

# China and Indonesia Coal Trade Present and Future after the 2008 Financial Crisis

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**Abstract.** The policy of “zero tariff” has solved the problem of domestic coal using since 2008, but also raised the coal trade between China and Indonesia. However, some factors have affected on the coal trade in recent years, such as the Indonesian raising domestic demand reduced exports and Chinese policies for Indonesian coal imports controls. This article through to analysis the current situation and import and export capacity of the coal trade between China and Indonesia, utilizing the judgment index of regional economics, it is concluded that the comparative advantage of China and the degree of complementary, then illustrates the problems and solution suggestions in the process of coal trade between the two countries, finally prospects the coal trade of China and Indonesia.

**Keywords.** China; Indonesia; coal trade; future

## 1 The status of coal trade between China and Indonesia

### 1.1 Macro data analysis

From the global resource situation, coal is still a very important source of energy materials. 2012 World proven coal reserves, enough to meet the needs of the global production by 112 years, is the highest ratio of fossil fuel reserves and production of the fuel. Europe and Eurasia is the largest coal reserves in the region, has the highest storage capacity ratio. The world's coal reserves and reserves and production scale than the second place, respectively, in the Asia Pacific region, North America. 2012, coal production has once again become the fastest growing fossil fuel, compared to 2011 increased by 2%. Consumption, the world coal consumption fell by 2.5%, only the Asia-Pacific region is still a net increase in consumption in North America showed a -11.3% decline, offset by growth in other regions. Among them, China's coal consumption grew by 6.1% in Indonesia grew by only 2.8%.

Indonesia's coal resources are very rich, is China's leading supplier of materials, such as coal, nickel ore, bauxite, iron ore. According to BP2013 Energy statistics show that Indonesia has proven coal reserves of 5.529 billion tons, accounting for 0.6 % of the world total, ranking 13th in the world, compared to 2010 to enhance the two. The coal resources and more storage were in Sumatra and Kalimantan. Anthracite and bituminous coal which proven reserves of 1.52 billion tons, sub-bituminous and lignite proven reserves of 4.009 billion tons, reserves and production ratio is 14. Indonesia's production of lignite-based, the proportion of lignite, sub-bituminous and bituminous coal were 59 %, 27 % and 14 % for less than 0.5% of anthracite. 2012 China's coal output grew by 3.5 percent compared to 2011, Indonesia grew by 9%. The Indonesian government believes that there is still potential to increase its coal production, coal production in 2014 is expected to reach 309 million

tons . With the rapid growth in domestic coal demand and market prices continue to rise Indonesia coal production and exports increased year by year. According to the Indonesian Ministry of Energy and Mines, in 2012 78% of Indonesia's coal production (nearly 200 million tons) for export, making Indonesia the world's largest coal exporter. Asian countries accounted for more than 70% of Indonesia's coal exports, mainly exported to India, Japan, China and other countries.

Although China is rich in coal resources, but since 2008, officially became a net importer of coal , imports accounted for about 95 percent of its global coal trade , followed by China , Indonesia has become an important supplier of coal fuel. China has become the world's largest coal consumer. According to Chinese Customs statistics, from 2008 to 2012 in five years, China's coal imports rose from 040.4 million tons to 289 million tons.

For Indonesia, the Chinese market has a huge consumer of coal, the two geographical proximity, Indonesia regards China as an important partner of the coal market. Coal Indonesia and China's cooperation is more reflected in the coal trade in recent years, China's coal exports increased year by years to become China's largest coal importer. In 2012, China imported 118 million tons of coal from Indonesia , an increase of 83% , amounting to \$ 9.37 billion, p 48%, accounting for 30% of China 's total coal imports. In the first half of 2013, China's imports of coal from Indonesia, has been accounted for 35.49% of the imports. On coal and electric power industries, cooperation between Indonesia and China there is a clear complementary effects, there are many Chinese companies in Indonesia registered company involved in mining development in Indonesia.

## **1.2 The category of import and export of coal**

According to statistics China customs, type China and Indonesia import and export coal, bituminous coal, anthracite mainly include: coal, coking coal, coke. China and Indonesia coal trade relates to coal rich species, different function, also because of coal use value of different, bring economic and trade cooperation with Indonesia China different needs.

## **2 The analysis of Import and Export by coal between China and Indonesia after the financial crisis**

### **2.1 The analysis of Import and Export by coal between China and Indonesia**

China imported from Indonesia coal types mainly include: coking coal, lignite and bituminous coal, the specific point of view is the coking coal, bituminous coal, coal, lignite and others (whether powder but not forming), and molded lignite. This shows that, China imported from Indonesia coal are the primary products of coal industry in 2012, imports of coking coal China 1 tons, accounting for 35%; imports 0.54 billion tons of lignite, accounting for 19% of the total, two varieties in Chinese coal imports more than 50% of the total, and coking coal and lignite are low calorie and high pollution inferior coal. In addition, comparison of data import and export from 2009-2011, can be found China imported from Indonesia coal will rise year by year, and since 2008 increase gradually. The reasons for this are as follows:

First, vantage that imported coal from Indonesia.

Indonesia coal industry is relatively backward, and almost all of the open-pit mining, 91% from East Kalimantan and south Kalimantan Island, 9% from the southern of South Pulau Sumatera. Opencast coal mining cost is China enterprises mining environment, the environment even worse, lower cost. At the same time, the Indonesian low labor cost, reduce the cost of coal mining.

Second, after the financial crisis, China economy developed steady, rapid and strong demand for coal.

In China primary energy consumption, coal accounted for 70% proportions. With Europe and the new energy revolution, the coal demand worldwide are in decline, but Chinese in the framework of the existing energy structure, coal demand as the economy grows more and more. This leads to the

global coal all excess capacity to Chinese aggregation, while Indonesia steam coal and lignite because of its cost advantage in talent showing itself, the influx of China market.

Third, China coal import devoid doorsill, led to a surge in imports.

The implementation of the active policy of Chinese coal imports, coal imports has been lowered the threshold. In 2005 Chinese down-regulation of coking coal provisional import tariff rates to zero in 2008, Chinese all coal provisional import tariff rates will drop to zero in 2012, China and lignite, also is the lowest degree of import tariffs on coal mineral coal also cancelled. Low tariff attract large influx of Indonesian coal China market, began to squeeze the domestic coal enterprises.

In addition, the type Chinese exports to Indonesia coal industry mainly anthracite, coke and the carbon, the specific point of view, including the anthracite briquette ovoids and similar solid fuel, coke and semi coke, retort carbon. Judging from the number of 2007-2011 export, before 2008 Chinese to Indonesia export anthracite coal, coke and coal briquettes number is on the rise, in 2008 after a sharp drop in export. Reason analysis as follows:

First, China coal processing industry technology is mature, the product has a competitive advantage.

Chinese of Indonesian coal exports basic varieties are by-products of coal processing and important organic synthetic industrial raw material, has the features of high calorie, low pollution, the requirements of its coal process technology is high, relatively high cost. At present coal production and coal cleaning technology Chinese raise has formed a comparative advantage Chinese coal industry, with respect to the Indonesian backward coal processing technology, in the coal industry, synthetic materials, China in a surplus position.

Second, for the protection of high calorie mineral resources into account, China high tariffs on coke, export restrictions.

Due to the high China coke export tariff imposed a 40%, strictly control the coke export measures, as well as the current domestic coking coal prices were higher than the price in the international market, since 2009, China coke exports have fallen sharply and even basic stagnation. China coal exports to Indonesia reached nearly five years of the peak in 2008, the reason is because Indonesia is affected by the financial crisis relatively small, in Euramerican developed country economy is sputtering, steel demand atrophy, as well as the background to adjust energy consumption structure, reduced demand for coal, in contrast to Indonesia became coke import country.

## **2.2 The analysis of comparative advantage and China Indonesia coal**

The degree of trade integration is a comprehensive index, used to measure the two countries in respect of trade interdependence. The degree of trade integration is refers to a country exports to a country's trading partners accounted for the country's total export proportion, and the total amount of the trading partner imports accounted for the proportion of total imports of the world. The numerical value is greater, indicating the two countries in trade relations more closely. Indonesia, said Chinese and Indonesia in trade ties.

Revealed comparative advantage index (RCA index) is a measure of a country's product or industry in the international market competitiveness of the most convincing index. It aims to describe the various industries in a country (products) relative export performance. To determine which industries of a country more export competitiveness through the RCA index, which revealed comparative advantage in international trade of a country. The revealed comparative advantage index refers to a country a commodity exports accounted for this kind of merchandise exports share of world exports and total exports as a share of GDP. The Chinese coal have comparative advantage neutral in the international market, that Indonesia coal is competitive in the international market, resulting in Indonesia, coal is the dominant industry.

The intra industry trade index is a measure of an industry the level of intra industry trade index, refers to both industrial countries are not homogeneous trade, display the same type of both import and export of goods in the amount of statistical data, indicating that the industry has a complementary trade demand, and more high classification showed intra industry trade index more persuasive. The

index of intra industry trade is Lloyd - Gruber index (GL). Visible China and Indonesia anthracite intra industry trade level is very low, China anthracite is China advantage industry, can be completely self-contained and can export bring foreign exchange increased, while Indonesia lignite is the advantage of product, Chinese from Indonesia imports.

### **3 The analysis of China and Indonesia coal trade prospects**

#### **3.1 Good coal trade prospects**

From the above analysis can be drawn, Chinese trade with Indonesia combination degree high, coal trade complementary strong, and overall, Indonesia's coal in the international market than China more competitive advantages, to a large extent Chinese can learn from each other, for its use, the two Each takes what he needs., achieve maximum benefits. Judging from the current situation, Chinese and Indonesia coal trade cooperation in space is great, the reason mainly has following several aspects:

First, China electricity consumption increased year by year, coal demand. According to statistics, the first half of 2013, the whole society electricity consumption grew 5.1%, second industrial electricity consumption grew 4.9%, third of industrial electricity consumption growth rate is faster than the first half of the year, a year-on-year increase of 9.3%. Therefore, with the rapid development of Chinese economy, especially in the southeast coastal area, the coal as the main energy material, China for coal demand for power generation will continue to enlarge, such as coal and coking coal. According to the BP2030 annual World Energy Outlook report, display 2011-2030 years Chinese remains the biggest consumer of coal (coal consumption accounted for the global more than 52%), which indicates that the China in the next 20 years the demand for coal is of great.

Second, Indonesia is rich in coal resources, geographical location near the China open-pit mining, has low cost, high safety, accident, easy management and control. At the same time, the coastal city in Southeast Chinese imported from Indonesia coal, with short distance of transportation, airline safety, has the advantages of coal wharf loading and unloading, formed the Indonesian coal price advantage, is very attractive to Chinese coal importer; on the other hand, 2013 Indonesia solution in addition to the low quality coal export bans, are of great help to improve coal export volume of domestic, this will stimulate the Chinese imports of coal in Indonesia and even will increase the Indonesia coal mine investment.

Third, policy lagging effect will make the coal trade is no big change in a short period of time. In order to control the influx of inferior coal in Indonesia, in 2013 Chinese government issued the "Interim Measures for the commercial coal quality management (Draft)", and strictly control the quality of imported coal, which caused a large number of electric power enterprises opposition, also will affect the Inner Mongolia area Chinese brown coal production and sales, at the same time, the environmental protection department of the go-slow rule out difficult.

#### **3.2 The problems in the process of coal trade**

Some obstacles and problems present between two coal trade exist, cannot be ignored, if these problems cannot be handled properly, will affect the development of the coal trade between the two countries. Now there are some problems:

First, the Indonesian coal spontaneous combustion of high volatile, easy to occur the phenomenon of spontaneous combustion tendency, has the very strong. At the same time, because of the tropical rainy area, barge transport during the regular because the actual water rain caused cargo barge and installed the mother ship is differ greatly, which makes the preventive measures can not be no danger of anything going wrong, which has brought great security risk to transportation and production, need to pay close attention to.

Second, in recent years, Indonesia's coal imports to the quality inspection Chinese accidents continue to occur, or into the Chinese market phenomenon repeated. Because the majority of export coal by barge transport links, the middle switch barge goods, shoddy phenomenon, there are

individual local inspection agency field sampling personnel were bribed or with Shipper issued, collusion, and Indonesia's local inspection agencies lack of monitoring, the objective to increase the risk of trade.

Third, coal loading process, because of the consignor poor credit supply ability is insufficient, can not be timely delivery according to the contract agreement, in addition to the Indonesian harbor conditions, loading the preparation is not in place, resulting in after vessel's arrival could not immediately be loaded, lead lag phase loss.

## 4 Relevant suggestions and solutions

After the financial crisis, energy and resource, China poor and economically developed coastal areas, to import coal demand amplification, Chinese demand for Indonesia coal not only increase, while Indonesia coal market and the existence of quality and credibility, not only the impact of the China high-quality domestic coal industry, but also brought serious environmental pollution, such as the northern haze weather. So Chinese in step with the Indonesian coal trade at the same time, attention should be paid to take active measures to avoid risks, to promote the healthy and harmonious development of the coal trade.

First, strengthen cooperation, promote the development of the coal trade between two countries.

On the export side, the Chinese important mineral resources to be protected, "zero tariff treatment to differentiate between". As the coke is high calorific value of fuel, and is an important raw material for organic synthesis industry, in order to protect the Chinese mineral resources, limits the export of coke export tariffs, need. The retort carbon is a by-product from coal or coke oven income, Chinese encourage exports, so exports not tariffs, can also refund. On the import side, the Indonesian coal imports to strict quality control, to import coal enterprises, in cooperation with Indonesia suppliers, should first consider the cooperation in the investigation of its ability to fulfill the promise of the premise, and to strictly control the delivery process.

Second, increase the technical inputs, improve coal utilization efficiency, and reduce the pollution of the environment.

High quality coal resources of Indonesia is also very rich, but the inferior coal price advantage makes the coal quality advantage is not obvious in the Sino Indian trade, China face this kind of situation, in addition to the use of tariffs, or introduced expressly restricted imports, but also from the point of view of Chinese itself, increase the technical inputs, and vigorously develop clean coal technology and artificial coal technology, improve the efficiency of coal use, so that the added value of coal is increased, the production structure reform of coal industry, the coal industry business to upgrade to high-end manufactured goods, development of coal and coal technology research and development of high-tech research and development direction. This will not only bring more economic benefits, but also can reduce the pollution of the environment, in the premise of not affecting the sustainable development strategy of promoting the development of Chinese, China and Indonesia coal trade.

Third, adjust the Chinese energy structure, speed up the development of the use of new energy sources

According to the 2030 BP World Energy Outlook report, global coal supply in 2011-2030 years will be an annual growth rate of 1%, China take efficiency measures and to lower coal intensive economic transformation, coal demand China rapid deceleration, from 9% per year during 2000-2010 in the ten years to 3.5%, and then in the next ten years to 0.4%. Power generation is one of the important uses of coal, for every 2.4% generation global coal consumption growth rate from 3.6% per year during 2000-2010 to 2011-2020 years, then dropped to 0.4% per year after 2020. Coal accounts for the proportion in the power generation fuel from 2030 to 44% in 2020 39%. The proportion of nuclear power and renewable energy, natural gas will increase, industrial sector coal consumption tends to be stable. With the China economic development focus from rapid industrialization and infrastructure construction to a service and light manufacturing based growth, the industrial sector coal consumption growth will slow from 9.6% during 2000-2010 to 0.9% after 2020. Visible, the

adjustment of energy structure and fuel diversification is a global trend, only follow the China, adjustment of energy structure, the development and utilization of new energy is the right choice.

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