The Development and Policy System of China's Recycling Nonferrous Metals Industry

Wang Jiwei
Vice President & Secretary General of China Nonferrous Metals Association Recycling Metal Branch
Oct. 2014


三. Potential and opportunities of China's Recycling Nonferrous Metals Industry

Since the beginning of 2014, China's recycling nonferrous metals industry has been effected by the complicated and changeable global economic environment, weak industrial production and trading, lower fluctuations of nonferrous metals’ price, serious and continuous inverted price in China and overseas while overall smooth operation is being maintained and positive development in structural adjustment, technical innovation, management improvement, energy-saving and emission reduction and environmental protection has been made.

（一）Operation of the Industry

1. Smoothly Increased Production Scale
Recycling nonferrous metals output in the first half of 2014 (unit: 10,000 tons)

2. Yearly decreased scrap metals import volume

China's imported volume of wastes with copper in 2002-2013
China's imported volume of wastes with aluminum in 2003-2013

China's imported volume of wastes in the first half of 2014 (10,000 tons)
3. Improved technology and equipment

- NGL furnace
- Regenerative melting furnace
- Double chamber furnace
- Continuous heat exchanger
- Secondary incinerator
4. Effective energy saving and emission reduction

Average energy consumption of recycling copper is 250 kg of coal equivalent, recycling aluminum is 110 and recycling lead is nearly 130.

As compared with production of equivalent primary metal, China's recycling nonferrous metal industry has saved 22.7 million tons of coal equivalent, 1.6 billion square meters of water equivalent and reduced 811 thousand tons of sulfur dioxide emission in 2013.
5. Industrial structure adjustment made progress

More than 5 enterprises with 300 thousand tons more of annual recycling aluminum output, more than 20 enterprises with 100 thousand tons of annual output;

More than 10 enterprises with 200 thousand tons of annual recycling copper output;

More than 10 enterprises with 100 thousand tons of annual recycling lead output;

Industrial structure has been expanded from Yangtze River Delta, Pearl River Delta and Bohai Rim Region to Jiangxi Chongqing etc.

From "front shop and back factory" and "concentrated management" to city mining mode
二、 Confronted problems

1. Decreased wastes import year-on-year
   Price reverted and production risks increased
2. Weak downstream demand
   Decreased operation rate and weak profitability
3. High financing pressure
   Capital chain tension and new projects slowed down

二、 Policy system of China's recycling nonferrous metals industry

Encouragement:

《Circular Economy Promotion Law》
《The Twelfth Five-Year National Strategic Emerging Industry Development Plan》
《Recycling Nonferrous Metal Industry Development and Promotion Plan》
... ...
A series of supportive measures for major projects, key technology and important enterprises and processing gardens have been put forward——

178 state circular economy pilots
99 recycling system construction pilots
45 state city mining demonstration bases
20 imported recycling sources processing gardens
107 recycling electronics and alliances processing funds allowance enterprises
Imported key parts and raw materials in compliance with Important Technology Equipment and Product List supported by the government shall be exempt from custom duties and import VAT.

Enterprises with 15 kinds of recycling resources such as wasted batteries, wasted motors and scraped cars as materials accounting for no less than 90% enjoy 50% drawback preferential policy of VAT.

Regulations

Import:

《Solid wastes list prohibited to import》
《Permitted imported solid wastes primary materials list》
《Restricted imported solid wastes primary materials list》 ... ...
There are 72 kinds of solid wastes which are permitted to import, including scraped copper, scraped aluminum, scraped hardware and appliances, scraped motors and scraped wire and cable etc.

Since 2015, permit for importing solid wastes will be cancelled and restricted permit for importing solid wastes can be obtained from provincial government.

According to the registration system for overseas suppliers and domestic consignee, effective overseas suppliers are 3195 and domestic consignees are 3490 until 2013.

Imported solid wastes shall be transported by types, one container can only be loaded with one type. Different types loaded within one container shall be separately bundled and packaged.
When submitting for customs inspection, the consignee shall provide the certificate for pre-shipment inspection issued by the inspection bodies designated by AQSIQ and shall take cargo to the nearest port for customs clearance.

Customs will open and inspect all containers, weigh the sorted cargos in assembled container and confirm the names and quantity. Grade A above enterprises with sound records will enjoy the Green channel.

In 2013, 24 pre-shipment inspection bodies inspected and stopped 9,779 overseas shipments totally 1,431,400 tons of primary materials which are not in compliance with China's environmental protection, with yearly growth of 91.11% and 146.79%.

<table>
<thead>
<tr>
<th>Pre-shipment inspection body</th>
<th>shipments (10,000)</th>
<th>total weight 10,000 tons</th>
<th>unqualified</th>
<th>ratio</th>
<th>weight 10,000 tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCIC North America</td>
<td>10.86</td>
<td>1,663.58</td>
<td>3533</td>
<td>3.25%</td>
<td>52.74</td>
</tr>
<tr>
<td>CCIC H.K.</td>
<td>5.43</td>
<td>785.00</td>
<td>896</td>
<td>1.65%</td>
<td>1.63</td>
</tr>
<tr>
<td>CCIC London</td>
<td>1.61</td>
<td>343.47</td>
<td>483</td>
<td>3.00%</td>
<td>10.99</td>
</tr>
<tr>
<td>JCIC</td>
<td>1.38</td>
<td>519.27</td>
<td>413</td>
<td>3.00%</td>
<td>16.62</td>
</tr>
<tr>
<td>CCIC Europe</td>
<td>1.38</td>
<td>283.66</td>
<td>429</td>
<td>3.10%</td>
<td>9.30</td>
</tr>
<tr>
<td>CCIC Canada</td>
<td>1.67</td>
<td>163.27</td>
<td>468</td>
<td>2.80%</td>
<td>5.55</td>
</tr>
<tr>
<td>CCIC Japan</td>
<td>2.16</td>
<td>231.72</td>
<td>692</td>
<td>3.20%</td>
<td>7.65</td>
</tr>
<tr>
<td>CCIC Marseilles</td>
<td>0.96</td>
<td>183.96</td>
<td>297</td>
<td>3.10%</td>
<td>5.92</td>
</tr>
<tr>
<td>CCIC Bremen</td>
<td>1.82</td>
<td>161.98</td>
<td>618</td>
<td>3.40%</td>
<td>5.51</td>
</tr>
<tr>
<td>CCIC Malaysia</td>
<td>0.99</td>
<td>110.68</td>
<td>317</td>
<td>3.20%</td>
<td>3.54</td>
</tr>
<tr>
<td>CCIC Australia</td>
<td>0.85</td>
<td>110.16</td>
<td>237</td>
<td>2.80%</td>
<td>3.30</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In 2013, AQSIQ totally inspected 442 shipments, 153,100 tons of imported primary materials with the total value of 56 million US$ which are not in compliance with China's environmental protection, mainly including 7 types of scraped plastics, mixed scraped metals, scraped metal and alloy, scraped paper, scraped textile materials, smelting slag and scraped ships.

<table>
<thead>
<tr>
<th>Types</th>
<th>Total shipments</th>
<th>Unqualified ratio (%)</th>
<th>weight (10,000 tons)</th>
<th>Ratio (%)</th>
<th>Value (100,000,000$)</th>
<th>Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>scraped plastics</td>
<td>118561</td>
<td>256</td>
<td>0.22</td>
<td>1.41</td>
<td>0.101</td>
<td>0.17</td>
</tr>
<tr>
<td>scraped paper</td>
<td>89212</td>
<td>48</td>
<td>0.05</td>
<td>2.30</td>
<td>0.045</td>
<td>0.08</td>
</tr>
<tr>
<td>scraped metal and alloy</td>
<td>72593</td>
<td>67</td>
<td>0.09</td>
<td>0.32</td>
<td>0.114</td>
<td>0.10</td>
</tr>
<tr>
<td>mixed scraped metals</td>
<td>66360</td>
<td>54</td>
<td>0.08</td>
<td>1.38</td>
<td>0.117</td>
<td>0.14</td>
</tr>
<tr>
<td>scraped textile materials</td>
<td>7376</td>
<td>5</td>
<td>0.07</td>
<td>0.009</td>
<td>0.0003</td>
<td>0.01</td>
</tr>
<tr>
<td>smelting slag</td>
<td>948</td>
<td>10</td>
<td>1.05</td>
<td>9.88</td>
<td>0.126</td>
<td>2.18</td>
</tr>
<tr>
<td>scraped ships</td>
<td>289</td>
<td>2</td>
<td>0.69</td>
<td>-</td>
<td>0.060</td>
<td>0.84</td>
</tr>
</tbody>
</table>

Unqualified mainly means excessive inclusions, unbroken and unclean, excessive strictly-controlled inclusions, excessive radioactivity, prohibited inclusions, discrepancy of goods and certificate, unqualified special items, smuggling content and other returned cargos.

<table>
<thead>
<tr>
<th>No</th>
<th>reasons</th>
<th>shipment</th>
<th>Ratio (%)</th>
<th>Weight (tons)</th>
<th>value (10,000$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>excessive inclusions</td>
<td>126</td>
<td>28.51</td>
<td>24279.32</td>
<td>967.59</td>
</tr>
<tr>
<td>2</td>
<td>unbroken and unclean</td>
<td>121</td>
<td>27.38</td>
<td>6723.69</td>
<td>492.32</td>
</tr>
<tr>
<td>3</td>
<td>excessive strictly-controlled inclusions</td>
<td>73</td>
<td>16.52</td>
<td>7376.63</td>
<td>513.69</td>
</tr>
<tr>
<td>4</td>
<td>prohibited inclusions</td>
<td>60</td>
<td>13.57</td>
<td>5386.86</td>
<td>609.74</td>
</tr>
<tr>
<td>5</td>
<td>excessive radioactivity</td>
<td>32</td>
<td>7.24</td>
<td>9674.78</td>
<td>1551.92</td>
</tr>
<tr>
<td>6</td>
<td>discrepancy of goods and certificate</td>
<td>18</td>
<td>4.07</td>
<td>788.60</td>
<td>240.35</td>
</tr>
<tr>
<td>7</td>
<td>unqualified special items</td>
<td>10</td>
<td>2.26</td>
<td>98843.73</td>
<td>1257.12</td>
</tr>
<tr>
<td>8</td>
<td>smuggling content</td>
<td>1</td>
<td>0.23</td>
<td>25.08</td>
<td>1.98</td>
</tr>
<tr>
<td>9</td>
<td>other returned cargos</td>
<td>1</td>
<td>0.23</td>
<td>26.98</td>
<td>1.56</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>442</td>
<td>100</td>
<td>153125.67</td>
<td>5636.27</td>
</tr>
</tbody>
</table>
Environmental protection:

《Imported solid wastes management》
《The Twelfth-five plan for Heavy metal pollution prevention》
Lead acid battery and recycling lead enterprises environmental protection and inspection

By the end of 2015, unqualified lead acid battery and recycling lead enterprises will be shut down.
According to the Amendment (VIII) to the Criminal Law of the P.R.C, discharging, dumping and disposing radioactive wastes, wastes containing causative agent of infectious disease and poisoned constances by use of self-laid tube, pits, crevices or karat caves will be regarded as heavy environmental pollution and will be given criminal sanctions.

Market access:

《Access Conditions for the Secondary Lead Industry》
《Regulations for Aluminum Industry》
《Regulations for Copper Smelting Industry》

New recycling copper and aluminum project with annual output of 100,000 tons and above and recycling lead projects with 50,000 tons and above;
Existing recycling copper and aluminum projects with annual output of no more than 50,000 tons and recycling lead projects with no more than 30,000 tons.
Potentials and opportunities in China's recycling nonferrous metal industry

(一) Government's high attention

Recycling nonferrous metal industry is the only choice of China's economic development mode transformation and has been the strategic emerging industry and sunrise industry.

During the visiting recycling nonferrous metal enterprises, Chairman Xi Jinping said:

Recycling is a sunrise industry. Wastes are resources placed at the wrong place. Turning wastes into resources is an art.

(二) Domestic scraped nonferrous metals accumulated more and more

Urbanization rate: 35% for 2013—65%-70% for 2030

Demands for nonferrous metals increase sharply. For example: State Grid investment increases by 5%. The capital for power grid upgrading in 2013 is 337.9 billion RMB with a yearly growth of 10.64%. 381.5 billion RMB is planned to invest in 2014. According to 883 tons of refined copper is consumed for every 100 million RMB investment, more than 6 million tons of copper has been used for power grid upgrading during recent years.

Resources circulation period: China has consumed nearly 300 million tons of copper and aluminum during the past 60 years. The scrap fastigium in China estimatedly comes in 2015.
Automotive: the parc in 2013 is 130 million, scraped 3 million, dismantled 1.35 million, 10 million is estimated in 2020.

TV, refrigerator, air-conditioning, washing machine and computer: the processing in 2013 is 4 billion, dismantling 41.50 million, 150 million scraped and 100 million dismantling is estimated for the following 2-3 years.

Mobile: mobile processing in 2011 is more than 800 million and scraped mobiles in 2012 is 86.53 million.

(三) More room for improvement in China’s recycling nonferrous metals industry
China is still far behind others in material sorting, technology and equipment, product application, operation mode and management.

(四) Broad prospects for international cooperation in recycling nonferrous metals industry
China’s recycling nonferrous metals industry is in the period of transformation and ungrading with broad market, various demands and wide international cooperation range.
14th CMRA Annual Convention is going to be held in Guangzhou China on Nov. 7-9, 2014

• Welcome to China's market for new opportunities
  • and mutual development
谢谢大家！