CHINA - RAW MATERIALS AND GLOBAL SHORTAGES

This year, with the world's steelmakers looking to produce over one billion tonnes of crude steel for the first time ever, the demand for steelmaking materials is expected to reach new heights. Global crude steel production has grown by 6% in each of the last two years and, if this trend is repeated, then 2003's 963 million tonnes will grow this year to 1,020 million tonnes. At this level of production, the steel industry would need to find an extra 60 million tonnes of iron ore, 25 million tonnes of scrap and 15 million tonnes of coke.

Looking further ahead to 2007, if the IISI's forecast of increased steel demand is to be met, then crude steel production would need to rise to 1,130 million tonnes. To meet such a level of production, steelmakers would require by 2007 an extra 200 million tonnes of iron ore, 60 million tonnes of coke and 75 million tonnes of steel scrap. Quite a tall order and the reality is that materials could start to run short which, coupled with shipping constraints, is likely to put a brake on future steel growth.

ESTIMATED GLOBAL REQUIREMENT for STEELMAKING MATERIALS

million tonnes

	2001	2002	2003	2004	2007
Steel Demand *	780	831	884	936	1,041
Crude Steel Production	850	902	970	1,016	1,130
materials					
Iron Ore	1,050	1,120	1,200	1,260	1,400
Coke	300	315	340	355	400
Scrap	375	400	425	450	500

* IISI forecasts
nb. estimated materials consumed based on current furnace mix.

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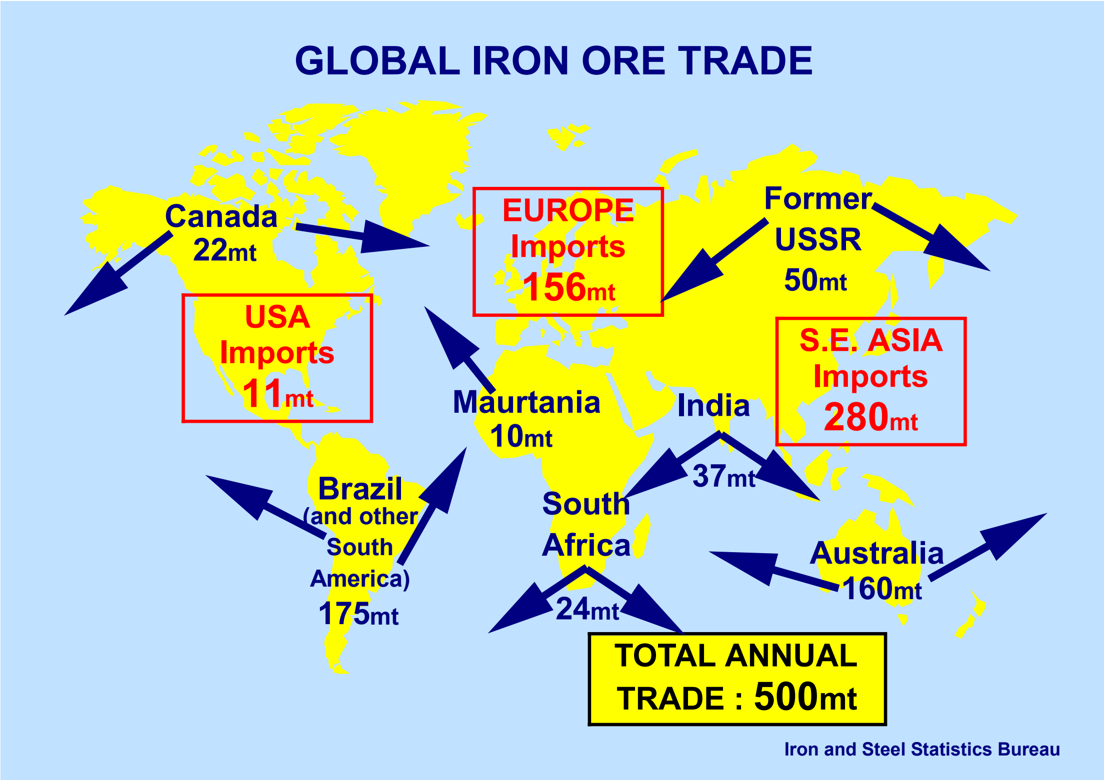
Take iron ore. In 2003 some 1.2 billion tonnes of iron ore was consumed by the world's steelmakers of which around 500 million tonnes was shipped around the world. In China alone, consumption of imported iron ore has grown meteorically from 70 million tonnes in 2000 to an expected 200 million in 2004. While global iron ore reserves are plentiful, and significant investment plans are in place for expansion, it will take some time to bring new sources on-stream. Meanwhile the benchmark price for iron ore in 2004 has already been set some 18% higher than in 2003.

On top of this there is also a shortage in dry bulk shipping capacity. Especially critical when as much as 500 million tonnes a year of iron ore has to be shipped around the world - plus another 150/200 million tonnes of coke. With around 500 dry bulk cargo vessels in operation, each carrying on average 1.2 million tonnes per year, that means an annual shipping capacity of 600 million tonnes. Clearly, global trade in ore and coke is already hitting the limits of current shipping capacity.



Unfortunately there seems little hope of new dry cargo capacity coming on-stream in the near future. Shipyards are mainly full of orders for new oil tankers with double hulls. In 2004 it is probable that only 30-odd new dry cargo vessels will be available which, taking the average annual carrying capacity of 1.2 million tonnes, would only increase the available shipping capacity by 50 million tonnes. Such an increase could be swallowed up by China alone in meeting its additional 2004 requirements for imported iron ore.

And China, of course, continues to hold the key to the future. Over the last 4 years, China has been responsible, either directly or through imports, for over 90% of world steel growth. If Chinese crude steel production pushes 265 million tonnes this year, an increase of 20%, then their iron ore requirement would probably grow from 450 to 540 million tonnes. Given an increasing proportion of Chinese ore consumption is sourced from overseas, then imports could top 200 million in 2004, an extra 50 million over 2003.

CHINA : CRUDE STEEL, DEMAND, IMPORTS of ORE and SCRAP

2000		2002	2003 estimate		2004 forecast	
mt		mt	mt	% change	mt	% change
127	Chinese Crude Steel Production	182	220	+21%	265	+20%
847	World Crude Steel Production	902	963	+7%	1020	+6%
15%	*China as % of World*	*20%*	*23%*		*26%*	
142	Chinese Steel Demand	211	257	+22%	290	+13%
763	World Steel Demand	831	884	+6%	936	+6%
19%	*China as % of World*	*25%*	*29%*		*31%*	
223	Domestic Ore	265	306	+15%	340	+11%
70	Imported Ore	112	148	+32%	200	+35%
293	Total Ore	377	454	+20%	540	+19%
24%	*% of which Imported*	*30%*	*33%*		*37%*	
5	Scrap Imported	7.8	9.2	+18%	11.0	+20%

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Then there's the question of scrap availability. Global scrap consumption is currently estimated at over 400 million tonnes a year with some 75 million tonnes exported. Consumption has grown as electric steelmaking has grown with EAF now accounting for 34% of world steel - compared with only 25% in the mid 1980's. However, supplies of recycled steel scrap, which is "used" steel reclaimed from the demolition of old buildings and structures, end-of-life consumer goods like cars and washing machines and recycled food and beverage cans, is necessarily finite as there's a limit to just how much "old" steel can be discarded and recovered in any given year.

Although China is predominantly a BOS route steelmaker it nevertheless consumes around 50 million tonnes of scrap a year of which a growing proportion, currently about 20%, has to be imported. Add to this the appetite for scrap in other countries, such as Turkey and South Korea, then global supply becomes increasingly tight leading to the current unprecedented price increases. And coke shortages are also adding to the problem with prices rising because China is now exporting less and the main US coke supplier has been forced into closure by fire.

SCRAP
TOP EXPORTING / IMPORTING COUNTRIES

million tonnes

EXPORT			IMPORT		
Country	2002	2003*	Country	2002	2003*
USA	9.0	10.8	Turkey	9.9	11.8
Germany	7.5	6.7	China	7.9	9.2
Japan	6.0	5.7	S Korea	7.2	6.0
France	5.8	5.1	Spain	5.5	6.3
Russia	5.8	6.0	Italy	4.0	4.0
UK	5.6	7.2	Germany	4.0	4.4

* 2003 data includes estimates

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To help claw back the higher costs of basic steelmaking materials the steel producers are responding with special surcharges. The increased steel costs will now ripple down the manufacturing chain triggering an inflationary effect on finished goods and services. Of course, if steel customers down the supply chain are reluctant to accept steel product price rises then that could act as a further constraint on steel production.

It seems only yesterday that the main concern facing steelmakers were low prices caused by a glut of steel on world markets and fuelled by inefficient capacity and local subsidies. Steel supply was running ahead of demand. What a difference a year makes. It now seems that serious shortages of basic steelmaking materials are likely to constrain steel production to a point where steel supply may be unable to meet demand. Without adequate supplies of materials the global steel industry will simply be unable to meet the expected growth in world steel consumption. It seems that the sheer acceleration of Chinese demand in recent years has caught traditional supply and demand balances on the hop.

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