Global Steel Market Overview

Global Forum on Steel Excess Capacity, Tokyo, October 2019
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Role of steel in the global economy
Why is steel important in the global economy

- Steel, taking into account its complexity and variety, is one of the most used products in the world after coal, cement, oil and timber.
- Steel is used in every important industry; construction, infrastructure, automotive and transportation, packaging and machinery, domestic appliances.

Production of steel and other commodities 2016

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Mt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>8000</td>
</tr>
<tr>
<td>Cement</td>
<td>4000</td>
</tr>
<tr>
<td>Oil</td>
<td>4000</td>
</tr>
<tr>
<td>Timber</td>
<td>2000</td>
</tr>
<tr>
<td>Steel</td>
<td>1000</td>
</tr>
<tr>
<td>Aluminium</td>
<td>800</td>
</tr>
</tbody>
</table>

Steel use by sector 2016

- Construction: 50%
- Domestic Appliances: 2%
- Electrical Equipment: 3%
- Mechanical Machinery: 16%
- Metal Products: 11%
- Other Transport: 5%
- Automotive: 13%

Source: worldsteel, USGS, OECD, BP, FAOUN
Comparative size of the global steel industry

Value added of selected industries

US $ billion

- Oil & gas extraction: 875
- Rubber & plastic products: 560
- Metal mining; quarrying: 552
- Iron & steel manufacture: 498
- Paper products, printing: 456
- Electronic components: 429
- Aircraft, rail equipment, ships: 393
- Beverage manufacture: 317
- Non-ferrous metal manufacture: 298
- Textile manufacture: 293
- Wood product manufacture: 281

Source: Oxford Economics
Channels of the steel industry impact

Three channels of economic impact
Total impact = direct + indirect + induced impacts

Direct Impact
Steel industry activity across the globe

Indirect Impact
Activity in global supply chains due to steel industry purchases of inputs
- Metal ores
- Machine components
- Energy supplies
- Business services

Induced Impact
- Suppliers to employees in the global steel sector and supply chain
- Food and beverages
- Recreation
- Household goods

Total Impact
- Gross value added
- Employment

Source: Oxford Economics
The steel industry is transforming iron ore into a range of products that are sold for a total annual value of **US $2.5 trillion** in 2017. The “added value” of its production processes was almost **US $500 billion** and it employed more than **6 million** people around the world.

For every two jobs in the steel sector, 13 more jobs are supported throughout its supply chain. In total, some **40 million people** work within the steel industry’s global supply chain, generating over **US $1.2 trillion** of added value.

The steel industry facilitated a further **US $1.2 trillion** of value-added output in 2017, and supported an additional **49 million jobs** in steel using sectors around the world.

Source: Oxford Economics, worldsteel
Sustainability is crucial for the global steel industry

- Steel companies from around the world have been reporting to worldsteel on sustainability indicators since 2004. The indicators are aligned to the commitments outlined in our sustainable development policy and to the UN Sustainable Development goals. Steel companies report voluntarily on up to 8 sustainability indicators every year.

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>UNIT</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENVIRONMENTAL PERFORMANCE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Greenhouse gas emissions</td>
<td>tonnes CO₂ / tonne crude steel cast</td>
<td>1.88</td>
<td>1.83</td>
<td>1.82</td>
</tr>
<tr>
<td>2. Energy intensity</td>
<td>GJ / tonne crude steel cast</td>
<td>20.3</td>
<td>19.9</td>
<td>19.8</td>
</tr>
<tr>
<td>3. Material efficiency</td>
<td>% of materials converted to products and by-products</td>
<td>97.5</td>
<td>96.3</td>
<td>96.3</td>
</tr>
<tr>
<td>4. Environmental management systems</td>
<td>% of employees and contractors working in registered production facilities</td>
<td>97.1</td>
<td>96.8</td>
<td>95.8</td>
</tr>
<tr>
<td><strong>SOCIAL PERFORMANCE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Lost-time injury frequency rate</td>
<td>injuries / million hours worked</td>
<td>1.01</td>
<td>0.97</td>
<td>0.84</td>
</tr>
<tr>
<td>6. Employee training</td>
<td>training days / employee</td>
<td>7.0</td>
<td>6.1</td>
<td>6.4</td>
</tr>
</tbody>
</table>

(p) = preliminary; data collection in progress

Source: worldsteel
Steel in the circular economy

The steel industry is an integral part of the global circular economy due to its ability to:

- **Reduce**: for example weight of products
- **Reuse**: to extend its life cycle
- **Remanufacture**: to restore used products to like-new conditions
- **Recycle**: to conserve valuable resources
Steel demand outlook
Regional overview
Steel demand, finished steel (SRO October 2019)

<table>
<thead>
<tr>
<th>Region</th>
<th>2018*</th>
<th>2019*</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Union (28)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Europe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAFTA</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Central &amp; South America</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Africa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle East</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developed Asia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing Asia excl. China</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>World</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2020 (Mt):
- European Union (28): 168.6
- Other Europe: 34.5
- CIS: 59.2
- NAFTA: 142.6
- Central & South America: 45.5
- Africa: 37.2
- Middle East: 48.0
- Developed Asia: 141.8
- Developing Asia excl. China: 212.6
- China: 909.1
- World: 1,805.7

*- growth rates based on adjusted Chinese growth rates
Source: worldsteel, steel demand finished steel
Trend in steel demand

Steel demand, 1950-2020

Source: Worldsteel, steel demand crude steel equivalent
Significant differences in steel intensity among regions

Source: worldsteel, steel demand finished steel
Steel intensity in advanced economies is declining

Source: worldsteel, steel demand crude steel equivalent
Expectations about long term steel demand

Steel demand, 2000-2040

Source: worldsteel, steel demand finished steel
Progress in GFSEC
Proposed policy solutions agreed during November 2017 ministerial

I. Global challenge, collective response

II. Enhance market function (1) Refraining from market distorting subsidies and government distorting support measures

III. Enhance market function (2) Fostering a level playing field in the steel industry

IV. Enhance market function (3) Ensuring market based outcomes in the steel industry

V. Encouraging adjustment and thereby reducing excess capacity

VI. Ensure greater transparency as well as review and assessment of the implementation of GFSEC policy solutions
Excess capacity above demand

Capacity - steel demand (fs)

Source: OECD, worldsteel, steel demand finished steel
### Net exports (+)/ imports (-) by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Mt</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Jan-Jun 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra-European Union (28)</td>
<td>-4.3</td>
<td>-11.9</td>
<td>-11.1</td>
<td>-17.7</td>
<td>-7.4</td>
<td></td>
</tr>
<tr>
<td>Other Europe</td>
<td>-5.4</td>
<td>-4.0</td>
<td>-1.6</td>
<td>3.8</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>C.I.S.</td>
<td>40.4</td>
<td>43.1</td>
<td>36.9</td>
<td>38.0</td>
<td>17.8</td>
<td></td>
</tr>
<tr>
<td>Extra-NAFTA</td>
<td>-34.8</td>
<td>-29.1</td>
<td>-34.1</td>
<td>-31.2</td>
<td>-12.1</td>
<td></td>
</tr>
<tr>
<td>Central America/Caribbean</td>
<td>-4.2</td>
<td>-4.4</td>
<td>-4.5</td>
<td>-4.5</td>
<td>-2.0</td>
<td></td>
</tr>
<tr>
<td>South America</td>
<td>0.4</td>
<td>2.6</td>
<td>4.0</td>
<td>2.2</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td>-28.3</td>
<td>-26.5</td>
<td>-19.1</td>
<td>-13.4</td>
<td>-8.7</td>
<td></td>
</tr>
<tr>
<td>Middle East</td>
<td>-22.3</td>
<td>-21.2</td>
<td>-12.6</td>
<td>-7.7</td>
<td>-2.2</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>98.4</td>
<td>94.5</td>
<td>60.9</td>
<td>54.4</td>
<td>27.7</td>
<td></td>
</tr>
<tr>
<td>Other Asia</td>
<td>-27.9</td>
<td>-31.5</td>
<td>-8.9</td>
<td>-11.3</td>
<td>-5.5</td>
<td></td>
</tr>
<tr>
<td>Oceania</td>
<td>-2.3</td>
<td>-1.6</td>
<td>-1.7</td>
<td>-1.6</td>
<td>-0.4</td>
<td></td>
</tr>
</tbody>
</table>

Source: worldsteel
Regional demand trends: ASEAN focus

Global steel demand index

Steel demand in ASEAN (5)

Source: worldsteel SRO October 2019, steel demand finished steel
The way forward
The way forward

- After two decades of strong growth, demand for steel appears to be at the beginning of a period of slower growth.

- Some progress has been made on reducing excess capacity, largely owing to efforts by China, but the excess capacity problem still persists and demand growth alone will not solve the problem:
  - where large excess productive capacity exist, the need for further efforts to reduce capacity must be evaluated.
  - where large demand growth is expected in the future, care should be taken not to work with over-optimistic assumptions.
  - where increase of capacities is expected, careful monitoring should be in place.

- Progress on the policy recommendations still need to be cemented
  - Continued information sharing on capacity developments and support measures, as well as best practices, will provide a better basis for discussion among members and assist effective steps to tackle the problem.

- Steel industry supports a continuation of the forum, and request for an extension of the mandate beyond 2019.