



From left: Greg Schnitzer of Schnitzer Steel Industries, Autumn Barnes of Sims Metal Management, Tom Bird of Chiho Environmental Group, Shane Mellor of Mellor Metals, Zain Nathani of Nathani Group, Tarek Al Sharif of Sharif Metals, Hisatoshi Kojo of Metz Corp., Rolf Willeke, BIR statistics advisor, and Steven Vercammen of McKinsey & Co.

## **BIR 2019: Chinese steelmakers turn their attention to scrap**

Steel producers in China are pivoting to melt the increasingly abundant scrap material being generated in that nation.

[Brian Taylor](#)

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China, long a laggard in the use of scrap to make new steel, is beginning to change its melt shop habits to accept more ferrous scrap, according to a guest speaker at the Ferrous Division meeting of the [Bureau of International Recycling \(BIR\)](#). The Brussels-based BIR held its 2019 World Recycling Convention in May in Singapore.

Guest speaker Steven Vercammen, who works in Belgium for McKinsey & Co., said China's rise to become the world's largest steelmaker has largely been dependent on iron ore and the basic oxygen furnace (BOF) rather than the scrap-fed electric arc furnace (EAF).

Figures for 2017 show that while neighboring Southeast Asian nations used scrap for 84 percent of their steelmaking charge and North America nearly 70 percent, China's steel producers relied on scrap for just 26 percent of its feedstock that year. That same year, EAF

furnaces produced just 10 percent of China's steel, while the EAF market share in Southeast Asia was 79 percent and in North America it was 65 percent.

However, steelmakers in China are increasingly investing in EAF melt shops or are adopting alternative technologies that allow them to use more scrap in BOF mills—"new technologies that allow them to go beyond 20 percent scrap as charge," said Vercammen.

The change in China is being prompted by the availability of more ferrous scrap there and as part of the global response to climate change. The use of coal in the BOF process accounts for "around 80 percent" of the CO<sub>2</sub> emissions created by BOF production, according to Vercammen. While some steelmakers are exploring the use of biomass products such as sugar cane to substitute for coal, the idea of using more scrap is a "no brainer" in the battle to lower CO<sub>2</sub> emissions, he added.

A set of forecasts prepared by Vercammen and McKinsey & Co. shows that if global EAF market share grows from its current 28 percent to hit 40 percent, the steel industry's demand for ferrous scrap would rise from its current level of 640 million metric tons per year to slightly more than 1 billion metric tons.

In the short term, BIR Ferrous Division delegates discussed a market affected by low prices and trade disputes. Neither of these negative factors has stopped scrap from flowing, said New York-based trader Nathan Fruchter of [Hartree Partners LP](#). "Every country that has imported scrap since Section 232 tariffs were introduced by President Trump was buying scrap before 232 and will continue to buy scrap after 232," Fruchter told *Recycling Today*.

"As far as scrap exports, 232 mostly affected the Turkish and then Mexican scrap buying. I expect that to go back to prior levels" with the pending repeal of the tariff on Mexican steel, added Fruchter.

BIR delegates also received an update on the European shredder BAT (Best Available Techniques) and BREF (Best Available Techniques Reference Document) guidelines, designed by the European Commission to provide environmental benchmarks and best practices. BIR Shredder Committee board member Thomas Papageorgiou of Greece-based [Anamet SA](#) said recyclers who operate shredders with 75 tons per day capacity or larger will need to adopt ISO14001 or a similar environmental management system to be in compliance with the guidelines.

Shredder Committee Chairman Scott Newell III of United States-based [Newell Recycling Equipment](#) provided an updated BIR World Shredder List that showed that "in the last two years, 250 shredders have been installed in China," putting that nation's shredding plant total at 317. That puts it nearly equal to the U.S., which the BIR estimates has 322 auto shredding plants in place.

BIR Statistics Advisor Rolf Willeke also presented the tenth and newest edition of the Ferrous Division's "World Steel Recycling in Figures" document. The 40-page booklet provides 2018 figures for steel output and ferrous scrap consumption and trading.

In 2018, Turkey was the largest single importer of ferrous scrap by a large margin, with mills there bringing in more than 20 million metric tons of scrap iron and steel. The next largest

importer was South Korea, at 6.4 million metric tons, followed closely by India with 6.3 million metric tons of imported material.

The European Union was the ferrous scrap export leader in 2018, shipping out more than 21.4 million metric tons, followed by the U.S. at 17.3 million metric tons and Japan at 7.4 million metric tons.

The 2019 BIR World Recycling Convention & Exhibition was held May 19-22 at the Shangri-La Hotel in Singapore.