STOP & GO

WHILE SOME REPORTS AT BIR'S SPRING MEETING OFFERED INDICATORS OF MARKET PROGRESS, MOST DID NOT, FORCING RECYCLERS TO KEEP WAITING—AND HOPING—FOR BETTER TIMES AHEAD.

BY KENT KISER

You see them at most street crossings in Berlin, the *Ampelmännchen*—the green and red "little traffic light men" who signal when it's safe for pedestrians to cross and when they should stop. Those holdovers from the East German Communist era were almost lost to history. When the unified German government sought to replace them with generic traffic-light figures in 1997, a rescue group lobbied successfully to save them, and the figures now are among Berlin's defining symbols.

The *Ampelmännchen* were apt symbols for the market messages in reports at the Bureau of International Recycling's (Brussels) spring convention, held May 30–June 1 in Berlin. A few offered positive signs, such as some price recovery in certain scrap markets, low international freight rates, and modest growth in the U.S. and European economies. Most of the market news was negative, however. Beyond the fundamental problem of excess supply in some primary commodity and product sectors—especially steel, aluminum, and nickel—that speakers identified, they pointed to worrisome factors such as China's decelerating economy, real and potential bans on imports of certain scrap materials, rising corporate debt and insolvencies, the

ALAMY STOCK PHOTO/DOTE BOE PH

Ranjit Baxi

then-looming Brexit vote, and impending new requirements on container weights for oceangoing shipments. Little wonder that BIR President **Ranjit Baxi** of J&H Sales International (London) deemed the recent period "one of the most testing times we've ever experienced."

CHINESE STEEL BUFFETS FERROUS SCRAP MARKET

"Ladies and gentlemen, this is not your father's scrap business anymore," said Ferrous Division President **Bill Schmiedel** of Sims Metal Management Global Trade Corp. (New York) at that division's meeting. As recyclers attempt to figure out the next market direction, he explained, they must consider not just the customary factors of global supply and demand of steel and ferrous scrap, but also monthly exports of semis from China, weekly exports of semis from Russia, currency changes, tariffs, micro- and macroeconomic developments, and social and political machinations. A new factor now is Chinese commodity futures trading activity, particularly on iron ore and rebar. Those new contracts "pose multiple dangers to global commodity prices," he said, noting that the "monetization of commodities on these exchanges is an issue we will have to wrestle with from now on."

Bill Schmiedel

"Tremendous volatility" defined the global steel and ferrous scrap markets in the first five months of 2016, with Chinese billet prices and international freight rates rising and falling significantly in the period, Schmiedel said. China's infrastructure investment was up 19 percent in the first four months, while its real estate investment rose 7 percent and its crude steel production declined 7 million mt. Margins in most steel-producing areas of the world are relatively healthy, with steelmakers able to sell their products with relative ease, he said.

The sharp ferrous price increases in March, Schmiedel noted, "were a response to the fundamental fact that when prices fall below $200 FOB, the basic collection system of our industry breaks down. Therefore, the old adage that 'what does not make sense does not last' took over." The surge in scrap prices did not last long enough to adequately revive the collection system, however, so there's little overhang of material, he said. With all of the global shifts and pressures to consider, Schmiedel summed up the challenges for ferrous recyclers by quoting Yogi Berra: "The future is not what it used to be."

Summing up markets around the world, **Tom Bird** of Mettalis Recycling (Sheffield, England) noted that steel demand in Japan is expected to increase starting in July as construction begins on many infrastructure projects related to the 2020 Olympic Games in Tokyo. Although the Taiwan market strengthened earlier in the year, it has since weakened due to the higher availability and lower prices of Chinese billets, he said. The Indian market was extremely active in late 2015 through February 2016 as the country imported more than 20 deep-sea cargoes in a short period, but its demand has since come to a standstill.

Despite weakening in late May, the European market saw "significant improvement" in previous months thanks to stronger demand from Turkey and a general shortage of scrap supplies, both of which pushed scrap prices higher, Bird said. European recyclers were following closely Tata Steel's likely divestment of its UK steel operations, and Bird noted the recent deal between Chiho-Tiande Group (Hong Kong) and Scholz Group (Essingen, Germany), marking "the first time a Chinese company has taken an interest in a European company," he said. "It will be interesting to see how that pans out over the coming months."

GLOBAL ECONOMIC WORRIES ABOUND

Jason Schenker

Guest speaker **Jason Schenker** of Prestige Economics (Austin, Texas) offered precious little good news for BIR attendees on the global economic front. According to the International Monetary Fund, he noted, global GDP contracted last year and will grow 3.2 percent in 2016—but the IMF is known for scaling back its predictions in challenging economic times. If the IMF reduces its forecast below 3 percent, that's bad news because that level is considered recessionary, he stated.

Global GDP projections aside, "the conversation with *everything* begins and ends with China," Schenker said, noting that it's in an ongoing manufacturing recession, and its projected 6.5-percent GDP growth in 2016 is "pure fiction." The key indicator to watch from China is its purchasing manager index, he added, which has shown contraction in China's manufacturing sector for 15 of the past 17 months.

Similarly, the United States is experiencing an industrial recession, with additional recessionary signs in retail sales, housing starts, and consumer confidence, Schenker said. The U.S. dollar—which likely will remain strong—is "really weighing on the U.S. economy," he said, but he pointed with special concern to the rising bad debt level in the oil and gas sector, calling that trend "a really big problem."

There are a few rays of encouragement in the market, such as modest expansion in the eurozone and U.S. economies as well as solid gains in the U.S. job market, Schenker said, but the worrisome factors—including the likelihood of another U.S. recession by the end of 2016—overshadow the positive trends.

Germany's domestic steel scrap supply was roughly 21 million mt in 2015—down from 22.4 million mt in 2014. It exported 7.9 million mt of steel scrap in 2015 and imported roughly 4.6 million mt, noted **Daniela Entzian** of BDSV (Düsseldorf, Germany) at the International Environment Council meeting. On the consumption side, German steelmakers and foundries purchased 17.7 million mt of steel scrap in 2015, down from 18.1 million mt the previous year, she said. Given the lower demand and softer prices, the German steel scrap industry saw its revenues decline from €16 billion in 2014 to €11.7 billion last year. In the medium term, the price and margin situation for German steel scrap recyclers looks "not so easy," with ongoing competition from primary raw materials and semifinished steel products, such as Chinese billets, as well as rising costs due to tougher regulatory requirements, Entzian said.


Daniela Entzian

Russia has shown solid demand for scrap and finished products on the domestic and export fronts, and there's no problem with domestic scrap collections, Bird said. Ukraine, in contrast, imposed an export duty of €30 a ton on steel scrap, which has stopped export shipments while giving its steelmakers a cost advantage on their scrap purchases.

For the remainder of 2016, Bird told recyclers, expect a quiet but stable market and keep the recent decline in scrap prices in perspective. "Our industry has a short memory," he said. "Prices used to be below $200 a ton, and it was quite a surprise for the market to break $300."

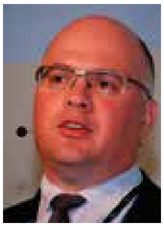
Rolf Willeke, BIR's ferrous statistics adviser, presented key figures from the seventh edition of BIR's *World Steel Recycling in Figures 2011-2015*. World crude steel production declined 2.9 percent in 2015, to 1.62 billion mt, he said. Global steel scrap consumption decreased 5.1 percent, to 555 million mt, and scrap's ratio in the melt slipped from 35 percent in 2014 to 34.2 percent last year.

A similar story played out in global steel scrap trade, which fell almost 13 percent, to 86.8 million mt, Willeke noted. Although Turkey remained the largest importer of steel scrap in 2015, it trimmed its purchases almost 15 percent, year on year, to 16.3 million mt. India's steel scrap purchases rose almost 18 percent, to 6.7 million mt, making it the second-largest scrap importer. It moved ahead of South Korea, which reduced its imports 28 percent, to roughly 5.8 million mt, from 2014 to 2015, he said.

Countries in the EU-28 block together exported the most steel scrap in 2015, 13.7 million mt, but that was almost 19 percent less than in 2014, Willeke said. The United States was the second-largest exporter of steel scrap, shipping almost 13 million mt (down 15.4 percent), and Japan was third, shipping 7.8 million mt (up almost 7 percent), he noted.

OVERSUPPLY, CHINA'S DECELERATION PLAGUE NONFERROUS

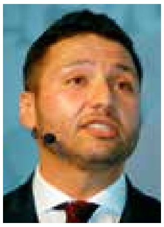
Although demand for nonferrous metals is "quite robust," prices continue to underperform because supplies have been much higher than expected, said guest speaker **Eugen Weinberg** of Commerzbank (Frankfurt am Main, Germany) at the Non-Ferrous Metals Division meeting. "The overcapacity in the mining industry is the most important reason for lower prices," he stated. Zinc is the only nonferrous metal that has seen its price rise significantly since the beginning of the year, primarily because its mining sector has posted the largest declines, Weinberg said. The general overcapacity situation also is making deflation a "big concern," he said, noting that "no banker has the recipe for how to fight deflation."


Eugen Weinberg

While China still has significant economic power, its power is diminishing, and its economy likely will be more unpredictable and more volatile going forward, said Eugen Weinberg of Commerzbank.

China's decelerating economy is another factor behind the ailing fortunes of nonferrous metals, Weinberg said. For years, China benefited by linking its currency to the weak U.S. dollar, but the stronger dollar has made its goods more expensive on the world market, he explained. In addition, China has experienced "massive amounts" of capital flight and faces ongoing problems with corruption and environmental degradation. While China still has significant economic power, its power is diminishing, and its economy likely will be more unpredictable and more volatile going forward, he said.

Offering additional big-picture market observations, **Murat Bayram** of EMR Germany (Hamburg) said excess capacity in the scrap recycling industry is leading to consolidation, with some companies merging and others going out of business. Recent market conditions have raised many concerns regarding overall corporate liquidity, credit, and insolvencies, with the biggest worries in Brazil, China, Taiwan, Singapore, and Hong Kong. In Western Europe, he noted, the percentage of uncollectable receivables has increased from 0.7 percent in 2014 to 1.3 percent in 2016. In the future, he said, Iran could become a promising market for base metals thanks to its population of 79 million people, 55 percent of whom are below age 30.


Murat Bayram

SUPPLY WEIGHS HEAVY ON NICKEL

If the nickel market has an Achilles' heel, it's the vast amount of metal in reported and unreported stocks—as much as 1 million mt, said **Salvatore Pinizzotto** of the International Nickel Study Group (Lisbon, Portugal) at the Stainless Steel & Special Alloys Committee meeting. Excess supply has dogged nickel for much of the past nine years, Pinizzotto noted: The world primary nickel balance has had a cumulative surplus of 686,500 mt from 2007 to 2015, with only 2010 and 2011 experiencing supply deficits. In 2015 alone, the nickel market had a 92,000 mt surplus, although the market was essentially in balance in the first quarter of 2016, he said.


Salvatore Pinizzotto

Stainless steel production—which takes in 68 percent of global nickel—totaled 41.5 million mt in 2015, down less than 1 percent from the previous year. China, which produces roughly half of global stainless steel, saw its stainless output decline, albeit slightly, for the first time, Pinizzotto noted.

World primary nickel use has shifted significantly to Asia, with China's stainless production serving as the principal driver. Whereas Asia consumed 45 percent of world nickel in 2005, with China claiming 15 percent of that share, by 2015 Asia used 70 percent of world nickel, with China taking 52 percent of that total, Pinizzotto said. Asia produced 21 percent of the world's primary nickel in 2005, with China's share at 8 percent; by 2015 Asia's share was 44 percent, of which China's portion was 30 percent.

INSG forecasts that global primary nickel use will increase 3.8 percent in 2016 while nickel production will decline 3.5 percent, possibly yielding a 50,000 mt deficit for the year, Pinizzotto said. The key for nickel going forward, however, lies in reducing its stock levels, he said.

The stainless meeting also had a panel discussion with Pinizzotto, guest speaker **Jason Schenker** of Prestige Economics (Austin, Texas), and moderator **Barry Hunter** of Hunter Alloys (Boonton, N.J.). In their discussion of the stainless market, nickel pig iron, and ferrochrome supply dynamics, Pinizzotto called it "worrying" that he does not see many new developments in stainless production outside of China. Indonesia is the only country planning new stainless melt shops. In Europe, melt shops are closing, he said, and in the United States, some mills are rethinking their production plans, opting to produce only nickel alloys rather than stainless steel.

Various proposed tariffs on China's stainless shipments raised more questions than answers. Would such tariffs force China to trim its stainless production? Would it maintain production but use its metal domestically? Or would it absorb the tariffs and continue to sell internationally?

QUALITY A COMMON THEME IN PAPER MARKET REPORTS

Given the BIR meeting's setting, it wasn't surprising that much of the Paper Division meeting focused on the German papermaking and recycling markets. The German paper industry consumes about 16.6 million mt of recovered paper a year to make about 22 million mt of paper and paperboard, said **Stefan Geibel** of Veolia Umweltservice Wertstoffmanagement (Hamburg, Germany). Its domestic collections total about 15.1 million mt, so it must import additional fiber to meet its needs, and its imports continue to rise. In 2001, Germany imported 1.6 million mt of recovered


Stefan Geibel

fiber; by 2014, that total had risen to 3.9 million mt. In contrast, its exports of recovered fiber are declining—from 3.9 million mt in 2001 to roughly 2.4 million mt in 2014.

The German paper industry is undergoing consolidation, primarily among medium-sized, privately owned companies rather than large corporations, Geibel said. In addition, as Germany's production of graphic papers declines, its production of packaging grades is increasing, prompting mills to convert more and more graphic paper lines to packaging lines.

Going forward, fiber quality will become increasingly important, Geibel said, noting that the quality of secondary fiber in Germany already is declining. Whereas currently German paper can be recycled seven or eight times, within five years that will decline to two or three times, he said.

In addition to facing slower economic conditions, especially in China, German collectors and packers face lower collections, said Paper Division President **Reinhold Schmidt** of Recycling Karla Schmidt (Haren, Germany). Some of the decrease is due to less generation of certain grades—such as graphic papers—based on structural changes in the paper market. "Our companies are under very high economic pressure that doesn't leave a lot of room for further deterioration," he stated.

Looking at the Asian market, Baxi took every opportunity to mention quality, which he said "is really getting more and more important." China is scrutinizing the quality of imported fiber, he noted, and it has drafted specifications for its domestic scrap paper that are as tough as the specs for imported scrap paper. Over time, China's rising domestic collections will affect its need for imported fiber, he said.

In 2015, China's imports of scrap paper increased 5.4 percent over its 2014 totals, to 28.86 million mt, but the 2015 figure is down almost 9 percent from China's 2013 import level of 31.65 million mt, Baxi said. European shipments to China increased 17 percent, year on year, to 8.88 million mt in 2015, which he said was proof that "we Europeans are focusing on quality better now, and our fiber is coming in demand. Until or unless we keep doing that, we will lose the market." American shipments to China in 2015, meanwhile, were essentially unchanged from 2014, at 14.44 million mt. In the first quarter of 2016, European scrap paper shipments to China inched up 2 percent, to 2.1 million mt, while American sales increased 15 percent, to roughly 3.6 million mt, compared with the first quarter of 2015, Baxi said.

Turning to North America, guest speaker **Bill Moore** of Moore & Associates (Atlanta) noted that paper and paperboard production in the United States and Canada has declined from 101.74 million mt in 2002 to a projected 86.75 million mt in 2016, mostly at the expense of newsprint and wood-free printing and writing grades.


Bill Moore

As with European mills, more North American mills are converting graphic paper lines to containerboard operations, reflecting the changing demand for those grades, Moore said. This shift is boosting demand for OCC, forcing recyclers to go beyond the low-hanging OCC sources to other generators, such as small businesses. OCC is the most recycled U.S. paper grade, he noted, with a 67 percent share of the paper recycling pie in 2014. ONP has seen the largest decline over the years, slipping to 7 percent.

Mixed paper is a dangerous grade in the United States in terms of its potential downside, Moore said, in part because America generates such a large volume of that grade and could easily slip into oversupply. The grade also has quality concerns regarding fiber length, nonpaper contaminants, and yield loss at mills, which also can face significant capital expenditures to consume the grade.

The ONP market, meanwhile, is even worse in the United States than in Europe, Moore said. "[Mills] can't shut down newsprint machines fast enough to reduce capacity." The lower supply of ONP and its use in paperboard, however, keep its recovery rate high and put upward pressure on its price, he noted.

U.S. deinking high grades—66 percent of which go into tissue production—are popular in the export market. India is the largest buyer, taking 23 percent of these exports, with Canada in second place, taking 14 percent, and China and Mexico tying for third, each taking 13 percent, Moore said.

Echoing Baxi, Moore stressed the

NO VGM, NO EXPORT SHIPMENT


John Paul Mackens

As of July 1, 2016, the International Maritime Organization will begin enforcing the International Convention for the Safety of Life at Sea, or SOLAS, which requires all shippers to provide the verified gross mass of each packed container, noted **John Paul Mackens** of Kuehne + Nagel (Hamburg, Germany) at the Paper Division meeting. If the shipper does not provide VGM information, then the container should not be loaded onto the ship. "No VGM means no export shipment," Mackens said. He reviewed two methods shippers can use to calculate a container's VGM, which consists of the cargo's weight, the container's tare weight, and any packing/securing materials. The customer, not the freight forwarder or carrier, is responsible for establishing a correct VGM, he explained. Commenting on the impending deadline for meeting these requirements, BIR President Ranjit Baxi warned that "the world is living in a state of denial regarding SOLAS."

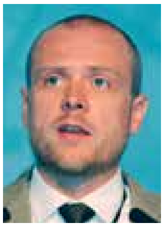
importance of fiber quality. "The key question on quality," he noted, "is who is going to pay for it?" The U.S. trend is to push the cost back on the paper generators—"and they seem to be absorbing it." At the same time, he observed that "the sustainability movement has taken hold so strongly that people recycle no matter what the price of the commodity is, and therefore we stay stuck in the bottom of the pricing cycle longer."

OF PLASTIC BANS, REAL AND POTENTIAL

News about bans on imports of scrap plastics—both proposed and imposed—headlined the Plastics Committee meeting, with the group's chairman, **Surendra Borad** of Gemini Corp. (Antwerp, Belgium), reporting on India's decision in April to ban such imports. This decision will have "some repercussions in the market," he said, because India is a growing consuming and manufacturing economy that needs raw materials. Fortunately, India has allowed containers of plastic scrap shipped prior to its decision to clear customs, Borad said, while material loaded after its decision can be unloaded, but the importers cannot process the material until further notice.

The Plastics Committee meeting also was abuzz about the possibility of a similar ban in China, but **Steve Wong** of Fukutomi Co. and the China Scrap Plastics Association, both in Hong Kong, said China most likely will not impose such a ban for at least two years, according to his sources. That said, China is cracking down on plastic recycling operations that don't have the best environmental performance, he noted. In a report Wong submitted to the *BIR World Mirror* on plastics, he explained that "the plastics ban idea is perceived to be a move to align with state environmental protection policy against industrial pollution [because] recycling of waste plastics is suspected of being one of the sources of such pollution. In the eyes of the government, deterioration of the environment through pollution in China is now top of the list of issues to be dealt with."

A good portion of the Plastics Committee meeting focused on the state of the ocean shipping industry, with **Thorsten Diephaus** of Panalpina Welttransport (Deutschland) (Hamburg, Germany) noting that freight rates in 2015 returned to lows last seen in 2009. Excess hauling capacity and weak demand in "all core trades" forced carriers to offer "very low rates," hurting their bottom lines, he said. Carriers' operating margins, in fact, have been negative since the second quarter of last year, slipping to -5.9 percent in the fourth quarter—and the first quarter of 2016 was even worse, he said.



Thorsten Diephaus

According to Diephaus, the ocean shipping industry will see "huge operating losses" in 2016, which could prompt them to take cost-reduction steps such as reducing free time at origin and destination stops and imposing new surcharges. He explained how the industry has shifted its alliances among carriers, with the current four alliances among 17 carriers shrinking to three alliances among 12 carriers in 2017. These market changes could mean fewer carriers involved in East-West traffic, which could affect pricing. "We do expect rate increases," he said, "but it's uncertain when." Going forward, he added, the interest in hauling scrap commodities could differ significantly from carrier to carrier. In his view, these negative market conditions for ocean shipping could continue "at least until 2017 and possibly into 2019."

DIM PROSPECTS FOR TTIP TRADE DEAL

Christian Bluth

Although the proposed Transatlantic Trade and Investment Partnership between Europe and the United States could yield "very substantial economic benefits," public opinion and the current turbulent U.S. political situation could "undermine the prospects of this trade deal," said **Christian Bluth** of Bertelsmann Stiftung (Gütersloh, Germany) at the International Trade Council meeting.

The TTIP represents "a trade deal of a new kind" that is "no longer about just lowering tariffs," Bluth said. The "big idea" behind TTIP is to address nontariff barriers to trade—such as trade policy elements and regulations—and thus "lower trade costs much more than you could do just by lowering tariffs." Nontariff barriers account for one-third to one-half of trade costs between the United States and Europe, he noted. "Reducing the nontariff barriers to trade is, in our estimation, going to have a substantial growth effect on the recycling sector."

Public opinion in European Union countries about TTIP generally is "quite positive," he said, with the exception of Germany, Austria, and Luxembourg, which are "very skeptical" of the deal. Because TTIP is a mixed treaty, it can only pass in Europe if the European parliament *and* all EU national parliaments approve it, he noted. TTIP's prospects are equally challenged in the United States, where many politicians are less supportive of free-trade deals, in part due to concerns about the U.S. job market.

TTIP negotiations will resume in July, but "most people are very skeptical that the negotiations will be concluded before the end of Obama's presidency," Bluth said. If the July negotiations fail, participants could propose a "TTIP lite" approach that would lower tariffs but not resolve the nontariff barriers. Such an approach would be "much less controversial," Bluth said, but it also would offer "much lower benefits."

The ITC meeting also addressed the ongoing problem of cargo theft. Part of the problem is that after recyclers load scrap into a shipping container, "they have no idea where it is in transit," said **Dale Didion** of AKUA (Baltimore). His company offers an electronic tracking device that can "reduce loss and increase the likelihood of recovering your product" by letting recyclers know the location of their containers in real time via satellite. The device has a unit that attaches to the back of a container and a sensor inside the container to detect changes in heat, temperature, light, and humidity—information that informs shippers if anyone tampers with the container en route. The transmitted data, accessible on cellphone or computer, is encrypted to prevent hacking. If a recycler's contract stipulates payment upon delivery of the scrap material, the device can expedite payment to the recycler by confirming when the container reaches its destination, Didion said.

SCRAP TIRE INDUSTRY EYES PYROLYSIS, DEVULCANIZATION

Europe's tire-recovery rate has increased significantly, from a 1999 rate of 50 percent to more than 96 percent in 2013, said **Jean-Pierre Taverne** of the European Tyre & Rubber Manufacturers' Association (Brussels) at the Tyres & Rubber Committee meeting. "Compared to other waste streams, I think that's quite remarkable," he stated. From 1996 to 2013, Europe's landfilling of tires has declined from 49 to 5 percent; its use of tires for energy recovery has increased from 20 to 39 percent; its material recovery has risen from 11 to 37 percent; its retreading has declined from 12 to 8 percent; and its reuse/export has increased from 8 to 11 percent, Taverne said.

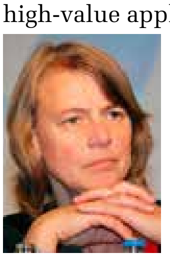
According to **Jan van den Brand** of Rubber Maalindustrie Limburg/Rumal Kargro (Nederweert, Netherlands), EU regulations seek to reduce the volume of tires burned for energy recovery and increase the use of tires in more environmentally friendly applications. "Tire processors need to change their image from waste converters to high-quality raw material suppliers," van den Brand said, arguing that using pyrolysis to produce carbon black, oil, and gas

Jan van den Brand

from used tires is one way to change that image.

Toward that end, Rumal Kargro joined forces with Black Bear Carbon Black to form Dutch Green Carbon, a pyrolysis venture that processes about 12,000 mt of tires annually. After removing 2,000 mt of tire wire, the operation produces 4,500 mt of carbon black, 1,800 mt of gas, and 4,900 mt of oil. It mills its high-quality carbon black to an extremely fine particle size, making it suitable for applications such as coatings, inks, and new tires.

Beyond pyrolysis, there's also a push for cradle-to-cradle recycling of rubber through devulcanization, which promises to increase the amount of recycled rubber used in high-value applications, said **Wilma Dierkes** of the University of Twente (Enschede, Netherlands). Numerous processes attempt to devulcanize rubber, but most of them break down the rubber polymer itself, which degrades the material and prevents it from being revulcanized, she explained. The goal is to retain the rubber polymer bonds but break the cross links between the polymers. "This is feasible if we do it properly," she said. The challenge is to produce clean material, especially if the rubber will go into new tire applications, but various factors make it difficult to achieve high purity, including stones and glass in recovered tires and different fillers, curing agents, and rubber formulations. According to Dierkes, the devulcanization process has worked with passenger car tires, and a process for truck tires is in development.



Wilma Dierkes

EAST AFRICAN IMPORT BAN ROILS USED TEXTILE MARKET

In March 2016, countries in the East African Community—Uganda, Kenya, Tanzania, Rwanda, Burundi, and South Sudan—agreed to ban imports of used textiles and leather products

Jalia Packwood

within three years, noted **Jalia Packwood** of Bangor University (Bangor, Wales) at the Textiles Division meeting. The EAC gave several reasons for the decision, including its desire to increase textile manufacturing and other industries to fuel economic growth, increase the availability of high-value jobs for East African economies, boost the taxable base, and transform the area into an upper-middle-income region by 2050, she said. The countries also want to supply their citizens with "Made in Africa" clothes and reduce their environmental footprint, which helps them make progress toward their U.N. sustainable development goals. Some EAC countries have "already started to get people out of this trade" by imposing higher duties and/or environmental taxes on imported used clothing, Packwood said. "The goal is to make the imported clothes too expensive to buy."

The proposed ban would disrupt a significant market for sellers of used textiles. In 2014 the EU exported $1.54 billion of secondhand clothes to that region, while the United States exported $709 million, according to U.N. figures. The ban also would eliminate the jobs of millions of East Africans who work in the used textile trade, she noted. **Alan Wheeler** of the Textile Recycling Association (Maidstone, England) echoed Packwood on the ban's potentially negative market effects. "Some politicians," he said, "wrongly seem to believe that banning or restricting used clothing imports will help to protect local textile production industries and choose to ignore the fact that such a move will only serve to threaten the jobs of hundreds of thousands of people in places like East Africa who are employed by the used clothing sector. And let us not forget that the used clothing sector is by far the most sustainable part of the clothing supply chain." **Pol T'Jollyn** of Recutex (Zulte, Belgium) also had questions about the ban, saying EAC nations "pretend that they will establish a local textile industry. We have some doubts: Where will they get the energy and water from to process new textiles?"

While Packwood encouraged used textile sellers to defend their business, she said they also need to appreciate the EAC's concerns and its reasons for choosing the ban. "We need trade strategies that enable our trade partners to achieve their textile-sector growth while allowing the trade to continue," she said. One way to do that is to offer contracts to EAC manufacturers to make clothes for the EU market, she suggested. "Currently this story does not have a good ending," Packwood said. "The best people to rewrite the story are those engaged in the trade."

U.S. used textile dealers are among those taking steps to counter the EAC ban. **Eric Stubin** of Trans-Americas Trading Co. (Clifton, N.J.) noted in a written report that this is the third time in the past 40 years the EAC has proposed a ban. U.S. used textile dealers view this as a trade issue and have contacted the U.S. Trade Representative's office, which "will be addressing our issue at the highest levels with EAC member countries," he wrote.

"Some politicians wrongly seem to believe that banning or restricting used clothing imports will help to protect local textile production industries and choose to ignore the fact that such a move will only serve to threaten ... jobs," Alan Wheeler said.

REVIEWING E-RECYCLING OPPORTUNITIES—AND CHALLENGES

For electronics recyclers, recovering and selling parts from end-of-life products can be lucrative, with a single circuitboard worth up to 50 times the scrap value of the device,

Thomas Opsomer

said **Thomas Opsomer** of iFixit Europe (Stuttgart, Germany) at the E-Scrap Committee meeting. Such "component harvesting" is good for the environment by saving the energy and resources needed to make new components, and it's necessary when the electronics manufacturer does not make spare parts available, he said. The Palo Alto, Calif.-based iFixit has a parts-harvesting pilot project with Electronic Recyclers International (Fresno, Calif.), which is selling the recovered parts in the United States and Europe.

Barriers to recovering parts, however, include unremovable batteries, the growing use of adhesives, and a dearth of product information from manufacturers, Opsomer said. He called on manufacturers to provide more information on their products, which would allow recyclers to improve their disassembly procedures and better understand the cross-compatibility of parts, which expands the market opportunities for recovered parts. "We need the electronics manufacturers to cooperate so we can get the information to you," he said. Toward those ends, iFixit and Close-WEEE, a consortium of recyclers and researchers, established the Recycler Information Center in Europe, a cloud-based database of information on the repair, reuse, and recycling of target materials from waste electrical and electronic equipment, or WEEE.

In Europe, a new regulation on the horizon could dramatically change the landscape of the electronics reuse and recycling industry, with “profound” legal and financial ramifications for all companies, said **Andrew Noel Brown** of Sims Recycling Solutions (Ashford, England). When the EU’s General Data Protection Regulation takes effect in 2018, he explained, every company, regardless of size, must appoint a data protection officer, who will be responsible for training staff on data security, conducting audits, and notifying the authorities if a data breach occurs. Companies that fail to comply could face fines of 2 to 4 percent of their worldwide earnings.

Andrew Noel Brown

Electronic products can contain a variety of sensitive information—such as market research or customer, employee, or financial data—that becomes vulnerable when the products enter the reuse or recycling stream, Brown noted. To avoid the threats and costs of data breaches, companies should work with a reputable specialist in information technology asset disposition that offers the full range of value-recovery options, complies with all applicable laws and regulations, and manages end-of-life materials in a sustainable, environmentally sound manner.

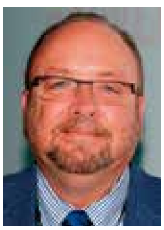
Turning to one of the world’s fastest-growing recycling markets, Surendra Borad of Gemini Corp. noted that India—the fifth-largest generator of end-of-life electronics, at about 1.85 million mt a year—imposed new e-scrap rules earlier this year based on an EPR approach. The rules set a collection target of 30 percent after the first two years, rising to 70 percent by the seventh year, with stringent penalties for noncompliance. E-scrap collectors must haul material in specially designed covered trucks, and producers must finance customer awareness campaigns. A “deposit refund scheme” will fund the new program and prompt consumers to return their end-of-life products. According to Borad, India had 149 registered e-recyclers as of October 2015, with a combined capacity to recycle 460,000 mt. Given that 95 percent of India's e-processing industry is controlled by the informal sector, the business offers "tremendous opportunities," he said.

THE QUEST FOR BETTER SHREDDER SAFETY, EFFICIENCY

George Adams of SA Recycling (Orange, Calif.) reviewed two automobile shredder safety hazards—flying objects and undeployed air bags—at the Shredder Committee meeting. In his view, "the most dangerous safety threat with shredders is objects flying out of the shredder and hitting somebody," resulting in injury or death. One of his employees had a piece of flying shredded scrap pierce his hard hat and injure him, an incident that prompted Adams to install protective covers over his shredders. Such covers can range from complete metal enclosures around the shredding box to simple metal curtains. "It doesn't have to be high-end," Adams said. "I just think it's really important that every shredder operator in the world has some type of a roof on their shredder."

Turning to air bags, Adams recounted a 2013 incident in which an undeployed air bag exploded on the picking belt of one of his shredders, sending a 3-inch by 4-inch piece of metal into the chest of an employee, breaking two ribs and puncturing one of his lungs. To protect employees from similar injuries, SA Recycling now requires its sorting staff to wear Hexarmor aprons and face shields, Adams said. The company also instructs workers not to pick up air bags with their hands but rather to let them pass on the conveyor belt. With the number of air bags in new cars continuing to rise, "the problem is going to become bigger as we go along," Adams said.

The Shredder Committee meeting also had a review of technological advances that have improved the productivity and efficiency of shredding operations. Computer controls have been "the most significant step in improving productivity" in auto shredder history to date, said **Scott Newell III** of Newell Recycling Equipment (El Paso, Texas). Computer programs—such as his company's Smart Shredding System—control a shredder's feeding functions and provide a variety of performance data to guide continuous improvement. Most shredding plants operate far below their capacity, Newell said, because they are not fed enough raw material and the electric drive motor is not used to its capacity. The goal is "full-box shredding," which uses the motor's full horsepower by keeping the shredder box full. A full shredder, Newell said, allows the hammers to process the scrap more efficiently and yields cleaner, denser frag as well as smaller pieces of residue that are easier to handle downstream.



Scott Newell III

European shredders face stringent proposed air and water emission limit values outlined in a best available techniques reference document—or BREF—from the European Integration Pollution Prevention Control Board, noted Shredder Committee Chairman **Manuel Burnand** of FEDEREC (Paris). The document, published in December 2015, proposes air emissions of less than 2 to 5 milligrams per cubic meter for shredders equipped with a fabric filter at a monitoring frequency of every six months. For shredders that cannot use a fabric filter for safety reasons, the higher end of the range is 10 milligrams per cubic meter. A survey of European shredders showed that few could meet that air emission threshold, Burnand said. Equally challenging are the proposed water emission limits and monitoring frequency—primarily once a week—on direct and indirect discharges of water to a receiving body of water, he added. "The emission levels set in the current draft don't seem based on a representative sample of plants, and it's unclear how the BATs were derived from operational data," Burnand said. European recycling trade groups are asking EIPPCB to consider creating a second draft document and offering a data assessment workshop to review the accuracy and representative quality of the data collected for the revision process.

THE "SOCIALIZATION" OF RECYCLING IN GERMANY

German recyclers face a grave threat to their businesses due to a new legislative approach in Germany that seeks to "shift all the organizational sovereignty away from the private sector to the public sector," said **Sebastian Will** of BVSE (Bonn, Germany).


Sebastian Will

Municipalities, Daniela Entzian of BDSV explained, are seeking a monopoly position to collect materials from residential sources, threatening small recycling enterprises. As Will noted, "this is not only true for packaging waste and other things but for all recyclable materials, including nonferrous and ferrous metals and other material streams."

This shift—which Will referred to as "socialization"—represents a "shying away from the private market organization" of the recycling industry. "For some reason it seems that the EU Commission and the German legislators have lost their faith in the market" and, instead, are promoting "a much more managed market," he said. This legislative move diminishes "free market access" for private recyclers in favor of public-sector entities, with the potential result that "some small- to medium-sized recycling operations could be squeezed out of the market."

Will argued that recycling markets should be kept free because that ensures competition, which brings about technological advances. This development also is bad for the public, he said, because it allows monopoly conditions, which could result in higher service prices.

Paper Division President Reinhold Schmidt of Recycling Karla Schmidt addressed this trend from a German paper recycler's perspective at the Paper Division meeting. Private German recyclers face several challenges in the municipal arena, he said, noting that municipal contracts are for short terms—only three years—and municipalities are trying to shift the contract risk completely onto the recyclers. Also, if a recycler isn't linked to a paper mill consumer that has agreed to buy a municipality's collected paper, the recycler has a difficult time securing the contract. In addition, recyclers must provide a list of all trucks that might bring used paper to the mill, which robs recyclers of any flexibility. "The current regulatory framework—very much determined by the circular economy legislation—systematically disadvantages private companies in the collection," Schmidt said, asserting that "this cannot and must not be the way to go. Policymakers finally have to realize what is the reality of our industry."

Going forward, the German government must rectify the problems in the current system and "ensure fair competition in any new law," he said. Such a law on recyclable material "should only be adopted if it does not contain any organizational sovereignty for the municipalities," he stated. "We do not need more municipal interference in this industry, but less." ■

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