Iron & Steel Scrap in Japan

- Introduction of JISRI
- Situation in Japan and overseas

Japan Iron & Steel Recycling Institute (JISRI)
Contents

1. Introduction of JISRI
2. Supply & Demand Situation in Japan
3. Japan’s Steel Scrap Export
4. Steel Scrap Market in overseas
1. Introduction of JISRI

History

July 1, 1975  Established as “Japan Iron & Steel Scrap Industry Association” under the auspices of the Ministry of International Trade & Industry by companies specializing in Iron and steel scrap and trading firms. 
July 3, 1991  Name was changed to “Japan Iron & Steel Recycling Institute (JISRI)”.

Objectives

JISRI aims to contribute to the stable economic development of Japan, and to the better lifestyle for the Japanese people. To achieve this, JISRI strives to ensure stable supply of iron & steel scrap by conducting research and promoting educational activities pertaining to waste treatment, pollution prevention, resource recovery, improvement of technology and management, etc. of iron & steel scrap industry.

Members

(as of Dec. 31, 2017)

Official members : 735 companies.
(Iron & steel scrap dealers : 720  Trading firms : 15 )
1. Collection and assessment of data & information
   We collect data & information relating to the industry, and disseminate those after assessment. We specifically make research on shredding processing technology and its dust, and conduct public awareness activities.

2. Consultations and negotiations on behalf of the industry
   On behalf of the industry, we make consultations and negotiations with government agencies and other organizations.

3. Improvement of business practice in the industry
   We provide research and information on environmental conservation, labor issues, various technological advances in the industry. We issue “Iron & Steel Recycling Industry Handbook”.

4. Public relations
   We disseminate information, by several means including homepage, about activities of headquarter, local chapters, and various committees. We publish “Iron & Steel Recycling News” 4 -5 times a year.

5. Insurance for members
   We provide casualty insurance to the members, including “Facility liability insurance” and “Comprehensive occupational accident insurance”
1. Introduction of JISRI

Organization

Board of Directors

Steering Committee

Committee Organization

Finance Committee

Logistics & Trading Committee

Business Operation & Performance Committee

Environment Committee

Public Relations Committee

International Network Committee

End-of-Life Vehicle Recycling Committee

Port & Harbor Committee

Chapter Organization

Hokkaido Chapter

Tohoku Chapter

Kanto Chapter

Chubu Chapter

Kansai Chapter

Chugoku-Shikoku Chapter

Kyushu Chapter
2. Supply & Demand Situation in Japan in fiscal 2016

➢ In fiscal 2016, total quantity of Home Scrap (consumed within Mills) and Purchased Scrap was about 40 mil tons. Considering Export of about 8 mil tons, total supply in theory was about 49 mil tons.
➢ About 8 mil tons of steel scrap, which could not be domestically recycled, was exported overseas.
➢ Japan’s total Steel Stockpiles (Reserve) at the end of 2016 is estimated at around 1.36 billion tons, and the export from Japan is forecasted to continue and increase.

Supply of Steel Scrap (Abt. 49mil tons)

<table>
<thead>
<tr>
<th></th>
<th>Home Scrap</th>
<th>Purchased Scrap</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>BF Mills</td>
<td>8,934</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EF Mills</td>
<td>2,251</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundary</td>
<td>2,256</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prompt Scrap</td>
<td>7,860 (29.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obsolete Scrap</td>
<td>18,766 (70.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generating from:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto mobile</td>
<td>(10.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machinery</td>
<td>(20.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Container</td>
<td>(3.0%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>(22.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil Eng.</td>
<td>(15.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>(28.0%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Scrap</td>
<td>4,317</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Consumption of Steel Scrap (Abt. 40 mil tons)

<table>
<thead>
<tr>
<th></th>
<th>BF Mills (Converter)</th>
<th>EF Mills</th>
<th>Foundary</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,111</td>
<td></td>
<td>24,332</td>
<td>4,885</td>
<td>801</td>
</tr>
</tbody>
</table>

Unit: 1,000 tons

Source: The Japan Ferrous Raw Materials Assoc., Ministry of Industry & Trade, etc.
2. Supply & Demand Situation in Japan

(1) Demand (Consumption):

- Japan is faced with “Declining Birthrate and Ageing Population. Increase of demand for steel for construction and civil engineering will not be expected. Current high production rate of steel by Electric Furnace Mills is sustained by the special demand for “2020 Tokyo Olympic Games.” But after the Olympic, the demand for steel is estimated to decline considerably.
- Steel products for construction and civil engineering, represented by deformed bars and H-beams, are now annually produced at the range of 15～16 mil tons. After 2020, however, it is anticipated to decline by 20～30 percent. By this production cutback, demand for scrap will also be significantly decreased.

(2) Supply:

- Japan’s current Steel Stockpile (Reserve) is about 1.36 billion tons. The figure is increasing at a slow pace. Supply of Steel Scrap, then, is fully secured for the Japanese domestic market and also for export.
3. Japan’s Steel Scrap Export

Around the year 1970:
Domestic Demand > Domestic Supply
⇒ Japan imported Steel Scrap from overseas.

From 1992:
Domestic Demand < Domestic Supply
⇒ Japan’s export began in earnest.

- Japan’s export is mainly destined to Korea and China.
- Currently, export to Vietnam and Taiwan is expanding.
- Export to nations in the far distance such as Bangladesh has started.

(Source: Japan’s Ministry of Finance)
## 3. Japan’s Steel Scrap Export

### Japan’s Export by Destination in recent 3 years

<table>
<thead>
<tr>
<th></th>
<th>Year 2015</th>
<th></th>
<th>Year 2016</th>
<th></th>
<th>Year 2017</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Korea</td>
<td>3,104</td>
<td>39.6%</td>
<td>Korea</td>
<td>3,434</td>
<td>39.5%</td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>1,912</td>
<td>24.4%</td>
<td>Vietnam</td>
<td>1,978</td>
<td>22.7%</td>
</tr>
<tr>
<td>3</td>
<td>Vietnam</td>
<td>1,579</td>
<td>20.1%</td>
<td>China</td>
<td>1,935</td>
<td>22.2%</td>
</tr>
<tr>
<td>4</td>
<td>Taiwan</td>
<td>922</td>
<td>11.8%</td>
<td>Taiwan</td>
<td>855</td>
<td>9.8%</td>
</tr>
<tr>
<td>5</td>
<td>Indonesia</td>
<td>156</td>
<td>2.0%</td>
<td>Bangladesh</td>
<td>208</td>
<td>2.4%</td>
</tr>
<tr>
<td>6</td>
<td>India</td>
<td>60</td>
<td>0.8%</td>
<td>Indonesia</td>
<td>134</td>
<td>1.5%</td>
</tr>
<tr>
<td>7</td>
<td>Bangladesh</td>
<td>47</td>
<td>0.6%</td>
<td>Thailand</td>
<td>66</td>
<td>0.8%</td>
</tr>
<tr>
<td>8</td>
<td>Thailand</td>
<td>21</td>
<td>0.3%</td>
<td>India</td>
<td>65</td>
<td>0.7%</td>
</tr>
<tr>
<td>9</td>
<td>Singapore</td>
<td>5</td>
<td>0.1%</td>
<td>Malaysia</td>
<td>13</td>
<td>0.1%</td>
</tr>
<tr>
<td>10</td>
<td>Others</td>
<td>33</td>
<td>0.4%</td>
<td>Others</td>
<td>10</td>
<td>0.1%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>7,839</td>
<td>100.0%</td>
<td>Total</td>
<td>8,698</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Year 2015</th>
<th></th>
<th>Year 2016</th>
<th></th>
<th>Year 2017</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Korea</td>
<td>4,049</td>
<td>49.3%</td>
<td>Korea</td>
<td>1,815</td>
<td>22.1%</td>
</tr>
<tr>
<td>2</td>
<td>China</td>
<td>1,815</td>
<td>22.1%</td>
<td>Vietnam</td>
<td>1,519</td>
<td>18.5%</td>
</tr>
<tr>
<td>3</td>
<td>Vietnam</td>
<td>1,519</td>
<td>18.5%</td>
<td>Taiwan</td>
<td>398</td>
<td>4.8%</td>
</tr>
<tr>
<td>4</td>
<td>Taiwan</td>
<td>398</td>
<td>4.8%</td>
<td>Bangladesh</td>
<td>202</td>
<td>2.5%</td>
</tr>
<tr>
<td>5</td>
<td>Bangladesh</td>
<td>202</td>
<td>2.5%</td>
<td>Indonesia</td>
<td>71</td>
<td>0.9%</td>
</tr>
<tr>
<td>6</td>
<td>Indonesia</td>
<td>71</td>
<td>0.9%</td>
<td>U.S.A.</td>
<td>65</td>
<td>0.8%</td>
</tr>
<tr>
<td>7</td>
<td>Thailand</td>
<td>65</td>
<td>0.8%</td>
<td>Thailand</td>
<td>51</td>
<td>0.6%</td>
</tr>
<tr>
<td>8</td>
<td>India</td>
<td>32</td>
<td>0.4%</td>
<td>Malaysia</td>
<td>13</td>
<td>0.1%</td>
</tr>
<tr>
<td>9</td>
<td>Malaysia</td>
<td>15</td>
<td>0.2%</td>
<td>Others</td>
<td>15</td>
<td>0.2%</td>
</tr>
<tr>
<td>10</td>
<td>Others</td>
<td>15</td>
<td>0.2%</td>
<td>Total</td>
<td>8,217</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: Japan's Ministry of Finance (HS Code 7204)
3. Japan’s Steel Scrap Export – in 2017

Total Export Quantity in 2017: 8,217 thousand tons

( Unit : 1,000 tons )

Hokkaido : 580
Tohoku : 646
Hokuriku : 444
Kanto : 3,183
Chubu : 1,268
Kansai : 773
Chugoku, Shikoku : 293
Kyushu, Okinawa : 1,029
4. Steel Scrap Market in Overseas

Situations in overseas countries

China:
➢ Half of world’s crude steel is produced by China, but import of scrap has been very small. During the period of 2012~2016, the annual import tonnage was in the range of 2 ~ 4 mil tons of mainly “miscellaneous scrap” (scrap with non ferrous metals).
➢ Current characteristic of China is the drastic increase of steel scrap export. China exported 2.2 mil tons in 2017, while the quantity of export has been almost negligible for years.

Source: CAMU (China Association of Metal Scrap Utilization), Import & Export Statistics of China.

Korea:
➢ Korea is the biggest nation in East Asia in terms of import quantity of steel scrap. Korea imported 6.2 mil tons in 2017, from Japan, Russia, USA, etc.
➢ “Self-sufficiency” of steel scrap may have reached at 80%, and Korea will turn into a net export country in not the distant future. (Self-sufficiency is said to reach at 100% in around 2025.)

Source: KOSA (Korea Iron & Steel Association), Import & Export Statistics of Korea.
4. Steel Scrap Market in Overseas

**Vietnam:**
Vietnam shows significant growth in crude steel production, and import of steel scrap has been rapidly increasing.

**India:**
India imports steel scrap as much as Korea does, at the level of 6 mil tons per year. The crude steel production has reached at 100 mil tons, and import of steel scrap will be increasing cumulatively.

**Bangladesh:**
Current crude steel production could be 3 ~ 4 mil tons per year while accurate figure is not available. As the production of steel is by induction furnaces, almost the same quantity of steel scrap is estimated to be imported. Bangladesh is said to import steel scrap increasingly in future due to their plans for steel production expansion.

**Turkey:**
World largest steel scrap import nation.
Turkey import 15 ~ 20 mil tons per year from EU, Russia, Ukraine, USA, etc. Japan has no record to export to Turkey but it could be a destination in future.
## 4. Steel Scrap Market in Overseas

### Main Steel Scrap Import Nations – Data in 2016

(Unit: 1,000 tons)

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>Korea</th>
<th>Vietnam</th>
<th>Taiwan</th>
<th>India</th>
<th>Bangladesh</th>
<th>Turkey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Steel Prod.</td>
<td>808,400</td>
<td>68,576</td>
<td>7,811</td>
<td>21,751</td>
<td>95,618</td>
<td>3,000–4,000</td>
<td>33,163</td>
</tr>
<tr>
<td>Steel Scrap Import</td>
<td>2,162</td>
<td>5,842</td>
<td>4,003</td>
<td>3,143</td>
<td>6,380</td>
<td>3,000–4,000</td>
<td>17,716</td>
</tr>
<tr>
<td>Steel Scrap Export</td>
<td>1</td>
<td>554</td>
<td>N.A</td>
<td>76</td>
<td>11</td>
<td>N.A</td>
<td>156</td>
</tr>
<tr>
<td>Import from Japan</td>
<td>1,935</td>
<td>3,434</td>
<td>1,978</td>
<td>855</td>
<td>65</td>
<td>208</td>
<td>0</td>
</tr>
</tbody>
</table>

1. Source: Worldsteel and other sources. China’s data is from CAMU.
2. China’s export drastically increased in 2017 to 2.2 million tons.
4. Steel Scrap Market in Overseas – World Flowchart in 2015

Source: ISSB 「International Steel Statistics」, WSA 「Steel Statistical Yearbook」

1) Europe is shown as EU15 and other European nations.
2) Size of circle shows volumes of import / export. Upper figure: Export, Lower figure: Import
3) ( ) is WSA’s data.

WSA Total Export : 83,999 (Unit : 1,000mt)
WSA Total Import : 83,848 (Unit : 1,000mt)
Thank you for your attention!