

Paper recycling – China's rubbish economy

As trade in recycled paper in China slows down, paper that western households intended to be recycled could be ending up in landfill

Millions of European and American householders spend some time every week sifting their old newspapers from the rest of their waste and putting them aside for recycling. At some point a truck comes by, picks up the paper and moves on. What happens to it after that is a lot less clear – some people care, some do not. They have done what they are supposed to do as environmentally conscious citizens and are left to hope it is recycled in some way.

There are targets for paper recycling. To meet the requirements of the European commission, the European paper industry is aiming to recycle 66% of all paper products by 2010, and Europe reached 64.5% in 2007. The US paper industry has set a goal to recover for recycling 55% of all paper used by 2012.

But where is the recycling happening? What most people do not realise is that vast amounts of European and US waste paper go straight to the docks and are then shipped to China. At the other end someone such as Thijs Cox, one of the founders of Ciparo, a recycling company based in China, picks it up for recycling and sale to countless Chinese manufacturers. Most products you buy from China involve some paper in them – wrapping, packaging, instructions – and often that is your morning newspaper coming back to you. Cox, originally from the Netherlands, runs Ciparo, one of the largest firms shipping Europe's waste paper to China for recycling.

The past decade has seen demand for paper in China rocket – Ciparo has grown to become a major corporation while China's richest woman, Yan Cheung, just happens to be the boss of China's largest paper and pulp company, Nine Dragons. A fair share of her estimated fortune of \$2.4bn has come from securing contracts to buy waste paper from the US for recycling and reuse in China.

For Chinese manufacturers, waste paper is a bargain – \$100 a tonne as opposed to \$500 a tonne for virgin pulp. Add to that that the Chinese government is encouraging the import of cheaper raw materials, with waste paper attracting zero duty.

Even for those willing and able to pay a higher price for new fibre, China has a problem – high demand in recent years combined with poor reforestation has meant a severe shortage of virgin pulp. The government has ordered emergency planting of fast-growing forests in places such as Hainan Island, in southern China, but these will still take 10-20 years to be productive, so recycled material – including your old newspapers – is still essential.

It seems like a win-win. Companies such as Ciparo take waste paper from European local authorities and big users such as supermarket chains, ship it to China, recycle it, and sell it for a profit to Chinese manufacturers who need it for their export products, which then get sent back to the west. Ciparo, and other recyclers, are contracting with European, American, Australian and Japanese collectors of waste who sort it, compress it and bale it before shipping to China.

But there are problems. For a start, not all the paper that gets sent to China can be recycled.

Landfill worries

The Chinese government is concerned about China becoming a giant landfill site for non-recyclable waste paper that the west does not want piling up in its own landfills. Beijing insists on Ciparo renewing its licence every three years and each shipment also requires separate import approval to make sure it is actually recyclable paper and not just paper waste being dumped. This means firms such as Ciparo have to test the bales in Europe before accepting them, to avoid waste dumping and ensuring the bales contain only suitable waste that can be recycled, known in the business as "scrap paper".

This scrap paper has to be cleaned once it has arrived in China. It has to be washed of its ink and repressed into sheets that can be sold. This requires a lot of water. Papermaking generally requires 99 parts water for each part raw material. This has been a problem in water-shortage-prone areas of China, including Beijing.

There are two sides to dealing with scrap paper. At one end of the system, firms such as Ciparo inspect bales to ensure they are composed of recyclable paper and not unusable waste. They wash and repress the waste in regions that traditionally have plentiful water and where the Chinese paper industry is concentrated – usually in the north of China around Shandong province. At the same time Chinese paper mills have invested heavily in new machines that process large volumes while automatically separating glue and staples from newspapers and magazines



China bailing out western landfill

Paul French, Asia-Pacific Editor,
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and use less water to remove the ink.

On the other side, canny paper collectors in the west are getting better at ensuring that the waste they are exporting is recyclable and therefore sellable. Collectors such as California's Napa Recycling and Waste Services are diligent in their sorting and so find they can sell just about everything they collect to Chinese and Korean buyers.

Recession recycling

But the global recession is affecting the market and prompting new challenges. Stories alarming western newspaper readers that their carefully sorted wastepaper is ending up in giant landfills and not being recycled have some validity. Export orders to China are down as cash-strapped consumers and businesses in the west buy less. Consequently, Chinese manufacturers are reducing their output or going to the wall as the orders slow. Less packaging is needed. Prices for recycled paper peaked in August 2008 and have since dropped by 50-70%. The days of paper that can be recycled fetching \$100 a tonne are gone (and the one time market peak of \$200 a distant memory). Prices are down to as low as \$28 a tonne for mixed paper, \$40 for newspaper and \$35 a tonne for corrugated boxes.

This means prices are falling below what it costs to collect and ship the waste paper from the west. At present, only the paper collected near port towns and not requiring the additional cross-country trucking is economical ... and then only just. This means targets for recycling set by the industry and government in Europe and the US are becoming harder to meet.

Meanwhile the number of clients in China looking for large amounts of recycled paper for wrapping and packaging is declining (incidentally, because newspapers get thinner during the recession with less advertising and there is less waste packaging around because of a slowing consumer market, there is arguably less available to ship anyway). Ciparo's Cox says: "There will be little waste paper shipped to China this year and next." Unable to sell it or find local recyclers, there is a risk that many western collectors of waste will end up tipping it into landfills.

From UK to landfill

That is reportedly already happening, sparking anger among environmentally conscious western consumers who diligently sift their waste in the hope they are helping to protect the environment.

Big buyers of waste paper for recycling, such as China, India, Vietnam and others, can still take more but it has to be sorted and baled properly to avoid non-useable waste being dumped. Those that buy waste paper claim that cuts mean local authorities across the UK and Europe are not spending the money to diligently sort the waste, meaning the market cannot buy it.

Mal Williams, chairman of the Campaign for Real Recycling, says UK councils are producing low-quality recycled material because of a method known as "co-mingled recycling" – where households put out paper, plastics and other dry materials in one bag. Those councils cutting back on sorting will have to stockpile rubbish in warehouses or send it to landfills. According to the campaign, "at least 10% of co-mingled recycling ends up in landfill". At present, according to a Daily Telegraph survey, "around 40% of UK councils have a co-mingled collection".

As China continues to tighten its rules about waste dumping and insists firms such as Ciparo accept only recyclables, so sorting the rubbish at the western end becomes crucial. China already has massive landfills of its own that are a political issue – China wants waste it can profitably recycle but does not want landfill moved from the west.

Waste paper collectors in the UK seem to understand this. Phillip Ward, director for local government services at Wrap, the government body in charge of boosting recycling, says: "Quality is particularly important when the markets are tight." But local authorities claim they are cash strapped and cannot always afford to sort out the rubbish. Those diligent householders may not be impressed.

The US has the same problem. California was a major shipper of waste paper, as well as card, metal and other products to China, but demand, and consequently prices, are significantly down. California's waste collectors cannot sell their waste and cannot afford to warehouse it, so they are using landfills. Recently California governor Arnold Schwarzenegger was reluctantly forced to accept this despite the fact that landfills produce methane, a greenhouse gas 21 times more damaging than carbon dioxide.

Europe or China?

Then there is the issue of whether waste should be shipped to China in the first place.

Europe has added considerable capacity to process the paper itself. Germany was traditionally Europe's largest exporter of paper but is now a net importer while new paper mills have cropped up on new greenfield sites in eastern Europe where costs are lower. But processing the paper in Europe does not entirely solve the problem – Europe is not making the clothing, DVD players and other electronic goods that come wrapped and boxed.

At the same time China's domestic consumer market is growing – there is increased demand for appliances, magazines and other goods that require paper. With scant and precious reserves of virgin pulp, China has a growing domestic need for recycled paper outside of the export industry. This will ensure that China keeps on taking significant amounts of recyclable paper and card for some time. However, China is now more efficient at recycling its own waste paper. Across the country buyers turn up at offices, apartment blocks and factories paying cash for waste paper and card to sell on to the recyclers. It's a cottage industry that is becoming big business.

Economics dictate that China will take only as much paper as it needs, and its needs will be determined largely by the state of the global economy and the strength or otherwise of export orders from the west. For recyclers such as Thijs Cox, the market will be determined by whether he can find customers willing to pay enough to make getting waste paper profitable to clean and sell on. At the same time China's government is determined not to become the world's dumping ground – the west will not be able to keep its landfills empty by shipping the problem to China.

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