

EXTENDING THE INDUSTRIAL CHAIN—REFLECTION ON FURTHER DEVELOPING SALT INDUSTRY IN JIANGSU PROVINCE

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Abstract: In accordance with actual conditions of salt industry, this essay elaborates the necessity and strategies of further developing salt industry in Jiangsu Province. It states that extending the industrial chain is an essential way to develop the salt industry. Next, the essay treats of relevant measures to extend the industrial chain. Meanwhile, taking Jiangsu Jingshen Salt Industry corporation as an illustration, the essay discusses the advantages of extending the industrial chain.

Key words: Industrial Chain, Salt Industry, Strategic Choice, Advantages

1. Introduction

Today the global economy is moving toward integration of global market, digitization of enterprise, and international business competition. Enterprises of salt industry in different regions of China have formed a mutually competitive tendency. Situation of world economy and macro-economic policies of China have provided the same opportunities for development of any region and any industry. In a highly competitive environment, how to seize opportunities to accelerate salt industry development in Jiangsu Province is an important problem before everyone who engages in salt chemicals. Practice has proved that a developing business with sales of single commodity would make less competitive in market. Therefore, we should improve the salt industry's core competitiveness and accelerate the salt industry's development in Jiangsu province.

2. Further developing salt industry in Jiangsu Province is a strategic choice

2.1 Policy-oriented

After China's WTO accession, the national economy has maintained steady growth, but the uneven development and high ratio of dependence on foreign trade have become marked. The Central Committee of CCP's propositions about the formulation of the 11th Five-Year Plan on social and economic development contains that efforts should be made to speed up transformation mode of economic growth.

The National Development and Reform Commission of the People's Republic of China promulgating *Suggestion on national salt industrial restructuring* contains that it should form a batch of core competitive conglomerates in the salt industry, optimize the allocation of resources, and form a stable and productive supply system based on the conglomerates. The salt industry should increase effectiveness, enhance the industry's economic operation quality and international competitiveness by technology innovation and structural optimization.

The 11th Five Year Development Plans of Jiangsu Jingshen Salt Industry Co., Ltd is aimed at sustainable development. In late 2010, i.e. by the end of the 11th Five Year, total assets, product output, sales revenue and total profits should have doubled that of 2005. Its scale of fixed assets, scale of operations and economic benefit should have ranked the top in similar in China. Also, it should have grown into core competitive enterprises groups with trans-regional and inter-trade operations. The 11th Five Year Development Plans has made it quite clear that Jiangsu Jingshen Salt Industry Co., Ltd should implement the strategy of distinction main lines of business to contribute to leading role in the salt industry. At the same time, the company should timely expand to the related industries and field for forming industrial system with salt as the main element and salts chemical industry as the important back-up.

2.2 Basic conditions of strengthening the Salt Industry in Jiangsu Province

Jiangsu Jingshen Salt Industry Co., Ltd is a traditional stated-owned enterprise with its own character. With many years of development, by the end of the 11th Five Year, the company's annual sales revenue will reach RMB 1.47 billion Yuan, annual profit RMB 0.158 billion Yuan, gross assets RMB 2.253 billion Yuan, the salt cumulative production 2,187,700 tons, well and rock salt 761,700 tons. Furthermore, with adjustment of industrial structure and greater investment, the company has raised production rapidly, accumulated technology and talented people, and enhanced management skills, which laid the foundation of the restructuring and upgrading of the product structure.

At the same time, the company has made obvious achievements in controlling resources. On the one hand, the company has obtained the prospecting and mining rights of Huai'an and Xuzhou salt basin, which provides the possibility of taking measures to further control mines. On the other hand, major projects including proceeding 600,000 tons expansion program, establishment and operating of Huaiyin salt mine, equity participation of Hongze county coproducing Salt and Sodium Sulfate project, successful acquisition of Huaihai salt chemical factory, etc, are ready to provide vast reserves to further develop the salt industry in Jiangsu

province.

2.3 Historical inevitability

The strategic opportunities are transient. "Augment the size, improvement the power" is a magic weapon to work out the various problems. The coordinated development is a seamless integration of leaders and subordinates. Without fairly large-scale, the company will have no capability to resist risks on the market competition in the future and no place on the market. "Augment the size, improvement the power" is the fundamental solution to advance the reform of enterprises, maintain company's harmony and stability, cope with increasingly intensive competition, etc. Therefore, "Augment the size, improvement the power" is both a historical inevitability and strict duty to us all.

3. Strategies of further developing Salt Industry in Jiangsu Province

3.1 Reasons of salt capacity slowly increasing

Salt is the major product of the company. It is apparent that increasing the main products production and expanding market share are the primary concerns of the company development. However, with changes in the international and domestic salt industry situations, the likelihood of increasing the production capacity will be low. There are some reasons such as government's macro-control, market demand, difficulty in techniques, and so on. The article analyzes reasons from the following four aspects.

3.1.1 The impact of macro-control

In the past two years, due to many new salt making projects being launched all over the country, the salt production capacity increases rapidly. Consequently, the National Development and Reform Commission of the People's Republic of China promulgating *Suggestion on national salt industrial restructuring* points out that the Government should strengthen the macro-control to control the salt production capacity growth. By 2010, the capacity should be limited to 65,000,000 tons (including 6,000,000 tons of liquid salt). But salt production capacity has reached 62,550,000 tons in 2006 all over the country,

there is no doubt that the Government will make greater efforts to control the new and expansion salt projects approved by the strict examination and approval.

3.1.2 Sales area

The company is located in the Yangtze River Delta, which is one of the most developed areas in China. The Yangtze River Delta's aggregate salt consumption is at the top in China and the company's industrial salt sales area is mainly targeted at Jiangsu Province, Zhejiang Province and Shanghai. According to a survey, at present an annual aggregate consumption of industrial salt is about 7,000,000 tons (excluding the consumption of Lianyungang soda plant) in Jiangsu Province, Zhejiang Province and Shanghai. Now the total salt production capacity is about 4,700,000 tons (including sea salt, rock salt, liquid salt) in Jiangsu Province. Import salt and salt from other area such as Shandong Province, Jiangxi Province, Chongqing Province, etc are amount to about 3,000,000 tons in Jiangsu, Zhejiang and Shanghai market. So at this stage the salt market is essentially in equilibrium of demand and supply.

3.1.3 Sea salt, well and rock salt

The manufacturing process of sea salt is not only influenced by weather and the salinity of sea water, but also the land. Due to the system of preserving land and development of the Northern of Jiangsu Province, beaches as the main equipment of manufacturing sea salt will become constantly dwindling, therefore, It might reduce the sea salt capacity.

During recent years the well and rock salt production capacity is increasing rapidly. Because new salt mines are still being discovered all over the country and old mines are expanded production capacity, the national newly increased production capacity mainly comes from rock salt.

In this condition, although the well and rock salt will still maintain good momentum of development, the government offering to make orderly progress in well and rock salt will certainly slow down the greenfield projects development.

3.1.4 Liquid salt

At present, the proportion of liquid salt being used for soda ash and caustic soda

industry is high in developed countries. For example, the proportion is 95% in the United States, and 60%-70% in Germany, France, Britain, Russia and other countries. By contrast, It is still very low in China, like 15% in 2005. Liquid salt that is used for soda ash and caustic soda industry has the following advantages: First, the liquid salt is comparatively inexpensive to produce. After removal impurities, saturated brine can be directly delivered to soda ash and caustic soda plants. This method avoids some production processes, such as evaporating to dryness, melting, etc and cuts energy consumption.

Second, compared with solid salt ship by land or water, liquid salt can be transported by pipeline, which will cut transport costs.

Third, It will be beneficial to the promotion of the strategic partnership between the salt business and soda business. And this partnership ensures salt business sale and supply of soda business's raw materials.

There are some reasons for slow development of liquid salt. First, although well and rock salt has a long history in China (Zigong, Sichuan), It is not until the past ten years that well and rock salt has grown rapidly. At an early age most soda ash and caustic soda industries are situated in areas which short distance to sea salt plants, so it is not easy for us to deliver liquid salt. Second, most of domestic salt mines have high impurities and it lacks mature technology and process of removal impurities at low cost.

With chemical industries moving from the Southern to the North in Jiangsu Province, we should closely pay attention to technology of liquid salt, actively devote manpower, materials and capital and promote the application of liquid salt in Jiangsu Province. Above all, chances and challenges coexist in further developing salt industry in Jiangsu Province. Exposed to a fierce competition, if the salt enterprises solely rely on low-price salt products, they will become larger rather than stronger. According to a survey, each step forward of industrial chain, the added value of products will increase 3-5 times. Therefore, to extend the industrial chain is the only way to develop the salt industry in Jiangsu Province.

3.2 Extending the industrial chain

The company's 11th Five-Year plan proposes to timely expand to the related industries for forming industrial system with salt as the main element and salts chemical

industry as back-up.

We consider that extending the industrial chain is an important way to realize the adjustment of product structure, enhance competitiveness, and achieve economic benefits. Therefore, we should focus on multi-varieties salts, sodium, titanium dioxide, ion-exchange membrane caustic soda, and soda ash and caustic soda industry.

At present, some large companies have extended their industrial chains. For instance, based upon salt industry, Yunnan Province Salt Industry Co., Ltd. has entered the chlorinate alkali business, and specialized in production and sale of salt, industrial salts, caustic soda and polyvinyl chloride (PVC). The company has formed a pattern which primarily produces soda with salt as the subsidiary.

Another example is Jilantai Salt enterprise group. It has managed to find a niche for itself in downstream products and leads the world in sodium project. Other large salt industry enterprises, such as Chongqing Sauter, Hubei Hongbo, etc, are conducting investigations of downstream products.

At the same time, the soda industries are doing their best extend to upstream products. In prior years, the soda industry merged the salt industry was a common situation, such as Shandong Yangkou, Tianjin Tanggu, and Tianjin Hangu salt industry. Recently, companies like Shanghai Chlor-Alkali are also active in implementation salt-soda integration. Based on successful experience of above companies, we must seize all opportunities to extend the industrial chain.

3.2.1 Developing multi-varieties salts

Developing multi-varieties salts comes up to the requirements of *Suggestion on national salt industrial restructuring*, which not only broadens the application fields, but also gains a fairly good profit with high value-added products. The profit of edible multi-varieties salts is 3-5 times and living multi-varieties is several dozen times above the common salt. Leaders of Jiangsu Jingshen Salt Industry Co., Ltd pay close attention to development of multi-varieties salts. They have worked out a detailed plan to ensure sales amounting to 100,000 tons and have more than 200 varieties by the end of the 11th Five Year.

3.2.2 Sodium metal and titanium dioxide project

At present, sodium is widely used in

chemical industry, dye, medicine, metallurgy, aerospace, and nuclear power industries, etc. About 60-70% sodium is used in the synthesis of indigo powder in dye industry, pharmaceutical intermediates (30-40%), and pesticides and nuclear power (5%). Lan Tai Industry, Du Pont Company and Massar Company, running the first, second and third sodium manufacture in the world, respectively, produce the respective 45,000 tons, 40,000 tons and 27,000 tons sodium per year. The sodium metal production technique presently seems sophisticated. DuPont Company has become a technological leader in sodium metal.

Chlorine is by-products of the sodium metal project. It is an important chemical products, but it does not suit long-distance transport. Making use of international advanced technology of chlorination, we can convert chlorine into high-quality rutile titanium dioxide. Titanium white chemical name is titanium dioxide, with high chemical stability, thermostable, weatherproofing, good brightness, coloring and hiding power. It is widely used in paint, ink, plastic, rubber, paper, ceramics, medicine, enamel and synthetic fiber and chemical fiber, and so on. Titanium dioxide pigment is mainly divided into pigment-level and non-pigment level, pigment-level titanium dioxide pigment is divided into anatase and rutile product. Rutile products are widely used because they outperform anatase products.

The per-capita consumption of titanium dioxide in China is much lower than developed countries. It shows that titanium dioxide industry has broad market prospects in China. Therefore, undoubtedly there are unique advantages in developing the titanium dioxide project.

3.2.3 Extending to soda ash and caustic soda industry

Alkali industries are of two types, namely, soda ash industry and caustic soda are both salt downstream products. Soda ash and caustic soda are both important industrial raw materials, widely used in building materials, chemicals, light industry, textile, metallurgy, pharmaceuticals, oil refining industries. According to the statistical data, gross national product increased by 1%, 0.5% increase in the amount of soda ash. With rapid development of the national economy in recent years, demand for soda ash has increased.

4. Advantages analysis of extending the industrial chain

One of the market economy laws is superior enterprises will prosper and inferior ones be eliminated. Take Jingshen Salt Industry Co., Ltd as an illustration, its main advantages of extending the industrial chain are shown as following:

4.1 Resource advantage

With rich salt deposits, A + B + C-class salt reserves is up to 20 million tons for long-term exploitation in Huai'an city. Compared with other regions, the salt in Huai'an city is the type of Na_2SO_4 ; This type of salt is not only suited to salt production, but also is fit for salt sodium sulfate co-production.

4.2 Logistic advantage

Geographically, the company is near the LianYunGang port and located in huan'an-the Northern of Jiangsu Province. Huai'an city is the intersection of Jinghu Highway, Ninglian Highway, Tongshan Highway, Xinchang Railway, The Beijing-Hangzhou Grand Canal. For short distance to Zhejiang and Shanghai area, the transport costs are low.

4.3 Market advantage

Caustic soda, chlorine, soda ash, sodium metal and titanium dioxide are all important chemical products with universal uses and high demand. Moreover, In later years chemical industries are moving from the Southern to the Northern of Jiangsu Province. In order to support the development of Northern of Jiangsu Province, chemical industries are moving from southern to northern of Jiangsu Province. Based on the above analyses, demand of these fundamental chemical products will get a sharp increase. If resource advantage turns into product advantage in Huai'an region, the products not only have low-cost and convenient transportation advantages, but also a prosperity of market.

4.4 Technology advantage

Jingshen Salt Industry Co., Ltd. has made great progress in the past ten years. It not only has accumulated a great deal of experience but also trained a large number of human resources with rich practical experience. Meanwhile, the rapid development of the company has attracted many talented people in recent years, by the way, we hired 35 undergraduate this year. The south-moving of Salt Institute provide more technical support in developing the downstream products.

4.5 Management advantage

After restructuring, the company has gradually developed a relatively sound corporate governance, such as a large number of managers, a cohesive, loyalty, and responsible team, and a management system with orderly procurement, production, and sales.

4.6 Comparative advantage

Joint production of salt and soda, extending to sodium metal and titanium dioxide products get support of national policy as well as low-cost advantage. Joint production can save a lot of transportation costs, the salt drying process, and result in low cost of logistic and raw materials. Consequently, comparing with the domestic colleague company, the company has comparative cost advantage.

5. Conclusion

Facing with new opportunities for development and new challenges, we must keep salt as the main product, develop varieties of high value-added salts, and extend the industrial chain to the downstream products, i.e. salt chemical industry. It is the essential way to develop salt industry in Jiangsu Province.

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