Global steel industry overview

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World Steel Association (worldsteel)
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• No discussions on allocating geographical or product markets or customers or classes of customers
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• No discussion on non-public company-specific forward looking commercial strategies or plans

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The World Steel Association (worldsteel) is a non-profit organisation.

worldsteel represents steel producers, national and regional steel industry associations, and steel research institutes.

It has headquarters in Brussels, Belgium. A second office in Beijing, China, opened in April 2006.

Members represent around 85% of global steel production.
worldsteel – our key focus areas

worldsteel is active in key areas of interest to the steel industry:

- Automotive
- Climate change and environment
- Communications
- Construction
- Education and training
- Life cycle assessment
- Raw materials
- Safety and health
- Sustainability
- Steel market analysis
- Technology
COVID-19 impact on steel output and demand in 2020 and in the short-run
End-2019: The global steel industry felt considerable recessionary pressures in 2019 and was hoping for a mild recovery in 2020

Source: worldsteel
2020: the COVID impact

Many countries still having difficulty in containing the pandemic and saw number of new cases increasing again since mid-August

Source: CEIC
The COVID impact – China BFs

Continued BF output surge in China: up 4.9% yoy in 10m-20

Source: worldsteel
The COVID impact – world ex-China BF outputs

World ex-China’s BF output, Mt

Source: worldsteel

World ex-China BF output down 13% in 9m-20: EU, US, Japan down about 20%, India down 14%, Korea down 6%, CIS up 2% yoy
# The COVID impact – steel demand

Steel demand, finished steel (SRO October 2020)

<table>
<thead>
<tr>
<th>Region</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>19/18</th>
<th>20/19</th>
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<td>1 726.4</td>
<td>1 795.1</td>
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</table>

* World growth rates based on adjusted Chinese growth rates
Relationship between feed costs

Source: Platts
Note: BF basket is 1.6 x IODEX and 0.735 x (PLV HCC Premium Low Vol FOB AUS+Panamax AUS-CHN)
EAF basket: Scrap HMS CFR Turkey*1.1.

Scrap has remained at relatively low cost levels
To conclude on the short-run impact

- Stark contrast between China and the RoW:
  - 2020 steel demand: China 8%, RoW -13.3%

- Recovery in 2021 expected to be partial only
  - Projected steel demand for 2021 for the RoW 815 Mt, 45 Mt lower than 2019

- Possibility of sustained demand loss over several years...

- Also expectations for long-term impact from the pandemic
Potential impact of COVID-19 pandemic in the long-run
Categorising megatrends

Impact on steel business

How we make

What we make

How we position our industry & products and communicate
Steelmaking materials markets
Global SB IO supply to grow by about 130 Mt over 2019 (85 Mt over 2018)

Source: worldsteel seaborne iron ore supply model
Issues in iron ore supply

- Questions over Brazilian supply: risk of delays in return of operations
  - Brumadinho dam disaster posing continued regulatory risk
  - Stricter use of wet processing of fines causing quality deterioration
  - Continued process on regulation of tailings dams and dry stacking
  - Continued disruption risk from the pandemic, particularly in Brazil

- Questions over Australian supply
  - Quality issues faced by Rio Tinto in 2019, BHP reduced Fe content
  - Impact of growing importance of ESG scrutiny
Issues in iron ore supply

- Questions over Chinese supply: sustainability of domestic supply
  - Lower quality reserves, increasing environmental costs limiting low-Al supply growth

- Questions over new supply areas
  - China’s interest in developing projects in Africa appears to increase

- Responsible procurement practices gaining ground
  - Impact of harm caused by Rio Tinto project on aboriginal caves
  - $\text{CO}_2$ emission for beneficiation at mine sites vs $\text{CO}_2$ emission at the steelmaking sites
Global seaborne metcoal supply

Seaborne metcoal supply
2019-2025, Mt

Source: worldsteel seaborne metcoal supply model

very limited growth of about 10 Mt till 2025 (CAGR: 0.7%), insufficient to mitigate weather or operational disruptions
Issues in metcoal supply

- Outlook for new projects still insufficient to mitigate increasing risks of supply disruptions
  - Some companies avoiding coal investments, some financial institutions ceased support for coal investments
  - Severe price volatility and increasing trade frictions might also be taking a toll on interest in project development
  - Metcoal demand growth expected from India, especially considering large room for increasing PCI rate
  - Relocation of steel mills to coastal areas in China might support growth in China’s demand for seaborne metcoal
  - Steel industry’s CO$_2$ emission reduction efforts might have a growing impact on metcoal demand in the medium to long-term
China scrap import bans

- Chinese ferrous scrap imports have fallen drastically since 2017, as China has taken steps towards tightening solid waste material imports since end-2016

- Imports of some scrap were banned from 2019:
  - Steel slag with Mn>25% or Fe>80%, Jan 1, 2019
  - White goods for steel scrap collection, Jan 1, 2019
  - End of life ships for breaking, Jan 1. 2019
  - Compressed piece of scrap automobiles, Jan 1. 2019
  - Stainless steel scrap, July 1, 2019

- China scrap imports 2.3 Mt in 2017, 1.3 Mt in 2018, less than 200 th tons in 2019, remained negligible so far in 2020

China scrap import bans

- Work underway to exempt ferrous scrap from the ban on solid waste imports effective next year, renaming it as the recycled steel material*
- China association of metal scrap utilisation (Camu) and the China metallurgical information and standardisation institute working on compiling a new standard for foreign scrap imports
- The new standard to specify the definition, category, technology requirements, quality examination and transportation among other features.*
- Scrap imports might resume in 2021 according to market reports, considering the lead time required to finalise the standardisation, ratification by authorities and so on**

**https://www.mysteel.net/article/5014542-05/FEATURE--CAMU-calls-for-re-opening-scrap-import-routes.html
Obsolete scrap wave approaching

Availability estimates from Sep-19 and hence do not reflect the impact of pandemic

Source: worldsteel
China scrap availability

- Obsolete scrap availability: ~60 Mt in 2018; ~125 Mt by 2025; ~280 Mt by 2050
- China has the potential to become a scrap exporter
- Increase in scrap availability seem to be increasing scrap charge ratios and usage

China is consuming almost all of scrap availability domestically

Source: worldsteel
Higher uncertainty both for availability and usage of scrap due to the pandemic

- Steel demand might see sustained negative impact due to pandemic and this can have an impact on future scrap availability
  - Impact on employment & income
    - Might lead to delays of purchases of white goods, auto, housing
  - Might lead to reduced office, schooling, hospitality activity space and this might have an impact on demolition activity
Concluding remarks on steelmaking materials markets

- Impact of growing importance of ESG scrutiny
- Very limited growth of metcoal, insufficient to mitigate weather or operational disruptions
- Obsolete scrap availability should continue to grow
- The pandemic brought new uncertainties over the future of scrap demand and availability
- Increasing scrap availability and environmental pressures should support EAF growth and increasing demand for metallics