May 2005, No. 4

Recycling International

ISRI Convention in New Orleans
Sunny and optimistic

America Chung Nam
Committed to the paper loop

India: democracy, bureaucracy and growth

Viewpoint volgt z.s.m.

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Sun and optimism light up ISRI's New Orleans convention 20-37

In April, New Orleans played host to the 2005 Convention and Exposition of the US Institute of Scrap Recycling Industries. Recycling International reports on some of the highlights of the convention, which included the 'Spotlight' sessions on ferrous, nickel & stainless, copper and aluminium.

52-59

Scrap and radioactivity: avoiding the road to Whoville 38

At last month's ISRI convention, delegates to the 'Radiation in the Scrap Stream' seminar heard the tale of The Timken Company, which last year became the unwilling recipient of a so-called 'orphan source' in a consignment of scrap. Timken's Andy Black recounted the horror story and described how his firm had coped.

India: democracy, bureaucracy and growth

India is sometimes described as 'the next China'. Both countries hold a clear competitive advantage over many other countries with regard to labour costs, but in contrast to China, India's recycling infrastructure has developed little over recent years. India is a major importer of secondary raw materials, taking receipt each year of some 2.5 million tonnes of ferrous scrap, 1.5 million tonnes of recovered paper and 150 000 tonnes of plastic scrap. Through the eyes of leading recycling experts, Recycling International looks at the India of today and at its prospects.

2B: young but packed with experienced 42

2B Consultancy is relatively new but boasts an impressive recycling industry pedigree. Formed only last year, the firm helps small and medium-size scrap companies in all aspects of establishing a business, even to the point of offering management and scrap sales advice.

America Chung Nam: committed to the paper loop 64

China is not only the world's biggest importer of scrap metals, it also holds this position with respect to recovered paper. To satisfy its paper mills, China has to import huge volumes of recovered paper and its biggest supplier is America Chung Nam. The company has offices in the USA and Europe, as well as a number of paper mills in China itself.

New opportunities for PET recycling 70

The use of recycled plastics in food contact applications has been restricted in Europe because of a lack of relevant regulations. However, imminent legislation will officially open up this sector to the use of recycled plastics. Dutch knowledge transfer and research organisation TNO has studied the possibilities this creates.

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Recycling
International

Events

31 May-3 June **Moscow (Russia)**
WasteTech 2005
4th international trade fair and congress on waste management and recycling
Ecwatech
Phone: +7 095 101 4621
Website: www.waste-tech.ru

2-3 June **Dalian (China)**
Asian Stainless and Special Steel Conference
Metal Bulletin Events
Phone: +44 20 7827 9977
Fax: +44 20 7827 5292
E-mail: enquiries@metalbulletin.com
www.metalbulletin.com/events

8-10 June **Barcelona (Spain)**
10th International Battery Recycling Congress
ICM
Phone: +41 62 785 1000
Fax: +41 62 785 1005
E-mail: info@icm.ch
Website: www.icm.ch

24 June-3 July 2005 **Istanbul (Turkey)**
Recycling Istanbul
International recycling and waste management fair
Istanbul Fair Organization
Phone: +90 212 275 7579
Fax: +90 212 288 3611
E-mail: ifo@ifo.com.tr
Website: www.recyclingistanbul.com

26-28 June **Atlanta (USA)**
2005 Paper Recycling Conference & Trade Show
GIE Media
Phone: +1 216 961 4130
E-mail: mmiller@giemedia.com
Website: www.recyclingtoday.com

27 June-1 July 2005 **Skellefteå (Sweden)**
Securing the future 2005
International conference on mining and the environment, metals & energy
Expolaris Kongresscenter
Helena Örnberg
Phone: +46 910 736000
Fax: +46 910 736010
E-mail: helena.ornberg@kongresscenter.skelleftea.se

13-15 September **Birmingham (UK)**
RWM 2005
Recycling and Waste Management Exhibition
EMAP
Phone: +44 20 8277 5540
Website: www.rwmexhibition.com

3-5 October **Brussels (Belgium)**
European Paper Recycling Conference
GIE Media
Phone: +1 216 961 4130
Fax: +1 216 961 0364
E-mail: mfitzpatrick@giemedia.com
Website: www.recyclingtoday.com

3-7 October **S. Margherita di Pula (Italy)**
Sardinia 2005
10th international waste management and landfill symposium
EuroWaste
Phone: +39 049 872 6986
Fax: +39 049 872 6987
E-mail: info@sardiniasymposium.it
Website: www.sardiniasymposium.it

20-22 October **London (UK)**
Foundry International London 05 Exhibition
The Foundry Equipment & Supplies Association
Phone: +44 1737 855 280
Fax: +44 1737 855 555
E-mail: marrywhite@uk.dmgworldmedia.com
Website: www.fesa.org.uk

8-10 June Barcelona (Spain)
10th International Battery Recycling Congress

The 10th International Battery Recycling Congress will take place at Sitges near Barcelona, and by late April more than 100 delegates had already registered for the event. Keynote speakers are scheduled to include Timo Mäkelä, Director of Sustainable Development and Integration at the European Commission, and Mike Takao of Sanyo Electric Co. Ltd., Mobile Energy Company in Japan.

The event will bring together leading experts in the field of battery recycling to discuss legislation - including the new EU Battery Directive - and latest developments within the recycling industry. The congress will also feature country reports from Greece, Austria and Eastern European countries, as well as sessions about collection and recycling, plant and processes, and the recycling of lithium batteries.

A special networking dinner is being organised for Wednesday June 8, while on Friday June 10 participants have the option of visiting the centre for the treatment of batteries and fluorescent lamps at El Pont de Vilomara I Rocafort.

For further information contact: ICM, Muri, Switzerland, Phone: +41 62 785 10 00, Fax: +41 62 785 10 05, E-mail: info@icm.ch, Website: www.icm.ch

24-25 October **Milan (Italy)**
BIR Autumn Convention
Bureau of International Recycling
Phone: +32 2 627 5770
Fax: +32 2 627 5773
E-mail: bir@bir.org
Website: www.bir.org

26-29 October **Rimini (Italy)**
Ecomondo 2005
International trade fair on material & energy recovery and sustainable development
Phone: +39 0541 744 492
Fax: +39 0541 744 475
E-mail: a.astolfi@riminifiera.it
Website: www.ecomondo.com

29 November-2 December **Paris (France)**
Pollutec 2005
Reed Exhibitions France
Fax: +44 1 4756 2120
E-mail: ilse_dapper@reedexpo.fr
Website: www.pollutec.com

7-8 December **Bremen (Germany)**
Waste to energy
International exhibition & conference for energy from waste and biomass
HVG
Phone: +49 421 35050
Fax: +49 421 3505 340
E-mail: rohde@messe-bremen.de

Illegal British shipment intercepted in Rotterdam

In early May, inspectors from the Dutch environmental agency VROM and from the customs authorities intercepted 60 containers which were about to be shipped from Rotterdam to China. Although the accompanying documents said the containers held recovered paper, it emerged that, in fact, they contained 1600 tonnes of assorted waste materials, including plastic packaging, batteries, drinks cans, old clothes, carrier bags and wood.

According to VROM, this represented the 'biggest household waste fraud ever to be discovered in The Netherlands'. The 60 containers have been shipped back to the exporter, Grosvenor Waste of Kent. The company is the UK's largest independent recycler and MRF operator, and has been part-financed by £750 000 (US$ 1.43 million/€ 1.09 million) of public money.

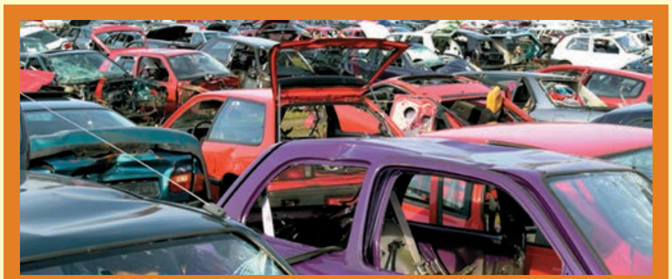
VROM alleges that Grosvenor Waste had tried to cover up the export operation. The waste had been sent in trucks from different ports within the UK to The Netherlands, where it was loaded into sea containers and subsequently spread throughout the country in an attempt to reduce the risk of discovery.

English waste companies are increasingly exporting household waste to developing countries, according to VROM. The agency attributes this trend to rapidly-rising landfill costs in the UK. British household waste often ends up with intermediates who are paid by British local authorities to process the waste but instead export it abroad labelled as recovered paper, it is contended.

Grosvenor Waste claims that it has fallen victim to indistinct and vague legislation because it was unclear on the kinds of recovered paper that could and could not be exported. In particular, it said, the degree of plastics contamination was not specified. However, a VROM spokesman who has inspected the containers'contents said that 'there was very little recovered paper in the load, apart from a couple of envelopes and Christmas cards'.

In a response to Recycling International, Grosvenor Waste's Managing Director John Viviani insists that 'spurious and inaccurate allegations' have appeared in the press. 'Grosvenor Waste's management has at all times acted transparently in co-operation with the regulators,' he says. 'Grosvenor remains committed to working with the regulator and waste management industry to develop and adopt objective, quantity-based testing to ensure clarity and consistency of regulation, and welcomes the move by the Environment Agency to get around the table with industry representatives ... and find a way forward.'

Grosvenor Waste also says that UK landfill costs are lower than the European average and that recycling typically remains more expensive than landfilling. Recyclables are exported from the UK due to a lack of reprocessing capacity in the UK: as an example, 2.5 million tonnes of paper was exported from the UK last year, according to Grosvenor Waste. □



Spain's smash hit

Struggling scrap dealers could learn from their Spanish counterparts about how to make some extra cash on the side. For just € 40 (US$ 52), people are being invited to pick up sledgehammers at a scrap yard in the town of Lubia and smash up anything they like.

The sessions have been organised by a group called StopStress and, as the name suggests, its aim is to help people overcome stress. Co-founder Jorge Arribas told the Reuters news agency: 'When they arrive, they feel afraid and uncertain. But we motivate people so they feel more able to smash things. After they have smashed everything in sight, you can see that they are far less worried and far more relaxed.'

Along with the sledgehammers, customers are also being given helmets, overalls, goggles and, if they so desire, heavy metal music for head-banging.

Zinc recycling prevents landfill problem

A programme developed and supported by the UK-based Environment Agency has helped avert a hugely-expensive landfill problem following the closure of a Bristol manufacturing business.

Up to 30 000 tonnes of zinc industry waste known as 'blue powder' lay at the heart of the problem faced by the Environment Agency after the closure of the Britannia Zinc Smelting Works in Avonmouth, Bristol, some two years ago. Following two years of negotiations between the parties involved, the powder is now being shipped to Germany and recycled into the zinc industry.

Blue powder is recovered from the chimney stacks of zinc smelting works and is made up of a mixture of metal oxides. The powder comprises a significant metal content and therefore commands a substantial economic value; however, it posed a significant risk to the local environment while it remained on site.

If arrangements had not been made for the blue powder to go to Germany, it would have been landfilled in the UK at an estimated cost of £25 million (US$ 48 million), according to the Environment Agency. □

New database covers metal matrix composites

A new web service launched by The Minerals, Metals & Materials Society (TMS) makes available to engineers otherwise hard-to-access information on metal matrix composites (MMC). According to TMS, the database provides materials information which was previously unknown except to an inner circle of specialists through search capabilities involving 140 companies, 170 materials and 90 products.

The MMC database is searchable by name of company active in MMCs, by specific materials used or produced, or by product available in the market. The site is expected to prove useful to engineers who are keen to obtain a basic knowledge of MMCs and where to locate them. The site also accumulates data through a survey of current activity in this new and growing area of materials technology.

The on-line MMC content is updated periodically by the Composite Materials Committee of TMS and is accessible to TMS members. The society is the professional organisation spanning the entire range of materials and engineering, from minerals processing and primary metals production to basic research and the advanced applications of materials. □

More information may be obtained at www.tms.org or by sending an E-mail to: ncommella@tms.org

Ben Sacco's Joke of the Month

A TV to dye for

A blonde goes into a local store and asks the salesman if she can buy the TV in the corner. He looks at her and says he doesn't serve blondes, so she goes back home and dyes her hair black. The next day she returns to the store and asks the same thing, and again the salesman says he doesn't serve blondes.

Frustrated, the blonde goes home and dyes her hair yet again - this time a shade of red. Determined to get the TV this time, she returns and asks for a different salesman.

To her astonishment, this new salesman also confirms that he doesn't serve blondes.

The blonde asks him: 'But how on Earth did you know I was a blonde?'

The clerk looks at her and says: 'That's not a TV in the corner - it's a microwave!'

Major recycling congress in Shanghai

On November 8-11 this year, Swiss congress organiser ICM will stage its first international car, electronics and battery recycling conference and exhibition at the Hotel Shangri-La in Shanghai, China.

During the event, leading recycling experts from around the world - including manufacturers, collectors, processors, steelmakers, legislators and policy-makers - will meet to discuss:

* car, electronics and battery manufacturers' recycling activities;
* latest developments within the recycling industry;
* country reports;
* best available technologies, plants and processes;
* collection and take-back programmes;
* the international market outlook;
* legal and regulatory developments.

The conference represents a platform to exchange information, to meet new business partners and to obtain easy access to potential new clients.

According to the organisers, the conference offers the following opportunities:

* To meet in China - the market which is currently having the largest impact on the international recycling business;
* To learn from expert speakers and exhibitors;
* To visit local manufacturing and recycling companies;
* To sell know-how and products;
* To get in touch with major players and new companies;
* To visit beautiful and booming Shanghai. □

For further information, contact: ICM AG, International Congress & Marketing, Birrwil, Switzerland (English contact: Jeanette Duttlinger / Chinese contact: Ying Liu), Phone: +41 62 785 10 00, E-mail: info@icm.ch, Website: www.icm.ch

Increase in European glass recycling

Glass recycling continued on its upward trend in 2003, according to figures from European container glass federation FEVE. Collections in the European Union totalled 9.376 million tonnes, 4.6% more than the 8.963 million tonnes collected in 2002. This represents a recycling percentage for 2003 of 60% compared to 59% in 2002

Recycling percentages in many European countries exceeded 60% in 2003, with Switzerland topping the list on 96%, followed by Sweden on 92%, and Germany and Belgium both on 88%. Meanwhile, growth rates were particularly strong in the UK and among the Mediterranean countries. Bottom of Europe's glass recycling league was Turkey with a rate of 22%. □

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New system to revolutionise WEEE compliance?

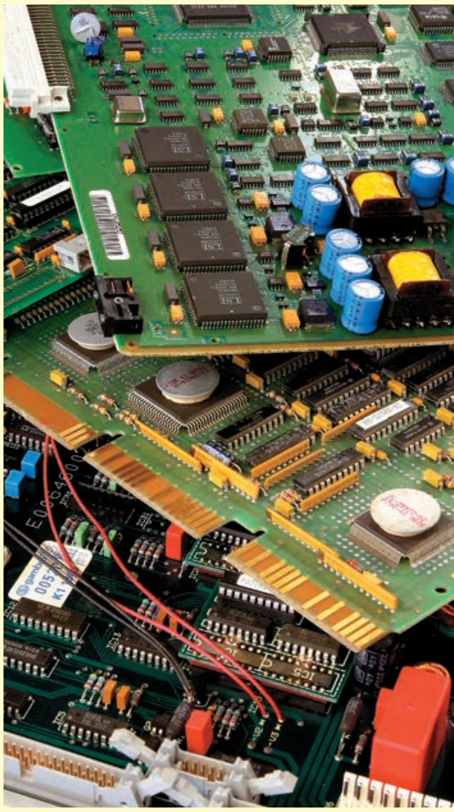
A group of EU manufacturers, recyclers and research centres has created a system to measure the environmental impact of electrical and electronic products during their entire life-cycle. It is argued that the tool could revolutionise compliance with the EU Directive on Waste from Electrical and Electronic Equipment (WEEE) and help the sector deal with a host of other current and future environmental laws.

The key innovative element of the environmental life-cycle information management (Elima) system is the use of sensors mounted within products to monitor their activity during use. The data are stored in minute radio transmitters that can be read during servicing or at the end of the product's life. The data could entail a simple bill of materials used to make the product, or more active information such as the condition of valuable components inside it and detailed disassembly instructions.

Supporters argue that, with this system, the WEEE directive will become a benefit instead of a cost to product manufacturers since it would also massively increase feedback from recyclers to manufacturers, boosting ecologically-friendly designs in line with the directive's original principle of producer responsibility. Elima could help firms prepare for future legislation under the forthcoming energy-using products directive, as well as for other initiatives being devised under the EU's integrated product policy. It could even help to track hazardous materials through the waste stream, to extend product life by diagnosing simple faults, and to encourage a shift to energy services by letting firms study product use patterns and propose alternative equipment to consumers.

Project leaders want the system to be perfected through standardisation and to be adopted voluntarily by firms. The sensor arrays currently cost up to € 85 per item of equipment, but researchers say this could soon plummet to below € 1. To encourage uptake, they are underlining additional benefits, such as the ability to determine whether product damage is caused by consumer negligence or faulty manufacturing. □

For more information, visit www.elima.org



Business News

*** Cofermin Rohstoffe**

German company Cofermin Rohstoffe has announced that Hafsil, Europe's largest producer of ferrosilicon powders for DMS, is back in production. Hafsil companies include Hafsil AS of Sarpsborg in Norway and Mineralmühle Leun of Leun, Germany.

General sales are carried out by Cofermin Rohstoffe GmbH, which is based in Essen, Germany. Phone: +49 201 4387-810, Fax: +49 201 4387-888, E-mail: krueger@cofermin.de.

*** Terex Pesgson**

Crushing plant and equipment manufacturer TEREX Pegson of Coalville, UK, has been awarded another Queen's Award for Enterprise in the International Trade category, thereby repeating its success of 2002. TEREX Pegson's comprehensive range of crushing plant is predominantly used in quarrying, mining, aggregate extraction, construction and demolition, recycling and reclamation. The company has increased its already-substantial overseas earnings by some 85% over the past three years. TEREX Pegson sells to some 43 countries, notably throughout the USA and EU. More recently, it has been developing its sales throughout the Middle and Far East, as well as the Indian sub-continent.

www.bl-pegson.com

*** Outokumpu Copper Products**

Outokumpu Copper Products Oy has a new owner, namely the Nordic private equity firm Nordic Capital which is based in Stockholm, Sweden.

Nordic Capital has a strong and proven track record in owning and developing industrial companies which stretches back to 1989. Under this new owner, Outokumpu Copper will continue its strong industrial approach, focusing on competitiveness and new product offerings. Outokumpu Copper and its businesses will continue to trade under their existing names during a transition period of up to 12 months.

www.outokumpucopper.com or www.nordiccapital.se
www.cofermin.de

EU takes position on waste shipments revision

Governments are about to approve their first-reading position on a revision of the EU's waste shipments regulation. The text of a common position released by the Council of Ministers should be approved later this month, thus clearing the way for the second reading to begin.

The goal of the revision is to bring the decade-old regulation into line with more recent international agreements. A key issue for member states has been so-called 'eco-dumping' - the risk of shipments being exported to exploit lower treatment standards elsewhere. The draft common position gives authorities in the despatching member state more power to block shipments they think will not be handled to an equivalent standard in the importing country. However, in response to concerns surrounding possible abuse of this power, despatch authorities will be required to explain much earlier and more clearly the grounds for blocking exports, with reference to national legislation.

Another disagreement has centred on whether different streams of non-hazardous 'green' waste should be classified as 'amber' waste, and thus be subject to stricter controls. In this regard, the council has opted to decide gradually on a case-by-case basis, with different mixtures to be classed as green or amber through an EU committee procedure.

The European Parliament will now reconsider the proposed package of measures. Among its own more radical first-reading proposals, it called for outright bans on many types of shipment but this notion is thought unlikely to survive a second reading. □

Venti Oelde Process technology – new solutions for the metal recycling industry

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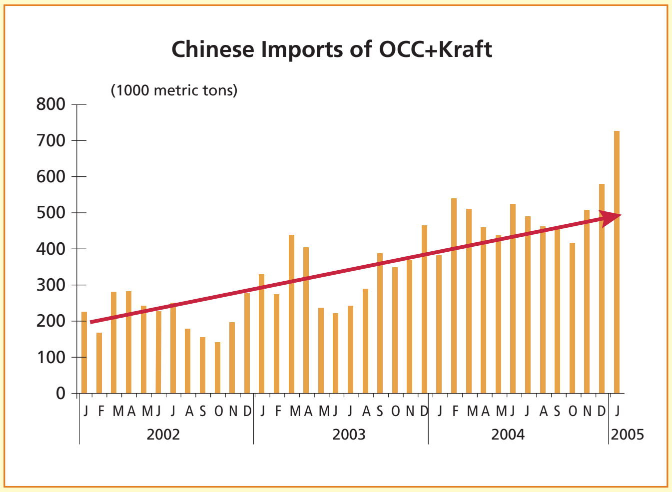
Panasonic opens European toner cartridge recycling facility

Panasonic Communications Co. of Newport, UK (PCCUK), started up a toner cartridge recycling facility during April. With an initial recycling capacity of around 30 000 units per annum, the facility will complement the used toner cartridge collection programme begun by PCCUK in December last year. Under this initiative, end users in 15 European countries (Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the UK) have the opportunity return used fax toner cartridges for recycling. At present, the scheme covers fax toner cartridge models UG-3313 and UG-3350, but the intention is to expand collections.

Under the scheme, Panasonic inserts a return label into the cartridge carton box, together with the instruction manual. Most end users are then able to return the used toner cartridges to their nearest post office. PCCUK thinks this new facility will help to reduce the environmental impact of toner cartridges and considers it to be a practical demonstration of its commitment to recycling. □

For further information, Phone +44 208 899 2217 or E-mail brendon.gore@eu.panasonic.com

OCC study highlights business opportunities



Moore & Associates and EU Consulting have published 'The World OCC Market', a major strategic business analysis of future trends and developments relating to supply/demand, pricing and procurement practices for Old Corrugated Containers (OCC).

The report includes information on OCC's worldwide supply and demand history as well as projections for the years to 2010. Also covered are: the Asian import market; comparisons and analyses of published prices for Asia, Europe and North America; and actual market prices for North America only. In addition, the study presents price forecasts for 2006 and 2007, in addition to an analysis of the relationship between OCC and mixed paper.

The report is designed to help subscribers to understand important trends within the OCC market and to identify business opportunities for OCC, as well as recycling machinery and equipment. □

For further information on the study, visit: www.globalrecyclefiber.com

Drinks pack deposits bad for the environment

Introducing deposits on one-way drinks packaging where kerbside collection schemes already exist inflates both costs and environmental impacts, according to a study from steel packaging association Apeal. The study is designed to persuade governments thinking of introducing deposit-return systems to reconsider their plans.

The life-cycle analysis suggests greenhouse gas emissions almost double if deposit-return systems are set up and used instead of existing kerbside schemes to collect beverage packaging. Although deposit systems achieve similar collection rates to kerbside schemes, costs increase from around € 550 per tonne to € 1000 per tonne of material collected, it is argued. □

For more information, visit www.apeal.org

EU regulators to boost enforcement

Twelve EU member state governments have agreed to step up enforcement of cross-border waste shipment controls after a study showed widespread irregularities and gaps in enforcement activities. More countries are expected to join the initiative.

Irregularities were discovered in three out of 11 shipments checked: in one instance, the waste was not what had been notified, while in another the local environmental permit of the receiving site did not match the notification. In a third case, the waste exporter had deliberately cited an EU state as the destination, whereas in fact the shipment was bound for China. This was a clear breach of EU law since environmentally-significant wastes requiring notification under waste shipment regulations are automatically banned from being exported to developing countries. The investigation also revealed major deficiencies in the performance of national regulators.

The countries involved are to carry out joint and co-ordinated inspections, starting with waste sources and then moving on through transport to treatment facilities. The partners have agreed to boost information exchange and to improve communication. □

Sold!

*** Harris Waste Management**

Harris Waste Management Group Inc. of Peachtree City, Georgia, USA, has announced several recent equipment sales. Todd Heller Inc. of North Hampton, Pennsylvania, Berg Recycling Inc. of Baltimore, and CFC Recycling Inc. of Tullahoma, Tennessee, have all purchased HBL 66-16 stationary baler/loggers. These feature a charge box two feet longer than those on competing models, as well as US-manufactured power units, valves and controls. Four other US companies - Garret Recycling, Waukesha Iron and Metal Inc., MAW Salvage and Augustine Metals - have bought H562 transportable shear/baler/loggers, while Corporacion Aceros Arequipa SA of Pisco in Peru has purchased an HS 98115 shredder.

www.harriswaste.com

*** Columbus McKinnon**

Sapphire Energy Recovery of Cauldon in the UK has purchased two more tyre shredding systems from Columbus McKinnon Corp. (CM) of Sarasota, Florida, USA. The customer now has four CM tyre recycling systems in all. The two new systems - which will be installed at the firm's new tyre shredding operations in West Thurrock and Oldbury, England - include CM's Multi-Stack knife feature which allows the operator to sharpen blades in the machine twice, thereby lowering associated maintenance costs by 60%, according to CM.

www.cmshredders.com

*** Metso Lindemann**

City Scrap & Salvage Co. of Akron, Ohio, USA, has purchased a heavy-duty 60/80 dual-discharge shredder from Metso Lindemann's North American operation based in Cedar Rapids, Iowa. The shredder will be driven by two Waukesha L7042G natural gas engines which can deliver 3000 hp. Among its other features, the shredder features 2-inch thick side walls, a 4-inch thick front wall, and an 8-inch thick reject door.

Metso Lindemann North America also reports that Davis Industries Inc. of Lorton, Virginia, has purchased a newly-designed non-ferrous recovery system. This will operate off-line from Davis Industries' shredder and features two Steinert eddy current separators and two Steinert ISS-III advanced metal sorting systems, with one eddy current designated for recovering fines and both offering 'long-throw' capabilities. In addition, the system will incorporate a batch feeder to meter material to a trommel, separating residue into two sizes to help maximise the recovery of non-ferrous metals.

www.metsominerals.com

Manitowoc and Kobelco extend alliance to Europe

The Manitowoc Company and Kobelco Cranes Co. of Japan have reached agreement for the latter to manufacture and supply to the former a range of lattice-boom crawler cranes on an OEM basis for distribution in Europe.

A range of Kobelco cranes in the sub-110 tonnes weight class will be sold in Europe by Manitowoc Crane Group from the third quarter of 2005. All new models will be branded as Manitowoc cranes, and will be sold and supported under Manitowoc's existing distribution network. Kobelco will continue to sell and support its current complete crawler crane product line under its European distribution system. □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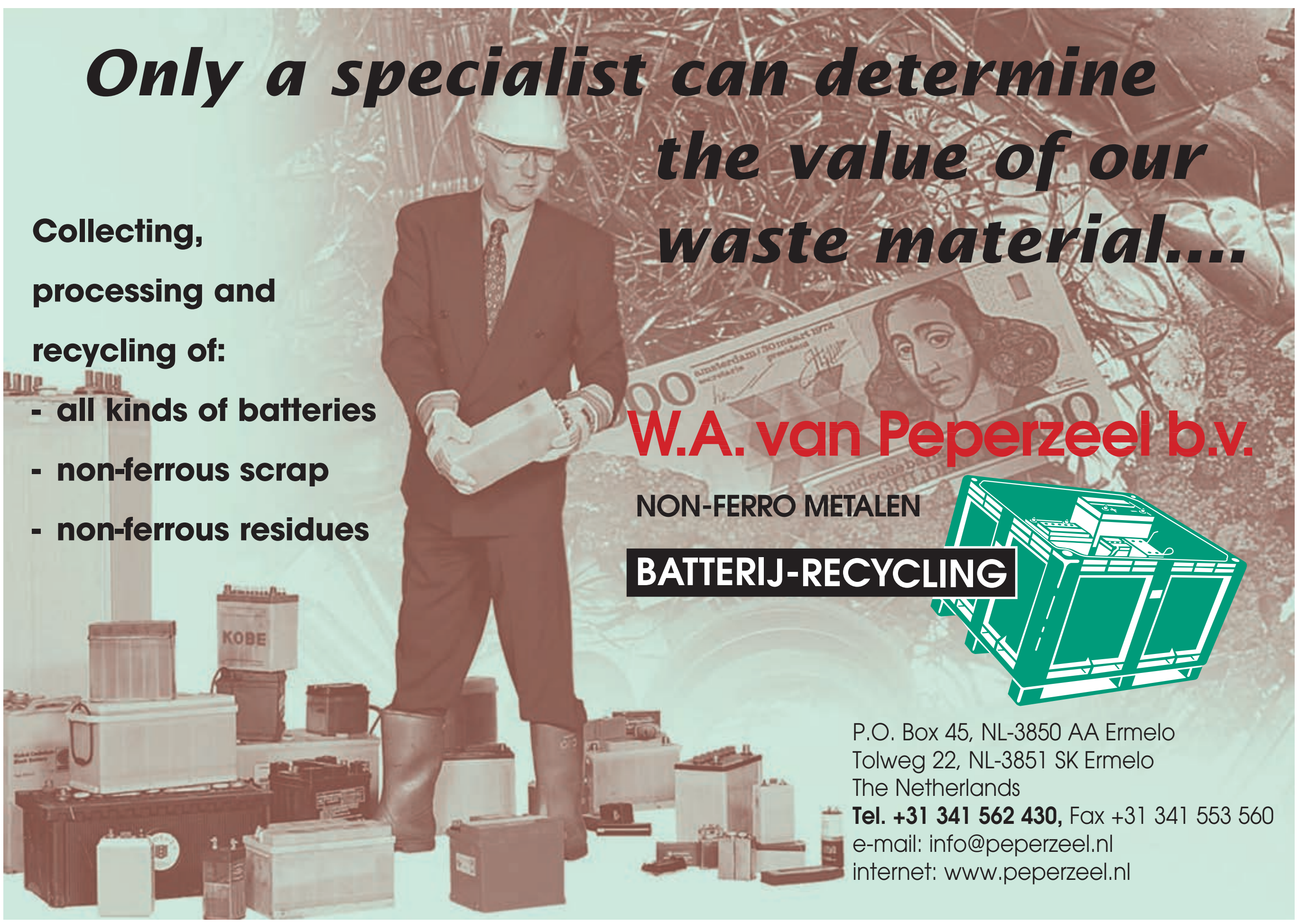
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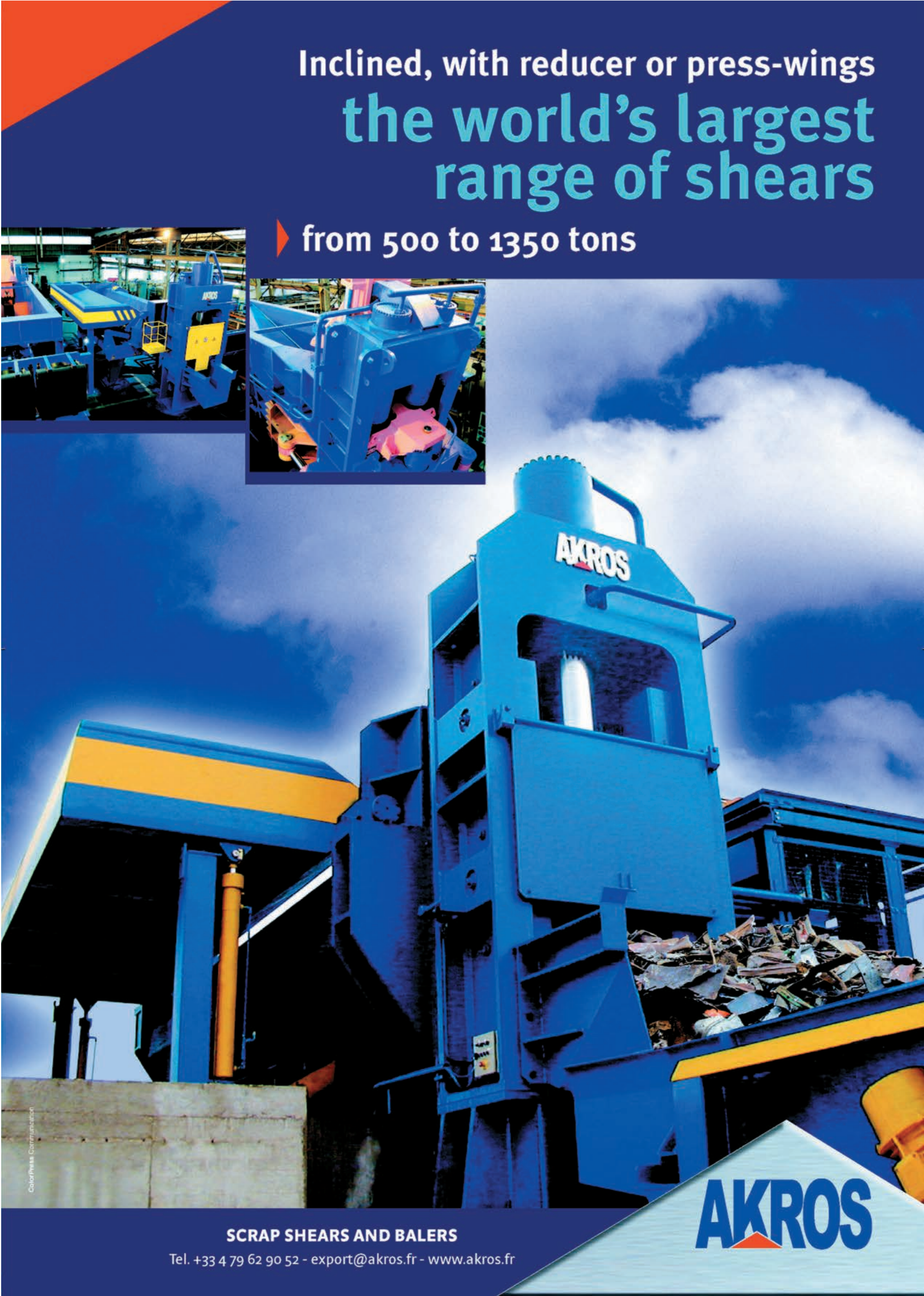
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Magazine Round Up

A magazine for the recycling industry is published in many countries. Although these publications mainly cover news of the domestic markets, many of them also signal international trends. Recycling International rounds-up items from these magazines which are of interest to the international recycling industry.

The magazines we co-operate with in publishing extracts from their editorial pages are:

- Scrap (USA)
- Recycling Today (USA)
- Recycling magazin (Germany)
- Magazine Recycling Benelux (The Netherlands/Belgium)

www.recyclingtoday.com

Scrap row simmers in Bangladesh

Bangladesh's shipbreaking industry finds itself at the centre of major argument after deciding to raise the price of scrap by US $15.79/€ 12.07 per tonne and to sell it only through their association rather than through an open-bidding system.

According to a report published in early April, buyers have been so infuriated by the shipbreakers' decision that they have stopped purchasing scrap from the latter's yards. Buyers have also announced that they will desist from buying scrap until the new measures are withdrawn. The country's raw scrap requirements are around 150 000 tonnes per month, of which more than 90% is supplied by shipbreakers.

An immediate casualty will be the over-heated construction sector. Real estate developers are already reeling under the pressure of unprecedented price increases for steel rod, iron and other materials. Recently, they raised apartment prices as part of a bid to remain in business and fresh rod increases will certainly add to their woes.

Scrap buyers have alleged that businessmen in the shipbreaking sector were creating an artificial steel and iron scrap crisis and unilaterally increasing the price time and again, thereby prompting further increases in the domestic prices of various finished products. They have claimed that the shipbreakers' decision was the result of a 'syndicated operation' by company owners to establish a monopoly in the steel and iron market.

However, shipbreakers have argued that prices had to be readjusted due to the sharp increase in the international price of scrapped ships, while the decision to sell the scrap through the association was to check price-related foul play by members or middlemen. As to the allegation of syndicated price-fixing, shipbreakers claim to have formed the syndicate for their own sakes. According to traders, shipbreakers increased the price of scrap four times between January and March this year - the same number of times as during the whole of last year.

Meanwhile, the Federation of Bangladesh Chambers of Commerce and Industry has looked to resolve the rod crisis facing the housing and construction industries. In April, its president met with both the scrap buyers and shipbreakers to hear their grievances; he emphasised that something must be done to address such a nagging issue.

Around 100 re-rolling mills in Chittagong and Dhaka have already shut down and a number of industries are said to be on the verge of closure.

Shareholders approve Mittal's ISG buyout

Netherlands-based Mittal Steel Co. has received approval from its own shareholders and from those of International Steel Group Inc. (ISG) to purchase ISG, thereby creating the world's largest steel company. Based in Richfield, Ohio, USA, ISG has been acquired in a stock and cash deal worth around US$ 4.5 billion, according to Mittal Steel Co. officials.

Mittal announced plans in late 2004 to take over ISG and merge it with two companies - Ispat International NV and LNM Holdings NV - which are owned by the family of Indian-born tycoon Lakshmi Mittal. The newly-combined Mittal Steel Company, based in Rotterdam and majority-owned by the Mittal family, employs some 165 000 people and is expected to record sales of more than US$ 30 billion this year.

ISG was formed earlier this decade by New York-based dealmaker Wilbur Ross and quickly became one of America's largest steel producers through acquisition of the assets of bankrupt firms such as LTV Co. and Bethlehem Steel.

Lowly elements

Mill buyers continue their emphasis on combining lower scrap grades with scrap alternatives in their melts, seeking to avoid higher-priced ferrous grades. The strategy appears to have produced its desired effect, as scrap dealers and mill buyers alike report that price negotiations in February and for March have mills offering much lower bids for prime grades.

In some cases, this could reflect a genuine inventory build-up at certain steel mills, though scrap dealers are sceptical as to why mills would build up inventory during earlier months when prices were at historic highs.

After prices for these grades drifted downward in December 2004 and this January, one Southeastern U.S. scrap dealer says pricing 'dropped off the cliff' starting around Feb. 1.

Although dealers can quickly adjust their scale price to keep those margins safe, in the case of agreements with some generators, they may need to wait for a published price drop before they can confirm a new buying price.

Whether because of melt shop changes, inventory management or a combination of these two strategies, what remains to be seen is whether the concerted attempts to reduce domestic demand for prime ferrous grades can provide a long-term solution for steel mills to contain their feedstock costs.

Melting rates domestically and internationally remain healthy, with the Chinese economy predicted to remain on a solid growth path throughout 2005. Chinese integrated steel companies are reportedly negotiating to keep their iron ore costs down, while iron ore producers say global supply and demand factors justify high prices throughout 2005.

The high starting negotiating point for iron ore may not bode well for mills on the scrap side either. If global economies, led by China, enjoy economic growth, this will likely mean good news for steel companies on the sales side, but with the mitigating factor of high costs on the feedstock side.

One U.S. mill buyer is optimistic that the current price drift signals the beginning of an era in which domestic buyers and sellers 'can settle into a range' that will allow steelmakers and scrap dealers alike to operate in a less volatile climate.

But a Midwestern scrap company executive notes that lower prices are already fetching more export broker interest, with two sizable ferrous scrap export shipments already scheduled out of the port of New Orleans 'in the next couple of months.'

Scrap
http://www.scrap.org

IISI aims to boost steel use in construction

The Brussels-based International Iron and Steel Institute (IISI) and 11 of its member companies have launched a new initiative aimed at increasing the use of steel in construction projects by as much as 10% over the next five years. This effort is expected to cost € 14 million and will focus on market research and technology benchmarking, along with initiatives such as an international architecture competition. IISI will seek additional participants in the programme throughout 2005.

Canadian paper recycling hits high water mark

In 2004, scrap paper recovery reached its highest level in Canada for more than two decades. According to estimates from the Montreal-based Pulp and Paper Products Council (PPPC), the recovery rate jumped from 43.2% in 2003 to 45.6% last year.

Canada collected an estimated 3.65 million tonnes of recovered fibre, PPPC notes, with more than 1 million tonnes of this total ending up as recyclable paper exports. At the same time, Canada's recovered paper utilisation rate declined for the second year in a row, falling to an estimated 23.8% in 2004 from 24.8% in 2003 and 25.1% in 2002, says PPPC. It was the lowest rate among Canadian paper-makers since 1997.

Overall, Canadian shipments of pulp, paper and paperboard increased by 1.7% last year to 31.2 million tonnes, according to PPPC. Operating levels also improved, but various factors from transportation costs to the value of the US dollar meant that, in 2004, Canada's pulp and paper operations suffered an estimated loss of C$ 225 million on sales of C$ 22 billion. However, PPPC points out that industry losses in 2003 had been as high as C$ 579 million.

Midrex builds 'hot' DRI plant in Malaysia

Midrex Technologies Inc. of Charlotte, North Carolina, USA, is building a direct-reduced iron (DRI) plant for Lion Diversified Holdings Berhad of Kuala Lumpur, Malaysia. The plant, to be located at Lion's site at Banting, Selangor, will produce some 1.54 million tonnes each year for the adjacent Megasteel and Amsteel II mills. The three electric arc furnaces at this facility will consume DRI via hot transport when the new plant becomes operational by the fourth quarter of 2006, Midrex explains. The plant will also be capable of producing hot briquetted iron, it adds.

US electronics recycling round-up

*** E-Scrap meets eBay**

On-line auction company eBay Inc. wants to use its electronic marketplace to help recycle used electronic equipment. The company has launched a new project known as the Rethink Initiative which allows its 'member community of more than 125 million computer users' to resell, recycle or donate used electronics through a special eBay website (www.ebay.com/rethink). Partners in the Rethink Initiative include Intel, Apple Computer, Dell Inc., IBM, Gateway, Hewlett-Packard, Ingram Micro Outlet, United Parcel Service, the US Post Office, the US EPA, the Silicon Valley Toxics Coalition, and other environmental/charitable groups.

*** Bill promotes national e-recycling**

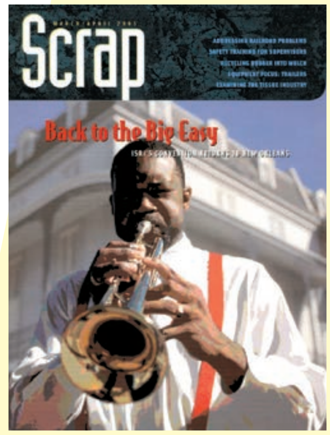
Two members of the US House of Representatives have reintroduced their proposal for a national electronic scrap recycling grant and fee programme. The National Computer Recycling Act (HR 425) would require the federal EPA to establish grants and fees to 'encourage and promote the recycling of used computers and to promote the development of a national infrastructure for the recycling of used computers'. Introduced in January 2005, the proposal would impose a fee of up to US$ 10 on the sale of all new computers, monitors and other designated electronic devices, with most of the money being earmarked for grants aimed at recycling and reusing used electronics, their components or raw materials. Sales by manufacturers and retailers with existing recycling programmes could be exempt under the proposal. The bill was also introduced in a previous Congress but was not enacted.

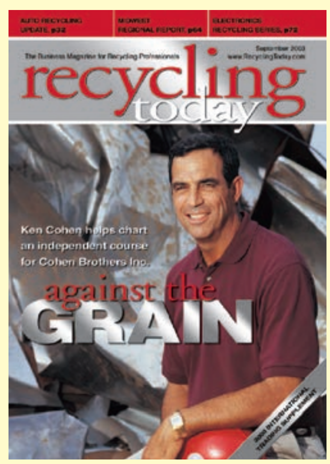
*** Rethink recycling mandates, says CEI**

The USA's growing volumes of electronic scrap do not represent an insurmountable problem and are not threatening to fill up the nation's landfills, argues a new study from the Washington DC-based Competitive Enterprise Institute (CEI). Thus, government recycling mandates - such as the National Computer Recycling Act - are definitely not the right solution, according to CEI adjunct scholar Dana Joel Gattuso in 'Mandated Recycling of Computers: A Lose-Lose-Lose Proposition'.

Deciding what to do with e-scrap can be a problem, especially where states have banned computers from landfills, he says. But 'forcing manufacturers to recycle their used products or charging consumers fees to finance government-run programmes' will lead only to enormously expensive initiatives that 'cripple technological innovation' and threaten to 'unleash a host of unintended health and environmental risks'. Government mandates 'only create barriers to successful private efforts to recycle and reuse electronics', he adds. □

The study is available from CEI's website at www.cei.org/pdf/4386.pdf





Sun and opti
ISRI's New O

New Orleans was the place to be last month for a recycling extravaganza - and all that jazz. Between April 12 and 16, one of the world's most vibrant cities played host to the 2005 Convention and Exposition of the US Institute of Recycling Industries, an event which attracted bumper crowds to the banks of the Mississippi. Recycling International reports on some of the highlights.

The La Branche building with its fabulous cast-iron galleries is one of the best-known structures of the Vieux Carré in New Orleans' French Quarter.

Given the strength of many recycling markets over the last year or so, it came as no surprise that the 2005 Convention and Exposition of the US Institute of Scrap Recycling Industries (ISRI), held last month in New Orleans, was the second largest in history. A total of 3268 registrants were drawn from the USA and 34 other countries. In addition to the ever-popular commodity spotlights, the workshop and seminar programme focused on finance, human resources, international trade, the environment and safety, among other topics. A sold-out exhibition hall, complete with 151 exhibitors, meant that this was ISRI's most successful exposition to date.

From left to right: ISRI Vice-President Government Relations Scott Horne, Baolong Qian of CCIC North America and his translator Xiaoman Gao.

US economy to remain healthy

One of the many events staged during the convention was an industry session called 'Scrap recycling - the next generation', which was moderated by CBS News correspondent Jim Axelrod. He led a panel consisting of three economic analysts: Dennis Gartman, Publisher of The Gartman Letter; Louis Navellier of Navellier & Associates; and Jason Schenker of Wachovia Bank.

When three economic analysts take part in a panel discussion, you can usually expect a mix of bulls and bears, and an audience split over the near-term direction business is likely to take. But during this session, opinion from the audience was fairly uniform on a number of fronts. Although Mr Gartman told delegates that he had been 'selling short aggressively' in late March and early April, he did not see a correlation between the market and general business activity. Basing his observation in part on increased sales tax collections, Mr Gartman believed the US economy - which is driven two-thirds by household spending - was remaining healthy in 2005. Touching on a couple of the major sources of concern, Mr Gartman credited skilled American business managers with being able to adjust to operating with increased oil costs, and

mism light up
rleans convention

The motto of this year's ISRI Convention was: 'Generation'.

pointed out that the weak US dollar was already showing signs of getting stronger.

Currency without a country

Mr Gartman told delegates that the US trade deficit had no genuine correlation with currency valuation. 'Our ability to attract capital is the key,' he explained. 'Capital comes here, and it still is.' Even though the Euro had fared well against the dollar over the past two years, Mr Gartman noted that, if the European constitution were not ratified by all nations, 'you're about to have a currency that doesn't have a country'.

Mr Navellier noted that the weak dollar had helped certain segments of the US economy - especially agriculture, which had been good for 'red state' voters heading into the 2004 Presidential Election. He agreed that the trade deficit was not a problem 'as long as you have capital coming in'. Additionally, it would not be wise of Asian-based US treasury holders to disrupt the American economy by selling their notes all at once. 'If they pull out, it's not in their best interest because we'll stop buying their stuff,' Mr Navellier said.

Regarding the federal budget deficit, Mr Schenker said a long string of red ink years 'is problematic'. He expressed particular concern about the growth of the Medicare and Medicaid programmes, which on their current paths would grow to represent 25% of the US economy by 2080.

Every hour, RDK Truck sakes of Florida, Tampa, put up money for raffle.

Motorcycle girls in the Liebherr booth.

The booth of the Tung Tai Group. From left: Joe Chen, Cindy Chen and John Chen.

Recycling International's Magazine Administrator Helga Fresen (left) wears a traditional Dutch costume on the Grand Opening Night of the ISRI Recycling Exhibition. To her right is Donna Turner of the Canadian Association of Recycling Industries (CARI).

Black Country Metals throws a 'Thank you' party

It's not every managing director who would take dozens of staff and friends to foreign climes to celebrate a milestone in his company's history. But Peter Mathews, founder of UK-based Black Country Metals Ltd (BCM) and Chairman of BIR's Convention Committee, enjoys doing things with a certain flourish.

Thus, on the occasion of his business reaching its 18th birthday and therefore 'coming of age', he organised a party for 40 staff and business colleagues on Spain's Mediterranean coast. Talking to Recycling International during his visit to ISRI's 2005 Convention and Exposition in New Orleans, he explained: 'I asked some of the people where they would like to have the party and one said Marbella - so they were pleasantly surprised when I said "yes". We just wanted to express our thanks to those people who had stood by me and my team both personally and in business.'

Mr Mathews had already worked in the recycling business for 15 years before forming BCM. The company has gone on to become one of the UK's best-known independent ferrous and non-ferrous metal businesses with trading links to every corner of the world. During that time, Mr Mathews himself has been made a Companion of the Most Distinguished Order of St Michael and St George (CMG) for his services to small and medium-size enterprises in the UK.

Once described in these pages as 'something of a torch-bearer for the independent recycling business', Mr Mathews said of BCM's success: 'The market will continue to change - large companies will continue to get bigger at the expense of smaller companies. But, without doubt, there is room and need for the personal touch we give.'

Peter Mathews, founder of UK-based Black Country Metals and Chairman of BIR's Convention Committee.

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CBS News correspondent Jim Axelrod moderated a session called 'Scrap recycling - the next generation' during the President's Breakfast. Panellists were, from left: Louis Navellier of Navellier & Associates, Dennis Gartman of The Gartman Letter, and Jason Schenker of Wachovia Bank.

Since last year, Valerie Horvath and Patrick Comparin of Global Partners Alliance, Bettendorf, Iowa, have been North American distributors of the wear parts of German manufacturer Stahlwerke Bochum (SWB).

From left: Peter Chapman of Lefort UK, Peter Jones of Spear & Jackson and Skip Anthony of American Pulverizer.

From left: Jay Klempner and Ed List of Moros North America and Henk van Doorn of the Spanish manufacturer 'Moros' Industrias Hydráulicas of Zaragoza in Spain.

There was a big delegation from South Africa attending the ISRI Convention.

'Founding Father' Ben Sacco of Sierra Recycling & Demolition enjoys meeting with old friends.

Mr Schenker also remarked that India would have to reduce its reliance on monsoon season rainfall to dictate economic expansion. Currently, 40% of India's economy is assigned to the agricultural sector.

Members of the audience - predominantly scrap recyclers and their suppliers - were given an opportunity to vote in response to a series of questions. Results of this poll were as follows: 81% of respondents believed scrap pricing would trend 'slightly weaker' in 2005; 67% suggested higher energy costs had had 'some impact' on business conditions; and 7% thought the US economy had been 'just right' - rather than too hot or too cold - in early 2005.

New products

As usual, new machines, equipment and services designed to meet the needs of the recycling industry were showcased at the ISRI exhibition. For example, Stanley LaBounty seized the opportunity to highlight its recently-released RCS 80 Rebar Cutting Shear which, says the manufacturer, 'addresses a growing problem of how to process rebar efficiently and profitably'.

Stanley LaBounty s highlighted its recently-released RCS 80 Rebar Cutting Shear.

Suitable for excavators weighing 70 000-100 000 lb (30-45 tonnes), the machine has been designed to maximise the power generated from an excavator's bucket linkage. Staggered blades in the upper jaw 'hold and process rebar as it by-passes into the lower jaw', explains the manufacturer. 'This design differs from traditional shears that gather material into an apex, which requires more power to process through it.' Offset lower blades enables rebar to be cut on one side first and then the second - again so as to maximise the power efficiency exerted by the excavator's bucket cylinder.

The RCS 80 pins on in place of the excavator bucket and uses the linkage and bucket cylinder. 'No additional hydraulics are required,' it is stressed.

www.stanley-hydraulic-tools.com

Thermo Electron aquires Niton

Thermo Electron Corp., a world leader in analytical instruments such as analysers for the metals recycling industry, has acquired Niton LLC of Billerica, Massachusetts. Niton is a leading provider of portable X-ray analysers for the metal, petrochemical and environmental markets, and recorded revenues of US$ 36 million in 2004. Thermo Electron has purchased Niton for approximately US$ 40.5 million in cash, subject to a post-closing adjustment.

From left to right: Jim Pasmore, Tom Anderson and Hal Grodzins of Niton.

The Niton product line offers state-of-the-art technology in hand-held energy dispersive X-ray fluorescence (EDXRF) devices, thereby complementing Thermo's bench-top EDXRF system. It also represents a natural extension of the lab-based wavelength dispersive XRF solutions also available from Thermo. Niton's portable X-ray analysers provide non-destructive testing of a range of metals in a variety of manufacturing, quality control/assurance, environmental testing and recycling processes.

Marijn E. Dekkers, President and Chief Executive Officer of Thermo Electron, said: 'The addition of Niton is a continuation of our strategy to acquire companies that extend our capabilities so we can better serve the emerging needs of our customers. Niton helps Thermo bring a traditional laboratory-based analytical technique to settings outside the laboratory. Its portable products can quickly identify the composition of a wide range of metals, which is becoming increasingly important as new regulations controlling the use and disposal of toxic metals in various consumer products take effect, particularly in Europe and Japan.'

Niton will join the Scientific Instruments area of Thermo's Life and Laboratory Sciences segment.

During the ISRI exposition in New Orleans, Niton also announced that it had sealed a distribution agreement with RMG Technologies of Liphook, UK, for distribution of RMG's MiniSort ARC OES (Optical Emission Spectrometer) alloy analyser in the USA. The hand-held OES complements Niton alloy analysis capabilities to include analysis of aluminium and other lighter alloy materials.

For more information, visit: www.thermo.com/elemental or www.niton.com

At the ISRI exposition, Recycling International organised a free lottery and offered as the prize a beautiful recycled metal collage from the Kudixart studio and art gallery in Berlin, Germany. The winners were Mr and Mrs Jack West of Saturn Granutech Systems of Grand Prairie, Texas. Standing to their left is Recycling International's Magazine Administrator Helga Fresen and to their right Sales Manager Jan-Willem Ypma.

Sennebogen 840 M C Series 'Green Line'

In New Orleans, Sennebogen not only unveiled its 840 M C Series 'Green Line' material handling machine but also announced the first unit had been sold to one of its North American distributors, namely Bramco - the holding company for Brandeis Equipment & Supply Co. and Power Equipment. According to Erich Sennebogen, Managing Director of Sennebogen GmbH, 'the 840 was designed to match machine productivity in the high production yards with some of the new mega shredders'.

Sennebogen unveiled its 840 M C Series 'Green Line' material handling machine and announced the first unit had been sold to one of its North American distributors.

The 840's power is supplied by a 280 hp Caterpillar 3126B diesel engine and it also uses a computer-free load-sensing hydraulic system. Constantino Lannes, President of Sennebogen LLC North America, commented: 'Our customers really appreciate this feature. They do not feel that scrap yards and similar operations are conducive to computers. Our customers do not find that computers on the hydraulic system make it any more efficient.' In addition, the radiator is hydraulically driven and has a reversible feature 'to clean out debris and improve the overall cooling efficiency of the engine'.

Among other key design points, the weight of the machine has been concentrated in the undercarriage for increased stability and a lower centre of gravity; meanwhile, the hydraulic, adjustable-height cab uses two lift cylinders, again for greater stability. The machine has an operating weight of 112 200 lb (51 tonnes), a working radius of up to 62 feet and a travel speed of 10 miles per hour (16 km). □

www.sennebogen.com

ISRI's 2006 convention will be held on April 2-6 at the Mandalay Bay Resort and Casino in Las Vegas. Initial information will be posted at *www.isriconvention.org* in June.

Opportunities for increased trans-Atlantic trade

The volume of recycling-related business conducted between North America and the European Union has remained quite low over the years, partly as a result of perceived language, currency and regulatory hurdles. However, delegates at ISRI's 'Spotlight on Ferrous' gathering in New Orleans were urged to reassess the opportunities for trans-Atlantic trade. The meeting also featured discussion of future prospects for steel prices, as well as statistical confirmation of the increasing globalisation of the steel market.

From left: Spotlight on Ferrous moderator Frank Goulding of Newell Recycling of Atlanta Inc., Recycling International's ferrous editor Alfred Nijkerk, Keith Busse of Steel Dynamics Inc., and James May of May Commodity Associates.

By Ian Martin

American scrap traders and recycling machinery manufacturers should give renewed consideration to boosting trade with Europe, according to Alfred Nijkerk, the author of Recycling International's monthly ferrous and alloy scrap analyses and Editor/Publisher of the highly successful 'Handbook of Recycling Techniques'.

One of the guest speakers at the 'Spotlight on Ferrous' meeting held during ISRI's latest annual convention in New Orleans, Mr Nijkerk pointed out that the volume of recycling business between the two continents had traditionally been extremely limited, and had been dominated by scrap flowing from Europe to North America. Indeed, he estimated that in spite of the low value of the U.S. dollar, fewer than 5% of ISRI's members were conducting regular scrap business with EU countries, partly because the internal scrap market in the USA was sufficiently large to claim most of their attention.

Figures provided by Mr Nijkerk indicated that, while the USA and Canada were leading exporters of scrap, only 350 000 tonnes of the 11.8 million tonnes exported by the USA in the past year - equivalent to less than 3% - went to EU countries.

The USA, on the other hand, imported 1.96 million tonnes from the EU last year and he suspected North Americans were deterred by a combination of factors, namely that the EU's 25 member countries imposed their own individual legal and environmental regulations; spoke 21 different languages; and to date only 12 of the 25 EU members have adopted the Euro. But on the upside, said Mr Nijkerk, the other 13 EU countries were likely to switch to the Euro in the foreseeable future while the majority of internationally-focused scrap traders in the established 15 member states were already comfortable speaking English.

Weak dollar

Inter-continental trade in scrap handling equipment - such as shears, presses and shredders - was the exception rather the rule, according to Mr Nijkerk. North America's scrap processors generally bought US-manufactured equipment, whereas Europeans tended to purchase EU-made machines. Nevertheless, there were 'ample opportunities' for US equipment manufacturers to increase their sales into the EU, especially as the dollar was currently weak in relation to the Euro. A number of US equip-

In 2004, the USA imported 1.96 million tonnes of ferrous scrap from the European Union.

ment manufacturers had already blazed a trail across Europe, with producers of radiation detection equipment and hand-held analysers proving to be particularly successful. 'But there is much more business to be done between the two continents, and America should not forget the vast equipment sales potential within the EU's ten new member states,' stated Mr Nijkerk in his presentation. There were also 'opportunities for US steel mills to invest in the European steel industry', he added.

Mr Nijkerk also provided his largely American audience with a glowing description of the port of Rotterdam, which he dubbed the 'scrap mouth' of Europe, with New Orleans performing the same function in the USA. But while New Orleans is merely an import harbour foor steel mills' raw materials, Rotterdam handled not only imports but also an even larger volume of scrap exports of all kinds from its prime location at the mouth of the Rhine. It was also a focus for transhipment via barges. Since most Western European steel mills were directly connected to a river, canal or to the sea, scrap transportation was generally quite cheap, he pointed out.

Prices set to 'fall sharply'

Two other guest speakers at the 'Spotlight on Ferrous' meeting gave scrap processors and traders an insight into future market prospects through an analysis of conditions within the steel industry.

According to James May, Managing Director of May Commodity Associates of Toronto, Canada, steel prices were set to 'fall sharply from the second half of 2005' unless there was a 'significant supply response' to the over-supply that existed in almost all of the world's mature markets - with the notable exception of Japan.

Having argued that 'only when actual as opposed to relative profitability is threatened will there be a supply response', Mr May duly predicted: 'International hot rolled coil will decline to US$ 500 per tonne - from levels of around US$ 650 per tonne now - by the end of 2005'. And he warned: 'The steel industry will try very hard to push down prices for their raw materials.'

The speaker contended that steel would become an increasingly global business and that, even now, 'steel prices in North America are not set in North America'. Indeed, he hailed China as the 'gorilla' in the world steel market, adding that the country was responsible for 29% of world steel demand last year, while other Asian countries accounted for a further 21%. For China, forecasts indicated an 11.5% increase in finished steel apparent consumption growth this year despite the government's attempts to cool down the domestic economy. 'Production will rise more quickly and net imports will decline,' he predicted. Fixed asset investment growth in China had dropped from year-on-year levels above 50% to just over 20% in the first two months of 2005, and the government target for the current year was 15%, he added.

While awarding China 'the Oscar for the major cause of the steel price rise in 2004', Mr May said the 'Best Supporting Role' accolade should go to the emerging steel markets, which include the ASEAN and CIS countries, the Middle East, South America and Africa. Together, these recorded an increase in steel demand of around 22 million tonnes last year and accounted for 18% of global steel demand - exactly the same proportion as Europe, where apparent consumption increased by a shade under 5% last year. Meanwhile, apparent consumption went up by some 14.4% to more than 132 million tonnes in the USA where some re-stocking took place, whereas the apparent consumption increase was limited to 1.7% in Japan where de-stocking occurred during 2004.

More optimistic outlook

Keith Busse, President and Chief Executive Officer of US producer Steel Dynamics, also addressed the 'Spotlight on Ferrous' session in New Orleans and was somewhat more optimistic about near-term steel price prospects. He acknowledged that prices had dropped from a September 2004 peak of US$ 750 per tonne to nearer US$ 600 per tonne, and that orders were not flowing down to the raw materials supply chain at the same speed as in 2004 due to a slow-down in the US economy and to an 'inventory overhang' within the steel industry. But he added: 'I think the market has reached its bottom. It is still a fairly good market.'

He agreed with Mr May that China - rather Europe and North America - could now be said to be setting world steel prices. Since this rapidly-growing nation was likely to be self-sufficient in steel within a relatively short space of time, the speaker wondered: 'Where will the steel go that was previously going into China?' In response to his own question, he expressed the fear that 'some of it will end up again on our shore line'. □

The port of Rotterdam is called the 'scrap mouth' of Europe, handling not only imports but also an even larger volume of scrap exports of all kinds from its prime location at the mouth of the Rhine.

Bright prospects for stainless steel scrap

The 'Spotlight on Nickel/Stainless' gathering in New Orleans heard from sole guest speaker Remco Devilee of Steel & Metals Market Research that last year's nickel market had been 'too good to be true'. Despite a projected decline in scrap ratios, companies in the stainless steel scrap sector were set to remain profitable in the foreseeable future, he suggested. However, growing use of 400 and 200 series nickel-free stainless steels and expanding Chinese capacity could 'spoil the party' for the nickel industry.

By Alfred Nijkerk

Analyst Remco Devilee of Austrian Steel & Metals Market Research.

Remco Devilee, an analyst from Steel & Metals Market Research of Reutte in Austria, provided delegates to ISRI's 'Spotlight on Nickel/Stainless' meeting with an interesting insight into the nickel, chrome and stainless steel markets, and also gave his views on price prospects.

He began by remarking that, in 2004, the nickel market had been 'too good to be true' and ended with the optimistic forecast that the stainless steel scrap market was likely to be profitable in the foreseeable future, even though the share of scrap in stainless steel production was set to drop from 34.8% in 2004 to 32% in 2010. Regional differences would become more exaggerated, he also said.

Mr Devilee predicted that the nickel price would fall in 2006 to a level of US$ 5.7 per lb, which translates into US$ 12 500 per tonne. The speaker noted that significant charge chrome capacity was due to come on stream next year and duly anticipated a price level of US$ 0.70 to 0.72 per lb. He also expected a 4.3% per annum increase in worldwide stainless steel production over the next five years; thus, by the year 2010, production should have increased to 31 million tonnes as compared to 24.4 million tonnes in 2004. The growth rate during the period from 1950 to 2004 averaged 6% per annum.

Strong growth in China

Total alloy steel production is running at more than 94 million tonnes per annum and breaks down as follows (in million tonnes):

Stainless steel	21
HSLA steel	31
Bearing steels	4
Alloy tool steels	1.2
Nickel alloys	0.22
Other alloys	37

The total value of alloy steel production is currently around US$ 129 billion, with alloy specialty products accounting for 9% of the market by volume and 20% by value.

In 2004, the main crude stainless steel producers were, in order, Japan, the USA and China.

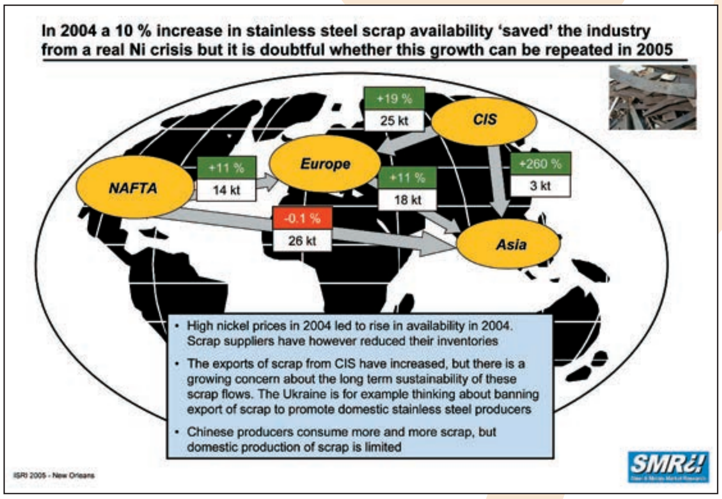
However, production in China and South Korea is growing much faster than in other countries and the former will undoubtedly become the world's leading producer in the near future, said Mr Devilee.

Speaking about charge chrome steel, the speaker predicted that South Africa would lose some of its markets due to the rising value of the Rand, although he believed the country would still be holding on to a share of no less than 60% by 2007. Production of charge chrome steel is expected to grow strongest of all in Kazakhstan and India, and there are expectations that an over-supply situation will develop.

Broadly speaking, it was anticipated by Mr Devilee that the growing use of 400 and 200 series nickel-free stainless steels and expanding Chinese capacity could 'spoil the party' for the nickel industry.

The speaker also described alloy steel scrap as an increasingly internationally-traded commodity, and the following graphic shows the main scrap streams around the globe. □

Andy Katz of Keywell LLC moderated ISRI's Spotlight on Nickel & Stainless session.



Suppliers and consumers

Last year was one of the most dynamic in living memory but troublesome times would appear to lie ahead for the copper and brass scrap sectors, not least where dealings with consumers are concerned. The 'Spotlight on Copper' session at ISRI's latest convention in New Orleans addressed several of the major issues confronting the scrap industry and included a plea for universally acceptable specifications devoid of 'ambiguous language'.

'Higher quality demands can be met by the scrap industry - but it comes at a price'

China is set to become an ever more important market for copper and brass scrap.

By Ian Martin

Governments have no business in interfering with the legitimate flow of scrap metal, except when national security stands to be compromised. Nor should authorities allow themselves to be used by special interest groups who wish to further their 'unrealistic and unfounded' attempts to prevent the scrap industry from shipping their products to wherever makes economic sense.

This was the thrust of the 'Spotlight on Copper' presentation from Robert Stein, Vice President of Non-Ferrous Marketing at St Louis-based Alter Trading in the USA and also Senior Vice President of the Non-Ferrous Metal Division of the BIR world recycling organisation. 'In short,' he told delegates in New Orleans, 'let's have the markets do their work.'

Mr Stein contended that the scrap industry and domestic consumers were being put on a 'collision course' by customer attempts to control 'how and where we sell our scrap', as well as by economic realities and continuing industrial growth in China. 'I think that 2004 was, at least to my mind, the beginning of a long and what I think will be troublesome relationship between the producers of scrap and our domestic consumers,' he warned.

Participants in a shared economy

According to Mr Stein, Alter Trading's own policies favoured domestic shipments of scrap, not least because home-country consumers were 'participants in a shared economy', job providers and, ultimately, sources of scrap. However, the huge cost burden associated with the domestic market - including wages, healthcare, transport and environmental compliance - was creating a major problem. He summarised: 'Every impediment to the easy delivery of copper or brass scrap to an American consumer costs somebody something to implement - and that something isn't getting any cheaper. Regardless of who bears the cost, if our scrap can't be economically prepared, shipped and used in the United States for whatever reason, it's going to go elsewhere.'

'Copper and brass scrap will always find its market of least resistance....'

And he continued: 'Copper and brass scrap will always find its market of least resistance, because that's simple economic reality and a very valid form of realistic value discovery.' Higher quality demands could be met by the scrap industry - 'but it comes at a price', added Mr Stein.

In spite of this powerful commercial argument, Mr Stein said he anticipated further attempts from within the USA to restrict the scrap industry's overseas sales activities. In this context, he reminded delegates of last year's unsuccessful bid by the US Copper and Brass Fabricators Council and Non Ferrous Founders Society to interfere with scrap exports from the USA.

on 'collision course'

Across in Europe, meanwhile, BIR was fighting a petition raised by metal producer group Eurometaux to restrict exports of scrap.

Fraught with difficulties

Turning to the specific impact of China, Mr Stein pointed to recent attempts by one of the country's leading firms to purchase Canada's premier metals producer and mining firm Noranda. 'While this purchase will apparently not occur, it is an example of the steps that China is taking to procure raw materials that are in short supply relative to the demands of its growing economy,' commented Mr Stein. Furthermore, China was looking increasingly to buy 'those grades of scrap consumed by high-quality producers of copper and brass products manufactured in the industrialised nations'.

China's penetration of the US scrap market had been 'of historical proportion' and the country was set to become an ever more important market for copper and brass scrap. At the same time, however, orchestration of this flow of material from the USA to China was 'fraught with difficulties that can panic even the most experienced of exporters'. China had introduced its new AQSIQ registration system for overseas suppliers of recyclables, while all imported material had to be accompanied by a quality certificate issued under the letterhead of the country's own CCIC inspectorate. While these measures underlined official attempts to combat smuggling and misrepresentation of scrap, Mr Stein called on China's authorities to 'make certain that its policies of establishing restrictions don't become opportunities for abuse and aren't used to blacklist well-intentioned suppliers'.

Mr Stein explained that his company was aiming to set up an office in China under the banner Alter Trading Shanghai. This would open perhaps as early as the summer, he later confirmed to Recycling International.

Dwindling availability

The dwindling availability of certain types of scrap within the US market was highlighted in New Orleans by Stanford Shanker, President of Warrenton Copper of Warrenton, Missouri. His company's scrap mix had remained broadly unchanged in the 20 years up to 2003 and had comprised bare copper chops, enamel copper wire and Warrenton grade 2 copper. However, 'this type of material is no longer readily available in the marketplace', he said.

Going on to describe specific areas of debate with suppliers over specifications, Mr Shanker explained by way of example: 'Suppliers would like one to believe that copper turnings are universally acceptable as Birch/Cliff. I would suggest that they are not - not even in China.' Against this backdrop, he challenged all interested parties - including consumers and suppliers around the world - to develop 'a truly universally acceptable specification underwritten by ISRI to clearly define what constitutes good delivery'; these should avoid 'ambiguous language', such as the words 'excessive' and 'reasonable'. He insisted: 'By clearly identifying acceptable definitions of scrap, it will bring greater dollars to the supplier and lower operating costs to the consumer. It is my belief that premiums would be paid in the marketplace for material that is exactly as described in a well-written specification, easily identifiable by all shippers and consumers, regardless of the metal's origin or final consumption point.'

Raging bull market

At the 'Spotlight on Copper' meeting, discussion of prices was left to Leanne Baker, Managing Director for North America at Investor Resources Ltd, California. She spoke of a 'raging bull market' for copper over recent times, but predicted somewhat calmer price levels later this year and beyond. Copper had averaged around US$ 1.45 per lb in the early part of 2005 although she thought the average for the whole year was likely to be nearer US$ 1.40 as the market moved towards a closer balance between supply and demand. For 2006 and 2007, she predicted price averages of, respectively, US$ 1.20 and US$ 1.00.

According to Ms Baker, there were clear early signs that the copper market had reached a 'top': mines were being re-started and supplies had duly become more plentiful; merchant and producer premia had fallen from their highs; inventory declines appeared to be 'near an end'; and demand slow-downs in Europe and the USA were likely to offset continued growth in China. Overall, she anticipated a global copper deficit of around 50 000 tonnes this year compared to 386 000 tonnes and 702 000 tonnes in, respectively, 2003 and 2004. □

From left: Stanford Shanker of Warrenton Copper LLC, Leanne Baker of Investor Resources Ltd., and Robert Stein of Alter Trading Corp.

Aluminium recovery levels will have to remain at around 80% over the next 20 years to keep up with world demand.

'Major surplus' risk for aluminium

Price projections and recovery rates dominated discussion at ISRI's 'Spotlight on Aluminium' session in New Orleans, one of the well-attended centrepieces of the organisation's 2005 convention programme. Delegates were warned that, although the market was continuing to tighten in the first half of 2005, slower consumption growth in the longer term could lead to a major surplus.

By Ian Martin

Aluminium recovery levels will have to remain at around 80% over the next 20 years to keep up with world demand, it was argued in New Orleans by analyst James King of James F. King Consulting, Corbridge, UK. And since the bulk of recoverable aluminium was already being recovered, this was likely to mean continuing tightness, he told delegates to the 'Spotlight on Aluminium' meeting in New Orleans.

Some 8.5 million tonnes of 'old' scrap were recovered last year out of an available 10.6 million tonnes, Mr King maintained. By the year 2024, availability of old scrap would reach 22.5 million tonnes while the total recovered would climb to 17.7 million tonnes, he went on to predict.

The speaker also ventured the following price forecasts for copper: having averaged US$ 1721 per tonne in 2004, an average LME three-month price of US$ 1800 per tonne was anticipated for the current year although significant declines to US$ 1603 and US$ 1418 were predicted for, respectively, 2006 and 2007.

Geographical shift

Mr King went on to outline some of the major changes that have taken place in the primary aluminium market over the last two decades, pointing out that a significant number of leading producer names from 1985 were no longer in existence. The major geographical shift in aluminium production over the last 20 years was underlined by the fact that more than 140 of the world's 262 plants were located in China, he added.

The speaker's statistics suggested world primary aluminium production totalled 29.8 million tonnes last year while global consumption amounted to 30.3 million tonnes. Worldwide, aluminium production capacity had reached 33.6 million tonnes by the end of 2004 and, taking into account the 39 projects already confirmed, would increase by at least 4.4 million tonnes - or 13% - by the end of 2008.

Primary aluminium consumption increased by 9.1% last year after gaining 7.5% and 8% in, respectively, 2002 and 2003. However, Mr King believed primary aluminium consumption growth could be limited to 5.5% this year, 3.2% in 2006 and to a mere 1.5% in 2007. Demand was still strong and the market was continuing to tighten in the first half of 2005, but Mr King argued that 'slower growth of consumption could lead to a major surplus'. Power supply, alumina and government control issues in China would have a major bearing on the aluminium market, he also suggested.

Another speaker at the 'Spotlight on Aluminium' meeting highlighted the slightly unusual conjunction of low stocks and plentiful scrap availability. According to Blair Stewart, Vice President - Materials and CIO at JW Aluminum of Charleston, South Carolina, the LME's inventories had fallen very sharply and were now 'getting to the scary point'. With China driving the 'very strong demand' for aluminium, the speaker expected the market to remain tight in 2005 and to ease somewhat in 2006.

The can conundrum

Cans represent 'the great recycling success story' and yet the US recycling rate is actually in decline, according to Subodh Das, Executive Director of the US Center for a Sustainable Aluminum Industry (CASI). He identified lightweighting as a key factor in this equation by observing: 'It takes 34 cans to get a pound of aluminium today - this is up from 22 cans in 1972.' He also contended that, as real incomes rise, 'the value to people of recycling cans will fall'.

In this latter context, it was suggested from the floor of the meeting that, in California, an increase in can redemption values from 2.5 cents to 4 cents had not led to any major improvement in recovery rates.

CASI has been awarded around US$ 800 000 to research the reasons behind this recovery decline and the best ways to achieve progress. Mr Das said: 'We don't know why the rate is going down. The Center wants to investigate this consumer behaviour and enhance recycling.' □

Subodh Das of Secat Inc. and Blair Stewart of J.W. Aluminum.

Scrap and radioactivity:

At last month's ISRI convention, delegates to the 'Radiation in the Scrap Stream' seminar were warned in advance that guest speaker Andy Black's presentation 'should scare you a little bit'. That was because his company had been the unwilling recipient of a so-called 'orphan source' in a consignment of scrap and, around a year down the line, Mr Black had come to New Orleans to recount the horror story and to describe how his firm had coped.

By Ian Martin

On May 4 last year, the world of The Timken Company of Canton, Ohio, was turned upside down. An outbound EAF dust truck set off a radiation detector alarm at its Faircrest melt shop and sparked a chain of events that would lead the company to lose more than 10 days' production and to re-evaluate its approach to the whole issue of radioactive materials in the melt stream.

After the incident with the radioactive orphan source, The Timken Co. has upgraded its gate detection system to Exploranium AT900 devices and installed four-panel systems on all railroad scales.

Post-alarm investigations at Faircrest revealed that an orphan source - identified as less than one curie of caesium 137 - had been vapourised and captured in the bag house, and that there had been no exposure to personnel. The facility was subsequently closed down and a massive clean-up operation kicked into gear, involving 50 different companies and more than 400 people. Andy Black, Timken's Manager of Technical Services, Alloy Steel, told ISRI delegates in New Orleans: 'We virtually had to create a city at that site ... and we named it Whoville.'

During a clean-up operation costing between US$ 10 million and US$ 15 million, more than 1000 tonnes of affected material was shipped to waste disposal sites in Texas and Utah. Timken lost a total of 10.5 days of production and, in the event, some 22 000 tonnes of finished steel bar were not shipped and around 5100 orders had to be re-scheduled.

The source of the contaminated scrap is not known although, according to Mr Black, it would have come from one of four suppliers.

The company response

Prior to May last year, Timken had relied to a significant extent on scrap suppliers checking for radiation, although the company itself had operated an in-bound, two-panel gate detection system for trucks and rail cars, as well as post-melt sample detectors. Investigations revealed that the existing gate system was no longer providing ample protection and so Timken opted to upgrade to Exploranium AT900 devices and to install four-panel systems on all railroad scales. Doug Kramer, President of Los Angeles-based Kramer Metals Inc. and Chair of ISRI's Radiation Committee, pointed out to the meeting in New Orleans that scintillators within detection equipment decay over time - typically over 'eight to 12 years'.

Preliminary tests using the new equipment have detected orphan sources at less than 50 MicroRem per hour - the approximate equivalent, explained Mr Black, of identifying a well-shielded source buried deep within a truck-load of scrap. His company also chose to invest in new hand-held survey equipment for scrap consignments deemed to be 'high risk', and in multi-channel analysers to help the company to determine the isotope with which it was dealing.

avoiding the road to Whoville

Doug Kramer of Kramer Metals Inc. (left) and Andy Black of The Timken Co.

As well as spending heavily on detection equipment, Timken has also invested in training more than 40 of its staff in how to respond in the event of another incident. If a low-level alarm sounds, the consignment is passed through the detectors a second and third time; another alarm on either of these occasions will result in isolation of shipment and the triggering of a high-level alarm procedure. Truck drivers and passengers who have undergone medical radiation treatments will be scanned using a survey meter and another driver will be called upon to bring the truck through the detection system. The high-level alarm procedure involves: isolating the car or truck; instructing the driver to leave the vehicle; calling the safety services; erecting a barricade if the survey meter reading exceeds 2mR per hour; and then waiting for the safety services or an outside contractor to arrive.

New procedures at Timken now call for operators/supervisors to sign off on all incoming deliveries to confirm that they are 'alarm-free', while all alarms must be 'logged and accounted for', said Mr Black. 'The company has adopted a "no assumption policy" and treats every alarm as potentially serious.' Failure by staff to follow the correct procedures could result in dismissal, he added.

Scrap supplier responsibilities

As for the material itself, Mr Black explained: 'The radiation safety officer will notify scrap operations when approval is received from the Ohio Department of Health and authorise release of the shipment back to you. Any supplier that ships to us radioactive materials is held responsible and is liable for any and all costs related to handling that material.'

Thus it was important, he added, that scrap suppliers knew the origins of their material, developed their own radiation detection programmes *(see box for his recommendations)*, and trained their staff in how to use detection equipment and how to respond to alarms. Insisting that 'no amount of production is worth any amount of risk, he went on to warn those companies which had already installed detectors or were about to do so: 'If you don't get alarams, then you either have faulty equipment or your alarm thresholds are set too high.'

Timken takes the whole issue of radioactive materials in the scrap stream so seriously that it now visits its suppliers and grades them according to five key detection system criteria, namely equipment, methods, people, performance and management.

ISRI Task Force

Mr Kramer and Mr Black provided the seminar with details of an ISRI Task Force comprising representatives from both the scrap processing and consuming sectors. This had been set up following the incident at Timken's Faircrest facility as part of the bid to increase awareness of the radioactive materials issue.

According to Mr Kramer, there were 'tens of thousands of unregistered (orphan) sources in the USA' and the scrap industry would probably the 'unwilling recipients' of some of them. Therefore, the Task Force was pushing for a federally-regulated programme covering the identification, capture and disposal of these sources. A guidance manual on the subject was already available and consideration was also being given to the publication a safety newsletter, he added.

There was a need for a national orphan source programme, explained Mr Black, because the various US states appeared to have no uniform policy covering actions once a source had been found. The Task Force was also proposing that regulations: established a 'bounty' system to reward people responsible for finding these sources; assisted with equipment installation; improved training and education; improved the licensing and control of sources; and, last but not least, introduced increased penalties for improper disposal. At present, he pointed out, fines were 'typically lower than the cost of proper disposal'. □

Examples of different types of sealed radioactive sources.

Radiation detection programme: recommended steps

* Purchase and install equipment to scan raw materials.
* Establish post-alarm response procedures.
* Carry out sorting procedures to verify the levels of offending material.
* Devise emergency response procedures for potentially dangerous incidents.
* Work out notification procedures for informing relevant agencies.
* Determine the means of properly handling or disposing of the offending material.
* Conduct self-audits to ensure that procedures are being followed.

2B young

2B Consultancy is relatively new but boasts an impressive recycling industry pedigree. Formed only last year, the company helps small and medium-size scrap companies in all aspects of establishing a business, even to the point of offering management and scrap sales advice.

By Manfred Beck

Ben Kebil

Christine Schuler

Ir Claudio Colombo

Christine Schuler was born with 'scrap running through her veins'. Her parents owned Schuler Rohstoff, a family-owned metals recycling company in the south of Germany which, for the last 85 years, has been operating two scrap yards. As a child, she helped out at the yard during holidays and at weekends. After graduating from high school, she became a fashion designer and moved to live and work in Italy. But as some of her parents' leading customers lived in Italy, she sold them the family scrap in her spare time and duly fell in love with the business.

Subsequently, she spent nine years working for recycling machinery manufacturer Lindemann as Sales Manager for the Italian market. In 2003, Christine met Ben Kebil and they have been together ever since - not only in their personal lives but, more recently, as business partners in 2B Consultancy.

Ben Kebil was born in the Moroccan city of Fez but grew up in France. He has a degree in international finance, has worked as a consultant for several institutions including the EU, and has also specialised in the sugar and coffee markets. He moved to Spain and started his own consultancy which took care of the financial side of many different projects. Ultimately, he became involved in a project for a company which needed financing to start up a waste-to-energy plant. On meeting Christine, they decided to join forces and founded 2B Consultancy.

Combined, they speak a total of six languages: English, French, Spanish, Italian, German and Arabic. Furthermore, they have lived and worked in seven different countries, giving them an understanding of many cultures.

Consulting and sales management

Founded in 2004, 2B Consultancy's focus is on helping small and medium-size scrap companies from the point of opening a yard, lay-out, logistics, processing and machinery. The consultancy also assists with management and sales of scrap because one of 2B's core businesses is buying and selling ferrous, aluminium and INOX stainless scrap on the world markets. 'We offer complete turn-key projects,' Mr Kebil explains. 'We also advise our customers about current and future local and international legislation, about scrap specifications, and also about the financing side of the business.'

In the last eight months, 2B Consultancy has entered into partnerships with local scrap dealers for five new scrap yards in Latvia. The company is currently setting up two yards of its own - Crecy Trading Algeria and Crecy Trading Latvia. 'I think that, in future, our customers will increasingly ask us to take a minority interest in their businesses, and this we will do if it is interesting for us,' says Mr Kebil.

STM's production plant in in Mornago in Northern Italy.

'Cradle-to-grave consultancy'

Some people in the scrap industry regard the spread of 2B's areas of activity with a measure of disbelief. 'However, we do not do everything by ourselves,' Mr Kebil explains. 'We have experienced partners in many fields of expertise - financing, legislation, logistics, design and real estate - with whom we cooperate. Moreover, Christine and I have a wealth of experience in different areas which we can use to our customers' benefit.'

Ms Schuler adds: 'We understand the needs of our customers in "recycling-developing regions" such as Eastern Europe, North Africa, the Middle East and South East Asia. There is a big need for know-how there. We have that know-how and we are ready to share it with our customers. As we have a good understanding of their business, we can offer them scrap yard design, management, machinery, sales and service consultancy. Combined, 2B Consultancy and STM (see below)

and experienced

can offer them a full service deal which we sometimes refer to as "cradle-to-grave consultancy".'

Another selling point for the business is that it does not charge customers a fee for consultancy work. 'We charge them for the results we achieve,' explains Mr Kebil. 'For instance, we take a percentage on each machine we sell, or on volumes of scrap the company sells once it is operating. Thus, we involve the customer and show them that we are also involved in their success. We don't just give advice, disappear the next day and send them a fat invoice. We try to understand our customer's business and coach him from the beginning to the end.'

This approach is safer for the customers 'but also a risk for us,' he acknowledges. 'However, cases of mismanagement will be very limited because we also help them with that: we set up a sales department and so on, and thus minimise the risk. To my knowledge, our concept is unique within the metal recycling market.'

STM recycling machines

Three months ago, 2B Consultancy and experienced recycling machine designer Ir Claudio Colombo of Italy set up a joint venture company called Schuler Technologies & Machinery (STM). Christine Schuler is President of STM and probably one of the first women ever to head up a scrap machinery company. Meanwhile, STM partner and shareholder Claudio Colombo has over 40 years' experience of producing high-quality recycling machines with C&G of Italy, with desings including the well-known Taurus scrap shears.

Production of parts at STM's Mornago plant.

With manufacturing facilities in Mornago near Milan's Malpensa airport in Northern Italy, STM builds a variety of machines, including mobile and stationary hydraulic scrap shears, mobile and stationary balers, and 1000-1500 HP shredders. Furthermore, STM manufactures what it calls 'our main product': 400, 700 and 900 HP pre-shredders. Indeed, STM's recently-completed first sale involved a 700 HP pre-shredder.

STM shredders come as a package with a new type of small pre-shredder at the front, although both elements can also work as stand-alone machines. Output per hour is around 10 to 20 tonnes depending on infeed material. 'This is a very new idea,' says Ms Schuler. 'I don't know of other suppliers who sell a similar pre-shredder/shredder package.'

She goes on to say: 'STM acts as a supplier of recycling machinery and as a consultant for finding the best possible solution for its customers. We offer high-quality recycling machines and provide our customers worldwide with the sales and after-sales service they need in this fast-growing and highly-competitive recycling business.'

STM is 'currently our main focus and biggest challenge', according to Mr Kebil. 'We want to become widely known in the scrap market as a machine manufacturer and, at the same time, we want to develop new machines. This year, marketing STM and setting up a market presence for our machines is the main thrust for 2B.'

According to Ms Schuler, there is definitely a market for medium-size and smaller machines.

'Scrap companies in developing countries will usually start with smaller machines because they do not have so much material in the early days,' she explains. However, 2B Consultancy can now also offer large car shredders: at the IFAT exhibition held in Germany towards the end of April, the company announced that it had sealed a partnership agreement with UK shredder builder Lynxs Shredders. In addition, STM has a deal with Taurus for smaller machines which it does not produce itself. □

2B Consultancy has set up its own website at www.2bconsultancy.net. More information on Schuler Technologies & Machinery can be obtained by visiting: www.schuler-tm.com

Waste-to-energy

A cornerstone of 2B Consultancy's activities is the design and setting-up of waste-to-energy plants delivering zero percent residues. 'Together with partner companies, we have a unique patent for our waste-to-energy technology,' claims Mr Kebil. 'Our plants can use both household and industrial waste, and this is processed without pre-separation. It is a non-combustion process and it works much the same as a microwave oven.'

This year, 2B will start building a large waste-to-energy plant on the Spanish island of Gran Canaria.

2B has already completed a small waste-to-energy plant project in Germany and, in 2005, a large unit is set to be built on the Spanish island of Gran Canaria. This will take waste from as far afield as Fuerteventura and North Africa for conversion into electricity. The land has been bought, all permits have been granted, and financing has been organised; construction of the plant is expected to begin by the early summer.

'We currently have pre-contracts for 54 more waste-to-energy plants, which will take us at least six years to fulfil,' adds Mr Kebil.

IFAT 2005 - an international

IFAT, Germany's leading exhibition for waste disposal and the environment, attracted a record number of visitors and exhibitors to its latest event which was held late last month in Munich. Recycling International rounds up some of the most relevant new machine and equipment launches.

An eye-catcher at the MeWa Recyclinganlagen booth was the 'QZ Querstromzerspaner' for continuous dissociation of various material compounds such as electrical or electronic scrap.

IFAT 2005, the leading international trade fair for waste disposal and the environment, attracted a record 2213 exhibitors - a considerable increase from the 2039 which showcased their products and services at the 2002 event. Participation by international exhibitors - 625 from over 35 countries - increased by more than 20% compared to three years ago. Visitor numbers also made IFAT 2005 a resounding success, with more than 100 000 people attending the show. And most striking about the 2005 event was the fact that the show has become truly international, with particularly large numbers of visitors coming from Eastern Europe and Asia.

Visitors and exhibitors were broadly optimistic about recycling market prospects. Many believed the sector would remain on a high at least until the end of 2006, basing their views on strong economic growth and accompanying demand for raw materials, notably from China and India, coupled with steady economic conditions in North America and Europe.

* Metso Lindemann

Metso Lindemann, the renowned Germany-based manufacturer of recycling machinery, used IFAT to premiere its LIS - a new generation of scrap shears designed for both smaller operations as well as for flexible processing of peak loads in scrap yards.

Leading up to the construction of the LIS series, engineers at Metso Lindemann's Düsseldorf headquarters drew up a performance profile tailored uncompromisingly to the customer's needs and to high-tech standards, it states. Four versions of the LIS are available: 500 and 600-tonne models with feeding bed lengths of 5 or 6 metres. The machines are designed to process up to 20 tonnes of scrap per hour, and are also available in semi-transportable versions. The machine consists of two compact main components: the container housing, the hydraulics, the electronic control and drive elements; and the mechanical block consisting of bed and frame as a single unit. Since the rigid, torsion-resistant design does not have to be anchored to a base, the Lindemann LIS can be prepared quickly for moving and thus has the flexibility to be used in different locations.

The construction of the new-generation scrap shears is the result of the manufacturer's more than 40 years' experience in the production of wing-bed shears, as well as in the construction of its Lindemann Eta-Cut series.

The LIS - Metso Lindemann's new scrap shear.

The live body painting sessions at the booth of HSM Pressen attracted a large crowd of spectators.

The functional scrap shear system works with a completely covered pusher for optimal safety. Scrap is compressed by an ingenious winged-lid concept applying several hundred tonnes of pressure before the shear cuts the scrap. Shear forces of between 500 and 630 tonnes are precisely controlled by an innovative guide mechanism for the blade slide which operates in full-, partial- or relative-stroke mode in order to cut the strand of scrap to pre-programmed sizes.

Use of special wear-resistant materials and standardised Lindemann machine components on the LIS series ensures long service life and good availability, according to the manufacturer. In addition, company engineers have aimed to provide buyers with high efficiency levels, as well as simplified maintenance and service intervals. As an option, the machine can be monitored remotely via a modem so that technicians do not have to travel to the customer's own site to overcome any problems.

shop window

By Manfred Beck

Ease of operation was also one of the engineers' main goals. The shear can be operated using radio remote control - for example, by the crane operator who lifts scrap from the floor of the yard to the shear. The operator touches symbols on a full-colour graphic display screen and the Lindemann LIS immediately executes these commands.

www.metsominerals.com / lindemann

* HSM Pressen

This German manufacturer of baling presses showcased two new lines: the V-Press range of vertical baling presses, as well as the VK 8515 and VK 8818 channel baling presses.

The V-Press 1160 eco is a vertical baling press with a pressing force of 540 kN which can produce bales of 1200 x 1100 x max 1200 mm with a bale weight for foil and cardboard of more than 500 kg. The V-Press range features a new press concept whereby the press ram is moved by two straight hydraulic cylinders and guided by two guide tubes. To optimise pressing and to compensate for or prevent uneven filling, the V-Press 1160 eco is the first HSM machine with an inclination monitoring system for the press ram, known as the Torsion Control System (TCS). The press is supplied as standard with a quadruple wire and strap system, allowing maximum flexibility in the choice of strapping method. With an operating height of less than 3 metres, a transportation height of 2.8 metres and a footprint of around 2 m^2, the new press is suitable for situations where space is limited.

Meanwhile, HSM's VK 8515 and VK 8818 offer pressing forces of 88 tonnes and throughputs of up to 22 tonnes per hour. The presses are available in three power categories - 55, 75 or 90 kW - and can compress paper, cardboard, plastic and other packaging waste into 100 x 750 mm bales weighing between 500 and 900 kg. The presses are controlled and monitored by a Siemens S7-300 control with bus capability.

www.hsm-online.de

V-Press vertical balers.

* S+S Metallsuchgeräte & Recyclingtechnik

Bavaria-based S+S Metallsuchgeräte & Recycling highlighted its Varisort X, a second-generation optical X-ray sorter. This fully-automated sorting machine uses X-ray technology to separate numerous different materials that cannot be identified by conventional systems and to sort a wide variety of materials into separate fractions. Furthermore, it can detect and reject impurities which are difficult, if not impossible, to sort using conventional methods. In the glass recycling industry, for instance, the Varisort X can be used to differentiate between, for example, high-temperature resistant glass and lead glass. It can also separate funnel and panel glass.

Varisort X optical sorter.

S+S also presented its second-generation Spektrum optical colour separator, the valve technology of which has been completely redeveloped for even more reliable separation of off-colour materials. Additionally, a fully-integrated second sweep has been introduced which considerably reduces loss of good material. A typical application for the Spektrum is the separation of off-colour plastics in PET recycling or the sorting of mixed glass in glass reprocessing.

www.ss-gmbh.de

Enjoying a quiet moment are (from the left) John Scholefield of Harris UK's European distributor Eurobalers; Jim Jagou, Vice President of Sales of Harris USA; Peter Coates, General Manager of Harris UK; and Finn Schnoor of Harris Waste's Scandinavian distributor WaMaTech.

* Paal

Baling press manufacturer Paal of Georgsmarienhütte, Germany, showcased its new PGV series of vertical balers. Providing forces of between 20 and 500 kN, these small vertical balers are designed to process materials such as recovered paper, cardboard or polythene.

The PGV 20-80 is a compact baler offering a bale size indicator, variable bale sizes for different materials, and front fill for greater loading capacity. Options include a foot-operated bale ejector and an electronic weighing system.

The medium-size PGV 160 has a compaction force of up to 160 kN and is capable of producing large cardboard bales of between 200-300 kg. Coming with a cord tie system as standard, the machine has a three-phase motor, both manual and auto up/down operation cycles, and a semi-automatic bale injector.

The largest unit, the mill-size PGV 300-600 baler, has a compaction force of up to 600 kN such that around 300-550 kg of cardboard can be compacted into less than 1 m^3 of space. A bale tie light ensures the baler cannot be overloaded and provides uniform bale weights and sizes.

www.paalgroup.com

PGV series vertical presses.


LYNXS

Marco Garuti (left) and Thomas Mauritz from Sierra Europe Recycling of Ferrara, Italy.

The slogan of Cologne-based non-ferrous separation specialist Steinert was: 'Keep it simple, keep it Steinert'.

* Vecoplan

Vecoplan engineers have developed an electronic shredder drive which operates on a fraction of normal electrical current and increases throughput to 'levels never before imagined', the company claims. With a patent pending, the HiTorc Drive is exclusively available on Vecoplan shredders and is mounted directly onto the rotor shaft, thus eliminating the need for belt drives, turbo couplings and gear reducers.

Vecoplan's patented HiTorc Drive.

According to Vecoplan, the HiTorc Drive owes its success to the following features:

- Dramatically lower electricity costs, with annual savings of up to € 25 000 said to be possible;
- Electrical demand peaks are adjustable and can be limited, which reduces consumption and costs;
- The highest motor power is available at any specified speed and amperage draw level;
- The drive is practically noiseless and has a high starting torque so that starting under a full hopper load presents no difficulty;
- The rotor speed is adjustable from 0-420 and also self-adjusting;
- Dynamic and quick-reaction operation avoids throughput reductions even during the processing of problem materials;
- Compact design;
- The drive is provided with a dynamic, electric braking function;
- The drive achieves up to double the throughput of conventional drives with the same rating;
- Waste heat from the cooling aggregate can be captured and used for process heat.

www.vecoplan.de

* Horstmann

The Recyclingtechnik Division of Horstmann of Bad Oeynhausen, Germany, is a leading European force in the development of design-and-build for waste treatment plants. In Germany alone, turnkey Horstmann facilities with a combined capacity of 1.6 million tonnes per annum will be commissioned before June this year.

Waste treatment facility.

Horstmann offers a range of treatment technolgies, including: mechanical and organic systems for composting and fermentation plants; material recovery facilities for light packaging waste; and systems for producing refuse-derived replacement fuels. The company has also developed a strong presence in other countries through a network of direct subsidiaries and business partnerships. Several dozen plants have been built in Austria, Poland, Spain, Italy, France, the UK, the United Arab Emirates, Taiwan, China and Indonesia, while many more are said to be in the planning and development stage as this overseas expansion gathers momentum.

Horstmann adds that its wet fermentation technology for domestic and municipal waste is attracting increasing interest around the world.

www.horstmann-group.com

* Weima

In the field of waste-derived substitute fuels, the new 'FineCut' granulator series manufactured by Weima Maschinenbau of Ilsfeld, Germany, is said to meet a demand among customers in the comply power plant and cement industries for ever-finer granulate sizes and closer granulate size ranges. The new granulators are designed to reduce the size of pre-sorted or pre-crushed material to, typically, 20 mm and 30 mm. Depending on the composition of the throughput material and the screen sizes used, the machine can process between 4 and 12 tonnes per hour. The unit features a long-life Hardox-coated rotor and screens also made of Hardox, resulting in an overall reduction of wear and tear. The hydraulically-operated screens allow for easy access to the rotor and cutting tools so that blockages can be quickly cleared. Cutting tools that can be turned four times are used for the rotor and counter-knife; the counter-knife can be infinitely adjusted and by segments while in operation, thus achieving a precise cutting gap.

Weima Maschinenbau has been manufacturing size-reduction machines for a wide range of applications in the recycling, plastics and wood-working sectors for more than two decades. Its product range includes single-shaft shredders, two- and four-shaft shredders, cutting mills and briquetting presses.

www.weima.com □

'FineCut' granulator.


Vezzani
Vezzani
550

India: demo

At the Institute of Scrap Recycling Industries' 2005 Convention and Exposition in New Orleans last month, Vikram Kochar of US-based Universal Metals Inc attempted to answer the question: 'India: the next China?' His conclusions were that China is on a level of its own and that India 'can follow China but not overtake it'. Through the eyes of leading recycling experts, Recycling International looks at the India of today and at its prospects.

By Ian Martin

The second most populous nation on this planet, India is setting itself growth targets which, if realised, will have a major impact on raw material consumption. The country has been achieving average GDP growth of approaching 6% since 1990 and is aiming to catch up after years of under-investment in its infrastructure.

Segregation of copper before feeding.

Liberalisation and democracy have brought their benefits. However, Vikram Kochar of Universal Metals informed last month's ISRI Convention in New Orleans: 'Democracy has brought along bureaucracy. The strong opinions of many opposing groups have prevented decision-making that could have led to progress. In India, everyone has a veto.'

He made the comparison between Hang Zhou in China and the Indian city of Bangalore: both have a population of 6.5 million and represent centres of education, yet the former has a brand new airport and expressway while plans to improve the latter's infrastructure have 'languished for years on the drawing board'. Overall, China has ten times more miles of expressway than India, he added.

More than a third of India's 1.1 billion population lives on less than US$ 1 a day, compared to only a sixth of the Chinese population. The average income in India is less than half that of China at US$ 530 per year but, in comparison to many other parts of the world, both countries hold a clear competitive advantage with regard to labour costs.

Elephants at the Amber Fort near Jaipur in India.

The recycling perspective

It would be true to say that India's recycling infrastructure has developed little over recent

cracy, bureaucracy and growth

years. A succinct summary of the current state of India's recycling sector comes from Yogesh Shah, the owner of Recoup Industries, which is based in Edison, New Jersey, USA, and which trades worldwide in scrap and surplus ferrous and non-ferrous metals. Basing his opinions on his trading knowledge of India and on the considerable time he has spent in the country itself, he describes the country's recycling operations as 'primitive' since they rely largely on manpower rather than machine power. 'A fork-lift truck or crane will be hired but only for tasks that humans would find impossible,' he explains. Automated scrap processing is on a very low level and even ships are broken mainly by using gas torches. 'Most scrap is manually processed through hand-sorting, hammers, chisels and hand saws,' he says. Working conditions and safety gear standards are 'poor', he adds.

According to Mr Shah, other features of the Indian market include: a strong union presence, low productivity, and evidence of 'corruption at every stage'. The country's multi-party political system is 'more focused on regional than national goals', while the potential for alliances to collapse at short notice leads to a constant sense of instability, he maintains.

Of specific relevance to the recycling industry, Mr Shah also underlines the severity of the country's port congestion problems.

Low level of mechanisation

Ikbal Nathani, BIR's Ambassador for the Indian Sub Continent and a former President of the Iron Steel Scrap & Shipbreakers Association of India, confirms that India's ferrous scrap industry supports a low level of mechanisation, underlined by the dearth of shredders, briquetters and crushers. The country boasts only a relatively few small-sized balers producing typically 12 inch by 12 inch bales. Mr Nathani's own company ran a shredder operation until the late 1970s but stopped because of a lack of feedstock. 'There were virtually no scrap cars,' he notes by way of example. 'Labour costs being so low, everything can be repaired and kept going.' Despite increasing liberalisation and the opening-up of the Indian economy during the early 1990s, many of the cars from the 1970s are still on the road while those that are no longer serviceable are generally cut up using gas torches.

Mr Nathani's company also used to be a significant exporter of ferrous scrap, but all this material is now used within India itself.

Scrap is generally processed using a combination of gas torches, chisels and hammers.

Typically, scrap is collected by people going round homes and shops with hand carts. This material is sold on to companies which are able to accummulate truck-loads of scrap for sale to the buyers. Scrap is generally loaded by hand and size-reduced using a combination of gas torches, chisels and hammers. This approach may appear to be unsophisticated but it is nonetheless efficient: density of scrap loaded on to trucks is excellent while manual sorting ensures a low level of impurities, according to Mr Nathani.

As noted in a recent Recycling International feature, the domestic shipbreaking industry - with an estimated workforce of around 20 000 - represents a key source of ferrous scrap for India's steelmakers, with around 65-70% of the haul from ships going for re-rolling. However, a recent dramatic decline in shipbreaking activity has led to calls from India's recycling industry representatives for the government to reduce the import duty on ships for dismantling from 5% to zero, although this plea has gone unheeded to date. In its most recent Budget, the government reduced the import tax on melting scrap from 5% to zero, while the import duty on re-rolling scrap was cut from 10% to 5%. However, no change was made to the import duty on ships for scrapping *(see box: Downward shipbreaking trend').*

Scrap-related explosions

As has been widely publicised, India tightened its scrap inspection rules last year after a series of explo-

Ranjit Baxi of UK-based J & H Sales International: 'India's recovered paper consumption may go up to five million tonnes by 2012'.

Yogesh Shah of U.S-based Recoup Industries: 'India's recycling infrastructure has developed little over recent years.'

Elephants are an indispensable work force in many branches of the Indian industry.

Surendra Borad of Belgium-based Gemini Corporation: 'Some twenty-four Indian companies have been granted special permission from the government to import plastics.'

Ikbal Nathani of the Naqthani Group of Companies: 'Not a single case of explosives has been reported in any grade of scrap from Europe and the USA.'

Ashwini Kumar Singhal of Singhal Commodities: 'In rural areas, scrap generation is negligible.'

sions were attributed to live shells and other ordnance arriving in scrap consignments from the Middle East and Afghanistan. Customs officials have been insisting on 100% destuffing and examination of heavy melting scrap (HMS) within the port area. Material is spread out and checked, with sniffer dogs and bomb squads brought in when a particularly suspicious object is uncovered. There have been no reports of further scrap-related explosions since those which led to the introduction of these controls, the most serious of which saw 12 steel industry workers killed in New Delhi.

According to Mr Nathani, the measures have had a noticeable impact on buying patterns. 'People are preferring to buy more shredded scrap,' he confirms to Recycling International.

In a letter sent to India's Director General of Foreign Trade, Mr Nathani has called for an urgent review of the notifications issued by the Indian government. He wrote that, while BIR fully supported efforts to prevent the import of hazardous materials of any kind, it was also necessary to safeguard a flow of scrap into the country. The government's notifications and circulars had 'caused a lot of hardship to all Indian traders, importers and consumers of both ferrous and non-ferrous scrap of various grades', he pointed out. This had also led, he added, to severe congestion in the ports and Inland Container Depots (ICDs), and to the payment of substantial demurrage and detention costs to foreign container shipping lines. 'Freight rates for scrap to India have been increased by shipping companies due to non-clearance of containers,' he stated.

Not war zones

Mr Nathani argued in the same letter that any grade of scrap from Europe or America should be allowed into India without the need for a pre-inspection certificate and 100% inspection at Indian ports and ICDs. 'Europe and America are not war zones and scrap processing is done as laid down in international specifications,' he explained. 'All inspection of exports is by independent agencies who inspect and certify that the scrap is free from any hazardous material.' And he underlined: 'Not a single case of explosives has been reported in any grade of scrap from Europe and the USA.'

In the case of imports of any grade of scrap from the Middle East and Africa, Mr Nathani contended that customs should be ordered to inspect and clear consignments within a maximum of seven days 'to avoid demurrage, detention and congestion in the ports/ICDs, and losses to all concerned'. The current inspection system was open to corruption, he noted, since sums of money were being demanded in some instances to expedite cargo clearance.

To date, however, there has been no official response to the letter containing Mr Nathani's range of suggestions.

It is clear that problems surrounding imports of HMS from some parts of the Middle East are still continuing. According to a recent local newspaper report, an importer, clearing agent and end user had been arrested after a consignment of scrap pipe from Iran was found to include armaments.

The Middle East used to be a source of considerable volumes of HMS but recent events and the government clampdown has meant that this flow has largely dried up. According to Mr Nathani, India is currently importing around 2.5 million tonnes of ferrous scrap - 'mainly from Europe but also from the USA'.

Record steel production

Turning to India's consumers of scrap, the domestic steel market remains at an all-time high; mills are producing at record levels and all have planned large capacity expansions.

In the financial year to March 2004, India's finished carbon steel production amounted to 35.15 million tonnes - an increase of 7.4% over the 33.67 million tonnes recorded in the previous year.

Approximately 11 million tonnes was made in electric arc and induction furnaces, with the former utilising around 30% scrap, 20% pig iron and 50% DRI. India's main integrated steel plants use only their revert scrap and no market scrap, according to Mr Nathani.

Boom times would appear to lie ahead for India's steel industry. According to latest statistics from the Brussels-based International Iron & Steel Institute, the country's apparent consumption is expected to surge from an estimated to 32.3 million tonnes in 2004 to 34.5 million tonnes this year - but this still equates to a 'very low' per capita consumption of around 35 kg. Mr Nathani suggests that India could be producing 60 million tonnes of steel by 2011-12, and as much as 100 million tonnes by the year 2020. One impact of this production surge, he says, will be to push up India's scrap consumption to around 12 million tonnes by 2011/12, comprised of approximately 4 million tonnes of imports and 8 million tonnes of domestic arisings.

Recycling realities in India

Ashwini Kumar Singhal of Singhal Commodities (P) Ltd, who is also Vice President of the BIR's Non-Ferrous Metal Division, provides his own perspective on the Indian market. He believes that, in order to understand recycling realities in India, it must be appreciated that 'most Indians do not dispose off any manner of consumer goods or domestic appliances unless proved beyond repair'.

He goes on to suggest that the country's largest single generator of scrap is the Indian railways, whose materials are sold either by public auction or by tender; public sector scrap is sold in a similar way. And although not mandatory, most private sector firms with limited liability also prefer to dispose of scrap through public notice to satisfy company law norms. By contrast, small-scale industrial outfits prefer to sell scrap direct to known dealers.

Scrap generated within households is principally in the form of discarded utensils and sundry domestic items - such as aluminium channels and bathroom/door fittings - which normally go to scrap collectors who call on householders from time to time. In rural areas, however, scrap generation is described by Mr Singhal as 'negligible' because of the inability of a large proportion of the population to afford significant amounts of metal-containing consumer goods. Also, many rural dwellings do not incorporate the elaborate cabling found in urban housing.

Almost all scrap dealers in India are loosely organised under various metal exchanges and have offices in most of the major areas of population, Mr Singhal goes on to say. As a result, a detailed assessment of the scale of the trade is almost impossible to make and 'virtually impossible to corroborate', he says. 'I believe that it will take time before such details are available in the normal course of business. A number of steps have been taken by the administration to point the process in right direction, for example, the recent imposition of VAT.'

Future growth within India's non-ferrous industry is tied directly to the country's economic development, with most indicators projecting a healthy improvement in all sectors. Since scrap is central to the raw material needs of the country's non-ferrous sector, he believes nominal consumption growth of between 5 to 7% a year can be realistically expected. The non-ferrous sector itself is attracting considerable investment; only recently, a statement from Vedanta Resources confirmed plans for a US$ 1.6 billion integrated aluminium plant in Orissa. The smelter will have an annual capacity 500 000 tonnes per annum and comes with a 1000 MW capacity power plant.

Cables are stripped by hand.

Telling impact on trade

But while the outlook for scrap consumption appears bright, government decrees and controls are having a major impact on the day-to-day activities of India's scrap industry. For example, the pre-inspection certification system is now telling on the trade since, according to Mr Singhal, 'it is not possible to import scrap into certain ports where imports were allowed prior to the recent certification ruling, thereby they are automatically disqualifying the import from certain countries.' And he adds: 'The cost of certification in some cases has become prohibitive thereby deterring importers from importing from certain locations.' This is one of a number of issues brought to the attention of the Indian government - 'and we await their response', he says.

Meanwhile, 'the imposition of VAT, although desirable, has not gone down well with the trading community - in particular owing to discrepancies in the tax structure as well as documentation required for inter-state sales'.

Downward shipbreaking trend

India's shipbreaking industry was responsible for scrapping some 3.3 million ldt in 1999 and was still achieving a total well in excess of 2 million ldt as recently as 2003, a year in which the country scrapped 375 vessels. However, the latter number tumbled to 226 last year from which was derived only around 1 million ldt. According to figures from Mr Nathani, this downward trend in shipbreaking activity continued in the 50-week period to mid-March 2005: a total of 886 000 ldt was won from a total of 191 vessels scrapped, compared to an estimate for the 2004 calendar year of 1.2 million ldt. On average, Indian shipbreakers are able to recover around 90% of a vessel's weight.

The decline has been attributed to the strength of the world charter market for ships and tankers, leading to higher freight rates and massively-increased earnings potential for vessels that might otherwise have been scrapped. In the case of India, the country has also been hit by increased competition. Mr Nathani adds: 'I would like to see the Indian government encourage more shipbreaking. It should stop breathing down the shipbreakers' necks and let them get on with their job. The extra demands of environmental groups are pushing up costs and sending the business elsewhere.' Among the beneficiaries of this excessive interference, he says, are Bangladesh, Pakistan and China.

India is currently recycling around 3 million tonnes of recovered paper each year.

The government has assured businesses that most of the discrepancies will be ironed out in the not-too-distant future.

The country's most recent Budget has provided only minor relief for non-ferrous metals in the form of reductions in customs duties on primary and secondary metals from 15% to 10%. In the case of lead, the new level is 5%. Manufacturers and processors have welcomed these developments.

Rising recovered paper consumption

Figures confirm that India has become an increasingly keen buyer of recovered paper on the international market. For example, statistics released last month by the UK's Confederation of Paper Industries indicate that, in 2004, India bought 15% of all the recovered paper shipped from the UK, Europe's leading secondary fibre exporter.

According to Ranjit Baxi, Managing Director of UK-based J & H Sales International Ltd and the man responsible for updating BIR's twice-yearly Paper Division meetings on events in Asia, India is currently recycling around 3 million tonnes of recovered paper each year although 'consumption may go up to 4-5 million tonnes by 2012'.

At present, annual imports of around 1.5 million tonnes arrive from, in the main, the USA, the UK and elsewhere in Europe. As for the remainder, pickers segregate paper from other discarded materials in the waste stream and send it to local, manual sorting facilities. Traders collect small volumes of newspapers and magazines directly from householders. Printers shavings are collected directly from printing houses while office records are usually stored and auctioned annually. Collection rates are relatively high in India's cities and large towns, but recovery percentages drop almost to nil in rural areas. With the exception of newspaper and magazines sold to recovered paper merchants, practically all of the remaining fibre is consigned to landfill, says Mr Baxi.

He estimates that more than 10 000 recovered paper traders operate across the country, employing manual sorting techniques alongside hydraulic/mechanical baling facilities. The fruits of their labour are dispatched to India's 600-plus mills, of which only 25 have their own pulp-consuming facilities while the rest depend on recovered paper as their raw material. India's paper mills have a combined annual capacity of 6.2 million tonnes and employ more than 1 million people. The majority of these facilities have an annual capacity below 10 000 tonnes while some 200 mills have higher capacities of up to 100 000 per annum. According to Mr Baxi, only 11 mills boast a capacity greater than 100 000 tonnes.

The country's paper-makers are supported by the Indian Paper Makers Association and by the Indian Paper Makers Technical Association; in addition, those individual mills which are owned by large groups generally make their own representations to government on the key issues of the day.

Positive trade balance

India's paper and board production has been growing at an average rate of 6.4% over the last quarter of a century - from 1.1 million tonnes to 3.85 million tonnes. This rate of growth has been even faster than the 5.7% per annum increase in paper consumption to well over 4 million tonnes. Having imported some 20% of its consumption in 1980, India now has a positive trade balance in paper of around 40 000 tonnes.

Mr Baxi observes: 'Per capita paper consumption increased from 3 kg in 1995 to nearly 5 kg in 2003, and is likely to double in the next five years due to higher education levels and general business and economic growth.' Growth in per capita income/disposable income and increased awareness of quality are also expected to trigger a sharp increase in industrial and speciality paper consumption in India. Sectors like fast-moving consumer goods, pharmaceuticals, food processing and the export of quality consumer goods are expected to rise at a healthy pace, thereby pushing up demand for industrial paper and board by 6-8% per annum over the next decade. Overall, India's paper demand is expected almost to double by 2015 to around 9.3 million tonnes.

Mr Baxi observes: 'Increased consumption will bring new challenges for the paper industry which will require close co-operation from the government in formulating a proper national forest policy and an improved waste paper collection system to meet future raw material demand.' For the moment, recovered paper collection remains the province of 'rag-pickers' and scrap dealers. There is no legislation to help boost collection levels nor the use of recovered fibre in paper production. The absence of a proper collection system results in a lack of quality control and a high levels of contamination, thereby creating a requirement for additional sorting at the mills and seriously restricting the appeal of this raw material.

Domestic fibre recovery is estimated at around only 20% of total consumption. This helps to meet 40% of India's total recovered paper demand of around 850 000 tonnes, with the remaining 1.35 million tonnes coming from Europe and the USA. A 5% import duty is applied to paper mills as

This Scalnar copper furnace has a capacity of six tonnes per hour.

Brass ingots ready for dispatch.

Sorting of LDPE in India.

Loading ferrous scrap on a truck.

actual users of the recovered fibre, while the rate for traders is currently 23.5%. According to Mr Baxi, recovered paper imports are flowing relatively normally to the mills at present, although the customs authorities are requiring importers to pay differential rates of duty on paper, plastics and metal in co-mingled waste.

Mr Baxi goes on to argue that demand for imported and indigenous recovered paper will probably keep to an approximate 60:40 ratio over the coming 10-15 years. At the same time, he suggests that this high dependency on imported fibre has led to increased production costs and has made it difficult for India's paper mills to compete against new paper imports following the reduction on duty applied to imported finished paper products. Noting that the country's environmental authorities have been introducing ever-tighter controls, with special emphasis on ensuring that mills and recovered paper merchants do not engage in dumping/handling toxic or hazardous wastes, Mr Baxi adds: 'Small mills may shut down in due course if they are not competitive and cannot improve their price and quality'.

Plastics recycling

India consumes between 6.5 and 7 million tonnes of primary plastics each year, with scrap accounting for around 10% of raw materials input. According to Surendra Borad, Managing Director of Belgium-based Gemini Corporation NV and the provider of Indian plastics market updates at the twice-yearly conventions of world recycling body BIR, 'there are possibly tens of thousands of unregistered recycling units, each producing about eight to ten tonnes of recyclate every month'. Many of these recycling operations are family run.

In India, plastic scrap collection is largely unorganised because 'pickers' do not have the necessary information about the various types of arisings. Some 24 companies have been granted special permission from the government and other officials to import plastics, although they are allowed to bring in only those materials for which they have licences. European countries supply around 6000 tonnes a month, the USA around 4000 tonnes, while a further 2000-3000 tonnes per month comes from a number of countries, including Saudi Arabia, Singapore, Malaysia and Canada.

Fifteen of these registered importing firms are located in the south west of the country, five in the east, and the remaining four in the capital city Delhi. 'These units are constantly monitored from the environmental point of view and the parameters are very strict,' explains Mr Borad. 'These units are not allowed to import any dirty goods or goods which need to be washed, nor can they trade or sell the imported scrap to anyone else other than one of these 24 units.'

A huge proportion of these imports comprises LDPE film in bales because of: the availability of this material on the international market at affordable prices; its ease of recycling, entailing a minimum of investment in machinery; and the fact that it can be recycled on more than one occasion without losing its vital properties. Mr Borad adds: 'India has a high per capita consumption of LDPE, but there is only one company (IPCL) which manufacturers virgin LDPE in India. Hence, this plastic is always more in demand.'

Uncompetitive for imports

PET bottles represent the only form of plastics scrap which can be freely imported into India. 'But high freight charges and high import duties make India uncompetitive for imports on a regular basis,' explains Mr Borad. 'India manages to import approximately 3500 tonnes of PET bottles each month, despite the fact that the biggest PET recycling unit in Asia, owned by Reliance Industries, is located in the south west part of India.'

In recent times, India has emerged as an exporter of PET scrap flakes to a number of other Asian countries, including China, Taiwan, Vietnam, Saudi Arabia and Korea. Monthly exports average around 5000-5500 tonnes, although this sector 'is growing at a pace of 18-20% per annum', according to Mr Borad.

Asked about the major issues affecting India's plastic scrap recyclers at present, Mr Borad points out that India is a huge consumer country in which recycling should flourish, but argues that uncertain government policies and oppressive tax regimes represent substantial obstacles. Add environmental protection constraints into the equation and Mr Borad suggests an unclear future awaits India's plastics recycling industries, adding that the government is 'geared up to close all recycling units which are polluting the land, sea or air'. A threat even hangs over those 24 companies which have permission to import plastic scrap because their approvals are due to expire by October this year. 'They are uncertain whether the government will renew their licences,' comments Mr Borad. □

Bob Stein of U.S.-based Alter Trading (third from right) during a visit of the non-ferrous operations of Singhal Commodities in Mumbai.

It is estimated that in India, more than 10 000 recovered paper traders operate across the country.

Sorting of bales of imported LDPE film.

Ten-year-old Ravi Pradhan cycles a cartload of plastic bags for recycling in Calcutta on Sunday. Ravi contributes 25 Rupees (US$ 0.57/€ 44) daily to his family's income by supplying plastic to the recycling industry. Thousands of such poor people, mostly children, earn their living from plastic goods recycling in Calcutta.


giving earth its second nature

Pressure shock-resistant fan.

75 years of Venti Oelde innovation

Venti Oelde develops and produces industrial and high-tech fans at Oelde near Münster in Germany. This year, the company - which currently employs 220 people and generates an annual turnover of some € 38 million - is celebrating its 75th anniversary.

By Manfred Beck

Universally known as Venti Oelde, Ventilatorenfabrik Oelde was founded in 1930 by the Cordes, Hupe and Krabus families to produce industrial fans. Today, the family-owned business headquartered in Oelde is one of the world's leading specialists in air technology.

Industrial and high-tech fans are among Venti Oelde's core competencies. In addition, the company has become a successful builder of innovative plant for numerous sectors, offering a comprehensive range of products and services from modern air and filtering technology through to biological filters. Products include ventilation, air conditioning and heat recovery systems as well as ultra-modern plants and system solutions for recycling and environmental protection.

Venti Oelde has a worldwide network of distribution partners such that, at present, around 54% of its plant and components is exported.

Innovative air technology

As a process medium and performance factor, air plays a crucial role in the production processes operating in all kinds of sectors. Accordingly, intelligent air technology can have a positive impact on the profitability and productivity of these processes. To this end, Venti Oelde uses its technical expertise and comprehensive knowledge of this field to develop, produce and install high-quality components for the collection, handling and filtering of air, vapours and gases, as well as dust and airborne solids.

The range of sectors covered by the company is immense - from the recycling and waste industries to chemicals, printing, paper and cellulose processing, as well as energy production. Air technology from Venti Oelde is used in the motor vehicle industry, foundries, woodworking and in the cement industry, as well as in all areas of metal production and processing.

Everything from one source

'Holistic' consultation, a regular contact person and a 24-hour hotline are designed to ensure smooth progress through all phases of a project, according to Venti Oelde. The specific problem is defined in co-operation with the customer, and then engineers develop tailor-made system solutions.

'It is important when planning a plant to consider infrastructural idiosyncrasies,' states Venti Oelde's Sales Director Andreas Hempel. 'For our customers, this translates into sustainable planning and cost security.' Following production, Venti Oelde's air technology experts take care of assembly - including electrical engineering - and test out the system on the customer's own premises. The complete offer also includes maintenance and plant monitoring via modem if required.

Tailor-made system solutions

Venti Oelde has also come to specialise in unconventional projects involving non-traditional plant construction, which are realised through joint development partnerships. 'Complex requirements don't allow for conventional solutions,' explains Deputy Managing Director Thomas Gandt. 'With our individual solutions, our customers have often been able to increase their output without costly rebuilding of plant parts.' At the customer's request, individual components can be developed and then produced in series for partner companies as a means of providing economic solutions.

The fact that the company's order books are currently full is testament to its expertise and success with innovation, it states.

For more information, visit the company's website at: www.venti-oelde.com

Compact pre-separator for pneumatic conveying plants

One of Venti Oelde's latest developments is a pre-separator for pneumatic conveying plants. Various separators are used in different air-handling plants. The necessity for reliability when handling varying air volumes and the sizes led to our developing a multi-application coarse material separator.

The new separator is used in pneumatic conveying plants to separate the conveyed material from the air. Typical applications are the exhaust of edge trims in the paper industry or the separation of light fractions which have already been pneumatically separated in separator plants. With small modifications it is also possible to use the equipment to separate fibrous material, such as cellulose, fluff or similar. An efficiency of better than 90% can be achieved.

The patented rotating screen separator shown in the photo exhausts edge trims and punch waste in a decor printing shop. The air conveying the material enters the separator tangentially. A screening drum rotating inside the separator separates the material from the air-stream. The air passes through the screening drum and leaves the equipment axially. The material is pressed against the outside wall, traverses a short pipe and is discharged through an airlock. Any pieces entrained in the air-stream are retained on the circumference of the drum, removed by a scraper through the rotating movement and are also discharged through the airlock.

The pre-separator is available in sizes for flow volume up to 40,000 m^3 per hour.

TEREX-Fuchs focus

The MHL585 is the largest mobile loading machine TEREX-Fuchs has ever built.

Founded in 1888, TEREX-Fuchs focused for decades on building cranes, wheeled and tracked excavators, and machine loaders. Since 1990, however, the company has concentrated exclusively on the production of material handlers. Around 25% of the company's machines are sold in Germany and the remainder go for export, with North America and Europe representing its leading markets.

TEREX-Fuchs' manufacturing plant at Bad Schönborn near Karlsruhe in Germany.

By Manfred Beck

Founded by blacksmith and advanced agricultural machine builder Johannes Fuchs, the company bearing his name developed over the decades into a manufacturer of cranes, wheeled and tracked excavators, and machine loaders; as an example of its success, the company has sold more than 17 000 of its F 301 wheeled excavators.

In 1975, Fuchs was the first to patent the adjustable-height cab which provided crane drivers with all-round visibility and which greatly improved safety at work. In 1990, several years after Fuchs had become part of the Schaeff Group, it introduced the MHL 350 and later the MHL 380 series of material handlers. From then on, Fuchs decided to concentrate on producing material handlers instead of cranes and crawlers.

In 2002, Schaeff was acquired by the US-based TEREX company, the world's third largest producer of construction machines after Caterpillar and Komatsu, and Fuchs thus became known as TEREX-Fuchs.

Worldwide markets

The waste management and recycling industries - and more particularly the metals recycling sector - constitute TEREX-Fuchs' most important customers and its share of these markets is continuing to grow. The company sells between 70 and 80% of its material handlers into the waste management and recycling industries, with the remainder going to the timber industry and to ports. 'This will have to change in the next two to three years to cater for an eventual dip in scrap prices which will most likely result in a decline in the scrap business and thus to less investment in machines,' says TEREX-Fuchs's Managing Director Dr Harald Hagelskamp.

North America represents the company's largest single market, followed by Germany, the UK and Russia. About 25% of all its machines are sold in Germany, with the rest going to export markets.

Viewing the future with optimism are from left:
Marketing Assistant Bettina Hartlieb, Marketing Manager Carsten Bengs and Managing Director Dr Harald Hagelskamp.

ses on material handlers

A TEREX-Fuchs material hander at work in the recycling industry.

A material handler ready to be transported to its new owner.

Asia is becoming increasingly important from the sales perspective but Dr Hagelskamp still puts a question mark against the region. 'In Asia, locally-made machines are lower in price when compared to material handlers from US or European manufacturers, and therefore it is difficult to get a foothold,' he explains. 'Moreover, it is difficult to set up a dealer network in China, and also service and supply of spare parts are big problems. That is something we will have to solve before really going into that market.'

The company operates in South East Asia in co-operation with parent company TEREX, whose subsidiaries NHL and Atlas produce material handling machines at a plant in China.

TEREX-Fuchs currently has dealers in 26 countries all over the world. 'We will further expand our dealer network,' confirms Dr Hagelskamp. 'In regions where we have no local dealer, we co-operate with TEREX companies to market our machines. Over the last two years, we have been very successful at penetrating markets in the USA, Russia and Eastern European countries.'

Wood recycling

TEREX-Fuchs is the only manufacturer of material handling machines with its own range of mobile loaders for the wood industry; these have a boom on the back and are suitable for handling large pieces of wood. TEREX-Fuchs offers hydraulic timber grabs and hydraulic sorting grabs.

The company also builds stationary loading machines for feeding hydraulic scrap shears and for loading/unloading ships, and this is seen as an area for future development. All stationary machines are equipped with an electric drive and a variety of special equipment for specific materials. They are available with or without a cabin and a choice of direct, cable, remote or wireless steering

Among TEREX-Fuchs's latest developments are the MHL580 and MHL 585 for loading and unloading in ports. The largest mobile loading machine TEREX-Fuchs has ever built, the MHL 585 weighs 77 tonnes and is suitable for loading ships with high sides because it has an heightened upper-carriage and a reach of 21 metres.

Quick Connect system

TEREX-Fuchs offers an extensive range of work attachments for all applications in the waste management and recycling industries, such as cactus grabs, bulk material grabs, scrap magnet plates, lift hooks, and hydraulic demolition and scrap shears. The cactus grabs and scrap shears are the company's own design and are manufactured in Schöndorf.

A successful recent innovation has been Fuchs' Quick Connect system for converting a loading machine into a mobile scrap processor in less than one minute; all hydraulic hoses and electric connecters can be changed in a single pass. To make machine and attachment transportation even more flexible, Fuchs' Quick Connect comes with a hook-on flat container bottom which can be transported using a lorry and hooklift. Shears, grapples, sticks, magnets and other attachments can be placed on this container. □

Fuchs' history

1888 - Fuchs was founded by Johannes Fuchs, a pioneering blacksmith who developed and manufactured advanced agricultural machines in Hemmingen, Southern Germany.

1952 - The first Fuchs loading machine was a technological trend-setter: the rubber-tyred, cable-operated excavator operated equally well in long-reach or ground-based applications - a novelty at that time.

1958 - The company moved to a new 120 000 m^2 production site at Bad Schonborn.

1962 - The popular F 301 model wheeled excavator was being produced at a rate of 170 per month.

1971 - Based on a completely new concept, Fuchs developed hydraulic excavators, cranes and loading machines.

1975 - Fuchs patented the first adjustable-height cab.

1985 - Fuchs became part of the Schaeff Group, which is widely regarded as one of the world's leading designers and manufacturers of construction equipment.

1990 - Fuchs introduced a new series of material handlers - the MHL 350 and later the 380. Fuchs subsequently concentrated on producing material handlers.

2002 - The Schaeff Group was taken over by TEREX Corporation which is headquartered in Westport, Connecticut, USA. TEREX has expanded dramatically over recent years, primarily through a series of acquisitions and divestments designed to expand the product offering and improve geographical coverage. TEREX offers a broad range of construction, infrastructure, recycling and mining-related capital equipment under brand names which include: Atlas, BPI, Demag, Finlay, Fuchs, Genie, Load King, Marklift, O&K, Peiner, Powerscreen, PPM and Schaeff.

For more information on TEREX-Fuchs, visit: www.fuchs-terex.de

The first loading machine that Fuchs built in 1952.

America Chung Nam: co

China is not only the worlds biggest importer of scrap metals, it also hold this position with recovered paper. To satisfy its paper mills, China has to import huge volumes of recovered paper because the country is poor in forests to produce pulp and because domestic paper collection is still in its infancy. The world's biggest exporter of recovered paper to China is America Chung Nam. With offices in the USA and Europe and a number of paper mills in China, the company is the No. 1 paper player in China.

Before 1995, China country imported only around 500 000 tonnes of recovered paper per annum from the USA. From that time on, paper imports have surged. According to the Almanac of China's Paper Industry, the country imported 9.3 million tonnes of recovered paper in 2003, with imports of ld corrugated containers (OCC) topping the list, followed by old newspapers (ONP) and minor volumes of office waste paper and old magazines (OMG). It is expected that waste paper imports will continue to increase at an average rate of 6-8 % per year in the next few years.

Most of the material is imported from North America. 'The United States is the OPEC of recovered paper', somebody once said. In 2004, total U.S. paper recovery reached well over fifty million tonnes of which about 25% was exported, making this commodity the US's biggest volume-export.

Currently, China's per capita paper consumption is 30 kilogram, compared with 233 kg in Europe and 332 kg in the USA. According to the China Paper industry Association, demand for paper and carton board will have grown to 80 million tonnes per annum in 2015, making the country the second largest consumer in the world. This seems huge, but it only means that by 2015, the per capita consumption in China will have reached 60 kg. In order to satisfy the growing production, by 2015 China must have added another 40 million tonnes of paper making capacity which will require a total investment of some US$ 48 billion.

As both a dedicated buyer of recovered paper and owner of a number of paper mills in China, America Chung Nam (ACN) is China's number one recovered paper importer as well as one of the country's three biggest paper producers and its largest containerboard producer.

Paper making machine in Dongguan.

Super growth

The story of America Chung Nam (ACN) is a real paper boom adventure. Within less than fifteen years, the company has grown into the US's top volume exporter of recovered paper – in 2004, ACN exported 2.6 million tonnes from the USA, Europe and other regions to China.

The success story began in 1985, when Mrs Yan Cheung, who then was in her twenties and had studied accounting, started a little recovered paper export business in Hong Kong, which, at the time, was still a British protectorate. She sold the paper she collected and processed to mainland China where it was used as a raw material in the country's paper mills. After a couple of years, when the country opened up to trade with the USA and Europe, Mrs Cheung realised that China's economy would grow tremendously in the years to come and therefore would need huge volumes of secondary raw materials such as recovered paper. So in 1990, she left her Hong Kong business in the hands of a managing director and moved to the USA. She and her husband, Mr Ming Chung Liu settled in Los Angeles in Southern California. This

mmitted to the paper loop

By Manfred Beck

region of the USA is the biggest paper export region of the country, especially for the Asia trade, because of its large Chinese population, dense populated areas, convenient ports and relatively cheap outbound ocean shipping.

Ms. Cheung and Mr Liu started America Chung Nam to secure and supply recovered paper to several joint-venture paper mills they co-owned in China. They realised that the value of recovered paper would increase in future, understood that consistent supply was of utmost importance to China and, perhaps the most important of all, they valued long-term relationships with their suppliers. It was a matter of combining capability, timing and opportunity. They combined these factors for success, realising that without a secured fibre source, their paper mills in China would have no real base.

ACN started buying recovered paper in the USA and shipping it to China. The business flourished and in 2004, ACN shipped 2.6 million tonnes of recovered paper from the USA, Europe and other regions to China, propelling it to the top of the Journal of Commerce's list of the biggest US exporters accordingly . Today, the company employs more than 100 workers in the USA.

Although ACN operates a couple of small collection and recycling yards in the USA, it is not the company's core business. ACN collects its material through contracts with commercial waste collectors, large retailers and supermarkets and through long-term relationships it has formed with recycling yards, buying on the open markets.

In addition to its head office in the City of Industry, California, ACN purchases its material from offices in Jersey City, New Jersey; Chicago, Illinois; and Wilmington, North Carolina.

In 2000, ACN also opened an office in Rotterdam, The Netherlands, in search for recovered paper from Europe. Within five years, America Chung Nam (Europe) has become one of the biggest exporters of paper to China.

Impressive

Early March, I had the opportunity to visit the Chinese paper making operation of ACN in Taicang, some 45 kilometres from Shanghai and I was impressed by what Mr Ming Chung Liu, CEO of ACN and General Manager of Nine Dragons Paper Industries Co., Ltd., told me.

Nine Dragons was founded in 1996 by ACN and today, not even a decade later, it is China's largest containerboard producer. The company operates kraft linerboard mill in Dongguan and Taicang,

a joint-venture dry-wall paper facility in Shandong and several other joint-ventures such as a paper mill in the Shandong province which specialises in plasterboard manufacturing and special grade paper such as decoration papers.

Founded in 1996, the Dongguan paper mill is currently still the biggest of all Nine Dragons operations. It operates seven paper making machines with a combined annual capacity of 2.45 million metric tonnes, but this will be expanded will be expanded to 2.9m tonnes in the second quarter of this year by installing an additional machine at the Taicang mill.

Dongguan mainly produces kraft liner board, white top liner board, grey coat duplex board, corrugating medium and high-performance liner board.

Mrs Yan Cheung, Founder and President of America Chung Nam.

The ACN Europe team in front of America Chung Nam's headquarters the City of Industry, California. In the centre is Wade Schuetzeberg, Managing Director of ACN Europe.

The main entrance of Nine Dragons Paper Industries in Taicang.

All incoming bales of recovered paper are checked.

The main office building of Nine Dragons in Taicang near Shanghai.

Raw material need

In a few years, the mill in Taicang will have by far outgrown the one in Dongguan. In Taicang, Nine Dragons produces 100% recycled test liner board and in the future, when the next paper-making machine is ready, also high-performance corrugated medium. Currently there is one paper machine running. Another is in the final stage of assembly and is scheduled to come on stream in the second quarter of this year. When it is up and running – which at the time of writing was scheduled for mid-May – it will expand the mill's current capacity to roughly one million tonnes per annum.

To keep the Nine Dragons mills running at full capacity, huge volumes of raw materials are needed. For its production, the combined Nine Dragons mills in China need huge volumes of recovered paper and virgin fibre – usually 20-25% virgin fibre which is imported from China, Russia, South America, USA, South Africa – and 75-80% recovered paper. The latter is sourced from all around the world – USA, Europe, Asia, Australia and some domestic paper. However, most of it - some 50-60% - comes from America Chung Nam's operations in the USA. Nine Dragons imports mainly mixed paper, office pack, newspaper and OCC. Mr Liu estimates that in 2005, the company's China paper operations will need between 2.5 and 3 million tonnes of recovered paper.

Not much of that volume comes from China itself. 'China's domestic paper collection is growing every year and the quality of the material is improving although it is still weaker when compared to US or European paper,' says Mr Liu. 'But there are no figures of the collection rate yet.'

The Nine Dragons paper mills usually carry stocks for 90 days. 'We don't want to be dependent on just-in-time deliveries, the possibility of strikes, port congestions and sudden steep price increases,' explains Mr Liu.

Quality's the key word

When it comes to recovered paper, quality is the key word for Nine Dragons. The quality of all imported material is checked both in the country of origin and in China. 'Over here, we check every bale we receive. We have a lot of people,' says Mr Liu with a smile. 'The China inspection company CCIC checks the paper at the port of entrance and at the mill we check all bales.'

In Europe as well as in USA, the quality of the recovered paper bales is checked by both CCIC and ACN staff very frequently.

'How about rejects?' I want to know. 'We still have a small portion of rejects, but we improve that by continuously educating our suppliers – we take pictures of what's wrong and report that to our customer. We have to, because to make good paper, you need good fiber,' explains Mr Liu.

I survived Fugu!

The cook showing the Fugu fishes.

After we finished the interview, Mr Liu invited me to have lunch with him. 'What do you prefer to eat?' he asked. 'I love authentic Chinese food,' I replied. A big smile lit up his face. 'We have a wonderful, family-owned Chinese restaurant in a village just a couple of miles down the road,' he said. 'One of the dishes they serve is Fugu fish. Have you ever heard of it?' 'Oh yes,' I said. 'Isn't that the fish that has very poisonous glands in his body and if the cook doesn't remove them for one-hundred percent but leaves only a trace of the glands then you'll die within ten minutes?' I asked. 'That's the one,' Mr Liu confirmed with a smile. 'Do you want to try it?' He looked at me expectedly. 'Well,' I replied, can't we make the following deal: you eat first and if you're still alive after ten minutes, I'll eat as well.' Mr Liu laughed, shook his head and said: 'No, no, Mr Beck, if we die, we die together!' What could I say? Always eager to caress my taste buds with new and unexpected flavours, I agreed.

When we arrived at the restaurant and were seated, Mr Liu asked me: 'Do you want to see the Fugu fishes alive before we eat them and perhaps you do also want to meet the cook who will prepare them for us?' I agreed that this was a good idea. A couple of minutes later, the cook entered in with a bowl. He came over to our table. I looked inside the bowl and saw three Fugu's. I took one of them in my hand, caressed it gently and murmured: 'Morituri te salutant', which, in Latin, means 'Those who are about to die, salute you'. As the cook made a reliable impression, I told him to go ahead and prepare them for us.

Needless to say that I survived the Fugu experience and I must say that Mr Liu was right – they tasted delicious!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Future plans

When asked about Nine Dragons' future plans, Mr Liu leaves no room for doubt. 'We want to expand at all our operations in China, but especially here in Shanghai. We have a permit to grow in Taicang. At our mill, we can add a total of thirteen big paper-making machines and let there be no doubt, we will install them. We have the land to do that. Our own property is 4200 Chinese acres (28 ha/70 acres) big.'

Currently, the mill in Taicang employs more than 1000 people, including security people, cooks, truck drivers, and other staff members. The company trains new staff, especially the paper makers, in-house. 'We have a lot of overseas technicians and engineers from, for instance South Africa, Korea, Taiwan and Japan,' says Mr Liu.

The workers are currently housed in temporary apartment building on the premises, but Nine Dragons will start building new apartment buildings of twelve stores high. When in about ten years from now the thirteen new paper machines are installed, Mr Liu expects that the company will then employ more than 10 000 people.

To be prepared for the future, Nine Dragons is currently building its own power plant which will come on stream later this year. The plant will produce 24 000 Watt (24 Megawatt) of electricity per hour. This will make the company independent of the power failures that happen in China, especially in summer.

In addition, Nine Dragons is building its our own terminal where it can unload ships of up to 50 000 LWT tonnes direct at the mill and where it can discharge coal, pulp and recovered paper.

Several years ago, China's No 1 paper maker already built its own waste water treatment plant. Each day, the mill takes in some 60 000 tonnes of water from the Yang Tse Kiang river which is used to cool the boilers of the mill. After purification, the water is pumped back into the river.

'We actually did over-invest in our waste water treatment to make sure we, as an environmentally-responsible and environmentally-friendly company, comply with government requirements by the government,' explains Mr Liu.

Nine Dragons' operation in Dongguan is ISO 18001, 14001 and 9001 certified, while Taicang has applied for ISO 18001. It is expected that the audits will be finished this year.

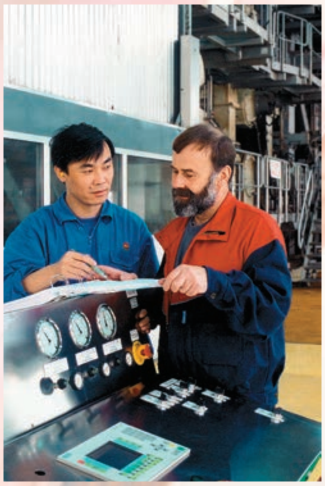
Environmentally responsible

At the end of the interview, Mr Liu talked at length about the environmental responsibility of his company.

'Nine Dragons pays competitive market prices for the paper and we are very careful about the quality. The reason behind this is that we are an environmental responsible company. That might be an extra reason for US and European suppliers to do business with us.

'Many traditional Chinese paper mills are small or medium-sized, privately owned or even village-owned operations which may find the modern demands of paper making difficult. As a responsible and well-recognised Chinese paper manufacturing company, we are sure to comply with environmental and regulatory policies closely, which ensures the stability of our operations compared to less advanced players in the market. Nine Dragons is determined to be one of China's major and environmentally responsible paper mills now and in the future. That is our commitment – to create a legacy for the future, Mr Liu concludes. □

Mr Ming Chung Liu, CEO of ACN and General Manager of Nine Dragons Paper Industries.



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During the course of 2005, a new European regulation for recycled plastics will and food contact materials will come into force.

New opportunities for PET recycling

The use of recycled plastics in food contact applications has been restricted in Europe because of a lack of relevant legislation. However, imminent legislation will officially open up this sector to the use of recycled plastics. Dutch knowledge transfer and research organisation TNO has studied the possibilities this creates.

Before recycled PET can be used in food-contact applications, the recycling process should be authorised by relevant European authorities.

By Hetty Jongbloed, Jan Jetten & Rinus Rijk

Project Managers Analytical Sciences, TNO, The Netherlands

A new European regulation (EC 1935/2004) covering all food contact materials was adopted by the Council of Ministers on October 14 last year, and replaces the European framework directive 89/109/EC.

The new regulation states that the use of recycled materials and goods should be favoured for environmental reasons, provided that strict requirements are established to ensure food safety and consumer protection. To this end, rules are being drawn up for recycled plastics, expanding on the general requirements contained in the new framework regulation.

The draft regulation enables recycled plastics to be used in food contact applications and applies to all food contact plastics, not just to PET. Work on the new regulation may well be completed during the course of 2005.

Key requirements

The draft regulation for recycled food contact plastics covers only mechanically recycled plastics. The regulation does not apply to chemical recycling or to the in-house recycling of virgin pre-consumer production scrap. In addition, production waste and chemical recyclate are excluded because these are considered as 'virgin' material.

The following are some of the important requirements enshrined in the draft regulation:

* The recycling process should be authorised by relevant European authorities;
* The plastic material being recycled must be manufactured in accordance with 2002/72/EC, and must have been in contact with foodstuffs only;
* The output of the recycling process must comply with 2002/72/EC;
* The recycled product must be accompanied by a declaration of compliance;
* The recycling process must be performed under an appropriate quality assurance system.

To obtain authorisation for a recycling process that produces food-grade plastic, an application must be sent to the appropriate authority in an EU member state and should be supported with data covering, for example: criteria of input (collecting, sorting and washing); detailed information on the recycling process; analysis of the critical points in the recycling process; quality of the output (physical and chemical); and the intended field of application of the output. The application is then forwarded to the Brussels-based European Food Safety Authority (EFSA), which carries out a safety assessment. EFSA issues an opinion within six months of receiving the valid application and forwards its opinion to the EU Commission. The Commission prepares a draft decision to authorise the recycling process, and this process is then entered on to a register. The authorisation is company-specific, is valid for five years and is renewable for periods of 10 years. Authorised recycling plants will also be subject to regular audits by national enforcement authorities.

Plastics input and output

The input of a recycling process must contain only food-grade plastic materials and articles, meaning that they have to comply with EU Directive 2002/72/EC and be intended and used for food contact only. This requires a reliable collection system.

For open input acquisition systems, the minimum sorting efficiency must be 95%, and should be higher wherever possible. The presence of non-food contact plastics or substances originating from prior or misuse is treated as a contamination of the recycled material. In such instances, it must be demonstrated that the material complies with Article 3 of Regulation (EC) No 1935/2004. Change and frequency of such contamination may be one of the critical points of the recycling process.

The result of a recycling process should be a plastic material that complies with the plastics directive. In practice, this means that the recycling process must be capable of removing any chemical contamination from the plastic input in such a way that a food-grade material results. Recycling processes therefore have to be evaluated via 'challenge tests'.

In a challenge test, the plastic input is exposed to selected surrogate contaminants. These are compounds that represent any possible contaminant in practical situations, with the exception of carcinogenic and mutagenic substances. After exposure, the plastic is subjected to the recycling process, with subsequent analysis of the plastic for those contaminants demonstrating the efficacy of that process.

However, in the case of a closed-loop recycling process, the challenge test may not be required. In such instances, the input must be completely under control, thus excluding any contamination during use.

Practical product validation

The new regulation for recycled plastics will come into force on the twentieth day after publication in the Official Journal of the European Union. After that, a transitional period will follow in which recycled plastics already on the market will be permitted to remain for a limited period, thereby allowing time for authorisation. It is foreseeable that applications for authorisation will need to be submitted within 18 months of the date on which the regulation comes into force. Recycled plastics for which no application has been submitted by this date should be withdrawn from the market immediately.

The requirements of the new recycling regulation are designed to ensure food safety and consumer protection, and hence the quality of the recyclate has to be validated. How can this be done in practice? As practical criteria have not yet been specified in the regulation, it is not yet known how a recycler should deal with the results of, for example, an analysis of the volatile compounds in the recyclate. For instance, a very common contaminant found in used PET is limonene, a major component of citrus fruits. Limonene not only occurs in juices and beverages, but is also used in cleaning products. What if a relatively high concentration of limonene is found in a batch of the recyclate? Should this particular batch be discarded? Should additional tests be done? Or can it be used regardless? These questions remain to be answered.

In conclusion, the advent of the new European recycling regulation opens up the use of recycled plastics in food contact applications. This will considerably improve opportunities for closed-loop recycling, while at the same time saving valuable resources. □

TNO: 'Quality of Life'

TNO, the Dutch research and knowledge transfer organisation working on behalf of companies, government bodies and public organisations, has carried out research aimed at providing concrete solutions to problems encountered by industry and government bodies such as the use of recycled plastics in food contact applications.

Through its 'Quality of Life' programme, TNO has longstanding experience in the field of food contact materials, recycling and related legislation, and can assist the recycling industry with the performance of challenge tests, compliance tests, auditing and the preparation of authorisation application dossiers.

TNO offers contract research and specialist consultancy services, as well as grant licences for patents and specialist software. In addition, the organisation tests and certifies products and services, and issues independent quality evaluations. If required, TNO also sets up new companies to market innovations.

For more information, contact Jan Jetten (Phone: +31 30 6944361, E-mail: jetten@voeding.tno.nl)

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Ferrous

US and European prices went their separate ways

Scrap demand from the main importing markets remains weak despite a dramatic increase in iron ore prices for 2005 delivery, which in turn has influenced ore-derived commodities such as sponge and pig iron. European scrap prices fell heavily in April, but US prices improved over the past month. However, falling long steel prices around the world have dragged down scrap prices for May. By early May, fob Rotterdam prices stood at US$ 200-205 for HMS I, US$ 225-230 for shredded and US$ 190-200 for the 80/20 HMS I/II mix.

US prices for top-quality new automobile factory bundles unexpectedly rose again for April delivery - by US$ 28 per tonne to US$ 278; this compares to an all-time high of US$ 442.50 per tonne in November last year. However, the price of May deliveries fell by no less than US$ 60 per tonne. Meanwhile, the US Composite price rose to US$ 214.50 per gross tonne on April 30, up from US$ 213.67 in the second week of April and from US$ 197.67 on April 1. A year ago, the level was US$ 206.40. By contrast, domestic US shredded scrap prices have slipped slightly into the range US$ 220-240 delivered mills compared to US$ 220-250 in February/March. Shredded scrap export prices to South East Asia have remained relatively firm owing to continued strong demand, but levels have been somewhat lower than in the previous two months. US West Coast exporters appear alone in being able to ship this grade to China and South Korea given that they have a freight advantage of almost US$ 40 per tonne over EU exporters.

By Alfred Nijkerk

Closed: May 2 2005

China is currently paying US$ 290 cfr for Europe's bellwether scrap quality - the 80/20 HMS I/II mix. Taiwan, however, announced that it was unwilling to pay more than US$ 255 cfr for the same quality.

Scrap for April delivery sustained dramatic price falls of around € 30 per tonne in most West European countries owing to: low demand from Turkey, Spain and Italy; and the impossibility of competing against US West Coast exporters due to sky-high, deep-sea freight rates to the Far East. Europe's exporters face freight costs to China which are almost twice as high as, say, from Los Angeles to the same destination.

Another key reason for the weak scrap market was the worldwide fall in the price of long steel products (rebar and debar), which are manufactured mainly by mini-mills in their electric arc furnaces. The long steel market is suffering from persistently high stock levels and poor demand. European long steel prices appear to have dropped by € 20-30 per tonne since March and are expected to drop by a similar amount in May. Rebar prices - which, for obvious reasons, are as volatile as scrap values - were around € 350 (US$ 465) in March compared to some € 500 a year ago, but Chinese exporters have recently already offered rebar at US$ 405-410 cfr Singapore.

Unjustifiable scrap surcharges

Since scrap prices have returned to more or less normal levels given inflation and high sponge and pig iron prices. However, the so-called scrap surcharges on new steel appear to be totally without justification. No wonder steel mills in the USA and Europe hastily dropped a portion of these surcharges, although the greater part of them remains in place.

European steelmaking giant Arcelor, for instance, reduced its scrap surcharges from € 114 (US$ 148) per tonne in March to € 86 (US$ 112) for all May deliveries, but undoubtedly the company will have to cut these still further. This surcharge weapon has been used by mills to maintain a now unrealistically high price for new steel and to compensate for the 71.5% rise in 2005 iron ore prices. And, as usual, the scrap trade is being blamed for the high steel prices of the last six months.

The negative scrap trend was set in mid April by the export of 25 000

tonnes of the 80/20 HMS I/II mix and shredded scrap to Turkey at prices of, respectively, US$ 204 and 244 fob Rotterdam. Following this 'panic' sale, as competitors termed it, the Turks announced they were unwilling to return to previous levels for EU scrap as they could obtain a better quality for a lower price. In fact, Turkish mills claimed to have bought high-quality Ukrainian A-3 quality - which traditionally compares to a mixture of HMS I and plate and structural (P&S) scrap - at US$ 220 per tonne cfr Turkish harbours. Furthermore, the Ukraine and Turkey are able to transport scrap at relatively low cost because they generally use their own ships.

South Korea's large steel group Posco recently purchased 20 000 tonnes of top-quality P&S scrap from Japan for US$ 304 a tonne cfr for delivery in May - 6% below the price of a previous purchase. Posco bought 1.65 million tonnes of steel scrap in 2004 but this total will fall to around 1.4 million tonnes this year.

Steel: 'price before quantity'

The International Iron and Steel Institute (IISI) forecasts a 3.7% rise in steel demand to 1 billion tonnes in 2005 as against 968 million tonnes in 2004, and foresees a further increase to 1.05 billion tonnes next year. Chinese consumption is set to rise to over 290 million tonnes, but forecasts are more pessimistic for the EU and USA where consumption is expected to fall roughly 1 to 3%.

Eyebrows were raised when Ekkehardt Schultz, CEO of German steel giant Thyssen-Krupp Steel (TKS), recently predicted that steel prices would remain high throughout 2005 as a consequence of the leap in raw materials costs. But in the second quarter, it has not been possible to push through new steel price increases as previously announced. The slowdown in demand for steel in Europe and elsewhere is partly attributed to excessively high stocks, little confidence in economic improvement, and increased dumping of cheap Far and Middle East long steel.

Another TKS spokesman announced a carbon steel output reduction of 500 000 tonnes - or around 10% - for the second quarter which would primarily affect zinc-coated materials. He admitted that TKS prices for the current quarter have remained flat in the coated steel segment despite earlier price increase announcements, and that the company's policy would be 'price before quantity' for the forthcoming period. Average European light section prices have dropped from € 555 per tonne in the final quarter of 2004 to € 480 (US$ 625) in the first two quarters of this year.

At present, prices of most steel qualities - including cold and hot rolled coil - are on the decline. Since steel mills are unable to halt the effects of much higher iron ore, sponge iron and energy prices, they have once more targetted scrap. Dan DiMicco, CEO of mini-mill giant Nucor, told a recent press conference that US sheet prices had fallen to levels that were not attractive to imports into the USA from other countries.

Integrated steel mills receive iron ore and sponge iron from just three major suppliers who have monopolised these markets. They have traditionally sought long-term contracts and can dictate this year's prices of iron ore - and, therefore indirectly, prices of DRI/HBI - due to the scarcity of these commodities. The scrap export market, on the other hand, consists of several hundred suppliers who are all acting individually and hence are much less disciplined than suppliers of primary raw materials.

As mentioned above, scrap exporters constantly undercut each other at the slightest sign of a decline in the market, a fact which led to the yo-yoing market conditions of 2004.

Positive signs for the steel market include the partial - and perhaps even total – withdrawal of the Chinese government's export rebates and current strike action within the German steel industry. The moment chosen by the German trade unions could not have been worse: some steel mills even welcomed the enforced production cuts in a weak market which gave them reason to imply a 'force majeure' situation.

Competing commodities

The gap between iron and steel scrap prices and those of its main competitor, pig iron, has widened as scrap prices have fallen to around US$ 200-205 fob Rotterdam for HMS I on the international, overseas export markets, while pig iron prices are still hovering around US$ 300-310 cfr New Orleans. This boils down to around US$ 275-285 fob Brazil or from other pig iron exporting countries. To the USA delivered New Orleans price we have to add freight of around US$ 15-20 to mini-mills along the Mississippi, or even a few dollars more to mills in Chicago and Pittsburgh.

Russia has reportedly sold pig iron to Posco in South Korea for May delivery at US$ 334.50 and later for US$ 324.50, and China did the same at a similar price.

Sponge iron is much less of a competitor to scrap as captive use by the main producers in, for example, India, Venezuela or Mexico absorbs some two-thirds of total world production of around just 50 million tonnes per annum. Pig iron is produced on a much larger scale: in fact, every integrated steel mill can manufacture pig iron and global output in the first quarter was 187.7 million tonnes.

Of the almost 50 million tonnes of sponge iron produced worldwide in 2003, the 12.2 million tonnes shipped overseas comprised 7.6 million

China's scrap purchases

After Turkey, China was the world's second largest scrap importer in 2004 and may purchase even more this year due to the dramatic rise in iron ore prices. Another factor is the continuing super tanker congestion at ports on China's east coast, where nearly 300 million tonnes of imported iron ore will have to be transhipped this year. On top of this comes a seemingly permanent lack of railway wagons for domestic ore movements to the mills.

Purchasing prices for heavy scrap in China can vary significantly from region to region due to uneven availability of scrap and to the lack of an adequate domestic transport facility for raw materials.

As a consequence of all these factors, China's BOF mills are thinking about increasing the scrap share of its raw material intake this year; this proportion has recently been around 17%, which is already higher than in 2003/2004. At present, large volumes of scrap from Russia and Kazakhstan are entering western China by rail as this region is thousands of miles from the ports. Imported CIS scrap (mainly high-quality A-3 scrap) tends to match Chinese qualities more closely than EU or even US scrap. Chinese mills buy three different types of material: 'heavy' scrap of more than 10 mm thickness, 'medium' scrap of 6-10 mm; and 'light' scrap of less than 6 mm.

These traditionally cheap imports from CIS countries are said to be the reason behind a significant fall in scrap prices in western China.

The USA remains the chief scrap exporter to China, mainly in the form of shredded, and prices have remained firm due to continued strong demand. In April, the Chinese imported shredded scrap prices were stable in the range US$ 270-280 per long ton fob US West Coast, although they were slightly higher at US$ 280-290 in February this year.

tonnes HBI and 4.6 million tonnes DRI. Global production of sponge iron rose 9.3% in 2004 to 54.1 million tonnes: in the first quarter of 2005, world DRI production increased by more than 11%.

Price increases of 71.5% for iron ore and of around 90% for fine ores (Fe content around 62-65%) have been accepted by most purchasers except the Chinese - by far the world's largest ore importers - who will have to import over 280 million tonnes in 2005 compared to 208 million tonnes last year. Total ore demand in China will be in the range of 580 to 600 million tonnes.

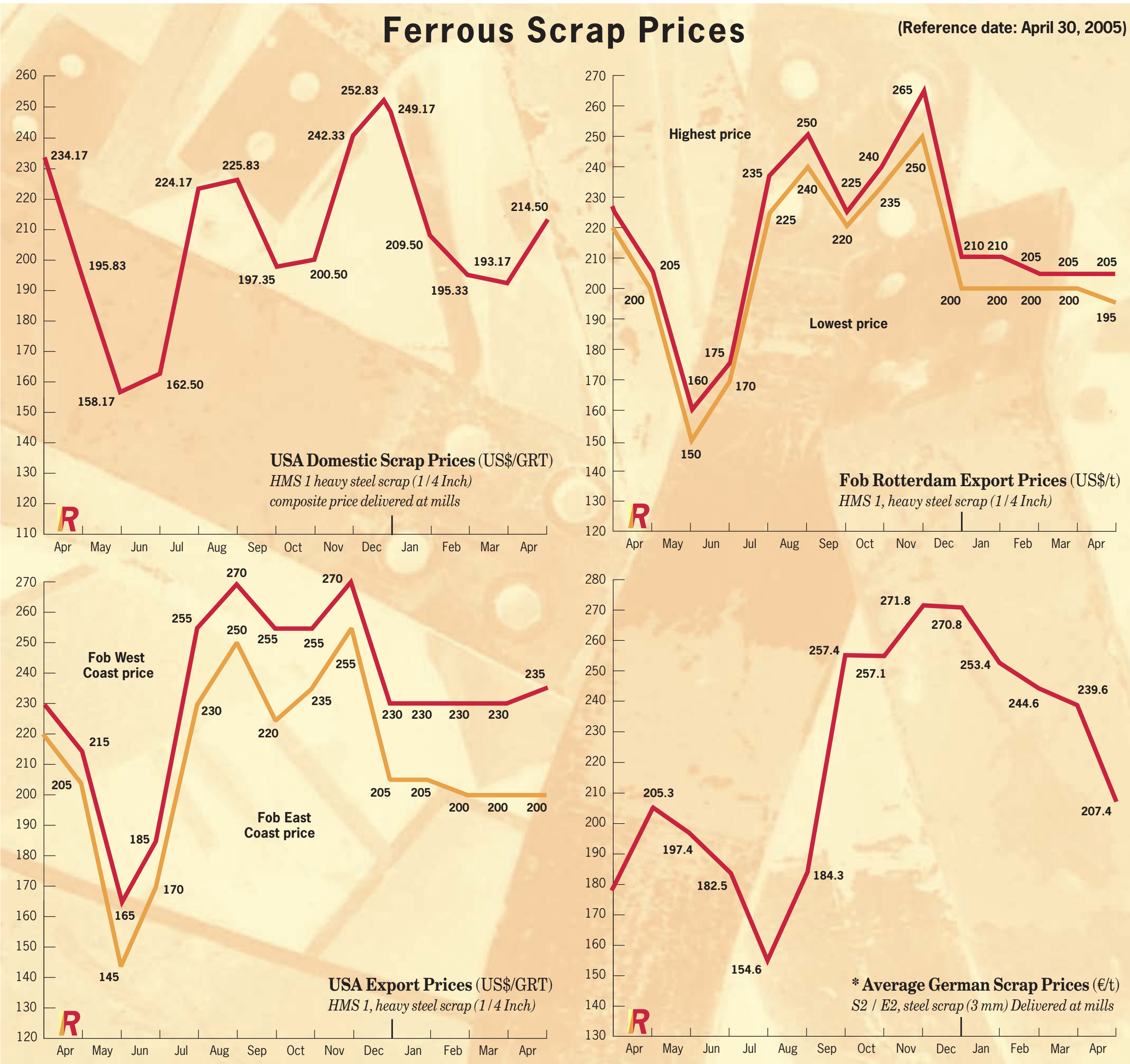
But on the free market where short-term rather than annual contracts come into play, the first crackdowns have been signalled. India's spot iron ore export prices have recently dropped by some US$ 10 per tonne. Fines prices from India also fell and are now around US$ 85 cfr China or even lower.

Sea-borne ore tonnage rose 12% in 2004 to just over 600 million tonnes. China still has around 35-40 million tonnes of iron ore in stock at its harbours due in part to now-justified speculation. However, the stock situation also follows on from still-severe port congestion caused by the arrival of too many ships and the lack of railway wagons to ship ore to its final destinations. Some sea-going vessels have had to wait up to nine days before being unloaded, a costly affair in view of rates of around US$ 70 000 per day for a Capesize ore tanker.

Conclusion

The scrap market is still weak as the main scrap importing countries have abstained from the market or bought only on a hand-to-mouth basis for April and May. However, there is room for slight optimism as the gap between scrap prices and those of pig and sponge iron is much greater than normal due to the spectacular rise in iron ore prices - and consequently also of pig and sponge iron prices - and ever-rising energy costs. That said, high energy costs work to the detriment of mini-mills given their huge demand for electricity.

The first signs of Japanese and US electric arc furnace operators switching from pig/sponge iron to a higher scrap input have already been evident. Therefore, the scrap market must recover sooner or later, provided of course that the steel market does not collapse but instead manages to maintain its high price levels. □



Nickel & Stainless

Closed May 2 2005

By Alfred Nijkerk et al

Nickel price continues to ebb and flow

The nickel price has been rather volatile this year, falling below US$ 15 000 before climbing above US$ 16 000 again at the end of April. Of course, this ebb and flow has also created unstable stainless steel scrap prices. Too many factors are influencing the nickel price to make it possible to forecast the longer-term market direction. The average nickel price last year was US$ 6.28 per lb.

On April 12, three-month LME nickel reached US$ 16 255 and then promptly fell US$ 1005 the following day. True to current form, however, the price then gradually improved to beyond US$ 16 000 at the end of April.

Climbing then falling stocks, fund hedging, Russian production figures, the volatile exchange rate between the US dollar and the Euro - all these and a range of other factors have made it very difficult for stainless steel scrap traders to establish policies for purchasing 304 or 316 scrap.

In the final week of April, stainless steel prices softened somewhat in South East Asia in the face of modest-to-poor demand.

Chrome steel scrap prices are also fluctuating but, understandably, to a lesser extent. However, ferritic 17% chromium prices did not fall below US$ 4000 per tonne as some South African analysts had predicted. On May 2, the Rotterdam 18/8 (304) scrap price stood at US$ 1630 per tonne and the 316 scrap price at US$ 2280. The ferritic 430 (17% chromium) price is currently around US$ 410 per tonne while 409 (13% chromium) is around US$ 360.

As demand for chromium is continuing to grow and prices could rise substantially, chromium scrap is expected to be on the up in this or the following quarter. The pure chromium price is expected shortly to break through the ‘magic’ US$ 7000 per tonne barrier due to tightness of material and high demand.

Global stainless steel production rose 7.5% last year to 24.6 million tonnes. Chinese production increased by a third and the country is expected to remain the world’s third largest stainless consumer for the fifth consecutive year in 2005, with output of nearly 5 million tonnes compared to 4.47 million tonnes in 2004. China’s stainless production rose from 3.2 kg per head per year in 2003 to 3.5 kg last year.

The majority of molybdenum oxide buyers seem to be covered for the month of May and have paid around US$ 33-34 per lb at the end of April. However, the market is said to be very tight as almost all molybdenum mines in north-east China have been closed for environmental reasons. Local authorities suspended mining last October after a number of accidents.

Ferro-molybdenum prices have crept up slowly and, at the time of writing, are just above US$ 80 per kg. Ferro-vanadium prices have remained in the US$ 122.50-130 per kg range and vanadium pentoxide at above US$ 25 per lb.

Ferro-tungsten could profit from the rise in tungsten ore prices resulting from a shortage of Chinese material. Purchasing prices in early May are around US$ 35 per kg but insiders expect somewhat higher levels during the course of the second quarter.

Europe

The nickel market has been stable at high levels for some time and events in April provided no exception. However, German traders are viewing this market with some scepticism; according to a survey conducted by German metal trader organisation VDM, 40% of its members expect nickel prices to remain unchanged, 9% think they will rise even further and 20% expect them to drop.

Nickel demand in Europe is still high, stocks are very low, and supply is falling. However, many analysts believe nickel has been overrated for a long time and do not rule out a downward price correction. A key factor will be the stainless steel production sector, which accounts for some two-thirds of nickel consumption. However, experts disagree on likely trends in an industry which is currently producing at full capacity.

In Germany, nickel cathode prices have risen by some US$ 150 from April levels to reach US$ 16 130, whereas alloyed scrap prices have sustained a slight fall. VA2 (316) alloyed scrap has gone down to US$ 1650 while V4A (316) was recently fetching US$ 2289.

Developments elsewhere have been in line with those in Germany. In France, INOX 18/8 scrap was recently yielding US$ 1608 while INOX 316 scrap was trading at US$ 2140. In The Netherlands, both INOX 18/8 and INOX 316 scrap were trading recently at around US$ 1620 and US$ 2250 respectively.

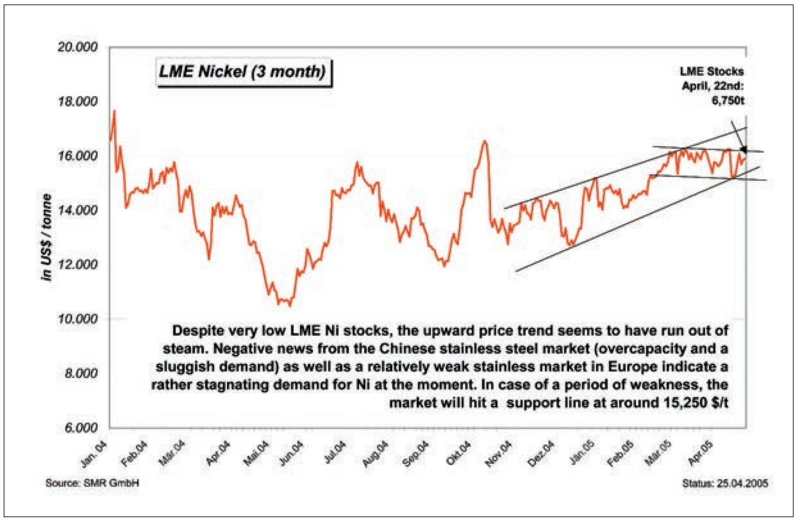
Asia & Pacific Rim

While average nickel prices were relatively steady in April compared to March, weaker finished stainless steel prices in South East Asia and Europe have put Sabot prices under pressure. Most of the recent market activity surrounding Sabot has been in the Far East and China because other markets have not been as competitive. The Far East markets have also been more competitive for higher-grade stainless scrap.

Sabot prices are likely to come under further pressure due to lower steel scrap prices.

North America

The International Nickel Study Group sees the market nearing balance this year. As for latest US export figures, these reveal that the USA shipped overseas some 84 745 tonnes of stainless steel scrap in the first two months of this year - 29% more than in the corresponding period of 2004. By contrast, US alloy steel exports dipped 3% lower over the two comparative periods to 134 635 tonnes. □



Non-Ferrous

Non-ferrous sector still finds reason for optimism

A survey conducted by the German metal traders association VDM has found that 70% of its members expect demand to stay at current levels or to weaken slightly, while around 40% believe prices will rise over the next six months. Of relevance to the metal markets in general, US economic growth in the first quarter indicated an annual rate of 3.1% compared to 3.8% in the fourth quarter of last year. Although this was the lowest rate registered since the 1.9% seen in the first quarter of 2003, US delegates to the Institute of Scrap Recycling Industries' recent annual convention were far from down-hearted.

Closed: May 2 2005

Europe

Copper remains in good shape

Aluminium

LME aluminium prices fell slightly in April: three-month high-grade material stood recently at US$ 1835 while aluminium alloy prices were around US$ 1645. During the last four weeks, LME aluminium stocks have dropped by a further 20 000 tonnes while alloy stocks were down recently at 44 440 tonnes.

In Germany, the primary aluminium 99.7 price slid from US$ 2194 to US$ 2081, while wire scrap (Achse) was recently fetching US$ 1892, some US$ 80 below the level of four weeks earlier. Aluminium turnings (Autor) have lost some US$ 30 to trade at US$ 1331.

UK aluminium scrap prices have been relatively stable with commercial pure cuttings rising from US$ 1536-1613 to trade at US$ 1570-1647, while mixed alloy/old rolled cuttings jumped some US$ 20 to US$ 1091-1130. Commercial turnings also rose slightly to US$ 996-1005.

In France, both new pure aluminium scrap and first-quality old rolled aluminium scrap have lost some US$ 50 recently to stand at, respectively, US$ 1907 and US$ 1297.

Copper

The red metal remains in good shape, with LME three-month grade A prices rising from US$ 3249 to US$ 3263 over the last four weeks. LME stocks have fallen again and were recently down around the 60 000 tonnes mark. Copper demand has improved considerably from Asian countries in particular, although traders are suggesting this trend applies mainly to high-grade material.

In Germany, bright wire scrap (Kabul) prices have risen from US$ 3195 to US$ 3209, while copper granules 1 (Kasus) were recently yielding US$ 3300. Prices of non-alloyed bright wire scrap (Kader) have gone up by US$ 10 to US$ 3072. In similar vein, the UK No 1 bright wire (Ordinary) price has risen by some US$ 70 to US$ 2948-3044 while copper granules 98% have advanced from US$ 2650-2708 to US$ 2719-2776.

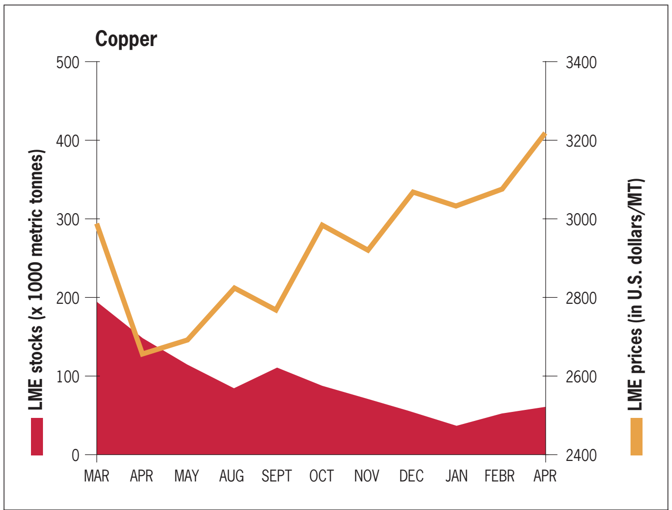
French prices have remained largely unchained, with No 1 bright wire scrap standing at US$ 3243 and mixed scrap at US$ 2879.

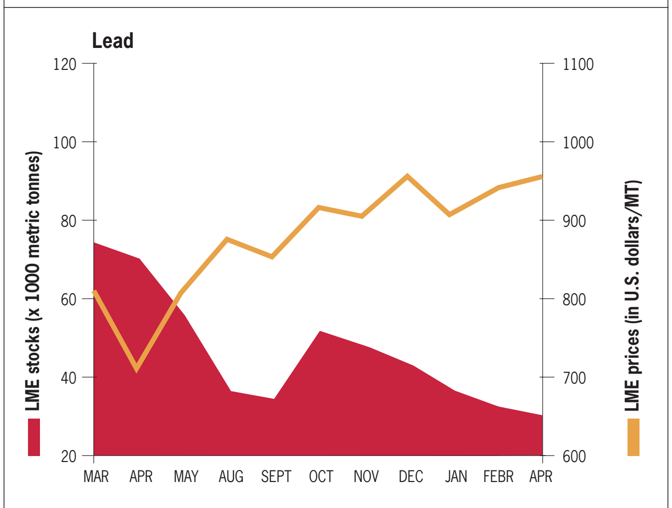
Lead & Zinc

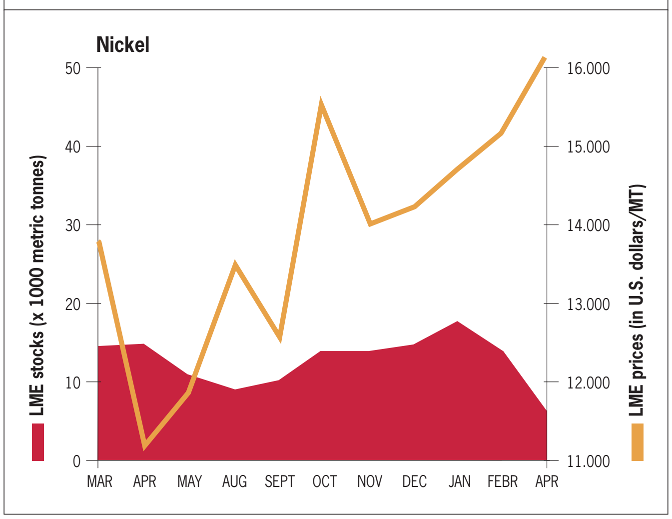
Despite recent falls, lead prices are continuing at high levels and the mood in the market has remained positive. LME three-month lead prices were recently around US$ 947 - some US$ 20 more than in mid-March. LME stocks have continued to fall and are down to critical levels in European warehouses. Demand within the lead market remains positive and forecasters are predicting that lead could be in very short supply in Europe before the end of the year. It is contended that, by September at the latest, lead supply problems will worsen as a result of rising demand for lead to be used in the production of car batteries ahead of the winter season.

In Germany, recent weeks have brought a revival in the lead business although buyers are generally ordering against short-term needs with deliveries up to early July. New soft lead prices recently stood at US$ 1187 - slightly down from US$ 1213 in April - while soft lead scrap (Paket) has also dipped from US$ 815 to US$ 789. Lead prices have been reasonably stable in the UK, with soft lead traded at between US$ 536 and US$ 555. In France, old lead scrap has slipped US$ 9 to US$ 830 while soft lead scrap prices have been stable at around US$ 856.

Given the significant decline in LME stocks and other positive fundamentals, zinc prices are expected to remain at high levels over the coming months. That said, recent weeks have brought a slight decline in zinc prices and, as a result, trading has been more robust than before. In Germany, high-grade zinc prices have slid from US$ 1524 to US$ 1409, while old zinc scrap has







dropped from US$ 948 to US$ 861. In France, meanwhile, old zinc alloy scrap fell from US$ 925 to US$ 869, while hard spelter zinc has lost some US$ 70 to trade recently at US$ 908.

Although prices are still at high levels, these recent falls may induce zinc processors to restock. In contrast to other base metals, zinc buyers generally purchase on a long-term basis and contracts for the second half of this year or for deliveries in 2006 have already been sealed. Obviously, the zinc processing industries are expecting prices to rise again and are therefore looking to build up supplies.

Asia & Pacific Rim

Still hopeful of duty withdrawal

Aluminium

Statistics show that Chinese exports of primary aluminium fell to 77 000 tonnes in February from 114 000 tonnes in the previous month, a decline attributed primarily to the Chinese New Year holidays. Exports in March, however, showed a sharp increase to around 140 000 tonnes while production remained around 590 000 tonnes. China's domestic primary aluminium prices are substantially below the international level and therefore, despite the imposition of export duties, overseas shipments of primary aluminium are expected to remain strong over the next few months.

Those involved in the Chinese market are hopeful that the recently-imposed 5% export duty will be withdrawn shortly. If this proves to be the case, the move will likely give a boost to secondary aluminium ingot exports. The bulk of the demand for secondary aluminium scrap, however, has come from the Far East and from elsewhere in the region. High steel production throughout most of Asia continues to benefit deox producers.

Demand for higher-grade extrusion scrap has also come mostly from the Far East, South Asia and South East Asia, although some business has been concluded in China. Contrary to the trend evident for most of the other forms of aluminium scrap, demand and prices for Zorba were strong throughout most of April but have recently shown signs of softening.

Copper

An increase in the availability of concentrates has helped to bring down copper cathode premiums on the spot market. Far Eastern demand for high-grade copper scrap has remained largely steady. A few grades are trading at small premiums but prices are mostly at flat LME levels.

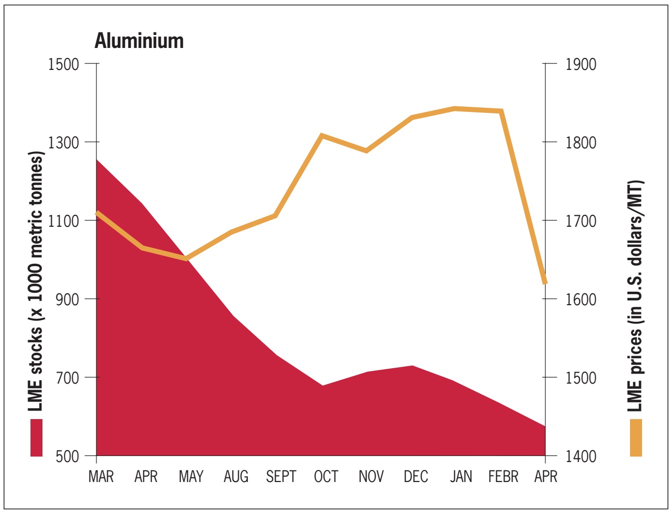
In sharp contrast, prices for No 2 copper have been very strong in the Far East as well as in China. Chinese demand for Birch/Cliff has improved substantially due to restocking as well as speculative buying which resulted in a narrowing of discounts during April. However, market activity has slowed recently in the run-up to the long labour week holidays of early May.

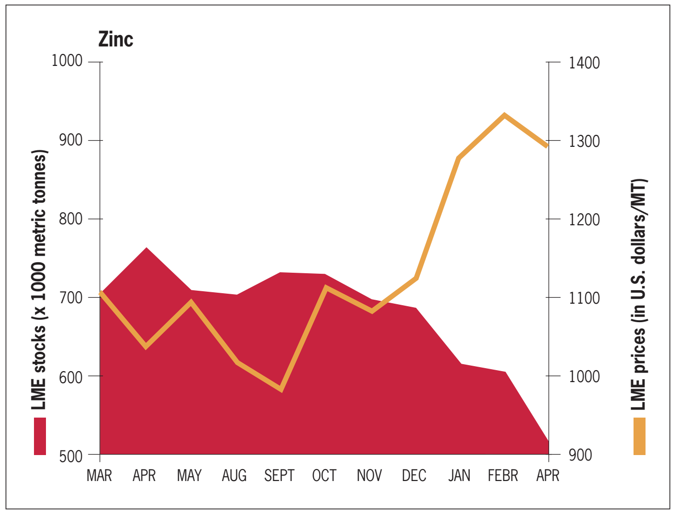
In China, consumption of finished brass goods appears to be strong and brass scrap continues to trade at historical highs throughout the region. In India, meanwhile, prices for brass scrap have been as strong as those prevailing in China, while the latter country continues to offer the strongest market for low-grade copper scrap. While prices for electric motors have fallen by around US$ 20-30 per tonne owing to lower steel scrap levels, prices for insulated cables have remained reasonably steady in China.

Lead & Zinc

High LME lead prices and lower demand from end users have put lead premiums under pressure. In addition, there has been an increase in supply from China which has resulted in premiums for primary lead falling by US$ 10-20 per tonne, while premiums for antimonial lead have dropped recently by US$ 20-30 per tonne. A number of battery manufacturers in South East Asia and Australia have recently indicated their intention to implement production cutbacks as they have been unsuccessful in passing on cost increases to end users.

Zinc premiums, on the other hand, have increased recently due to a number of factors. Zinc concentrate prices have improved on the back of high demand, thereby pushing up premiums for primary as well as alloy zinc. Zinc consumption growth in China has been running recently at more than 12%; domestic prices have risen above international levels, prompting China to become a net importer of zinc for the first time in a long while.





North America

Soaring aluminium scrap exports

Aluminium

The fall in LME aluminium prices was reflected in scrap values towards the end of April. Midwest secondary smelters were talking in terms of 58 and 59 cents for old sheet and cast delivered, while MLCs were around 65 cents and UBCs were fetching some 70-71 cents delivered. Trade feedback suggests scrap consumers were able to satisfy the bulk of their needs during early April and lowered prices in line with terminal market levels. A shortage of supply was highlighted among automotive grades.

At 132 146 tonnes, US aluminium scrap exports were 41% higher in the first two months of this year compared to the same period in 2004. Overseas shipments of remelt scrap ingot increased by 46% to 4122 tonnes while exports of UBCs soared 124% to 1324 tonnes.

Latest statistics show that, in March 2005, Western World aluminium stocks were higher than in February at 3.3 million tonnes. This also represented an increase over March 2004.

Copper

Phelps Dodge is one of the latest major authorities on metals to suggest copper prices should cool during the course of the second half of 2005 once refined metals begin to flow more freely to consumers. Among the analysts, Macquarie Bank believes that the copper deficit will be slashed in 2005 as the pace of production growth will easily outstrip consumption gains; the company predicts an LME cash average of US$ 1.38 for the current year. This compares to predictions of US$ 1.299 and US$ 1.375 from, respectively, Barclays Capital and Merrill Lynch.

Delegates to the ‘Spotlight on Copper’ meeting at the US Institute of Scrap Recycling Industries’ recent annual convention heard from Leanne Baker, Managing Director for North America at Investor Resources Ltd of California, that the copper price average should reach US$ 1.40 for 2005 before falling to US$ 1.20 and US$ 1.00 in, respectively, 2006 and 2007.

Meanwhile, figures outlining US exports of copper scrap underline a now-familiar trend. If one includes Hong Kong, China accounted for almost 70% of all US exports of copper scrap in the first two months of 2005. However, the overseas shipments total of 91 842 tonnes was 11% lower than the 102 816 tonnes recorded in the same period last year. China took a total of 62 980 tonnes, with leading exports including 15 797 tonnes of No 2, 10 084 tonnes of mixed copper scrap, and 6415 tonnes of No 1 bare bright.

Latest reports from the trade point to some ‘aggressive’ offshore copper scrap buying of late. As for domestic copper buyers, many appear to be in a similar position to their aluminium counterparts in that they have been finding sufficient supply to meet their needs.

Lead & Zinc

At the recent 2005 Convention of the US Institute of Scrap Recycling Industries in New Orleans, guest speakers at the ‘Spotlight on Lead/Zinc’ meeting indicated that the fundamentals for both metals appeared promising for the current year and beyond. According to Dick Amistadi, a consultant with Hammond Lead in North Carolina, refined lead supplies would remain tight this year. Meanwhile, Bill Kalogerakis of Canadian metals giant Noranda expected zinc consumption to slow but said supply would remain tight owing to a dearth of new mine developments. Analysts’ latest deliberations suggest a zinc price range for 2005 of 51 to 65.80 cents.

The International Lead and Zinc Study Group (ILZSG) poits to stable US lead demand; worldwide, however, the organisation is predicting demand of 7.25 million tonnes this year compared to global production of 7.09 million tonnes. ILZSG is also anticipating a deficit of approaching 200 000 tonnes in the global zinc market. □

Contributing to the Non-Ferrous Metals Market Analysis:

- * Ralf Schmitz, German non-ferrous trade association VDM (Europe)
- * Kumar Radhakrishnan, General Manager, International Division of Simsmetal Ltd, Australia (Asia & Pacific Rim)
- * Ian Martin, Recycling International’s Editorial Consultant (North America)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Paper & Pulp

Trade hit by slow economies and container problems

In Europe, volumes have been affected by slow economic activity while demand in Asia for lower qualities of recovered paper is said to have declined of late. The North American markets are expected to remain quiet during May, with one of the key difficulties being to obtain sufficient containers for export business.

Closed: May 2 2005

Europe

Volumes remain low

In terms of the lower grades of recovered paper, volumes have remained very low against a backdrop of slower economic activity. European mills have been taking in their normal amounts for this time of year and maintained stable prices in April at roughly the same levels prevailing in the export market. Demand from various Asian countries - and from China and India in particular - was quite good in April despite fuel and other charges.

Deinking prices in Europe have been similar to export levels. Domestic demand has been reasonable and India has begun to increase its demand owing to the impact of the co-mingled issue. Increasing volumes of middle grades are moving to Far and Middle East destinations while, here too, demand from India has been particularly strong. Demand from European mills has also been relatively good.

Production of recycled fibres has been very slow in the early part of the year, partly because of low activity levels among printers.

Stable market conditions have been reported for the higher grades of recovered paper although a lack of material arriving in merchant processors' yards has led to a considerable reduction in stock levels for many companies. Prices are stable and demand is showing signs of improvement for some grades.

North America

Generally quiet conditions

The North American market for 'brown' grades has been quite sluggish of late. Towards the end of April, the overseas corrugated market appeared to be weakening and prices fell by around US$ 5, although it is too early to say at the time of writing whether this trend will continue.

Domestically, the corrugated market has remained very quiet. For many liner and corrugated mills, production is falling while they still have high inventories of finished goods. There are no signs of an upturn in the packaging sector and these flat conditions are expected to persist in the weeks to come.

No price changes have been seen in the news sector either domestically or for export. Generation has been quite slow but supply is in line with demand so prices have remained stable at a high level. Last year, circulation of newspapers in the USA went down 1.9%.

Demand for the deinking grades such as coated book, white ledger and office paper has weakened slightly both domestically and for export. In April, India and South America still bought large volumes of the post-consumer grades, but currently there is a severe shortage of container availability for shipments to India; vessels were taken out of rotation and other finished goods paying higher freight rates were shipped instead of paper. As a result, orders could not be dispatched in time and this situation is expected to continue throughout May. US traders responded by offering increased tonnages to South America, but prices in this region started to drop by an average of US$ 10.

Domestic demand for pulp substitutes continues to be strong at high prices, with more material finding its way to domestic mills than to export destinations.

On April 1, freight rates to Europe went up on average by US$ 100

Pulp Market Trends

Price erosion in softwood kraft

Pulp suppliers Weyerhaeuser and Arauco have separately lowered their prices for softwood kraft pulp in, respectively, Japan and China.

Weyerhaeuser dropped its price in Japan for northern bleached softwood kraft (NBSK) by US$ 20 per tonne for April business after prices ended March at US$ 560-580 per tonne. It should be noted that producers often have a range of prices in Japan as well as different delivery terms.

Chilean producer Arauco, meanwhile, lowered its bleached radiata pine pulp in China and South Korea. The firm, which recently closed down its Valdivia mill for an unspecified period of time, put its radiata price at US$ 490 per tonne - down US$ 30 on a net CIF basis. In Korea, Arauco dropped its price US$ 20 per tonne for April business.

After NorskeCanada first lowered its NBSK price to US$ 530 per tonne net, several Canadian NBSK producers repeatedly ratcheted down their offer prices to try and garner shipments for May delivery to China. Various contacts noted Canadian NBSK offers at US$ 510-520 per tonne.

Market players expect further price erosion in softwood kraft after worldwide chemical market pulp producer inventories rose by the equivalent of two days' supply in March to close the month at 34 days. March stocks of bleached softwood kraft increased to 34 days of supply while bleached hardwood kraft rose to 32 days - both increases of two days.

These figures countered a 10-year average decrease in worldwide stocks of 163 000 tonnes.

After the monthly report was released, industry contacts said global hardwood prices were likely to remain flat over the next month owing to reduced availability.

There is currently pressure on softwood in Asia and Europe but little talk of any change over the next month in North America.

Worldwide shipments rose 5% from February to total 3.258 million tonnes in March, although it should be noted that the latter month contained three extra shipping days. Shipments decreased 3.4% from the 3.373 million tonnes recorded a year earlier. The shipment-to-capacity figure dropped to 94% from 100% in February.

Prices in North America are not expected to come under much pressure after worldwide shipments totalled 746 000 tonnes in March - up 19.4% from the March 2004 figure of 625 000 tonnes. North American deliveries of 2.12 million tonnes in the first quarter were up 18.7% on the same period of 2004.

Deliveries to Western Europe totalled 1.312 million tonnes in March, down 9.3% from the corresponding period last year. Benchmark NBSK was expected to face pressure from buyers before the end of April. Producers never achieved the full US$ 660 per tonne they had proposed, and two producers recently suggested buyers were likely to try and reduce contract prices against a backdrop of cheaper spot deals.

At the start of May, people are still jockeying for position. Buyers are playing a wait-and-see game because they believe they will probably be able to buy cheaper later in the month.

In Asia, worldwide shipments were mixed. Shipments to China totalled 306 000 tonnes in March - a decline of 4.7% compared to February despite the three extra shipping days. Deliveries to China were 23.7% lower than in March 2004 when shipments amounted to 401 000 tonnes.

European consumer pulp inventories fell by 1.4% in March, according to UTIPULP. Stocks decreased by 17 438 tonnes from 1.227 million tonnes in February to 1.21 million tonnes the following month. Meanwhile, stocks were 95 975 tonnes below their year-earlier level: the figures break down as 30 days' inventories for March, down from 31 days in February and 32 days in March 2004.

Pulp consumption rose by 6.9% to 1.24 million tonnes in March - 4% lower than the 1.292 million tonnes seen in the same month last year.

In rising 2.7%, wood pulp stocks at European ports increased for the third month in a row during March, according to Europulp. Inventories climbed from 1.485 million tonnes in February to 1.526 million tonnes the following month, their highest level since August 2004 when stocks stood at 1.575 million tonnes.

Inventories rose at most of the European ports surveyed last month. The largest increase in percentage terms was seen in Switzerland, where stocks soared 21.1%. But the UK and Spain bucked the trend, with inventories falling by, respectively, 10.4% and 13.4%.

European paper mill order books for April:

Coated woodfree	10-13 days
Uncoated woodfree	8-15 days
Woodcontaining papers	5-17 days

European pulp prices as from April 1 (per admt CIF):

NBSK	US$ 645
SBSK	US$ 600
Radiata	US$ 610
SMHW	US$ 560
NMHW	US$ 570
BEK	US$ 580

and by as much as US$ 150 to some spot markets, which means that shipping lines are basically not interested in cargoes of paper. One reason for this is that many US shipping lines have profitable government contracts for shipping supplies to Iraq. When container availability is lost, this has the effect of shortening up the market.

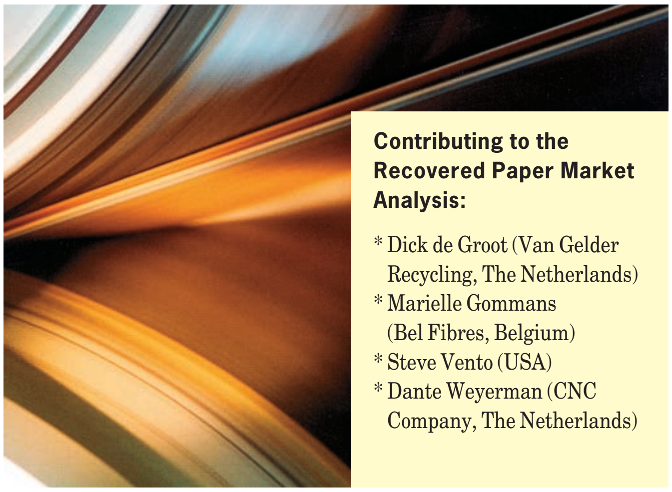
In the coming weeks, prices are expected to remain stable but on the weak side.

Asia

Fall in lower-grade demand

Compared to previous months, demand for lower qualities of recovered paper has shown something of a decline over recent weeks. Shipments to Taiwan have come to a virtual halt because the country is satisfying its recovered paper needs via domestic collections.

Freight rates have been going up on a monthly basis and sales prices have become too high for many buyers. As a result, reductions of US$ 5-10 per tonne have been seen. Meanwhile, the middle and higher qualities of recovered paper are selling at similar levels to previous months and no changes are expected. □



Contributing to the Recovered Paper Market Analysis:

* Dick de Groot (Van Gelder Recycling, The Netherlands)
* Marielle Gommans (Bel Fibres, Belgium)
* Steve Vento (USA)
* Dante Weyerman (CNC Company, The Netherlands)

Textiles

Spring brings surge in volumes

With the arrival of spring, collection volumes in Europe have once again increased to the extent that the recycling sector finds itself under renewed pressure. To make matters worse, African buyers are continuing to ask for highly-fashionable clothing which European consumers are less inclined to discard. In North America, increased generation of originals has been more than offset by strong demand.

Closed: May 4 2005

Europe

The arrival of spring has worsened trading conditions in Europe's used clothing markets. Just as last year at this time, there is currently too much original material on the market, especially from container collections. Compared to the average for the year as a whole, collection volumes are currently 50% higher in many instances.

It goes without saying that Europe's sorting companies do not have the capacity to process these increased volumes. As a result, charitable organisations and commercial collection companies are finding themselves under increasing pressure. It is widely agreed within the European textile recycling industry that these additional volumes can only be mastered via a flexible price policy, eg temporary storage.

Of course, current market conditions have served to squeeze sorting companies' margins even further. It can only be hoped that the volume of original material arising from collections will fall over the coming weeks. If this were to happen, at least supply and demand would be brought into better balance.

At present, demand for sorted used clothing is reasonably stable. Supreme and No1 qualities, if well sorted, are reasonably easy to sell when taking into account customers' seasonal demands.

Demand from African countries is also satisfactory although prices have barely moved in recent weeks. The major problem with Africa remains the fact that customers are increasingly demanding highly-fashionable clothing in their bid to compete with suppliers of cheap new clothing from the Far East. Unfortunately, the proportion of fashionable clothing in original material has been falling for many years - partly because many Western European consumers have refrained from buying new clothes due to lacklustre economic conditions in their own countries and the knock-on effects on disposable income.

As for the recycling qualities, supply and demand are fairly balanced. The same equilibrium also applies to the wiping cloth and bed feather markets.

North America

Generation of original material has increased of late but this has been more than matched by very strong demand, leading to a slight shortage of originals and firm prices. In general, export markets are holding up well although prices are not as healthy as sorting companies would like. The main problem is that customers - and especially those in Africa - are demanding higher qualities to an ever-increasing extent. 'Today, we're not sorting clothes, we're almost manufacturing,' comments Jerry Usatch of Philadelphia-based Dumont Export Corp. 'But if well sorted, I think that the potential is there to sell more high-quality clothing to Africa. We are still selling high-quality polo shirts to Africa or anywhere in the world for, let's say, 25 to 30 cents. Even very cheap new polo shirts cannot match that price or quality.'

American textile exporters are continuing to benefit from the fact that the US dollar remains relatively weak in relation to the Euro. As a result, European exporters have to sell at lower prices to match the dollar price in their bid to maintain market share.

The wiper market remains at a very low level despite a slight improvement which has meant that it is once again possible to make a small profit from sorting this grade. As for recycling grades, the better qualities are still relatively easy to sell but it is a struggle to find outlets for the lower grades.

As reported recently, import taxes in some East African countries such as Tanzania, Kenya and Uganda had been raised by several hundred per cent. However, this situation now appears to have been resolved. Mr Usatch comments: 'I think that pressure from American and European textile recycling trade organisations have had their effect. Import taxes have gone back to normal levels.'

The next month or so is expected to produce no major changes in the North American textile recycling markets. □

Contributing to the Textiles Market Analysis:

* Günther Krippendorf, FWS/Alta West, Germany
* Jerry Usatch, Dumont Export Corp., USA

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IN THE NEXT ISSUE

The June issue of Recycling International will feature:

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World recycling update

During May, more than 800 recycling-minded individuals from over 50 countries - including traders, processors and machinery/equipment manufacturers, as well as representatives from trade associations and from national and international authorities - are expected to gather in Barcelona, Spain, for the latest BIR World Recycling Convention & Exhibition. Recycling International will carry in-depth reports of the event, covering:

* Ferrous metals
* Media & metal separation
* Non-ferrous metals
* Shredders
* Stainless steel & special alloys
* Recovered paper & textiles
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