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## BIR NEW DELHI: Scrap prices to rise as India plans switch away from DRI, iron ore steelmaking

Shredded scrap prices in India are likely to rise in the coming decades as the country switches to using recycled materials for steelmaking rather than iron ore and direct reduced iron (DRI).

India will make the switch as part of its commitment to reducing its emissions, the Ministry of Steel said at the Bureau of International Recycling's (BIR) conference in New Delhi.

"There was a calculation on our part that if all kinds of pre-owned [vehicles] were [used for] scrap, the market would be attractive and 10-15% more value would be added to each vehicle," Birender Singh, Indian steel minister, said at the event on Saturday October 14.

Metal Bulletin's price assessment for Indian shredded scrap imports was \$318.40 per tonne cfr Nhava Sheva on Friday October 13.

India's first end-of-life vehicle (ELV) shredder will begin operations by next year, according to BB Singh, chairman and md of government exports regulator MSTC.

The first of its kind in the country, the unit will be operated by MSTC and Indian company Mahindra Intertrade.

The ELV shredder will be able to shred 100,000-300,000 tpy of vehicles, Mahindra Intertrade md Sumit Issar told Metal Bulletin in February.

One reason for the predicted rise in scrap prices over the coming years is that there will be greater demand for the high-quality scrap generated by shredding vehicles in the country as the government pushes for more scrap-based steelmaking.

"My ministry is exploring the feasibility of setting up [ferrous] scrap-based steel plants in north and east India, which don't have [other] raw materials sources for steelmaking," Birender Singh said.

As a result of the vehicle-shredding operations and legislation to ban diesel vehicles that are more than 15 years old in large cities such as New Delhi – which the government hopes to pass in the coming winter session of parliament – 44% of the total scrap available in the country will be in northern India, he added.

The government is also working on removing import duties on ferrous scrap, which are currently set at 2.50%, according to Aruna Sharma, secretary at India's Ministry of Steel.

### DRI outlook

Another potential boost to scrap pricing is that the Indian government expects that new steelmaking technology will no longer be compatible with DRI in the longer term due to environmental considerations.

Cheap prices for DRI – which is a popular substitute for ferrous scrap – have dragged down Indian scrap prices throughout 2017.

"Now, after the Paris Convention, we have gone ahead with [promising to reduce] our greenhouse gas (GHG) emissions by 30-35% in the coming years, [so we] will definitely shift towards technologies that can reduce GHG emissions," Sunil Barthwal, a joint secretary at India's Ministry of Steel, said on Sunday.

"In that context, scrap works better than DRI, because, GHG emissions-wise, DRI is not very sound," he said.

"When we are going for future technologies, scrap-based technology will definitely win over DRI-based technologies," Barthwal added.

Metal Bulletin's price assessment for Indian domestic DRI was Rs15,900-16,100 (\$245-248) per tonne ex-works on Friday.

India is the world's second-largest producer of DRI, and saw its annual production of the material fall by 12.21% year-on-year, to 14.25 million tonnes in 2016.

### Iron ore production

Environmental reasons will also mean that iron ore use is likely to drop as a percentage of all Indian steelmaking over the coming years, but Birender Singh went further by saying that iron ore mining would also be curtailed.

He said the "reduction in the excavation of iron ore may be up to 65%" should the government's plans to increase scrap-based steelmaking plants come to fruition.

"On average, 74% of energy is saved using steel scrap material versus using virgin iron ore," according to Singh.

"Using steel scrap over virgin ore saves 40% water and leads to a 58% reduction in carbon dioxide emissions," he added.

Blast furnace and basic oxygen furnace (BOF) steelmakers constitute around 45% of Indian steel output, according to BB Singh, with the share of secondary steel production – including induction furnaces, shipbreaking and re-rolling of semi-finished goods – likely to make up over 70% by 2030-2031.

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