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Special  
Report

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Going green has been tricky for business. Legislation has been delayed meaning that most companies are unclear about their obligations. But some organisations are determined to help the environment, and they believe it makes good business sense.

## Plastic fantasies

The recycling industry in China offers huge potential for a company about to list on the ASX but debate continues as to just how green the end product is. Report: Kath Walters

● Recycling plastic is not as easy as it sounds. It is hard to get a recycled plastic product that is as sophisticated as the "virgin" plastic it is made from. "Most recycled plastic makes a thick, meaty piece of plastic with limited uses," says John O'Brien, chief executive of Australian Cleantech, which helps green companies attract investment.

"It is called down-cycling," says Andrew Carre, program director for life cycle assessment from RMIT University's Centre for Design. "When plastic is recycled, it is only suitable for use in products such as wood substitutes or plastic posts."

But a Chinese company, Novarise, can make

sophisticated products from recycled polypropylene, such as PP filament yarn, which can be spun into a wide range of products. It also produces PP pellets, and prices both products about 20 per cent below the price of virgin polypropylene yarn and pellets.

Novarise is already a market leader in China, producing 23,700 tonnes of PP yarn in 2008, which is 10.3 per cent of the total PP yarn production capacity in China, a report by research company Frost & Sullivan reveals.

Australian investors are hungry for "clean technology" opportunities, recent surveys show wealthy private investors cannot find enough good deals.



**Tough job:** A woman looks for plastic to sell for recycling in a garbage site on the outskirts of Kunming, China





## The overall life cycle emissions are significantly less ... when using recycled material as opposed to virgin PP

Novarise independent director John O'Brien



The co-founders of Novarise, Quingyue Su and Chung Yi So, recently tapped into that pent-up demand to raise \$32 million for a listing on the Australian Securities Exchange on April 9. O'Brien is an independent director of Novarise.

Recently, the Chinese government changed its environmental policy, with a law that promotes reducing consumption, reuse and recycling. Under the law, manufacturers of recycled products are eligible for tax breaks and grants.

China is already a huge consumer of recycled plastics, says Simon Lockrey, research fellow in sustainable products at RMIT. "In Australia I would say, no way, but in China there is a massive market and a huge waste stream."

The company typically uses CD covers as its source of waste, which are clean. Recycling plastic food containers is more complicated, for example, as they must be sorted and washed. Novarise chairman and managing director Quingyue Su points out that virgin PP pellets and yarn are made from crude oil. "This means that any escalation in the price of crude oil generally increases the price of virgin PP pellets," Quingyue Su wrote in the company's prospectus.

Novarise is a profitable company. It started as a PP product maker in 1998. Its internal research and development division developed its recycling technology (patent pending) and it started recycling plastics in 2008. Net profit in 2008 was \$6.3 million on revenue of \$40 million, a net profit margin of 16 per cent.

But is it really green? The answer to that question is found in how much energy the company uses when making its products.

RMIT's Carre says: "You can turn tyres into oil, but the energy used makes it prohibitive."

Making a kilogram of virgin polypropylene granulate (pellets) produces 1.67 kg of carbon dioxide, according to Lockrey's research, for which he used an international life cycle assessment tool, and the embodied energy for the same amount of PP granulate is 68.2 megajoules. Lockrey says such figures can fluctuate by a few points, depending on what assessment tools are used. While investors do not need to understand exactly what such benchmarks need, this is an important question to ask when trying to assess if the company is really "green".

The answer? "I don't know," O'Brien says. The company has the figures, but has not had them audited, but O'Brien says these will be released within 12 months. "The overall life cycle emissions, when the equivalent oil refinery emissions are considered, are significantly less when using recycled material as opposed to virgin PP."

Intellectual property protection in China is always a problem. O'Brien says the company's strategy, as well as applying for patent protection, is to stay market leader.

The market for PP products is big and growing. Novarise wants to expand its existing factory with its fresh capital and build a new one. The downturn stymied the growth of the market, but Novarise predicts growth between 2009 and 2013 at an annual compound rate of 5.9 per cent to reach 4.2 million tonnes (it was 3.2 million tonnes in 2008). China is a big producer and consumer of PP yarn, which can be made into products such as laptop carry bag straps, and, more simply, agricultural twine, both markets that Novarise expects to grow and to shift to recycled products. **BRW**

## The competitive edge

● Companies that are considered more green than others in their sector have a competitive advantage over their rivals, with new research showing the majority of Australians consider the environment when making buying decisions.

The research, undertaken by furniture retail giant IKEA Group, shows that three-quarters of Australians are likely to be influenced by a company's social and environmental practises when shopping.

Women, more so than men, are calling for organisations to take steps to help protect the environment, with 82 per cent of women and 68 per cent of men indicating that it is either extremely or very important for companies to protect the environment.

IKEA Group sustainability manager Stefano Brown, speaking at an event promoting the company's sustainable products, said large international corporations must examine the policies that affect the environmental impact of the products they sell.

"IKEA has a team in Sweden that is working on developing a scorecard for sustainability," Brown says. "We are trying to improve the way products are developed using sustainability principles."

The aim of the project is to make improvements in company policy on issues such as environmental protection, green manufacturing practices, standard working conditions, child labour and health and safety.

There is room to make improvements in Asia in some of these areas, Brown says.

In particular, IKEA's sustainability team is looking to improve conditions in China, which accounts for more than 20 per cent of global sales.

Retailers play an important role in promoting solutions for a sustainable life for consumers, Brown says.

IKEA has sold compact fluorescent light bulbs for the past decade and contributed to awareness of new energy efficient technology.

"Ten years ago, we sold millions of compact fluorescent light bulbs and created an interest in the product, now of course there is a legal obligation all over the world where traditional bulbs are now phased out," Brown says.

"If every IKEA customer today, more than 170 million people, replaces one traditional 60 watt incandescent light bulb with a compact fluorescent bulb, the emissions saved would be equivalent to the emissions from 800,000 cars."

Dan Hall

