The “12th Five-Year” Development Outlook of Chinese Nonferrous Metals Industry

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Content

- 1. Status and situation of Chinese non-ferrous metals industry development in “12th Five-Year”
- 2. Ideas and direction of Chinese non-ferrous metals industry development in “12th Five-Year”
- 3. Target and task of Chinese non-ferrous metals industry development in “12th Five-Year”
- 4. Chinese tungsten industry’s development target and task in “12th Five-Year”
1. Status and situation of Chinese non-ferrous metals industry development in “12th Five-Year”

After experiencing fast development in the “Eleventh Five-year“, major non-ferrous metals smelting technology and installments in Chinese non-ferrous metals industry has reached global advanced level and China has become world’s largest producer and consumer of non-ferrous metals.
1. Status and situation of Chinese non-ferrous metals industry development in “12th Five-Year”

10 commonly-used nonferrous metals in China: Copper, aluminum, lead, zinc, nickel, tin, antimony, mercury, magnesium, titanium.

Those ten nonferrous metals accounted more than 95% of Chinese total output of non-ferrous metals and the sales income accounted for more than 85% of the total.
1. Status and situation of Chinese non-ferrous metals industry development in “12th Five-Year”

2011:

**Chinese non-ferrous metals industry:**
Above-scale enterprises sales income: **4.3 trillion yuan**, up by **35.5% y-o-y**;
Profit realized: **248.9 billion yuan**, up by **51.6% y-o-y**;
Fix assets investment: **513.5 billion yuan**, up by **33.2% y-o-y**;
Imp & Exp value: more than US$160 billion, up by **28% y-o-y**.

**Chinese 10 non-ferrous metals:**
Output: **34.38mlnt**, up by **9.8% y-o-y**;
Apparent consumption: **35.86mlnt**, up by **8.0% y-o-y**;
1. Status and situation of Chinese non-ferrous metals industry development in “12th Five-Year”

In “Eleventh Five-year”:

**Chinese nonferrous metals industry:**
- Above-scale enterprises sales income: 29.8% average annual growth
- Profit realized: average annual growth 28.1%;

**Chinese 10 non-ferrous metals:**
- Output: average annual growth 13.7%
- Apparent consumption: average annual growth 15.5%.
1. Status and situation of Chinese non-ferrous metals industry development in “12th Five-Year”

Table 1: Chinese 10 nonferrous metals production and consumption

<table>
<thead>
<tr>
<th>Metal</th>
<th>2005</th>
<th>2010</th>
<th>Average annual growth rate (%)</th>
<th>2005</th>
<th>2010</th>
<th>Average annual growth rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tenth Five-year</td>
<td>Eleven Five-year</td>
<td></td>
<td>Tenth Five-year</td>
</tr>
<tr>
<td>10 nonferrous metals</td>
<td>16390</td>
<td>31210</td>
<td>15.9</td>
<td>13.7</td>
<td>16700</td>
<td>34300</td>
</tr>
<tr>
<td>Refined copper</td>
<td>2600</td>
<td>4580</td>
<td>13.7</td>
<td>12.0</td>
<td>3740</td>
<td>7530</td>
</tr>
<tr>
<td>Primary aluminum</td>
<td>7800</td>
<td>15770</td>
<td>21.1</td>
<td>15.1</td>
<td>7120</td>
<td>15920</td>
</tr>
<tr>
<td>Lead</td>
<td>2390</td>
<td>4260</td>
<td>16.6</td>
<td>12.2</td>
<td>1980</td>
<td>4240</td>
</tr>
<tr>
<td>Zinc</td>
<td>2780</td>
<td>5160</td>
<td>7.1</td>
<td>13.7</td>
<td>3250</td>
<td>5600</td>
</tr>
<tr>
<td>Nickel</td>
<td>95</td>
<td>171</td>
<td>13.2</td>
<td>12.5</td>
<td>197</td>
<td>520</td>
</tr>
<tr>
<td>Tin</td>
<td>122</td>
<td>164</td>
<td>1.9</td>
<td>6.1</td>
<td>102</td>
<td>124</td>
</tr>
<tr>
<td>Antimony</td>
<td>138</td>
<td>187</td>
<td>4.1</td>
<td>6.3</td>
<td>74.5</td>
<td>71</td>
</tr>
<tr>
<td>Mercury</td>
<td>1.1</td>
<td>1.6</td>
<td>40.0</td>
<td>7.8</td>
<td>1.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Magnesium</td>
<td>451</td>
<td>654</td>
<td>17.4</td>
<td>7.7</td>
<td>107</td>
<td>230</td>
</tr>
<tr>
<td>Titanium</td>
<td>9.2</td>
<td>74</td>
<td>37.1</td>
<td>51.7</td>
<td>11</td>
<td>71</td>
</tr>
</tbody>
</table>
1. Status and situation of Chinese non-ferrous metals industry development in “12th Five-Year”

In “Eleventh Five-year”:

The level of major non-ferrous metals smelting technology and installments raised
Products structure improved
Energy-saving and emission-reduction got primary achievement
Recycling economy realized fast development
Industry structure further optimized
1. Status and situation of Chinese non-ferrous metals industry development in “12th Five-Year”

**Main problems existed:**

The whole industry in low-end position of international industrial line;
Imbalance between mine capacity and down-stream smelting processing capacity;
Some deep-processing products with high-technology and high added value could not realize nationalization, still depending on import;
Weak self-creative capability, less self-creative new material, key non-ferrous new material development falling behind the demand for strategic new industry.
Chinese non-ferrous metals’ dependence on foreign supply of non-ferrous material constantly rises, resource guarantee level low.
1. Status and situation of Chinese non-ferrous metals industry development in “12th Five-Year”

Table 2  Demand prediction for major non-ferrous metals in 2015

<table>
<thead>
<tr>
<th>Metals</th>
<th>Apparent consumption in 2010 (kt)</th>
<th>“Eleven Five-year” average annual growth rate (%)</th>
<th>Apparent consumption in 2015 (kt)</th>
<th>“Twelfth Five-year” average annual growth rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 nonferrous metals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refined copper</td>
<td>7530</td>
<td>15.0</td>
<td>9700</td>
<td>5.2</td>
</tr>
<tr>
<td>Primary aluminum</td>
<td>15920</td>
<td>17.5</td>
<td>2400</td>
<td>8.6</td>
</tr>
<tr>
<td>Lead</td>
<td>4240</td>
<td>16.5</td>
<td>6200</td>
<td>7.9</td>
</tr>
<tr>
<td>Zinc</td>
<td>5600</td>
<td>11.5</td>
<td>720</td>
<td>5.2</td>
</tr>
<tr>
<td>Nickel</td>
<td>520</td>
<td>21.4</td>
<td>700</td>
<td>6.1</td>
</tr>
<tr>
<td>Tin</td>
<td>124</td>
<td>4.0</td>
<td>191</td>
<td>9.0</td>
</tr>
<tr>
<td>Antimony</td>
<td>71</td>
<td>-0.1</td>
<td>110</td>
<td>9.2</td>
</tr>
<tr>
<td>Mercury</td>
<td>1.6</td>
<td>7.8</td>
<td>1.8</td>
<td>2.4</td>
</tr>
<tr>
<td>Magnesium</td>
<td>230</td>
<td>16.5</td>
<td>750</td>
<td>26.7</td>
</tr>
<tr>
<td>Titanium</td>
<td>71</td>
<td>45.2</td>
<td>150</td>
<td>16.1</td>
</tr>
</tbody>
</table>
1. Status and situation of Chinese non-ferrous metals industry development in “12th Five-Year”

In the “12th Five-year”, environment and challenge that Chinese non-ferrous metals industry faces:
- Structural contradiction accumulated by industry fast development still exists
- Restriction on major industry development factors strengthened
- The influence brought by financial crisis proceed; international issues increase day by day; competition based in resource, market, technology, standard and so on becomes more fierce.
1. Status and situation of Chinese non-ferrous metals industry development in “12th Five-Year”

Chinese non-ferrous metals industry need to speed up the step of changing development method to realize urgent upgrade transformation.
2. Ideas and direction of Chinese non-ferrous metals industry development in “12th Five-Year”

“Three supports”:

Stands in supporting domestic down-stream development demand
Stands in supporting region economy development
Stands in supporting technology progress
2. Ideas and direction of Chinese non-ferrous metals industry development in “12th Five-Year”

“Four changes”:
transform to eco-industry mode from focusing on scale expansion;
transform to service coordination from focus on main industry operation;
transform to develop resource in China and abroad from focus in domestic resource;
transform to develop in China and abroad from only focus on developing in domestic China.
2. Ideas and direction of Chinese non-ferrous metals industry development in “12th Five-Year”

“Five insists”:
- Insists on structure adjustment
- Insists on science and technology creation
- Insists on green development
- Insists on international cooperation
- Insists on coordination in informatization and industrialization
2. Ideas and direction of Chinese non-ferrous metals industry development in “12th Five-Year”

In the “12th Five-year”, Chinese nonferrous metals industry will take speeding up the development transformation as center, take sci & tech as support, take pushing energy-saving and emission-reduction, technology-improved, merge & reorganization and environment regulation as key points to strictly control smelting capacity from too fast expansion when considering domestic demand. Positively develop nonferrous metals deep-processing products; vigorously develop recycling economy and strengthen international cooperation to raise resource guarantee capacity; promote nonferrous metals industry central competition and sustainable development ability to accelerate the realization of nonferrous metals industry from large to strong.
3. Target and task of Chinese non-ferrous metals industry development in “12th Five-Year”

Major targets:
Industrial added value sees more than 10% average annual growth;
Output of ten non-ferrous metals to be controlled around 4.6ktpy, seeing 8% growth rate;
Unit energy consumption of industrial added value reduced by 18%, unit CO2 emission of industrial value reduced by 18%
Up to 2015, to realize added value of nonferrous metals new material accounting for 15% in 2015 from 8% in 2010.
3. Target and task of Chinese non-ferrous metals industry development in “12th Five-Year”

**Major targets:**
Important large and middle size enterprise establish completed technology innovation system, research investment to account for 1.5% of main operation income; Refined and deep processing products, resource integrated utilization, low carbon and other self-innovation skill and technology to get achievements; green and high-effect craft and energy-saving & emission-reduction technology to get widely used.
3. Target and task of Chinese non-ferrous metals industry development in “12th Five-Year”

Major tasks:

strictly control non-ferrous metals capacities in some places without resource, energy, environment capacitance conditions, and positively lead alumina and magnesium smelting capacity in places with short energy to transfer orderly to western regions with abundant energy resource.

In line with recycling economy development mode, to support establishing several non-ferrous metals new industrial demonstration bases featured with robust resource, completed industrial line, obvious features, high-effect resource utilization, friendly-environment; to support establishing East (Sino)-western industry transformation cooperation demonstration region having mutual complementary and win-win cooperation advantages.
3. Target and task of Chinese non-ferrous metals industry development in “12th Five-Year”

**Major tasks:**

Industry distribution and structure to get promoted; products category and quality to basically satisfy strategic new industry’s demand; industry concentration to be further raised; up to 2015, top-ten enterprise’ smelting output account for that of Chinese total respectively being copper 90%, primary 90%, lead 60% and zinc 60%.

Effectively prevents heavy metals pollution; emphasized region’s heavy metal pollution to reduce by 15% in 2015 compared with that in 2007.

Improves resource integrated utilization level; global cooperation to get obvious development; major non-ferrous metals guarantee level to be further enhanced.
4. Chinese tungsten industry’s development target and task in “12th Five-Year”

Development status:
Products structure and industry concentrate rate got improved, and the tungsten smelting technology in high level around the world. The technology of tungsten deep-processing and installment level are obviously raised, and industry economy capability is also improved.

Major problems:
Over capacity of tungsten smelting and processing; mining volume of tungsten too large; low innovation capability among enterprises; products structure needs to be upgraded; enterprise core and international competitiveness not strong
4. Chinese tungsten industry’s development target and task in “12th Five-Year”

General development target in “12th Five Year”:

Control tungsten mining quota, wash out smelting capacity falling behind. Promote industry upgrade by technology innovation; fully raise technology installment level and accelerate the transform of tungsten industry development way.
4. Chinese tungsten industry’s development target and task in “12th Five-Year”

Crucial tasks:
Firstly: raise resource security capability
Secondly: strictly control total volume
Thirdly: accelerate industrial upgrading
Thank you!