

*Could green technology be Australia's next big export to China?*

*By Sophie Loras, Beijing-based editor of Australia China Connections.*

As debate rages on in Australia and around the world as to how countries should set their emissions-trading and renewable energy targets, one constant remains unchanged – China – at Australia's doorstep – is providing huge market opportunities for Australian skills, expertise and knowledge in the green sector.

## **STIMULUS PACKAGE**

China's US\$586 billion stimulus package announced in November 2008 is already being credited for helping China lead a global financial recovery but it is also having huge implications for the country's sustainability sector by creating massive opportunities for green tech businesses both foreign and domestic. HSBC figures released earlier this year show that China has allocated 38 percent (US\$221.3 billion) of its stimulus package on environmental initiatives – compared to Australia which has allocated just 9 percent of its US\$26.7 billion stimulus package on green initiatives.

## **REGULATION**

Regulation is also playing a strong part as China continues to introduce laws and initiatives to combat its rising greenhouse gas emissions. These include: a Renewable Energy Law (offering subsidies for renewable energy producers commencing with the wind and solar energy sectors); a National Renewable Energy Target of 10 percent by 2010 and 15 percent by 2020; power companies to source a minimum 3 percent of energy from non-hydro renewable sources by 2010; a national rural energy development plan and a National Water Law and a Medium and Long-term Science and Technology Development Plan to set targets for energy and environmental technology development.

Meanwhile, local governments have been tasked with the job of taking action against polluting factories – including some closures.

Martha Grossman, General Manager, Asia for Australian carbon emissions and sustainability risk research and advisory firm RepuTex, says there are four main drivers pushing the sustainability agenda in China – regulation being the big one – followed by carbon, supply chain and the financial markets. "Regulation is the key," says Grossman.

China's introduction in June 2008 for a plastic bag policy forcing supermarkets and other retailers to charge consumers for plastic bags is a prime example of how when the Chinese government decides to do something, "it clicks its fingers and very quickly a policy can be put in place," says Grossman. "Implementing it is another story but it shows how China is different from other countries – including Australia."

The carbon debate is also pushing the sustainability agenda in China. "At the moment the Chinese companies are not directly implicated by carbon as there is no trading scheme but the EU scheme is up and running and an Australian scheme could happen as early as 2011," says Grossman. "And I think we will see more and more Chinese companies in the supply chain affected by this. They'll obviously be indirectly affected because unless their environmental policies or even simple environmental protection policies are in place in their business, foreign companies won't use them in their supply chain."

The incentives for going green speak for themselves – there is the financial gain as much as the public relations spin offs.

"Sustainability can be a very 'feel good' notion and have a positive impact on the bottom line, whereas carbon can be a motivator through carbon trading

schemes where companies can make money through the credits," says Grossman.

Then there is the pressure from the financial markets themselves – a motivation Grossman says cannot be underestimated.

"People haven't really discussed how financial markets can put pressure on companies to perform better in the whole sustainable work place," Grossman says.

Part of RepuTex's business is supplying its environment social governance (ESG) data to big fund managers. "We get a mandate from pension funds to advise them on the most sustainable investments from a carbon ESG perspective – it's not just touchy feely CSR, but going a step further with the markets for companies to have a more genuine approach to sustainability."

In the last two to three years alone Grossman has noticed an increase in the number of sustainability and CSR reports in the Chinese market. Chinese companies which have led the way with this include Shanghai Pudong Development Bank in the Chinese banking sector and Baosteel and Vanke.

"In China, reporting has become stronger, the media has become better at reporting CSR and corruption scandals, which in turn has encouraged more transparent reporting by companies and public disclosure, more than before."

## **WANWU**

So important is China's developing sustainability market that Austrade has initiated, under the guidance of trade commissioner David Dukes in Beijing, a Green Technology China Team incorporating 10 business development managers and trade commissioners across Austrade's 13 posts in mainland China and the development of the 'Wanwu' green directory. Areas in which Australian companies are doing particularly well in China include

Australian architecture and a wide range of green technologies including energy saving (optimisation) on rail networks to instrumentation to measure wind on wind farms.

"China presents many opportunities in this sector because of a whole range of factors including the rapid growth of cities and the huge amounts of money being invested into infrastructure in China," says Mr Dukes.

The Wanwu Eco-Country Directory is being developed to encourage exports and two-way investment between Australia and China in clean energy, green building and environment. 'Wanwu' – a Daoist expression meaning "universe" or literally "10,000 things" – is already generating a positive response from within China. "Australia has a very good brand in China in this sector and there's a lot of good will in some very far flung parts of China," says Dukes. One example is AusAID, which, as the first form of bilateral aid (then known as Aidab) between Australia and China 30 years ago, was responsible for some of the first introductions for Australian companies into China through projects in areas such as desertification and water management.

The first objective of the Wanwu Eco-Country Directory will be to provide a sector capability directory that will initially be a free service open to Australian companies in the clean technology sector (including renewable energy, water waste, green building, carbon credit trading and carbon capture). Austrade will take the directory to local Chinese governments, state-owned enterprises, Chinese power companies and events including a mission to South China and Hong Kong in October and the Shanghai World Expo in 2010. The other primary objective of the Wanwu Eco-Country Directory is to increase investment in Australian green technologies. "We believe a problem for Australian companies in this sector is investment – especially in infrastructure projects,"

says Dukes. The aim is to set up an advisory panel including Australian, Chinese, third country investors and venture capitalists to meet two to three times a year and oversee initial investment project proposals seeking further financing. Businesses eligible for investment review will include:

- Projects in Australia.
- Joint ventures or WOFEs with Australian equity or participation.
- Chinese companies which want to buy Australian goods and services but need financing for business development or research and development.

China has several factors driving its emphasis to a more sustainable future – the primary one being its global responsibility to manage its greenhouse gas emissions as the world's biggest emitter. China is also the world's largest producer and consumer of coal which accounts for more than 70 percent of China's energy source. China also remains the world's second largest producer and consumer of electricity, behind the United States. A recent Greenpeace China report found China's top 10 power companies burned 590 million tonnes of coal in 2008. The report also found that in 2008, China's top three power companies collectively emitted more than the total greenhouse gas emissions of the United Kingdom in the same year. The other big factor, is an acknowledgement at a domestic level, that a sustainable future is integral to China's economic and social stability. The government recognises that massive flooding and other natural disasters are attributable to deforestation, pollution and desertification which in turn are affecting the livelihoods of millions of Chinese.

China is co-currently experiencing the largest urban migration in history – China anticipates an additional 200 million people to its cities by 2020. This in turn is driving large scale clean tech infrastructure growth – especially in the areas of water and waste

treatment and paving the way for green building in China.

"In Australia there are a lot of incentives to grow the market but as they grow and because of the size of our own market, businesses will have to start looking overseas – and China is a good place to start," says Dukes.

## **GREEN BUILDING AND CONSTRUCTION**

Lindsay Bevege has been consulting for the Green Building Council of Australia in its appointment by the World Green Building Council to help establish green councils across the Pacific and in China. Mr Bevege says there has been a clear commitment from the Chinese government to develop the China Green Building Council which is now awaiting its formal accreditation. The GBCA has already begun providing training for the China Green Building Council and it is anticipated that a recently signed memorandum of understanding between the two councils will facilitate long-term co-operation between the members of the two organisations.

The key, says Bevege, is balancing China's economic development while building on a sustainable future. "There is great potential to decrease emissions and support economic growth," says Bevege.

China's huge demographic movement as rural Chinese move in their millions into urban areas is resulting in the large scale infrastructure construction of new housing, offices and factories – the core drivers of greenhouse gases but also economic growth.

This is providing opportunities for Australian building businesses right across the board, especially in the engineering and architecture sectors. "Australian companies have experience in green building that local Chinese companies don't have yet," says Bevege. Competing with the local market will involve finding niches – "And we think green building is one of those niches."

"Australian companies need to find a point of difference – and that's not going to be on price but on green and safety credentials," he says.

## **AUSTRALIAN OPPORTUNITIES**

The opportunities for Australian businesses don't stop in the construction and building sectors. Mina Guli, Executive Director and Chief Investment Officer of Peony Capital - a carbon fund dedicated to reducing greenhouse gas emissions in China - says the opportunities in China's green tech sector are enormous.

"China recently surpassed the US as the world's biggest emitter of greenhouse gases. With a rapidly growing economy, and increasing energy demands, there are many opportunities to work together with Chinese government and industry to create significant reductions in greenhouse gases here in China," says Ms Guli.

"In Australia, we have great technology and a lot of expertise, but we do not have the size of market needed to support it. On our doorstep we have countries like China which have massive demand for technology which improves energy efficiency and energy independence. I think that this presents an enormous opportunity for Australian business and industry."

Guli says China is driving towards a more sustainable future. To maintain its economic development, China relies on environmental factors such as access to water, arable land and natural resources. "China is becoming very good at identifying how it can continue to have economic growth in an environmentally sustainable way" says Guli. China has already begun discussions for bilateral agreements in green technology joint ventures with the US and Guli fears Australia risks being left behind in the world's biggest green tech market.

"I think Australia is at risk of not being fully aware of what else is happening in the world and therefore not being able to be strategic in how we position ourselves," she says.

## **RENEWABLE ENERGY**

It is a sentiment echoed by other Australians on the ground in China. John L'Epagniol is the Managing Director of Shanghai-based Goldhawk Solar Solutions. The company offers trade and consulting services to foreign, particularly Australian, companies interested in the Chinese Solar photovoltaic market.

"From a solar industry perspective, Australian companies are not taking advantage of the change in China's green revolution," says Mr L'Epagniol.

"China realizes that development of the sustainable energy industry is going to be a major factor in maximizing its future energy independence, and also can potentially propel it into the forefront of developing and commercializing these technologies for global supply."

L'Epagniol says that while state-driven development programs in private industry sectors are commonly viewed in the West as being over-bureaucratized and cumbersome, the Chinese have used the one-party system to its advantage. "Programs are decided upon and implemented with the stroke of a pen," says L'Epagniol. "China has the added ominous advantage of not yet having fully-established infrastructure in many areas. This offers them the opportunity to take advantage of utilizing new technologies when it comes to implementing such programs."

According to L'Epagniol, China is already set to become the global leader in the Solar Photovoltaic supply industry, with nearly a third of the global output of crystalline silicon cells and modules coming from China. Despite China's successful commercialization of photovoltaic technology, much of the pioneering technology continues to be researched and developed in the US, Germany, Japan and Australia.

Meanwhile, as the Australian government scraps its national solar rebate initiative, China recently announced its own rebate program.

"In such a climate there is even more opportunity for Australian technology developers to seek cooperation with local producers in China, in support of the expected boom."

There are no shortage of Australian success stories in the renewable energy sector - Suntech's Shi Zhengrong is one of the more famous examples after he was poached back to China in 2000 to establish a manufacturing base for his Australian developed conventional photovoltaic solar cells.

"We have the technical expertise and we have the people and the biggest market for green technologies is on our doorstep," says Mina Guli. "What reason is there that Australia could not become the Silicon Valley of clean technology?"

## **FACTS AND FIGURES**

China is the second largest energy consumer in the world accounting for almost 15% of global consumption.

90% of China's energy is derived from fossil fuels.

China will need to invest \$350 billion in renewable energy to meet its target of 15% renewable electricity supply by 2020.

China has a National Renewable Energy Target of 10% by 2010 and 15% by 2020.

\*Source: Austrade

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### **For information on the Wanwu Eco-Country Directory**

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To read a company profile on the success of Australian biodegradable packaging manufacturer Cardia Bioplastics click here.

To read a case study for sustainable design in China, click here.

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