

2008 Annual Report on Zinc Market

After being bullish for over two years, global zinc market has seen oversupply instead of deficit since late 2007, so the market has been on the retreating road. Meanwhile, with the U.S. subprime leading crisis worsening from late 2007, the financial crisis followed in the second half of 2008 and triggered the global economic crisis, leading to the slowdown of economic growth in the world. Zinc is a key ingredient in galvanized steel that helps limit rust and corrosion. Galvanized steel is used in many high-demand products, such as roofing, handrails, consumer appliances, metal pails and automotive body parts. The housing, construction and automotive industries are depressed greatly the global economic crisis in 2008. Impacted by the gloomy economic situation and weak fundamentals of zinc market, zinc prices recoiled slowly in the first three quarters of 2008 and plummeted in October. 3-month zinc slumped to about USD1,100/t on LME and zinc prices declined to about RMB8,500/t in Chinese spot market late October, indicating that the metal has come back to the beginning of the bullish movement which started late 2005.

The global zinc consumption is 11,488,000t and the production is 11,683,000t in 2008, with a surplus of 195,000t. Zinc mines and smelters reduced or halted production in succession in the fourth quarter of 2008 on the sharp decline of zinc price. However, the production reduction is hardly to help zinc market to shake off weakness in a short time, as the sentiment in the market remains weak and the demand for zinc still keeps soft amid the still deepening economic crisis in the world.

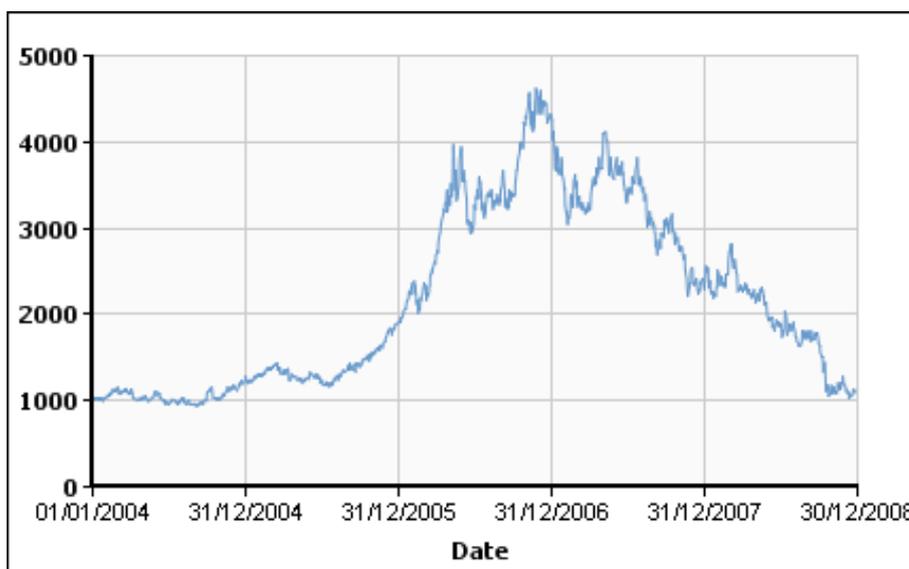
1. The Review of Zinc Market in 2008

1.1 Zinc price softens with increasing zinc stocks on LME

Zinc market was notable during 2005 and 2006, with zinc price rocketing from about USD1,000/t early 2005 to the highest high level of USD4,580/t late 2006. The significant increase of zinc price stimulated the investing in zinc mines and smelters. The zinc mine production has been rising fast since 2005. The capacity of zinc mines is estimated to have increased by 2.3 million tons in western countries and up by one million tons in China by late 2007. Therefore, global zinc market has become oversupplied since late 2007, so zinc prices began retreating. From the below chart 1, zinc price was on the decline on LME in 2008 and the dropping step sped up in the fourth quarter.

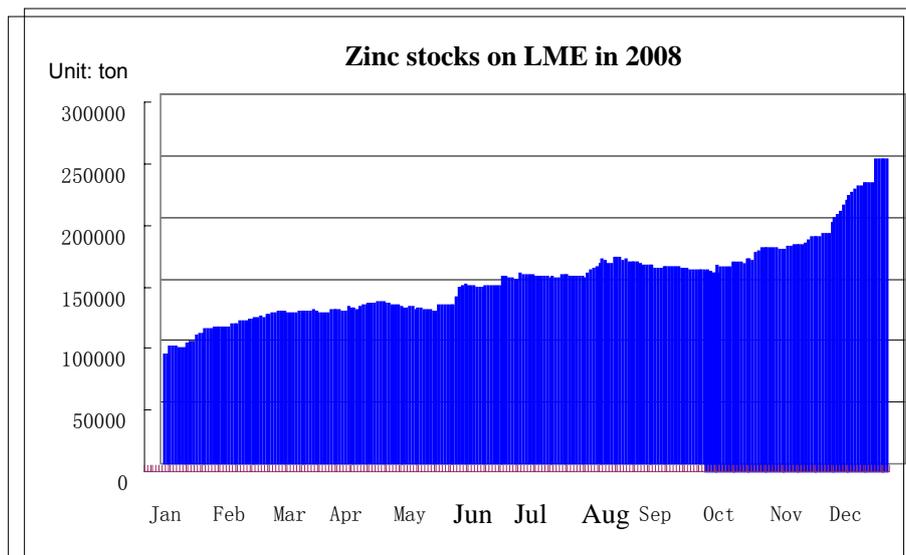
Many zinc smelters halted production in South China early 2008 on the power supply cut caused by snowstorm. Zhuzhou Smelter, the largest zinc producer with annual capacity of

400,000t in China, halted production temporarily late January. Simulated by the news and increasing copper price, zinc prices rose strongly on LME in the first quarter, up from USD2,200/t early January to the high level of USD2,900/t early March. However, the bullish performance is only a fleeting show. With weak fundamentals, zinc prices retreated fast after hitting the high level, down to USD2,300/t by mid March. The metal ever rebounded again on LME in May, when a severe earthquake struck Sichuan, China, leading to the decline of zinc production in Sichuan-based zinc smelters. However, with the smelters resuming production, zinc prices kept dropping again and fell below USD2,000/t early June.



Global economy was worsening impacted by U.S. financial crisis in the second half of 2008. After touching the record high of USD148 per barrel in July, oil price began slumping, dampening commodity market, so zinc market still kept nosing down gradually in the third quarter. Impacted by the global financial crisis started from September 2008, stock market and futures market collapsed in the fourth quarter of 2008. Combined with weak fundamentals, the economic downturn weigh on zinc market. Zinc price on LME tumbled from USD1,685/t early October to USD1,075/t late the month, down by about 25% within one month. The price lingered in the range of USD1,000-1,300/t on LME during November and December.

With zinc price slumping, zinc mines and smelters reduced or halted production in the world late 2008. However, as the demand also kept weakening, the zinc stocks were still rising in the warehouses of LME, up from below 100,000t early 2008 to over 250,000t late 2008.



1.1 Chinese Zinc Market Performance in 2008

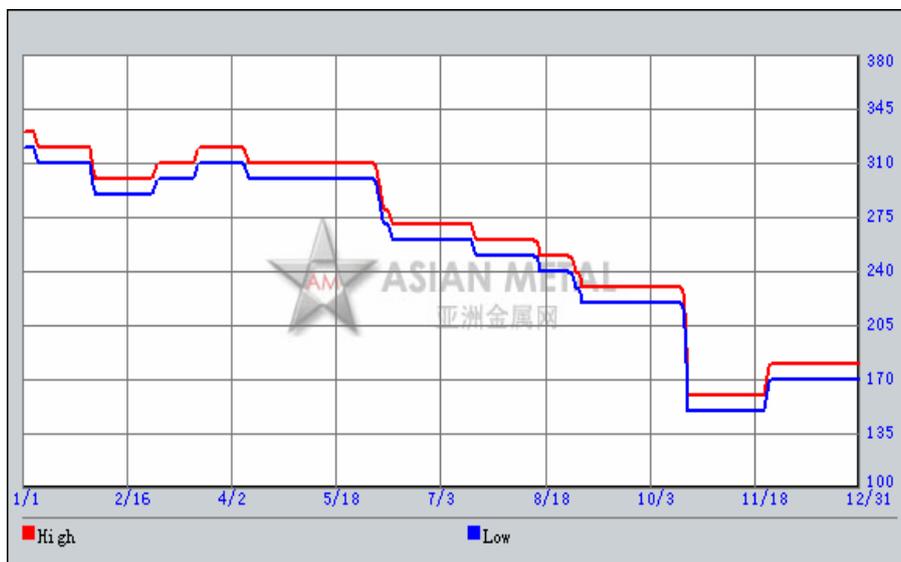
China is the largest zinc producer and consumer in the world. The movement of zinc prices in Chinese market is almost in line with that on LME. The average zinc price is estimated at RMB15,423/t in Chinese spot market in 2008, down by about 44% from RMB27,490/t in 2007. The production and delivery of zinc ingot in some South China-based zinc smelters were impacted by the snowstorm, which hit South China in January and February. Meanwhile, consumers replenished zinc stocks before and after Spring Festival holiday, leading to the increase of demand for zinc. Therefore, Chinese zinc market appeared bullish in the first quarter of 2008, with zinc prices hovering over RMB18,000/t and even jumping up to RMB22,200/t early March, the highest level in 2008. However, with smelters resuming production and LME zinc prices retreating, spot zinc prices kept dropping gradually, down to about RMB14,000/t by the end of the third quarter of 2008. Although over 20 Chinese zinc smelters ever announced in July to reduced production by 10% on low zinc price, the plan failed to carry out, so zinc prices were still on the decline.



As the global financial crisis is extending, the panic sentiment covered all markets. The housing and automotive industries were struggling, so steel mills reduced production significantly on low demand, leading to the decline of zinc consumption. Zinc prices plummeted in Chinese market in October, down by 35% from RMB132,00/t early the month to RMB8,600/t, the lowest price in 2008. China issued economic stimulus package late 2008, so market participants' confidence restored slightly and zinc prices rebounded slowly in November and December to RMB9,000-10,000/t, which is only profitable for those who own zinc mines, such as Chihong Zn & Ge, Nonfemet, Jinding Zinc and so on. Most zinc smelters were running at a loss in China in the fourth quarter of 2008.

In addition, after zinc prices dropped in the first half of 2008, zinc smelters ever could get some profit from sulphuric acid – an important commercial by-product to offset the loss in selling zinc ingot. Nevertheless, sulphuric acid prices also dropped greatly in the second half of 2008, down from about RMB1,300-1,400/t in July to only about RMB300-400/t late 2008. Most smelters were running with a loss of about RMB2,000-3,000/t in the fourth quarter, when zinc prices lingered at about RMB9,000-10,000/t. Meanwhile, smelters were also troubled by the tightness of raw materials supply. With zinc ingot prices declining, zinc concentrate prices also slid down greatly in 2008, down from about RMB10,000-11,000/t in January to only about RMB5,000/t late the year, so many medium and small-sized zinc mines preferred to halt production or hold back from selling rather than accept the low prices, leading to the shortfall of zinc concentrate supply in Chinese spot market. Therefore, Chinese zinc smelters' demand for imported zinc concentrate kept increasing late 2008 and many zinc mines in overseas market also reduced or halted production on low zinc price, so the treatment charge for imported zinc concentrate

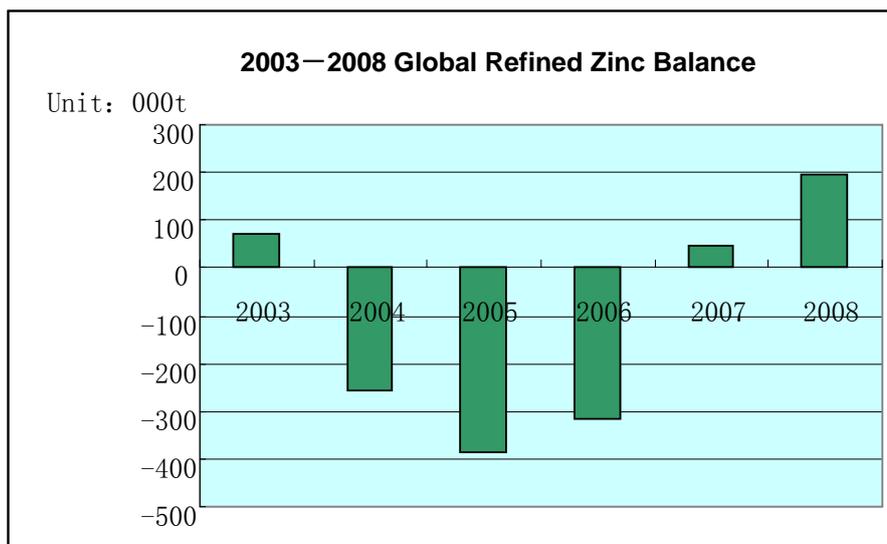
50%min declined from USD300-310/t CIF China early 2008 to USD170-180/t late this year. In such an unfavorable situation, many zinc smelters cut down production or closed in the fourth quarter of 2008, so the market appeared stagnant.



2. The production and consumption of zinc in the world

2.1 The surplus of zinc continues to increase while demand weakens

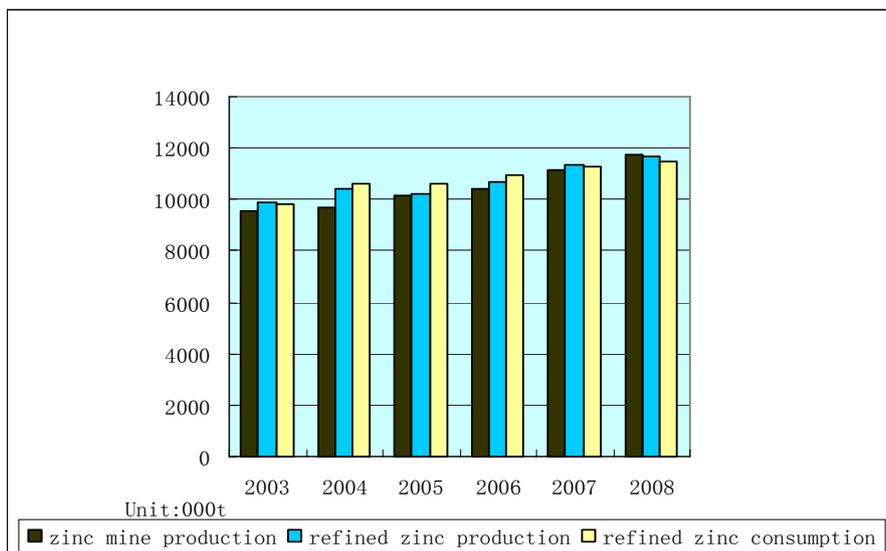
Stimulated by the rocketing zinc prices during 2005 and 2006, the capacity of both zinc mines and smelters expanded greatly, so the zinc market has become in oversupply since 2007. There was a supply deficit in global refined zinc market of 387,000t in 2005 but there was a surplus of 195,000t in 2008.



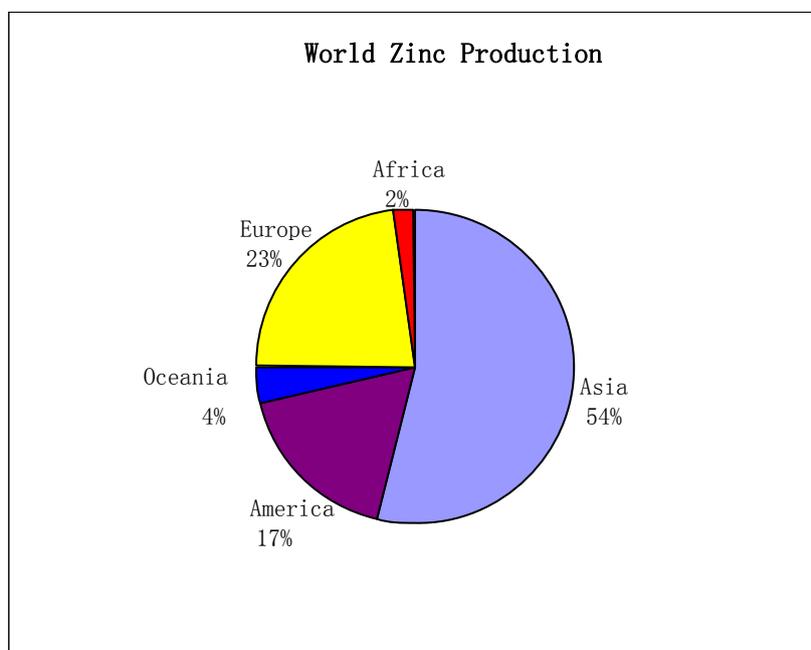
According the statistics published by ILZSG, the global usage of refined zinc metal is 11,488,000t in 2008, up by 1.6% compared with 1,1309,000t in 2007. The global

production of refined zinc metal increases by 2.8% from 11,356,000t in 2007 to 11,683,000t in 2008. The global zinc mine production increases from 11,129,000t in 2007 by 5.6% to 11,755,000t in 2008.

2003-2008 World Zinc Production and Consumption



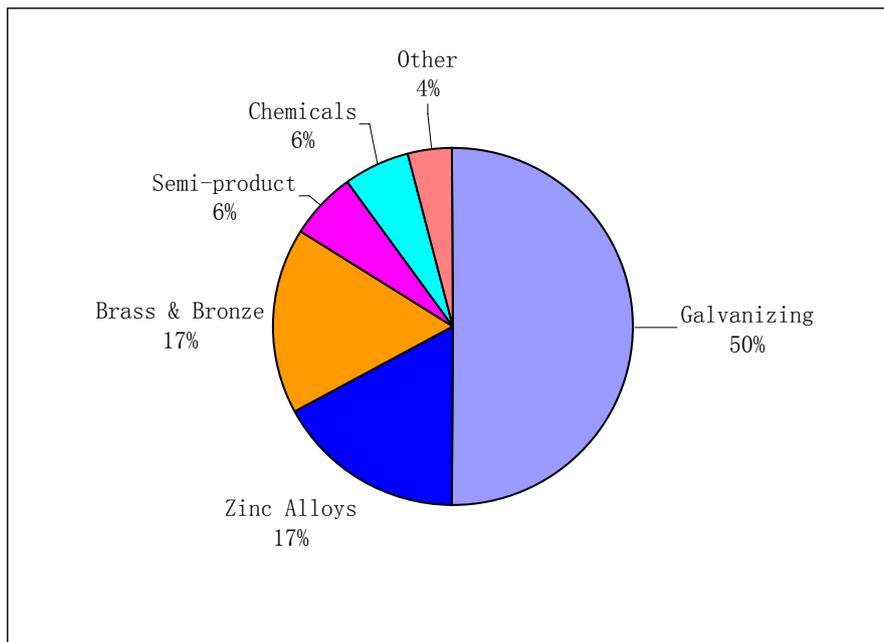
Asia, Europe and America are the major regions for zinc production, accounting for 54%, 23% and 17% respectively of the global zinc production. The production in Asian countries, especially in China and India, remains growing fast in 2008.



For zinc, the main market is galvanizing, which accounts for almost half its demand. Zinc's electropositive nature enables metals to be readily galvanized, which gives added

protection against corrosion to building structures, vehicles, machinery and household equipment. 17% of zinc consumption is in zinc alloy die casting production and another 17% in brass and bronze production. With the U.S. financial crisis spreading, the global housing and automotive markets turned stagnant, so the demand for zinc appeared sluggish in 2008.

Industrial Consumption of Refined Zinc in the World



Impacted by the economic recession, the zinc consumption in Europe and Japan reached the lowest level since 2005. The consumption in Japan declined by 3.1% year-on-year to 570,000t and declined by 8.1% year-on-year to 2,620,000t in Europe in 2008.

2.2 Mines and smelters cut production on sliding zinc prices

In 2008, many zinc mines and smelters reduced or halted production, due to the significant decline of zinc price and low profit. With the surplus in the global zinc market and still weak demand, the production reduction can not support zinc price to rebound strongly but can only slow down its dropping step.

2.3 Zinc production and consumption in China

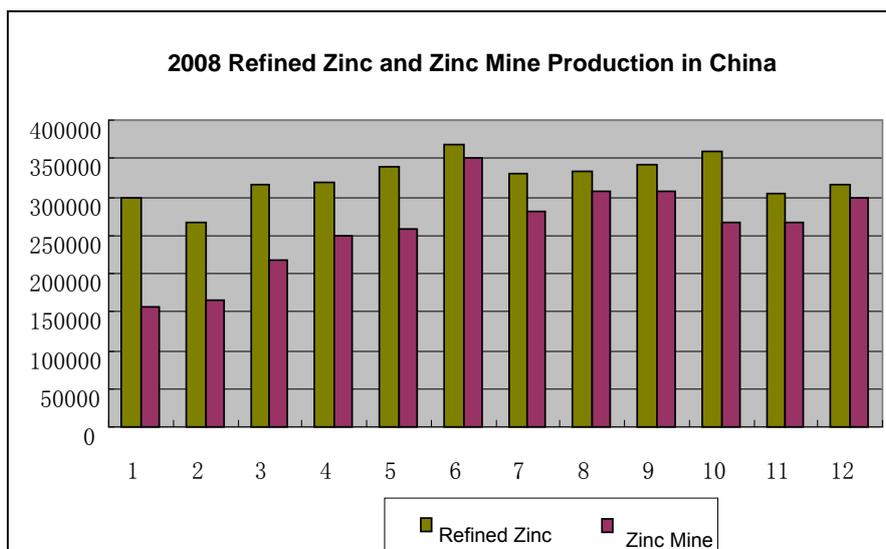
The production of zinc mine and refined zinc metal and the consumption of the metal in

China, the largest zinc producer and consumer, account for about one third respectively in the total numbers in the world. in the world. The zinc smelting capacity still expanded fast in China in 2008. A 100,000tpy of zinc smelter came on stream in Henan Yuguang Zinc in August. Shaanxi Shangluo Zinc increased its zinc smelting capacity by 50,000tpy; Dongling Zinc expanded its capacity by 80,000tpy. However, impacted by the gloomy zinc market, some projects were postponed.

The refined zinc production increased by 4.3% year-on-year to 3,910,000t and the zinc mine production increased by 11.4% year-on-year to 3,130,000t in China in 2008. Although the above numbers show that the production of zinc ingot and concentrate still grows fast in 2008, but its growth speed has slowed down late 2008.

China is rich in zinc resources, but most zinc mines are small-sized. According to statistics, the zinc mine production from small-sized mines with the annual capacity of below 10,000t accounts for 49.3% of the total production in China. These mines are not powerful and lack risk management, so when zinc prices slid in 2008, most of the mines were out of production, leading to the shortage of zinc concentrate in Chinese market in the fourth quarter, and the production growth of the material became negative in the last quarter of 2008.

South China was stuck by snowstorm in early 2008, so the zinc production in many zinc smelters and mines was impacted. Zhuzhou Smelter, Hunan Sanli, Shuikoushan Nonferrous closed their zinc smelters temporarily in January and February, resulting in the production decline of refined zinc in China in February. Caused by the tumbled zinc price and shortfall of zinc concentrate in Chinese market, many zinc smelters also reduced or halted production in China in the fourth quarter. Especially in November and December, the refined zinc production declined dramatically and was also lower than that in the same period of 2007.



It is estimated that the zinc consumption was 3,700,000t in China in 2008, up by 2.8% year-on-year. The zinc consumption increased by 3.2% in galvanizing, down by 8.8% year-on-year in die casting alloys, up by 20% year-on-year in zinc oxide industry and up by 3% year-on-year in brass production, accounting for 52.4%, 16.8%, 8.9% and 10% respectively in the total zinc production in China in 2008.

As many steel mills reduced production in the second half of 2008, the demand for zinc ingot weakens. Meanwhile, there is sufficient supply of imported zinc ingot in Chinese spot market, so the market was still under pressure from oversupply.

3. The zinc import and export in China in 2008

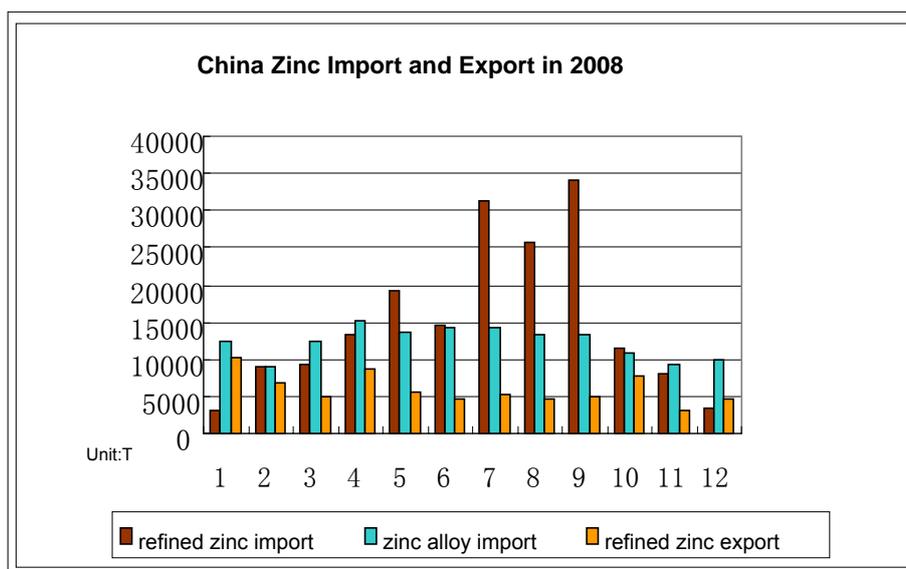
Zinc prices in Chinese spot market were higher than those in the overseas market in most time of 2008, so the refined zinc import kept increasing. According to the statistics published by China Customs, the refined zinc metal import increased by 22.67% year-on-year to 183,384t in 2008.

Most of the metal were mainly imported to China in the second and third quarter. The refined zinc import was over 10,000t per month during April and October. The import even hit the high levels of 31,369t in July and 34,026t in September. There is no doubt that the mounting refined zinc import exerted great pressure on Chinese market in the second half of 2008.

In the fourth quarter of 2008, zinc prices slumped in both Chinese and overseas markets. The price declined by about RMB4,000-5,000/t to the low level of about RMB9,000/t in

Chinese market in October, and the demand softened sharply. In addition, the market is volatile and its outlook is unpromising. Therefore, many Chinese participants gave up importing the metal, resulting in the significant decline of zinc import in the last two months of the year.

The zinc alloy import totaled 147483t in 2008, down by 12.4% year-on-year.



The refined zinc export was 71,318t in 2008, down by 74.1% compared with that in 2007. Except January and December, China was a net importer of refined zinc in the rest ten months of 2008. The net import of refined zinc totaled 112,066t in 2008.

China abolished the five percents of export rebate on SHG zinc ingot ($Zn \geq 99.995\%$), effective from August 1st, 2008. There is still five percents of export tax on HG zinc ingot ($99.99\% \leq Zn < 99.995\%$) and 15% export tax on crude zinc ingot ($Zn < 99.99\%$). The removal of export rebate on SHG zinc ingot and the still high export tax on HG zinc ingot make the great decline of zinc ingot export in 2008. Meanwhile, the ratio of zinc price in Chinese market to that on LME kept about 8, indicating that it is still profitable for importing zinc to China. With zinc production growing fast in China and the market in oversupply, the shrinking export of zinc and increasing import continue to weigh on Chinese zinc market.

Many zinc mines cut production or closed in succession in China on softening zinc prices from late 2007. Almost over 80% of medium and small-sized zinc mines halted production in the second half of 2008, due to the sharp drop of zinc price. Many Chinese smelters have to import zinc concentrate from overseas market to meet their demand, so the import

of zinc ore and concentrate increased greatly in China in 2008, up by 10.65% year-on-year to 2,384,880t, 821,488t of which was imported from Australia, 512,385t from Peru and 128,655t from India, accounting for 34%, 21.5% and 5% respectively in the total import.

4. The outlook of zinc market in 2009

Dragged down by the economic recession, zinc market is forecast to remain weak in 2009, with zinc prices lingering at low levels. The World Bank predicted that the growth of global economy in 2009 will be only 1%, down sharply from 3% that it forecast in June 2008, as the economy will keep worsening caused by the financial crisis. It predicted that the economy growth will be 4.5% in developing countries and -0.1% in developed countries, such as Japan, USA and some European countries, down from its previous forecast of 6.4% and 2%. The economy growth is forecast to slow down in China, down from 9.1% in 2008 to about 8% in 2009.

In such stagnant economic condition, there will no great improvement seen in construction and automotive industries in the near term, so zinc consumption will continue to be restrained. There will be global surpluses of refined zinc of 300,000t in 2009, though many smelters and mines may run below their capacity. The average zinc prices on LME is predicted to keep at about USD1,300/t in 2009. There was 550,000tpy of new built zinc capacity in China 2008, but only about 200,000tpy coming on stream in the second half of 2008, so the new smelters may ramp up to its capacity gradually in 2009. However, there will be still many zinc mines and smelters running below their capacity in 2009, so the zinc production is predicted to decline to about 3.8 million tons in 2009. Steel mills may continue to struggle, so the growth of zinc consumption may slow down in China in 2009 and the consumption in 2009 will keep the same level of 3.7 million tons in 2008. In addition, the net import of refined zinc may remain at over 100,000t in 2009, so there will be surpluses of refined zinc of 200,000t in China. The average zinc price is predicted at about RMB12,000/t in China in 2009.