Coal Mining Equipment Market in China

Summary

Coal is the most available energy resource in China, supplying about 70% of primary energy consumption. It fuels 78% of power generation, 60% of raw chemical material, and 36% of household commercial energy. China is the world’s largest coal producer, accounting for nearly 28% of the world’s annual production. In 2004, China’s coal production reached 2 billion tons. As power shortage continues, experts predict that China’s coal production will surpass 2.1 billion tons in 2005. During the next 30 to 50 years, China plans that, coal will provide at least 50% of China's energy. With coal as China's major energy source, the coal industry will still maintain its fundamental position in China's economy.

Chinese manufacturers supply around 90% of coal mining equipment, while only 10% imported from foreign countries, such as U.S., Germany, U.K., South Africa, and Japan. China imported around USD 3 billion of coal mining equipment from the U.S. in the past seven years, accounting for about two thirds of China’s imported coal mining equipment. Generally speaking, U.S. companies are very competitive in supplying heavy coal mining machines, systems, and clean-coal technologies.

Market Overview

Despite China’s WTO accession, the Chinese government continues to encourage all domestic industries, including coal mining, to purchase domestic equipment and technology. If domestic equipment and technology are unavailable, however, and if foreign alternatives are not overly expensive, companies turn to imports.

Over the past two decades, China has imported billions of US dollars on advanced technologies and equipment for coalline construction, development, transportation, and processing. This has helped China to establish a complete system of research and development, geological exploration, mine construction, coal mining and processing, and mining machinery manufacturing. China still has a long way to go, however, to catch up with developed countries’ technologies. Currently, domestic manufacturers supply approximately 90% of China’s coal mining equipment. With the rapid development of coal mining technology in China, several Chinese companies have been able to manufacture high-tech mining equipment, such as super-power electric haulage shearers, hydraulic support systems, and armored face conveyers. Nevertheless, China’s major coal mining equipment is generally 10 to 15 years behind that of other countries with respect to mining efficiency, equipment quality, environmental protection of mines, safety and health, etc.

Market Trends and Opportunities
Although China has established some modern coalmines, the coal industry concentration rate is still low. There are only a few large-sized coal mining firms among China’s 25,400 coalmines. Average mine production capacity is 50,000 mt per year. 92.5% are small township or village coal mines. In 2004, the 778 large state-owned mines produced 57 percent of coal output, the 1200 medium-sized state-owned mines produced 15 percent of the total, while the 23,400 small township or village coal mines producing the remaining 28 percent. The rate of coal mining mechanization is only around 40%. Coal mining technology and equipment lags 10 years behind that of developed countries.

To deal with this problem, most large, state-owned coal mining companies in China are implementing structural reform to improve production results. China plans to build 13 large coal production bases and reorganize 13, large coal enterprises to further explore production potential and to ensure coal supply in the country. The 13 bases will mainly be in the country’s major coal-producing areas such as Shanxi, Hebei, Shaanxi, and Inner Mongolia. These large, state-owned coal-mining companies plan to improve productivity, safety, resources and utilization efficiency by using state-of-the-art technology and equipment. This infrastructure improvement provides tremendous opportunities for U.S. firms to sell equipment and technology.

Moreover, coalmine safety remains a critical issue at Chinese coalmines, of which 97% are underground mines. All coal mines are mash gas mines. Mash gas explosion is very severe in China. China has the highest coal mining accident mortality rate in the world. Reportedly, one coal miner dies every 70 minutes in China. Several severe accidents occurred in 2004, killing thousands of coal workers. A low installation rate of safety equipment in coalmines (less than 35%) is a major reason for the continued problem. According to the State Administration of Coal Mine Safety Supervision, China “underinvests” in coalmine safety, by USD 6 billion. The Chinese government hopes to compensate that amount of investment in safety over the next three years. The central government will invest $605 million and coal companies will invest the rest. This investment creates a significant opportunity for foreign companies to export coal safety equipment to China. Types of equipment include: security equipment, gas control systems, and fire monitoring and control equipment.

**Opportunities**

Due to the nationwide shortage of electricity, China will continue its investment in coal production for many years. In 2003, the total amount of fixed-asset investment in the coal exploration and processing industry reached $5.2 billion, a 52.3% increase compared to 2002 expenditures. In 2003, coal industry projects under construction were 73.6% more than in 2002. New projects take up 80.6% of the total projects. Experts predict that through 2020, China will need to invest over $151 billion in coal infrastructure. The investment will focus in five areas:

- Construction of new coal mines and coal bases
- Improvement of coal mine safety
- Clean coal processing and utilization technology (such as coal washing and coal slurry)
• Coal conversion technology (including coal liquefaction and coal gasification)
• Coal bed methane (CBM) development and utilization
• Mine mouth coal-fired power plants

To improve coalmine management and to increase coal production, the Chinese government encourages foreign investment in the coal-mining sector. This shift includes granting the right of mineral geological exploitation of domestic coalmines to foreign companies. Until now, there are only two joint venture coal mines in China. The two JV foreign partners are all U.S. companies, one underground coal mine and the other, an open-pit coal mine.

Heavy Coal Mining Equipment Market

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Market Size</td>
<td>1513</td>
<td>1846</td>
<td>3443</td>
</tr>
<tr>
<td>Total Local Production</td>
<td>1398</td>
<td>1695</td>
<td>3083</td>
</tr>
<tr>
<td>Total Exports</td>
<td>165</td>
<td>189</td>
<td>259</td>
</tr>
<tr>
<td>Total Imports</td>
<td>280</td>
<td>340</td>
<td>619</td>
</tr>
<tr>
<td>Imports from U.S.</td>
<td>58</td>
<td>53</td>
<td>102</td>
</tr>
</tbody>
</table>

(In millions of US dollars, PRC customs statistics.)

End Users

Large cities, as well as those economically-developed areas, could be potential customers of clean coal technologies. Areas rich in coal reserves and clustered with surface and underground coalmines would be the biggest markets for coal equipment, technology and services, such as Shanxi Province, Inner Mongolia Autonomous region, Shaanxi Province, etc. Large and super-large coal mining companies have more financial ability and interest because of production of scale to use imported coal mining equipment. The top 10 coal mining companies produced 24% of China’s total coal output. With rich coal mine resources and advanced management system, companies like Shenhua Group and Yankuang Coal Mining Group have imported lots of heavy coal mining equipment.

The 10 Largest Coal Mining Companies in China in 2003

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Output (million tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shenhua Group</td>
<td>101.97</td>
</tr>
<tr>
<td>Datong Coal Mining Group</td>
<td>50.15</td>
</tr>
<tr>
<td>Shanxi Coking Coal Group</td>
<td>46.50</td>
</tr>
<tr>
<td>Yankuang Coal Mining Group</td>
<td>45.60</td>
</tr>
<tr>
<td>China National Coal Group</td>
<td>35.89</td>
</tr>
<tr>
<td>Huainan Coal Mining Group</td>
<td>28.31</td>
</tr>
<tr>
<td>Pingdingshan Coal Mining Group</td>
<td>26.69</td>
</tr>
<tr>
<td>Kailuan Group</td>
<td>25.50</td>
</tr>
<tr>
<td>Yangquan Coal Mining Group</td>
<td>22.69</td>
</tr>
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<td></td>
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<td>--------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>Huaibei Coal Mining Group</strong></td>
<td>20.19</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>403.49</td>
</tr>
<tr>
<td><strong>Proportion of National Coal Output</strong></td>
<td>24%</td>
</tr>
</tbody>
</table>

**Shenhua Group**
Shenhua Group is the largest coal producer in China, and 5th largest coal producer in the world. Its annual coal output surpasses 100 million mt. It is listed in the Hong Kong Stock Exchange. It imported long-wall comprehensive mechanized underground coal mining equipment, short-wall continuous underground mining machines, walking draglines, electric mining shovels, and automation control equipment, from U.S., Germany, Britain, Australia, and South Africa.
Tel: 86-10-64485656
Fax: 86-10-64485252

**Datong Coal Mining Group**
Website: [www.dtcoalmine.com](http://www.dtcoalmine.com)
Tel: 86-352-7013080

**Shanxi Coking Coal Group**
Shanxi Coking Coal Group imported coal plough from U.S., Germany, Australia, Poland and Holland.
Tel: 86-351-6215271
Fax: 86-351-6122047

**Yankuang Coal Mining Group**
Yankuang Coal Mining Group is listed in New York, Hong Kong, and China Shanghai Stock Exchange. It is one of the most advanced coal mining companies in China. It imported shearer, roadheaders, and underground automation control equipment from Germany and U.S.
Website: [www.yanzhoucoal.com.cn](http://www.yanzhoucoal.com.cn)
Tel: 86-537-5382923
Fax: 86-537-5312573

**China National Coal Group**
China National Coal Group imported road scrapers, rock drills, and screening machines, from Germany, U.S., Britain, Australia, and Sweden.
Website: [www.chinacoal.com](http://www.chinacoal.com)
Tel: 86-10-64287188
Fax: 86-10-64287166

**Huainan Coal Mining Group**
Tel: 86-554-7624059
Fax: 86-554-6644825
Pingdingshan Coal Mining Group
Pingdingshan Coal Mining Group imported coal washing equipment and roadheaders from U.S., Britain, and Australia.
Website: www.pmjt.com.cn
Tel: 86-375-2723521
Fax: 86-375-2901445

Kailuan Group
Kailuan Group imported coal screening machine from U.S., Australia, Poland and Germany.
Website: www.kailuan.com.cn
Tel: 86-315-3022340
Fax: 86-315-2827307

Yangquan Coal Mining Group
Website: www.ymjt.com.cn
Tel: 86-353-7073112
Fax: 86-353-7071144

Huaibei Coal Mining Group
Website: www.hbcoal.com
Tel: 86-561-4951959
Fax: 86-561-4951959

Competition

Though domestic production of coal mining equipment supplies over 90% of domestic demand, large coal mines do import certain heavy machines and systems to increase production capacity. Shearers and road headers come from U.S., U.K., Germany, South Africa, and Japan. Due to the advanced technology in the equipment, U.S. and European mining equipment are known for high quality and reliability.

Germany, Japan, U.K., South Africa and U.S. are the major competitors in the market of Chinese coal liquefaction technology. Clean coal technologies and equipment from Germany and South Africa enjoy good reputations and have become the main competitors of U.S. companies. In addition, Japanese companies, with over three decades of coal liquefaction experience, have also shown their interest in penetrating China’s clean coal technology market.

U.S. companies enjoy their greatest competitive advantage in supplying heavy coal mining machines and systems. This includes shearers, road headers, hydraulic support systems, and armored face conveyors. In the last 7 years, the total volume for U.S. coal mining equipment exported to China was around USD 3 billion, which accounts for about
two thirds of China’s imported coal mining equipment. U.S. companies are involved with almost all of the joint contracts with China in CBM exploration and development. U.S. companies are also very competitive in the Chinese market for coal liquefaction technology and other, clean-coal technologies.

**Major Foreign Coal Mining Equipment Companies in China:**

- Joy Mining Machinery
- DBT
- Caterpillar
- Ingersoll-Rand
- Bucyrus International
- Komatsu
- Atlas Copco

**Market Access**

**Relative Regulations**

It is not necessary for U.S. surface coal mining equipment exporters to obtain any certificate from Chinese authorities. Only underground coal mining equipment requires safety certificates from the China State Administration of Coal Mine Safety. China has safety labeling or qualifying systems for underground coal mining equipment or apparatus, whether homemade or imported, to safeguard the health of the coal miners and for the sound development of the coal industry. China’s safety standards for the coal mining equipment are quite similar to the European Standard, which is a bit stricter than that of the United States. According to industry sources, most of the coal mining equipment made in the United States can meet China’s standards.

**Import Climate**

There is no significant barrier to imports of mining industry equipment in China. Although the Chinese Government encourages domestic purchases, there are no import quotas or restrictive inspection requirements for imported coal mining equipment.

**Market Entry**

U.S. companies can enter the China market by the following methods:

**Trading Companies and Local Agents:** With China’s accession to the WTO, foreign companies will be allowed to trade in China. Trading companies and local agents, however, remain an important option to consider. With careful selection, training and constant contact, U.S. companies can obtain good market representation from a local trading firm, many of which are authorized to deal in a wide range of products. Local agents who handle internal distribution and marketing offer relatively low-risk representation.
Representative Office: Representative offices are the easier type of offices for foreign firms to set up in China, but they are limited by law to performing “liaison” activities only. They cannot sign sales contracts, directly bill customers or supply parts and after-sales service for a fee.

Licensing Technology Transfer is another initial market entry approach. It offers short-term profits but runs the risk of creating long-term competitors. Due to this concern, as well as weak IPR protection in China, some companies attempt to license older technology, promising higher-level access at some future date or in the context of a future joint venture arrangement.

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Fax: (8610) 8529-6558  
E-mail: baochun.mei@mail.doc.gov

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Key Contacts

National Development and Reform Commission  
Tel: 8610-6850-1385  
Fax: 8610-6850-2117  
http://www.sdpc.gov.cn/

State Administration of Coal Mine Safety  
Tel: 8610-6446-3114  
Fax: 8610-6423-5838  
http://www.chinasafety.gov.cn/

Ministry of Land and Resources  
Tel: 8610-6612-7114  
http://www.mlr.gov.cn

China National Coal Association  
Tel: 8610-6446-3371  
Fax: 8610-6446-3685
China Coal and Mining Expo 2005
Date: October 25-28, 2005
Venue: National Agricultural Exhibition Hall
Organizer: China Coal Consultant International Together Expo Ltd. (Hong Kong)
Contact: Ms. Marjorie Cheng
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E-mail: info@together-expo.com
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