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The Coming Cleantech Boom

JOHN F. Kennedy once said, "When written in Chinese, the word 'crisis' is composed of two characters - one represents danger and one represents opportunity". The threat of dangerous climate change has magnified global attention on broader management of the environment. Now investors are gearing up to capitalise on the biggest thing since the dotcom boom - the "cleantech" boom.

Populists in developed countries still indulge in moralising about environmental problems with behaviour change as the focus of their solution. While this approach may nourish public appetite for reform, the scale and complexity of the challenge suggests it will be new technologies that end up solving most of the problems - from new sources of clean energy, fuel and water to micro-technologies that use and distribute them more efficiently.

Except that many of these aren't in the market yet. They are the dreams and ambitions of a growing portfolio of emerging companies working to bring a thousand great ideas from the drawing board to demonstration and then commercialisation.

Investment in Australian cleantech companies has grown this decade, but at a much slower rate than in Europe or the US, according to a new assessment by the US-based Cleantech Network. The pace of investment is driven by technology readiness, environmental pressures and consumer demand, government policy and the availability of investment capital.

Cleantech makes up only around 3 per cent of total Australian venture capital investment, worth around \$65 million a year. The report likens the state of the domestic cleantech market to the US three years ago. It now attracts around 13 per cent of a much bigger VC pie and is growing fast.

There is no shortage of cash in Australia. Sixteen years of consecutive growth and a sustained resources boom have pumped nearly \$1.2 trillion into superannuation funds. Typically VC investments might represent 2 to 5 per cent of these funds.

There is no shortage of ideas either. While Australians might like to think that being handy with a piece of wire and a pair of pliers is an innate national trait, our extended distribution networks and extreme climatic conditions have fostered a culture of finding solutions to our own unique problems.

Like the dotcom boom that preceded it, the cleantech sector offers long-term, high-risk investment with the promise of spectacular returns for the right technologies. But there are key differences. Dotcom speculation was on the promise of services and value adding that had hitherto never been possible. Every idea looked like a winner on paper, but only a few ended up making any money.

By contrast the imminent cleantech boom is bounded by delivering solutions to real environmental problems. These have not been addressed to date because unregulated markets have not internalised the full cost of these externalities.

Therefore, unlike most markets, the biggest risk to cleantech companies is not enough government regulation, or the wrong sort, rather than too much.

In the hothouse of recent policy development on climate change and water in the lead-up to the election there is no shortage of government assistance on offer from both sides, although the lack of a comprehensive industry strategy means big gaps are likely.

Because many of these technologies are being developed to solve a finite set of environmental problems, there remains a perennial risk of any specific technology being made obsolete by a rival being developed in parallel.

Current photovoltaic solar technology uses relatively expensive silicon to generate decentralised electricity, while other companies are working on using less efficient but much cheaper materials to perform the same task.

At the same time, silicon manufacturers are looking to find ways to make the high-grade silicon more cheaply. How this technology unfolds is anyone's guess, with the only certainty that competition will continue to make its electricity cheaper over time.

Most of Australia's cleantech investment to date has come from government and conventional VC funds as well as steady growth in IPOs accessing more than \$1 billion in public equity. To date there are only five specialist cleantech venture funds operating in Australia, led by CVC Sustainable Investments and Cleantech Ventures.

Last month Australia's first dedicated wholesale carbon fund was launched, looking to raise \$250 million from wholesale investors by December.

The ArkX fund plans to invest 50 per cent of its funds into globally listed renewable energy equities, 25 per cent into Clean Development Mechanism (CDM), 20 per cent into trading European Union carbon credits (EUAs) and credits generated from CDM projects (CERs). The last 5 per cent will be invested in small, unlisted high-risk projects in Australia.

Around 70 dedicated carbon funds operate globally, including BlackRock's \$US5 billion New Energy Fund, which has returned 24.7 per cent for the year to date. Merrill Lynch has just under 50 per cent of BlackRock after a merger last year.

It's hard not to get the feeling that this is just the tip of the iceberg. The opportunity of environmental threats fuelled by major domestic policy shifts is likely to deliver plenty of losers but a handful of big winners.