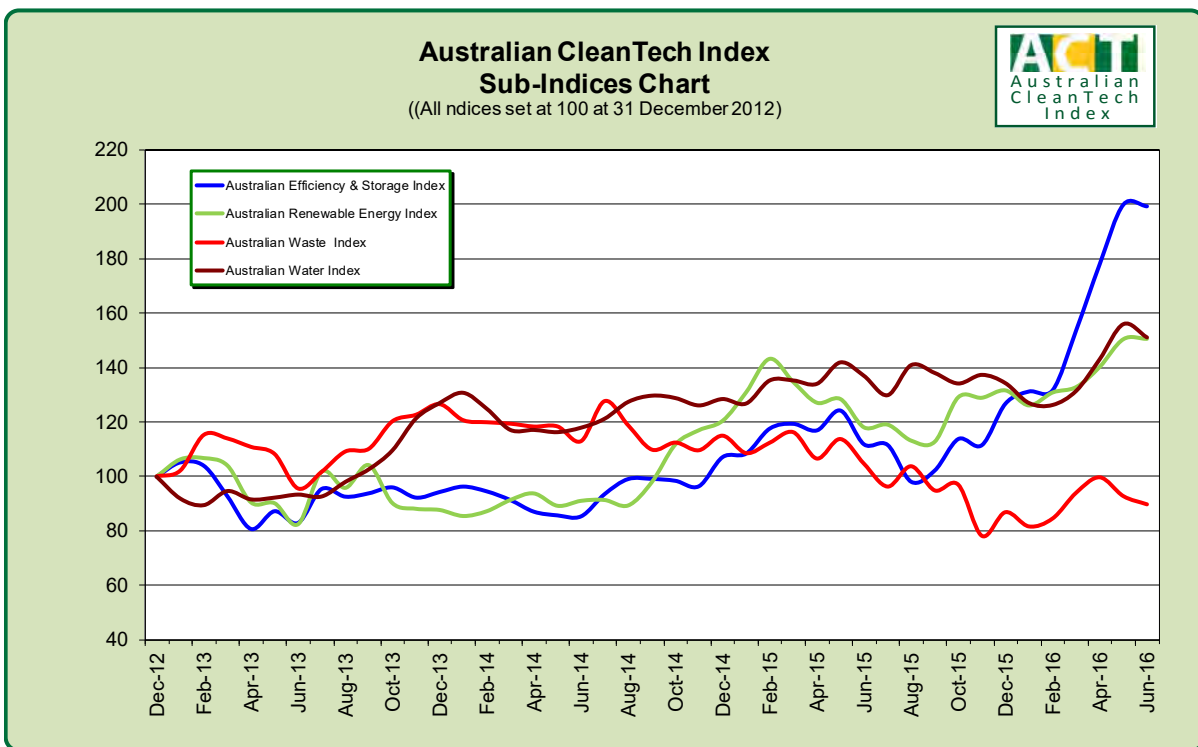
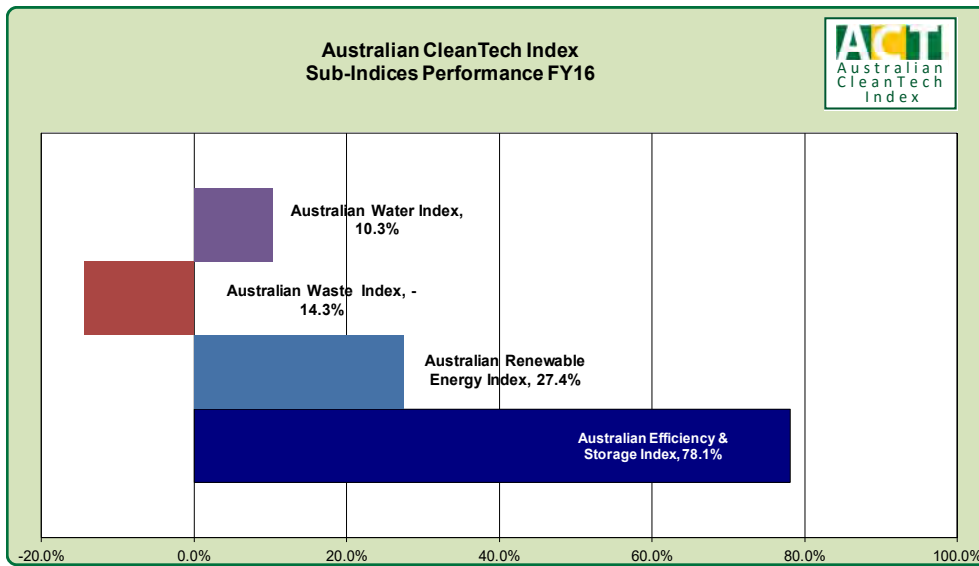
**Australian CleanTech Sub-Indices**

	FY12	FY13	FY14	FY15	4Q FY16	FY16
<b>Australian Efficiency &amp; Storage Index</b>	-23.5%	-27.9%	2.9%	31.0%	<b>29.6%</b>	<b>78.1%</b>
<b>Australian Renewable Energy Index</b>	-22%	-22%	10%	29.5%	<b>13.3%</b>	<b>27.4%</b>
<b>Australian Waste Index</b>	-36.9%	-3.4%	18.3%	-7.4%	<b>-4.6%</b>	<b>-14.3%</b>
<b>Australian Water Index</b>	1.6%	-14.6%	26.3%	16.1%	<b>14.9%</b>	<b>10.3%</b>

The 4Q16 and the FY16 results are shown on the bar charts below.







#### 4. Component Companies on 30 June 2016

The largest 20 largest Index constituents by market capitalisation on 30 June 2016 are provided in the table below. These companies will form the constituents of the Australian CleanTech 20 until the index is rebalanced again on 30 September 2016.

Market Cap Ranking	Company	Ticker
1	Mighty River Power	MYT
2	Reece Australia Holdings	REH
3	Contact Energy	CEN
4	Meridian Energy	MEZ
5	Sims Metal Management	SGM
6	Cleanaway Waste	CWY
7	Infigen Energy	IFN
8	Orocobre	ORE
9	Nanosonics	NAN
10	Galaxy Resources	GXY
11	Tox Free Solutions	TOX
12	Metro Performance Glass	MPP
13	Beacon Lighting Corp	BLX
14	Neometals	NMT
15	Eden Energy	EDE
16	RedFlow	RFX
17	CleanTeQ	CLQ
18	Pacific Energy	PEA
19	Emefcy Group	EMC
20	Gale Pacific	GAP

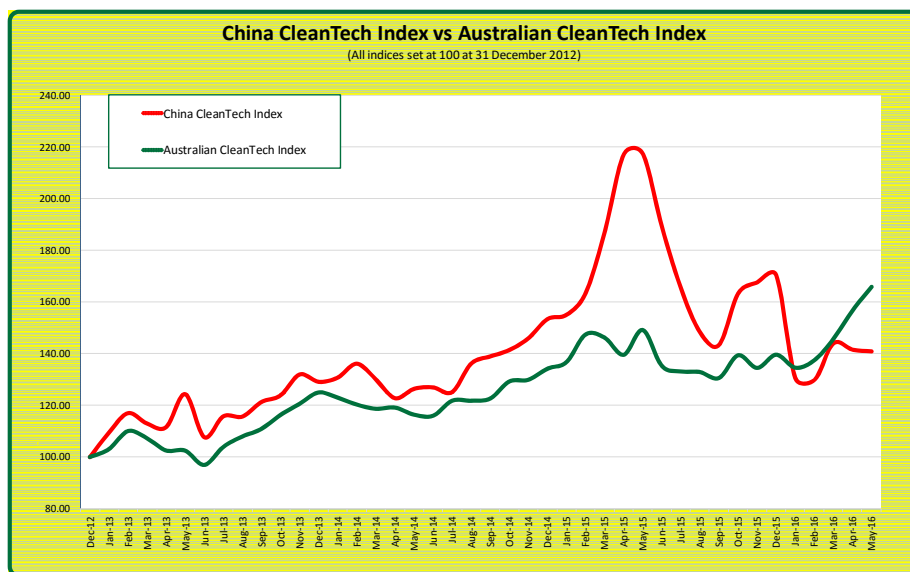
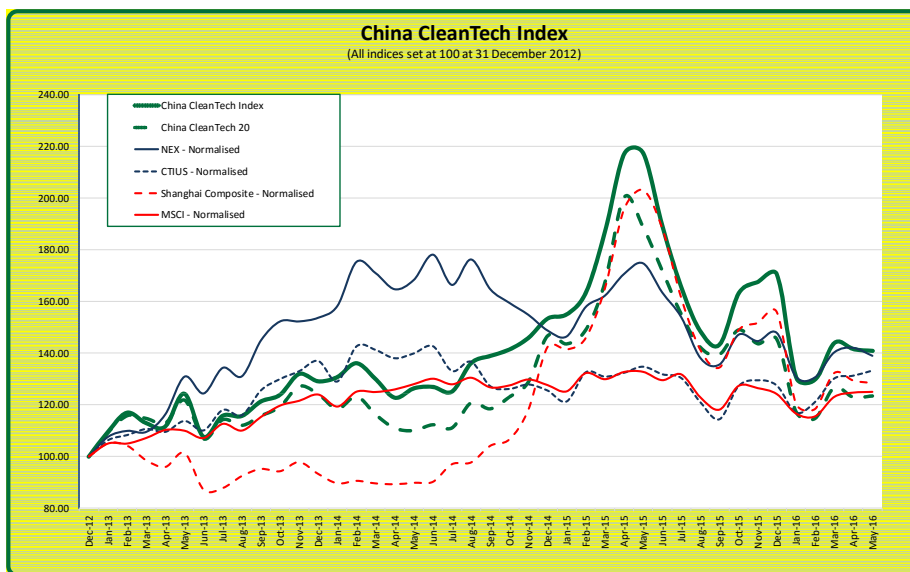
There were two new entrants to the Australian CleanTech 20 in this rebalance: CleanTeQ and Emefcy Group. These replaced the outgoing companies of Pro-Pac Packaging and Dyesol.

Each of the constituents in the Australian CleanTech 20 has a market capitalisation of more than \$108m.

For a full listing of all companies included in the ACT Australian CleanTech Index, please email your request to [index@auscleantech.com.au](mailto:index@auscleantech.com.au).

### 5. China CleanTech Index

Australian CleanTech, through its Beijing-based Chinese operations, publishes the China CleanTech Index. This index tracks all 162 Chinese-based listed cleantech companies wherever they are listed 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 from December 2012 to the end of May 2016 and also show the relative performance of the China CleanTech Index against the ACT Australian CleanTech Index.



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

## 6. Overview of Index Rules

### Criteria for Inclusion

To be included in the Australian CleanTech Index, a company must be listed on an Australian based stock exchange and have the majority of the current or future revenues generated from an approved cleantech activity. Australian companies listed only on overseas exchanges are excluded as are companies that have some cleantech activities but the majority of their revenue is generated from non-cleantech activities. International companies listed in Australia, even where there are minimal Australian operations, are included in the Index.

### Closing Prices

The Australian CleanTech Index and its sub-indices are calculated based on the closing prices on the last day of trading of each calendar month. The Index values are the result of calculating the total market capitalisation of the companies included in the index and normalising this value in comparison to the total market capitalisation at the starting point of the Index. The value of each index was set to equal 100 on 31 December 2012.

### Number of Shares

The number of shares used in the calculation of the market capitalisation of each company is based on the total number of Ordinary Shares, including those that are held in escrow and are temporarily unlisted. Shares that are not included in the calculation include listed and unlisted Options, Preference Shares, Warrants and Convertible Notes.

During share buy-back schemes, shares are only removed from the index once they have been cancelled by the company. Shares issued as part of Rights Issues are only included in total shares if formally announced by the company as having been taken up.

### Rebalancing

The Indices are all rebalanced at the end of each quarter to take account of any changes to the capital structures of the constituent companies and to add or remove companies to the Index as required. Companies may be added if they have been listed during the previous quarter or have changed their operation such that the majority of their current or future revenue is derived from an approved cleantech activity. Conversely, companies may be removed from the Index if they have been delisted or their activities have changed such that the majority of their current or future revenue will not be sourced from an approved cleantech activity. If a company's shares are suspended from trading, the company remains in the index at rebalancing until such time as it is delisted.

The Index is calculated both prior to and after the rebalancing. The normalising factor is then adjusted to ensure that Index value is unchanged due to the act of rebalancing.

### **Exclusions**

The Australian CleanTech Index excludes some sub-sectors that are included in some other global clean energy and cleantech measures. The reason behind this is to keep the Index focussed on 'pure' cleantech companies that will form part of long term sustainable solutions. The following sub-sectors are excluded from the Index:

#### **'Clean' Fossil Fuels**

Natural gas, coal seam methane, underground coal gasification, gas to liquids, carbon capture and storage and clean coal technologies are each sometimes included in indices and funds focussed on clean energy. All of these are excluded from the Australian CleanTech Index because, whilst they have lower emissions profiles than other fossil fuel energy sources, they are all still reliant on fossil fuels and are therefore at best only a transition resource or technology.

#### **Nuclear and Uranium**

Whilst the emissions profile of the nuclear industry means that it is likely to form part of the long term global solution to climate change, there are still significant parts of the Australian community that have concerns over the environmental impacts of uranium transport, usage and waste storage.

To prevent this discussion becoming a distraction to the performance of the Australian CleanTech Index, this sub-sector is currently excluded.

#### **Agri-Business**

Agri-businesses are included in many measures of environmental performance due to their clear interaction with the environment. Whilst the Australian CleanTech Index will include companies that provide products and services to improve agriculture's impact on the environment through, for instance, the use of water and energy saving technologies, it will not include the businesses that merely purchase these technologies.