



# ACT Australian CleanTech Index

2010-11

## Annual Performance Report

July 2011

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## 1. ACT Australian CleanTech Index Overview

The ACT 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, Green Buildings & Biomaterials
Biofuels	Energy Storage & Fuel Cells
Water	Wave, Tidal & Hydro
Environmental Services	Biogas
Low Emissions Vehicle Technologies	Geothermal – Hot dry rocks and conventional
Carbon Trading	

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 over 75 companies falling under the coverage of the Index and with a combined market capitalisation of nearly \$10Bn, the ACT Australian CleanTech Index presents for the first time a 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 S&P/ASX200 and the S&P/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 section 5 of this report.



The ACT 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 WME's Environmental Management News and in the international Cleantech Investor magazine.

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

## 2. ACT Australian CleanTech Index Performance 2010-11

ACT Australian CleanTech Index significantly underperformed the S&P ASX200 but outperformed the S&P Small Ordinaries for the month of June 2011. However, it underperformed both of its benchmarks over the fourth quarter of 2011 and over the full fiscal year.

The ACT Australian CleanTech Index fell from 48.3 to 46.0 over the month of June recording a 4.7% loss. This compared to the S&P ASX200 loss of 3.0% and the S&P ASX Small Ordinaries Index loss of 6.5%.

Over the fourth quarter of the 2011 fiscal year, the ACT Australian CleanTech Index recorded a loss of 12.5%, compared with the 6.1% loss by the S&P ASX200 and the 11.9% loss by the S&P ASX Small Ordinaries.

Over the second half of the 2011 fiscal year, the ACT Australian CleanTech Index recorded a loss of 24.1% compared with the 5.4% loss by the S&P ASX200 and the 14.0% loss by the S&P ASX Small Ordinaries.

Over the 2011 fiscal year, the ACT Australian CleanTech Index recorded a loss of 8.1%, lagging behind the S&P ASX200's gain of 4.2% and the S&P ASX Small Ordinaries' gain of 9.5%.

Percentage Change	FY07	FY08	FY09	FY10	JUN'11	4Q FY11	2H11	FY11	3Yrs
<b>ACT Australian CleanTech Index</b>	42.9%	-16.0%	-38.7%	-32.0%	-4.7%	-12.5%	-24.1%	-8.1%	-61.7%
<b>S&amp;P/ASX200</b>	25.4%	-16.4%	-25.8%	11.8%	-3.0%	-6.1%	-5.4%	4.2%	-13.5%
<b>S&amp;P/ASX Small Ords</b>	40.4%	-23.0%	-32.4%	10.5%	-6.5%	-11.9%	-14.0%	9.5%	-18.2%

The market capitalisation of the 81 stocks in the ACT Australian CleanTech Index prior to rebalancing is just over A\$9.0 billion.

The month's performance was driven by weak results from Dyesol, Quantum Energy, Sylex Systems, Transpacific Industries, Galaxy Resources, Eden Energy, Orbital Corporation and Pacific Environment. These losses were partially offset by gains from Coffey Environemtns and the CO2 Group.

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

Fourth Quarter FY11			
Worst Performers Share Price Loss > 40%		Best Performers Share Price Gain > 30%	
Quantum Energy	Galaxy Resources	Mission NewEnergy	
Solverdi Worldwide	Vmoto	Genesis R&D	
Agri Energy	Torrens Energy	Jat Energy	
Island Sky	Panax Geothermal	Phoslock Water Solutions	
Water Resources Group	Environmental Group	CO2 Group	
Papyrus	Pacific Environment		
Traffic Technologies	BioProspect		
Cardio Bioplastics			
Second Half FY11			
Worst Performers Share Price Loss > 50%		Best Performers Share Price Gain > 30%	
EnviroMission	Galaxy Resources	Transfield Services	
Quantum Energy	Enerji	Infrastructure Fund	
Sylex Systems	EcoQuest	Mission NewEnergy	
Solverdi Worldwide	Vmoto	Genesis R&D	
Water Resources Group	Torrens Energy	Jat Energy	
CleanTeQ	Panax Geothermal	Eden Energy	
Papyrus	Environmental Group		
Medivac	Pacific Environment		
Electrometals			
Full Year FY11			
Worst Performers Share Price Loss > 50%		Best Performers Share Price Gain > 30%	
Dyesol	AnaeCo	Solco	Eden Energy
Quantum Energy	EcoQuest	Transfield Services	Pacific Energy
Infigen Energy	Vmoto	Infrastructure Fund	Carbon Conscious
Solverdi Worldwide	Torrens Energy	Mission NewEnergy	CO2 Group
Island Sky	Panax Geothermal	Genesis R&D	
CleanTeQ	Pacific	Jat Energy	
Papyrus	Environment	NanoSonics	

## Index Rebalance

The ACT 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:

- the removal of **Transfield Services Infrastructure Fund (ASX:TSI)** following the acquisition of all free float shares by Ratchaburi Electricity Generating Holdings PCL. Ratchaburi is one of Thailand's leading generation companies with over 4500 MW of thermal and hydropower facilities. It was privatised in 2000 and is now listed in Thailand. TSI's water assets were sold to Trility under pre-emptive rights in the joint venture agreements.
- the removal of the **Crane Group Ltd (ASX:CRG)** following its acquisition by Fletcher Holdings and removal from the official list on 6 May 2011.
- the removal of **Willmott Forests Ltd (ASX:WFL)** due to it continuing to operate in administration. A recent review has indicated that it is unlikely to be requoted on the ASX as such a decision has been made to remove prior to its official removal.
- the removal of **Agri Energy Ltd (ASX:AAE)** following its acquisition of Triton Petroleum Pte Ltd which holds 20% of a number of Syrian based oil and gas exploration projects.
- The removal of **Reclaim Industries Ltd (ASX:RCM)** following its acquisition by another index constituent, Carbon Polymers.

A watching brief is being maintained on the following companies that are currently included in the Index:

- **Jat Energy Ltd (ASX:JAT)** (previously called Jatoil Ltd) following its acquisition of coal assets in Kalimantan in Indonesia. At the same time, the



company has expanded its Jatropha operations. A careful watch will be maintained on the source of the majority of the company's revenue.

- **Green Rock (ASX:GRK)** which is farming in to permit EP417 in WA that is operated by New Standard Energy.
- **BioProspect (ASX:BPO)** which considering a proposed investment into Frontier Gasfields Pty Ltd which has oil and gas exploration projects in the Philippines and China.

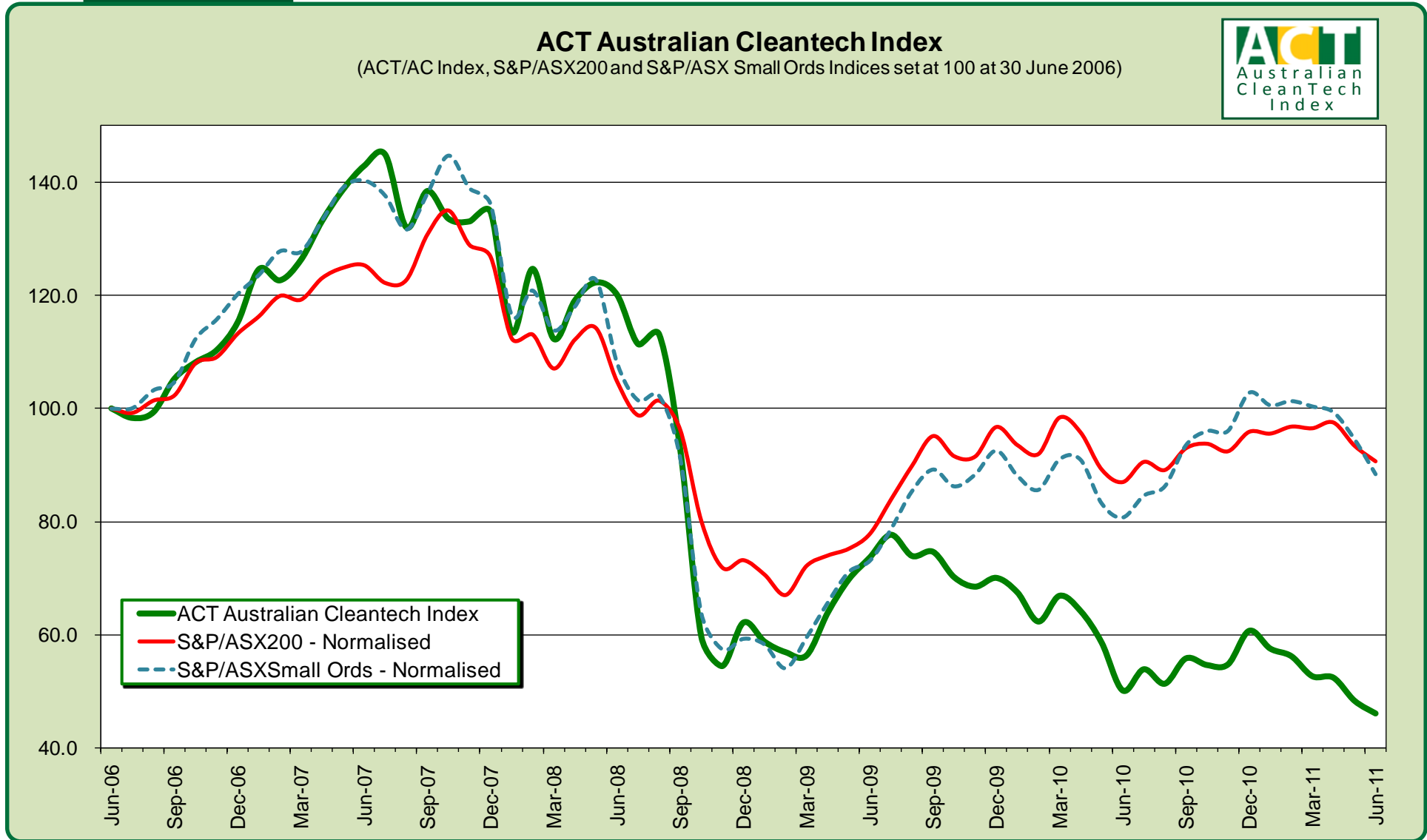
In addition, a watching brief is being maintained on the following companies that may qualify for inclusion in the Index in the future:

- **First Growth Funds Ltd (ASX:FGF)** (formerly m2m Ltd (ASX:MCL)) that is expanding its carbon sink operations in Papua New Guinea.
- **Greenbox Group** that took over the asset of JackGreen and is seeking to relist as an energy retailer and energy efficiency solution provider following a capital raising.
- **Green Resources Group** that is primarily and solar panel integrator and installer and has stated its intention to list on the ASX.

There have also been two changes to the constituents of the sub-indices following review of company operations:

- **CBD Energy (ASX:CBD)** has been moved from the energy storage sub-index into the solar sub-index following the ramp of its solar activities.
- **Advanced Energy Systems (ASX:AES)** has been moved from the solar sub-index into the green buildings sub-index following the increase in its green building development projects in China and Australia.





### 3. Component Sub-Indices

To provide an analysis of the ACT Australian CleanTech Index, eight sub-indices have been developed. The performance of each of these sub-indices over the last five financial years is shown in the table below.

**ACT Australian CleanTech Sub-Indices**

	FY07	FY08	FY09	FY10	4Q11	2H11	FY11
<b>ACT Solar Index</b>	36.5%	-31.1%	86.7%	-35.1%	-38.0%	-47.6%	-40.8%
<b>ACT Wind Index</b>	73.3%	-28.3%	-29.0%	-40.1%	-0.3%	-10.6%	-24.4%
<b>ACT Biofuel Index</b>	-46.2%	-55.5%	-60.4%	12.8%	-23.3%	-18.7%	-24.5%
<b>ACT Water Index</b>	32.9%	-18.9%	-25.2%	-22.8%	-0.2%	4.1%	19.8%
<b>ACT Waste Index</b>	56.3%	-0.4%	-44.3%	-35.0%	-8.6%	-24.5%	-3.3%
<b>ACT Efficiency/Green Buildings/Biomaterials/Energy Storage/Fuel Cells Index</b>	58.5%	-47.1%	-65.1%	6.2%	-22.9%	-30.8%	-1.2%
<b>ACT Geothermal Index</b>	205.9%	-29.6%	-38.9%	-57.3%	-24.4%	-32.3%	-18.6%
<b>ACT Environmental Services Index</b>	12.1%	-34.1%	-6.7%	-52.6%	-18.8%	-42.4%	-25.2%

All of the sub-indices recorded losses over the fourth quarter of the 2010-11 fiscal year. Other than the ACT Water Index, these gains were also reflected in half year and full year losses.

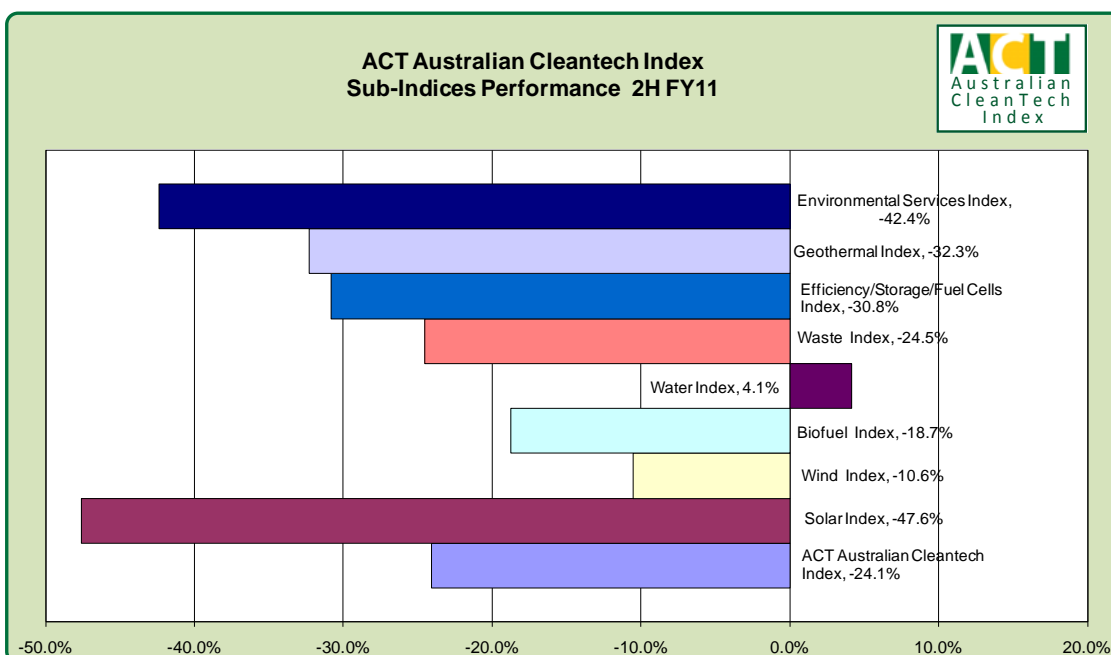
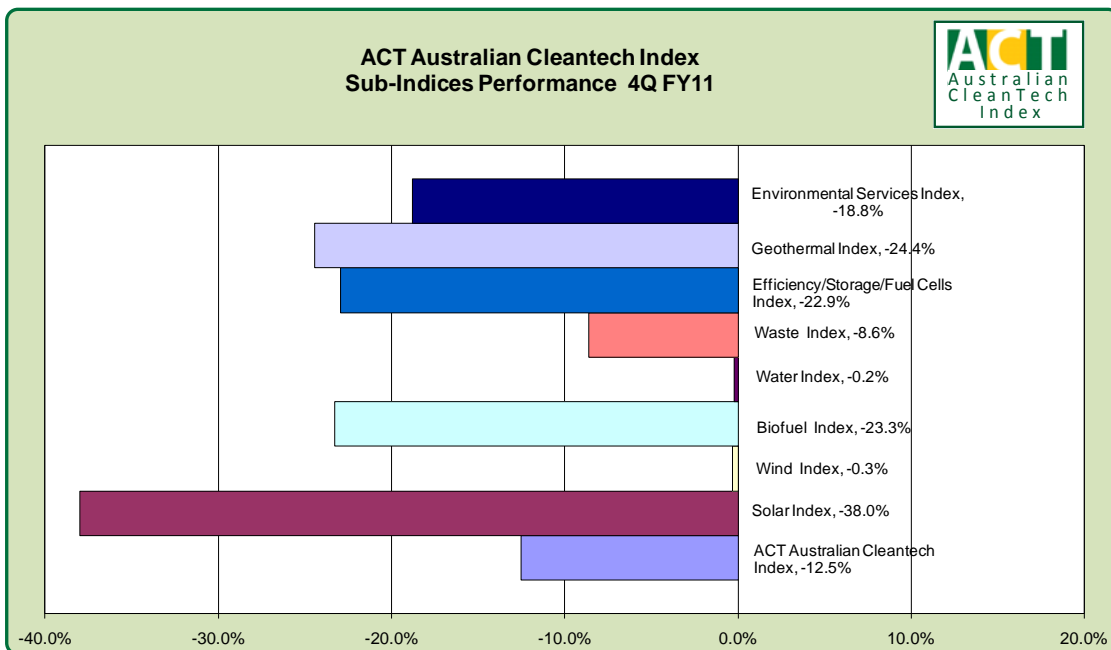
The overall collapse of the ACT Australian Cleantech Index has not been driven by the decline of only a few sub-sectors. It is clear from these numbers that there have been across the board losses, with a few minor exceptions.

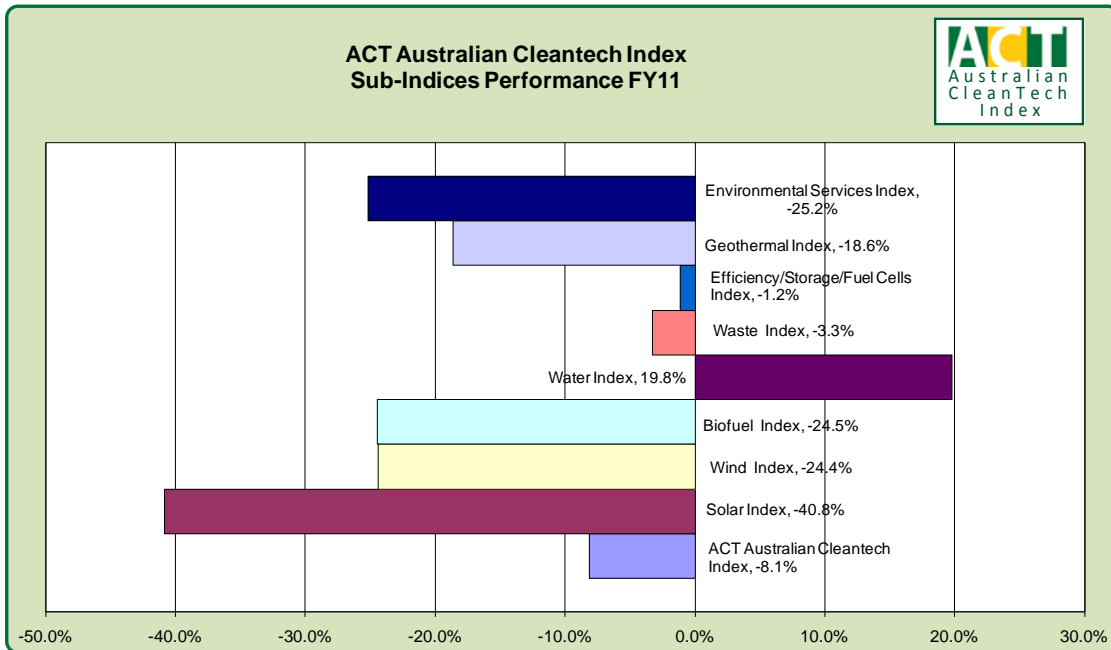
This collapse may be being caused by a number of key issues:

- Ongoing market instability that hits smaller and non-revenue earning companies harder than the general market;
- Ongoing uncertainty regarding carbon pricing and increasingly vocal opposition from industries that may incur consequent profit impacts;

- A general community move away from environmental issues and climate change as a significant issue with greater emphasis being placed on mining, taxes and healthcare; and
- A continued lack of any clear political signals that there is any intention of moving towards a more sustainable economy.

The 4Q11, 2H11 and the FY11 results are shown on the bar charts below.

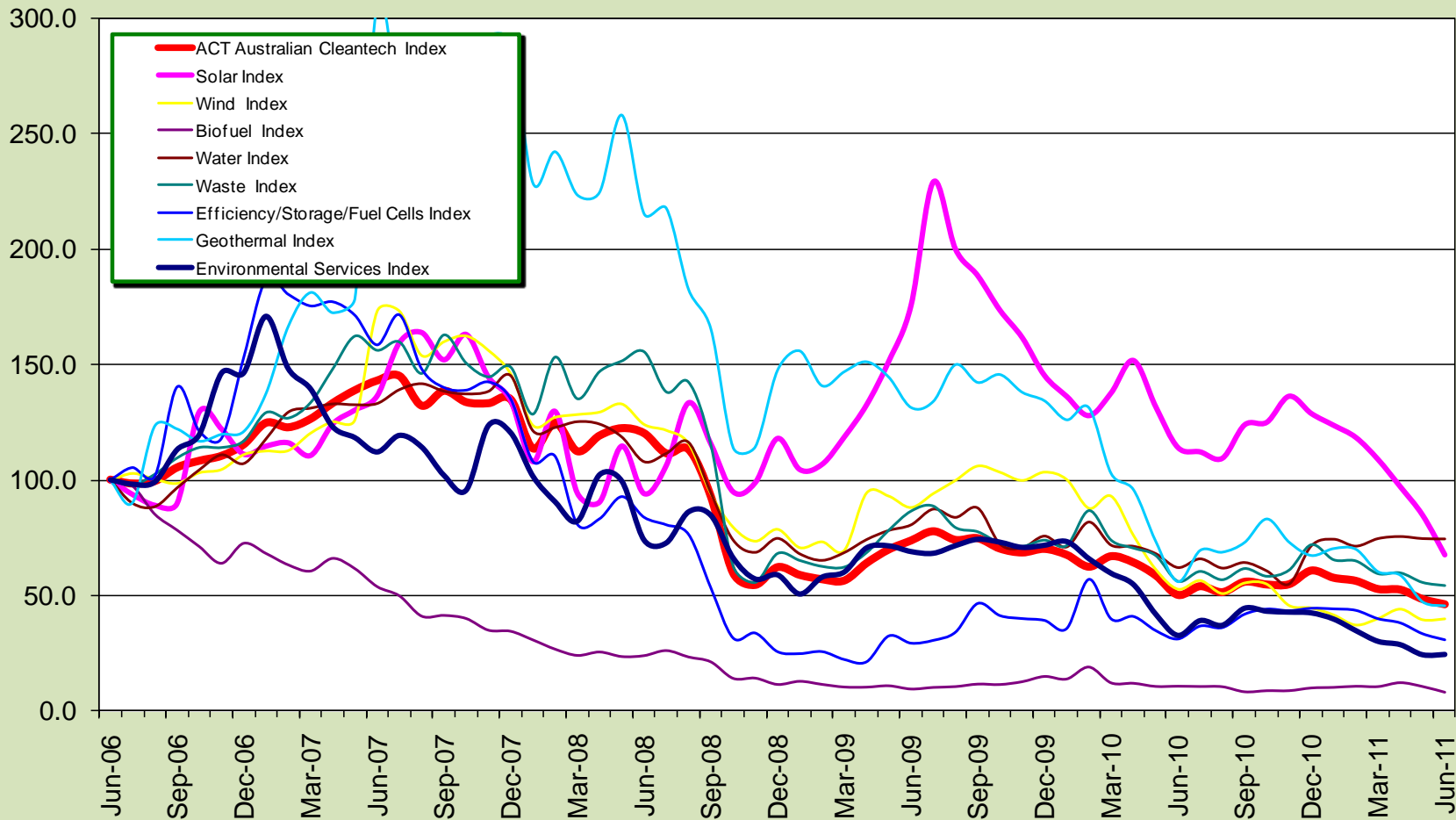




Going forward, the **ACT Wind Index** will be discontinued following the reduction in the number of constituent wind companies. The Index has lost Viridis Clean Energy, WHL Energy and now Transfield Services Infrastructure Fund leaving Infigen Energy as the only listed Australian wind company. The high level of wind farm construction in Australia is being driven either by integrated energy companies such as AGL or by international project developers. Should there be additional wind companies in the Index in the future, then this sub-index may be recommended.

### ACT Australian Cleantech Index Sub-Indices Chart

(ACT/AC Index and all ACT Cleantech Sub-Indices set at 100 at 30 June 2006)



#### 4. Component Companies on 30 June 2011

The largest 20 largest Index constituents by market capitalisation on 30 June 2011 are provided in the Table below.

Market Cap Ranking	Company	ASX Code
1	Sims Metal Management	SGM
2	Transpacific Industries	TPI
3	Sylex Systems	SLX
4	Energy Developments	ENE
5	Infigen Energy	IFN
6	Galaxy Resources	GXY
7	Orocobre	ORE
8	Tox Free Solutions	TOX
9	CMA Corporation	CMV
10	Nanosonics	NAN
11	Pacific Energy	PEA
12	Ceramic Fuel Cells	CFU
13	Novarise Renewable Resources	NOE
14	Coffey Environments	COF
15	RedFlow	RFX
16	Algae.Tec	AEB
17	Dyesol	DYE
18	Geodynamics	GDY
19	Carnegie Wave Energy	CWE
20	Wasabi Energy	WAS

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. Overview of Index Rules

### Criteria for Inclusion

To be included in the ACT 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 ACT Australian CleanTech Index and the eight 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 30 June 2006.

### Number of Shares

The number of shares used in the calculation of the market capitalisation of each company is based 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 ACT 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 ACT 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 ACT 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 ACT 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.