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is a leading steel information service in Englewood Cliffs, N.J., USA

WSD's steel experience, steel database and availability of steel statistics are the principles for performing steel forecasts, studies and analysis for international clients. WSD seeks to understand how the "pricing power" of steel companies the world over will be impacted by changes in the steel industry's structure. The views and opinions expressed in this article are solely those of World Steel Dynamics and not necessarily those of AIST.

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Analyzing Chinese Steelmaking Data

Challenges are substantial when seeking to adjust published Chinese steel statistics for: (a) unreported blast furnace output — that could be 20 million metric tons per year assuming that some smaller integrated mills at times don't report output during the nighttime; and (b) unreported induction furnace output — that could have been 60 million metric tons in 2016 and 20 million metric tons in the first half of 2017 (with no output in the second half since the closure of all units was mandated by 1 July 2017). We also don't know: (a) how much replacement EAF steelmaking capacity is being built by the previous induction furnace producers (with "talk" that the figure is 20 million metric tons); (b) how much obsolete steel

Table 1

Chinese Steel Gross Capacity, ECO Capacity and Steel Production: 2013–2018 (million metric tons)

	Production			Capacity					
	2018e	2017e	2016	2018e	2017e	2016	2015	2014	2013
Gross crude steel capacity*	—	—	—	**1,000**	**1,034**	**1,107**	**1,159**	**1,157**	**1,133**
ECO Capacity (87% of gross)	—	—	—	**870**	**600**	**963**	**1,008**	**1,007**	**986**
EAFs and induction furnaces	**70**	**80**	**120**	**80**	**95**	**140**	**145**	**150**	**145**
Small steel mills' EAF	15	10	15	20	15	15	23	28	35
CISA members' EAF	22	50	45	60	50	45	42	42	40
Induction heating furnaces†	0	20	60	0	30‡	80	80	80	70
BOFs	**795**	**780**	**748**	**790**	**535**	**903**	**943**	**937**	**911**
Small steel mills' BF/BOF	70	80	80	90	90	105	130	130	120
CISA members' BF/BOF	725	700	668	700	445	798	813	807	791
Coastal location	170	160	150	170	160	150	140	130	125
Inland location	555	540	518	530	285	648	673	677	666
				Production					
Crude steel production (reported)	—	—	—	**865**	**840**	**808**	**804**	**823**	**815**
Less: Exports	—	—	—	70	75	103	107	88	58
Plus: Imports	—	—	—	12	12	13	13	14	14
Equals: Domestic apparent demand	—	—	—	**807**	**777**	**718**	**710**	**749**	**771**
Plus: Induction furnace output (unreported and not known)	—	—	—	0	20	60	50	40	30
Equals: Adjusted apparent demand	—	—	—	**807**	**797**	**778**	**760**	**789**	**801**
Year-to-year change in apparent demand (%)	—	—	—	**1.3**	**2.4**	**2.4**	**(3.7)**	**(1.5)**	**—**

Note: ECO Capacity is the global steel production rate in a rising steel production environment at which the mills' marginal cost starts to rise significantly.
*The gross capacity figures are not precise. †Unregulated and not known. The production estimate for 2017 is through June. ‡Half-year.
Source: WSD estimates.

scrap was recovered in 2016 and 2017; (c) the size of the steel scrap glut that's been created by the shutdown of the steel-scrap-dependent induction furnaces; (d) how much of the induction furnace producers' final output was billet, rebar or wire rod (with the billet rolled into low-grade products by independent rolling mills and the rolling mills of smaller integrated steelmakers); and (e) the size of steel mill and steel buyer inventory swings.

Given this background, we expect:

- Apparent steel demand in China in 2018 to rise about 1.3% after a 2.4% increase in 2017. The key factor sustaining steel demand will be the government's promotion of further gains in infrastructure spending.
- Chinese steel production may amount to 860 million metric tons in 2018 versus 840 million metric tons in 2017. If so, a 900-million-metric-ton annualized rate may be hit by June 2018 as the mills make up for the production shortfall in the North during the winter months (mandated in order to reduce air pollution).
- Chinese EAF production is rising given: (a) the surplus of steel scrap that's been created after the closing of the induction furnaces; and (b) the 40% Chinese export duty on steel scrap that's restraining sizable offshore deliveries. China's BOF steelmakers are also now using a higher proportion of steel scrap in their metallics charge.

When will Chinese steelmaking capacity be cut back substantially? WSD expects this to occur in 2019 given substantial industry overcapacity. In 2019, WSD is forecasting reduced domestic steel demand as fixed asset investment falls back as a share of gross domestic product and no major gain in steel exports reflecting trade suit restrictions and the government's production restraints in order to hold down air pollution. The bulk of the steelmaking capacity reduction to date in China has reflected the closure of inefficient and highly polluting smaller units.

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