## **INTRODUCTION**

Cement is a basic and essential construction material. Portland Cement is the most common type of cement which is produced by grinding and mixing different proportions of lime, gypsum, blast furnace slag and other additives with clinker, an intermediate product produced in the cement manufacturing process and hardened under water. The functions and performance of cements are determined by the different proportions of clinker and other raw materials used during the production process.

In PRC, Common Portland Cement is graded based on its compressive strength measured in MPa. Common Portland Cement are commonly graded with 32.5, 42.5, 52.5 and 62.5 (where applicable). Different grades of cement are applied in different construction projects depending on the requirements of compressive strengths of the corresponding building structures.

## Types, Characteristics and Uses of Cement

Main types of cement in Common Portland Cement are Portland Ordinary Cement (PO), Portland Slag Cement (PS) and Portland Composite Cement (PC).

Portland Ordinary Cement has a stronger compressive strength and therefore it is usually used in construction projects. It is also more resistant to abrasion, which makes it suitable for structures such as roads and bridges.

Portland Slag Cement is highly resistant to heat and adheres to steel bars well. It has a relatively low initial compressive strength than Portland Ordinary Cement. It is made by mixing clinker with blast furnace slag and other raw materials. Due to its attributes, Portland Slag Cement is usually used in constructions of underground buildings and underwater and sea projects.

Portland Composite Cement is a mixture comprising clinkers and gypsum used in Portland Cement and 20% to 50% of slag, pozzolana, fly ash and limestone. As a result, it has similar attributes to Portland Ordinary Cement but with a lower compressive strength. It is usually used in constructions requiring lower quality concrete such as small buildings and farm houses.

The most important use of cement is to produce concrete and mortar — strong and durable buildings materials in the face of normal environmental effects. Concrete is made by mixing cement with water and aggregates (such as gravels and sand). Mortar is also made from cement mixed with water and sand and mainly used as binding material for indoor tiling work and brick walls.

## **CEMENT PRODUCTION**

## **Production process**

Chart 1 shows the cement production process:





The three major stages are: (1) preparing the raw mixture; (2) producing the clinker; and (3) grinding and blending of clinker to produce cement.

## Preparation of raw mixture

The crushed raw materials will then go through either a dry or wet process. In the wet process, the crushed raw materials are ground with water to form a muddy mixture of slurry while in the dry process, the crushed raw materials are ground and mixed without water to form a raw meal. In a semi-dry process, a slightly wet mixture is formed. The raw mixture will then be transferred into the kiln for calcinations.

## Clinker Formation

In the large cylindrical steel kiln positioned horizontally at a slight angle, the raw mixture is fed in the higher end and heated up to a temperature between 1,400 and 1,500 degrees Celsius. Complex series of physical and chemical reactions will take place in the kiln under the high temperature, releasing certain elements in the form of gases. Small, marble-sized pieces of a new substance, clinker, will be formed at the lower end of the kiln.

# Cement Grinding

Clinker is mixed with other raw materials, in particular, gypsum, which adjusts the setting time of the cement when it is eventually used in producing concrete, and then ground in the cement mill to form a fine cement powder. The cement is then transferred into a silo for storage. The cement will be delivered to customers either in bags or as bulk powder blown from a pressure vehicle into the customer's silo. The quality of cement is controlled through a series of physical and chemical tests and specification analyses in the production process.

# Waste Heat Recovery

Our waste heat recovery power system started trial operation in September 2010 and was endorsed to full operations on 8 June 2011. It can provide us with an economical, efficient and environmental-friendly ways of utilising our resources. The plant collects the waste heat released from combustions in our kiln, which enables us to recycle the excess energy to power our plants.

# Comparisons: Cement production processes, types of kilns and cement production technologies

There are two main different processes in clinker production as mentioned above, namely the wet and dry processes. Before transferring to the kiln, the raw materials are ground and mixed with water to form slurry in the wet process, while they are ground and mixed without water in the dry process. The dry process is more fuel-efficient and less polluting, but the two processes are basically the same in other respects.

Two main types of kilns are employed in the cement production process, namely vertical kilns and rotary kilns. Vertical kilns are traditional and therefore adopting less advanced production technologies which are less energy-efficient. It can only be used in semi-dry production process and produce lower quality clinker. In contrast, rotary kilns can be used in wet, dry or semi-dry processes and employ more advanced technologies (including NSP technology). Thus, using rotary kilns for producing clinker is more environmental friendly while better quality clinker can be produced.

NSP technology, or New Suspension Preheater technology, is characterised by its ability to preheat the raw materials for clinker production before the raw materials being mixed and fed into the rotary kiln. In this way, the raw materials are substantially decomposed before transferral to the kiln, rendering the calcinations and clinker formation in the kiln more energy-efficient. NSP technology is more efficient than non-NSP technology, where no pre-heating of raw materials is involved.

To improve economical and production efficiency, cement producers began to use rotary kilns with advanced NSP technology in recent years as vertical kilns consume much more coal and energy than rotary kilns, rendering vertical kiln plants more exposed to power shortages and price volatility of coal and electricity. In addition, vertical kilns discharge much more pollutants than rotary kilns which goes against the world's environmental protection concerns.

Chart 2 below shows a comparison between vertical and rotary kilns:

## Chart 2

	Technology	Product quality	Production efficiency	Pollution
Vertical kilns				
Semi-dry process	Old	Low	Low	High
Rotary kilns				
Wet process	Old	Higher	Low	Low
Semi-dry process	Old	Higher	Higher	Low
Dry process — NSP	Latest	Highest	Highest	Lowest

In recent years, there has been increasingly widespread use of rotary kilns in the cement production lines in the PRC, replacing the less advanced and less environmental friendly vertical kilns. Rotary kiln, adopting the NSP technology, generally emits fewer harmful pollutants and produces higher quality cement. NSP technology has now become the most common cement production technology in the PRC, contributed approximately 80% of total cement produced in 2010 which is more than five-folds of that in 2001, according to China Cement Association.

## **CEMENT MARKET IN THE PRC**

Chart 3 below sets forth the amounts and growth rates of GDP, FAI and cement production and consumption in the PRC for the periods indicated.

#### Chart 3

		CAGR (%)				
	2006	2007	2008	2009	2010	2006-2010
GDP:						
RMB (in billions)	21,631.4	26,581.0	31,404.5	34,090.3	39,798.3	16.5%
Growth rate (%)	12.7	14.2	9.6	9.2	10.3	_
FAI:						
RMB (in billions)	10,999.8	13,732.4	17,282.8	22,459.9	27,814.0	26.1%
Growth rate (%)	23.9	24.8	25.9	30.0	23.8	_
<b>Cement Production:</b>						
Tons (in millions)	1,236.8	1,361.0	1,388.0	1,646.0	1,868.0	10.9%
Growth rate (%)	15.7	10.0	2.0	18.6	13.5	_
<b>Cement Consumption:</b>						
Tons (in millions)	1,220.6	1,344.8	1,368.8	1,620.5	1,851.0	11.0%
Growth rate (%)	16.4	10.2	1.8	18.4	14.2	_

Source: National Bureau of Statistics of China

China's economy has demonstrated rapid growth in recent years. From 2006 to 2010, China's GDP increased significantly from approximately RMB21,631.4 billion in 2006 to approximately RMB34,090.3 billion in 2009 and reached approximately RMB39,798.3 billion in 2010. This CAGR of 16.5% (up to 2010) makes the PRC one of the fastest growing economies in the world.

In line with the astonishing economic growth, the construction industry in the China has also experienced significant expansion in recent years. The FAI grew from approximately RMB10,999.8 billion in 2006 to approximately RMB27,814.0 billion in 2010, representing a CAGR of 26.1%. Such expansion has in turn induced the growth of cement production and consumption. China's total cement production increased from 1,236.8 million tons in 2006 to 1,868.0 million tons in 2010, representing a CAGR of 10.9%. Similarly, China's total cement consumption increased from 1,220.6 million tons in 2006 to 1,851.0 million tons in 2010, representing a CAGR of 11.0%.

## **Coal price**

The production of cement consumes a large amount of coal and energy. For reference, ex-factory prices of general bituminous coal for the period from March 2009 to October 2011 are set out in Chart 4 as follows:

## Chart 4



Ex-factory prices of general bituminous coal

Source: National Bureau of Statistics of China

#### Effect of the financial tsunami

In response to the global financial crisis in the latter half of 2008 and in 2009, the PRC government has launched a RMB4 trillion economic stimulus package to boost domestic consumption and maintain domestic economic growth. The package aims to encourage investments in infrastructure projects and social welfare expansion. Government construction projects, such as housing, rural development, power grid, transportation and post-disaster reconstructions, were thus accelerated and has driven a material increase in FAI, especially in the first quarter of 2009. Benefited from this stimulus package, various transportation projects have been implemented in Shanghai and Shandong including Beijing-Shanghai High-Speed Railway (京滬高速鐵路), Huhang Passenger Dedicated Line (滬杭客運專線), Shanghai-Kunming Passenger Dedicated Line (滬昆客運專線), Qingdao-Rongcheng Intercity Rail (青榮城際鐵路), Shiji Passenger Railway (石濟客運專線) and Haitian-Qingdao Railway (海青鐵路).

The production and sale of cement tend to be regionally concentrated due to cement's inherent nature of low value-to-weight ratio. Cement producers are significantly impacted by the transportation distances as it would affect the delivery cost of raw materials and finished goods. In the past, such constraints on one hand prevent cement producers from dominating the nationwide market, while on the other hand, it also deter foreign competitors from selling their cement products to the existing markets in the PRC which lessened the competitions of the cement market in the PRC. However, the competition has become tenser in China upon its entry into the World Trade Organisation (WTO) as international cement companies started to tap into the PRC market by either moving their cement production bases into China or acquiring local cement producers.

## Key industry trends in the PRC

#### Shifting towards the use of rotary kilns and NSP technology

Most industrialised countries began to replace vertical kilns with rotary kilns since 1970s with increasing environmental protection awareness. Currently, in the developed countries such as Japan and Germany, the use of NSP technology has reached approximately 95%. China has started to phase out vertical kilns in recent years by introducing the more energy-efficient NSP technology in 1980s. Chart 5 below sets out the percentage of total cement production with NSP technology in the PRC for the periods indicated.

#### Chart 5

	Year ended 31 December									
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
NSP technology	14.1%	17.1%	22.1%	32.8%	44.9%	48.8%	55.0%	63.0%	76.9%	80.0%

Source: China Cement Association (Digital Cement Net)

With the continuing effort of the PRC government, 80% of cement in China was produced using NSP technology by the end of 2010 for which the government's aim with 70% NSP output by 2010 as stated in the *Policies on Cement Industry Development* (水泥工業產業發展政策) issued in 2006 has already been achieved. The increasing popularity of NSP technology is partly the result of substantial cost reduction in cement production after the cement producers could master the equipment manufacturing skills. According to the Twelfth Five-Year Plan for Cement Industry (水泥工業「十二 五」發展規劃) issued on 8 November 2011, the PRC government will continue to promote adoption of NSP technology by cement industry for it is more environmental friendly and can foster recycle of urban waste.

The PRC government has announced a series of regulations and policies to phase out obsolete production technologies and vertical kilns. The *Policies on Cement Industry Development* (水泥工業產業發展政策) and the *Notice Regarding Replacement of Obsolete Cement Production Capability* (關於做好淘汰落後水泥生產能力有關工作的通知) (a restatement of Policies on Cement Industry Development) issued by the NDRC on 17 October 2006 and 18 February 2007 respectively have outlawed the establishment of new production facilities with vertical kilns and less advanced technology. Cement producers with an annual production capacities of less than 200,000 tons are to be phased out.

*The Notice Regarding Accelerating of Obsolete Production Capability* (國務院關於進一步加強淘 汰落後產能工作的通知) issued by the State Council on 10 April 2010 further emphasised on accelerating the phase-out of the manufacturers with obsolete production technologies in various highly polluting industries, including cement industry. All vertical kilns with less than three metres diametre and all the production lines adopting wet process have to cease operation by the end of 2012.

There are also regulations issued to stress the use of higher quality cement, which can only be produced with rotary kilns, for large-scale construction projects such as high-rise buildings. Moreover, the government is offering VAT rebates to cement manufacturers that can demonstrate 30% Recycling Rate, a standard that is not practical for vertical kilns to achieve.

## Industry consolidation

The production and sale of cement is regional in nature, and the absence of dominant industrial leaders creates a fragmented market for the cement production industry. According to information from Digital Cement Net, there were over 5,000 cement producers in the PRC as of November 2010. The PRC government has started to take measures to plan for the healthy development of the cement industry and to endorse cement producers with leading market positions to merge with and acquire other small-scale cement producers in order to optimise the industrial environment.

Consolidation of the fragmented market through mergers and acquisitions by the larger and/or foreign cement producers is accelerating under the government's aim to save energy and reduce pollutants emission. By the end of 2010, the 10 largest PRC cement producers only contributed to approximately 25.3% of the total capacity in China and the current average annual cement production capacity per producer in China was approximately 0.3 million tons which is much lower than the global average.

Consolidating the cement market is one of the main focuses by the PRC government as stated in the "Policies on the Development of Cement Industry" (水泥工業產業發展政策) issued in October 2006. The PRC government targeted to reduce the number of cement producers from 5,000 in 2006 to 2,000 by 2020. In particular, among the 2,000 cement producers, 10 shall have annual production capacity of not less than 30 million tons and 40 shall have annual production capacity of not less than 5 million tons.

On 31 December 2006, the NDRC, the Ministry of Land and Resources and the PBOC jointly issued a notice stating that the 12 cement companies classified as "National Companies" and the 48 regional cement companies classified as "Regional Companies", will have priority in receiving government support on project approvals, land use right grants and credit approvals in respect of project investments or mergers and acquisitions. Set forth below are the National Companies listed in the notice (in the order listed):

Anhui Conch Cement Company Limited (安徽海螺水泥股份有限公司)
Shandong Shanshui Cement Group Company Limited (山東山水水泥集團有限公司)
Zhejiang Leomax Group (浙江三獅集團有限公司)
Huaxin Cement Co., Ltd. (湖北華新水泥股份有限公司)
Tangshan Jidong Cement Company Limited (河北唐山冀東水泥股份有限公司)
China United Cement Corporation (中國聯合水泥有限責任公司)
Jilin Yatai (Group) Co., Ltd. (吉林亞泰(集團)股份有限公司)
China National Materials Group Corporation (中國材料工業科工集團公司)
BBMG Corporation (北京金隅集團有限責任公司)
Henan Tianrui Group Corporation (河南天瑞集團公司)
Hongshi Holding Group Co., Ltd. (紅獅控股集團有限公司)
Gansu Qilianshan Cement Group Co., Ltd. (甘肅祁連山水泥集團股份有限公司)

Our subsidiary, Shanghai SAC, which we own jointly with Shanghai Building Material, is on the list under the category of Regional Companies in the aforesaid notice.

Under these policies, small-scale cement producers with obsolete production technologies that are not environmentally friendly shall be phased out. The Directors noted that (i) we are on the list under the category of Regional Companies to have priority in receiving government support on project approvals, land use right grants and credit approvals in respect of project investments or mergers and acquisitions; (ii) we compete to a large extent based on product quality, location of production facilities and access to resources instead of production volume; (iii) our financial strength and public recognition would improve after Listing which provides us with favourable grounds for acquisition; and (iv) the Bailonggang Project, if it materialises, will further increase our annual cement production capacity by approximately 1.35 million tons and daily clinker production capacity by approximately 4,000 tons and our industry position are expected to strengthen.

Notwithstanding the above, our market share remains comparatively small compared with some of the National Companies and Regional Companies. The Directors are therefore of the view that it is currently unclear whether we will be a consolidator or a consolidate in the industry consolidation process; and there is a possibility that we may be a consolidate. Such possibility is further discussed in the section headed "Risk factors".

The government also encourages the larger and more efficient enterprises to merge with or acquire the smaller and excessively polluting factories by giving them priority in application of relevant project approvals, land use right and credit. It is further confirmed in the *State Council's Opinions on Facilitating the Merger and Restructuring of Enterprises* (國務院關於促進企業兼併重組的意見) issued by the Ministry of Industry and Information Technology on 28 August 2010. According to the Twelfth Five-Year Plan for Cement Industry (水泥工業「十二五」發展規劃) issued on 8 November 2011, the government aims to increase the aggregate market share of the 10 largest PRC cement producers to 35% with an average production volume of over 70 million tons by 2015 and therefore it is expected that the consolidation process will become more trendy in the PRC cement market with the government's continuing encouragements.

## Curbing oversupply

The PRC government has implemented measures to curb the over-expansion of the cement industry in China. According to the *State Council's Notice Approving the NDRC's Guidelines on Redundant Construction, Curbing Overcapacity in Certain Industries and the Healthy Development of Industries* (國務院批轉發展改革委等部門關於抑制部分行業產能過剩和重複建設引導產業健康發展若干意見的 通知) issued by the State Council on 26 September 2009 and the *Criteria for Entry to Cement Industry* (水泥行業准入條件) issued by the Ministry of Industry and Information Technology on 1 January 2011, states that new or expanded production lines should comply with local cement industrial policies. The annual growth of cement production capacity shall not exceed 10% in provinces in which cement production lines adopting NSP technology. In addition, applicants for new cement production lines must have at least three years of experience in the industry, have limestone resources sufficient for at least 30 years of excavation for the proposed cement production as well as 35% self-owned capital. The government also intends not to examine and approve the projects from cement producers aiming solely at capacity expansion in the proposed *Policies on Cement Industry Development (Source: China Cement Net — No more approvals on production capacity expansion projects under the 12th Five-Year Plan* ("十二五" 將不再審批單純擴大產能項目).

#### Increasing focus on environmental protection

Various measures and regulations have been put in place by the PRC government to control pollutant emissions and reduce energy consumption in recent years. The *Notice Regarding Several Opinions for Accelerating Adjustments of Cement Industrial Structure* (關於加快水泥工業結構調整的若 干意見), issued by the PRC government on 13 April 2006, stipulated that by the end of 2010, the heat consumption of coal equivalent for clinker production with NSP technology should be decreased from 130 kg/ton to 110 kg/ton, the percentage of production lines with waste heat recovery systems should reach 40% and the utilisation rate of limestone resource should be increased from 60% to at least 80%. Our production facilities complied with such relevant requirements by the end of 2010 such that our production facilities at Shandong Province was able to lower the heat consumption level of coal equivalent to the level within 110 kg/ton. Our production lines have equipped with waste heat recovery systems and we have utilised over 98% of limestone excavated from our limestone quarry during Track Record Period.

In addition, *The Notice Regarding Several Opinions for Saving Energy and Reducing Emissions of Cement Industry* (關於水泥工業節能減排的指導意見) issued by the Ministry of Industry and Information Technology on 24 December 2010 expressed opinions and suggestions to local governments and related regulatory bodies on energy saving and pollutant emissions reduction of cement producers including recycling of waste by-products, lowering heat consumption for clinker production to 93 kg/ton of coal equivalent by 2015 and formulating effective incentive programs for the qualified cement enterprises from the environmental aspects.

In recent years China's cement research institutions have developed key technologies to reduce or eliminate toxins from substances that have been considered hazardous previously so that they may be recycled or reused in kilns. These technologies allow producers to recycle what was formerly treated as a waste by-product into reusable raw materials or fuel. With the development of such technologies, further developments of recycling techniques in the cement industry have been strengthened.

## CEMENT MARKETS IN SHANGHAI, SHANDONG AND JIANGSU PROVINCES

#### Shanghai

Shanghai, one of the four direct-controlled municipalities in China, is a global city with a population of approximately 23.0 million as at 1 November 2010, rendering it one of the most populous cities in China. Since the commencement of modern development following the economic reforms in 1992, Shanghai has grown to become a business centre in mainland China. In early 2009, China's State Council approved Shanghai's plans to position itself as one of the world's leading financial and trading centre by 2020, which reflects the financial strength and strong base of manufacturing and technology of Shanghai and the expectation that Shanghai will continue to boom and thrive in the coming years. With the largely successful hosting of the World Expo 2010 Shanghai, China has enhanced Shanghai's new global status in the 21st century. Moreover, the establishment of Shanghai Disneyland, expected to be operational in 2014 or 2015, may drive up the demand of cement for the constructions of the surrounding infrastructures including an efficient transportation system.

Chart 6 below sets forth the amounts and growth rates of GDP and FAI in Shanghai and the PRC for the periods indicated.

## Chart 6

	Year ended 31 December					CAGR (%)
	2006	2007	2008	2009	2010	2006-2010
GDP: RMB (in billions)						
Shanghai	1,057.2	1,249.4	1,407.0	1,504.6	1,716.6	12.9%
GDP Growth rate: (%)						
Shanghai	12.7	15.2	9.7	8.2	10.3	12.9%
China	12.7	14.2	9.6	9.2	10.3	16.5%
FAI: RMB (in billions)						
Shanghai	392.5	445.9	482.9	527.3	531.8	7.9%
FAI Growth rate: (%)						
Shanghai	10.8	13.6	8.3	9.2	0.9	7.9%
China	23.9	24.8	25.9	30.0	23.8	26.1%

Source: National Bureau of Statistics of China, Shanghai Statistical Information Net

Shanghai's GDP reached RMB1.69 trillion for the year ended 31 December 2010. Amongst the provincial-level divisions in China, its GDP has ranked between 7th and 9th since 1990s, contributing to approximately 4.2% of the China's GDP as at 31 December 2010. Nonetheless, it has the highest GDP per capita among all administrative divisions in China. As at 31 December 2010, Shanghai reached RMB73,297 GDP per capita which is more than three folds of China's average of RMB29,940. Shanghai's GDP grew from RMB1,057.2 billion in 2006 to RMB1,687.2 billion in 2010, representing a CAGR of approximately 12.4%. The potent financial base has attracted both domestic and overseas investments into Shanghai. FAI in Shanghai rose from RMB392.5 billion in 2006 to RMB531.8 billion in 2010, representing a CAGR of approximately 7.9%. With demand from both domestic and overseas investors, infrastructures and properties are being constructed in Shanghai in recent years and therefore stimulating up the construction industry in Shanghai which favours its cement market accordingly.

The price of cement (presented in this section based on prices including value added tax of 17%) has increased significantly in recent years. Chart 7 below shows the monthly price trend per ton of Portland Ordinary Cement (PO 42.5), a commonly used cement in the construction industry, of Shanghai during the period from January 2006 to October 2011. The price of Portland Ordinary Cement per ton has generally increased during the aforesaid period, with a low in 2009 reflecting the global financial crisis in the latter half of 2008. The cement price increased significantly from below RMB300 per ton in mid 2009 to over RMB500 by the end of 2010. The price hit a high in December 2010 at RMB535 per ton. The surge in cement price in Shanghai is largely due to the limitation of electricity supply imposed on cement producers as a result of the government's goal to reduce energy consumption and to curb the oversupply of cement. On the other hand, there was an increasing demand for cement especially after the closing of the World Expo 2010 in October due to the commencement of construction projects which were previously being held back.

In 2011, the price per ton of Portland Ordinary Cement dropped and stabilised between RMB400 to RMB500 per ton throughout the period up to October 2011. Chart 7 sets out the movement of monthly price trend per ton of Portland Ordinary Cement (PO 42.5) in Shanghai from January 2006 to October 2011.

# Chart 7





Source: China Building Material Industry Association

*Note:* In contrast to our average selling price shown in this prospectus, which has excluded VAT of 17%, the chart above shows the prices of Portland Ordinary Cement (PO 42.5) including VAT of 17%.

# Shandong Province

Shandong is the second most populous province in China with population approximately 95.8 million by the end of 2010 and it is the third most affluent provinces in China with its GDP reaching approximately RMB3,941.6 billion for the year ended 31 December 2010, contributing to approximately 9.8% of the China's GDP. Shandong ranked the ninth among the provinces in terms of GDP per capita with RMB41,147 as at December 2010. Chart 8 below sets forth the amounts and growth rates of GDP and FAI in Shandong and the PRC for the periods indicated.

# Chart 8

	Year ended 31 December					CAGR (%)
	2006 2007		2008 2009		2010	2006-2010
GDP: RMB (in billions)						
Shandong	2,190.0	2,577.7	3,093.3	3,389.7	3,941.6	15.8%
GDP Growth rate: (%)						
Shandong	14.7	14.2	12.0	12.2	12.5	15.8%
China	12.7	14.2	9.6	9.2	10.3	16.5%
FAI: RMB (in billions)						
Shandong	1,113.6	1,253.7	1,543.6	1,903.1	2,327.9	20.2%
FAI Growth rate: (%)						
Shandong	5.6	12.6	23.1	23.3	22.3	20.2%
China	23.9	24.8	25.9	30.0	23.8	26.1%

Source: National Bureau of Statistics of China, Shandong Statistical Information Net

Shandong is under rapid economic growth and the real estate sector is one of the important industries contributing to its prosperity. GDP in Shandong Province grew from RMB2,190.0 billion in 2006 to RMB3,941.6 billion in 2010, representing a CAGR of approximately 15.8% and FAI increased from RMB1,113.6 billion to RMB2,327.9 billion from 2006 to 2010, representing a CAGR of 20.2%.

In 2010, Shandong was the second largest cement production province, with production volume of 147.5 million tons, contributing 7.90% of the total cement production in China. The table below ranks China's major provinces in terms of cement production volume in 2010.

# Chart 9

# Ranking of China's major provinces in terms of cement production volume for the year 2010

		Production	Percentage of
<b>N</b> .T	<b>x</b>	Volume	Total Production
<u>No.</u>	Location	(million tons)	Volume (%)
1	Jiangsu	156.5	8.38
2	Shandong	147.5	7.90
3	Sichuan	132.3	7.08
4	Hebei	125.9	6.74
5	Guangdong	115.4	6.18
6	Henan	114.8	6.15
7	Zhejiang	112.8	6.04
8	Hubei	89.8	4.81
9	Hunan	87.0	4.66
10	Anhui	78.7	4.22
11	Guangxi	74.6	3.99
12	Jiangxi	62.2	3.33
13	Fujian	57.9	3.10
14	Yunnan	56.1	3.00
15	Liaoning	47.8	2.56
	Total	1,459.2	78.12

Source: China Cement Association

According to China Cement Net: The Review of the Development of Cement Industry in the 11th Five-Year Plan (十一五水泥工業發展回顧), with the increasing use of more advanced cement production facilities and technologies, Shandong has achieved lower coal consumption and pollutant emissions as well as an increase in the use of waste/recycling materials during the cement production process. By the end of 2010, Shandong achieved NSP output of approximately 74.5% and its coal consumption from the cement production had been lowered from approximately 124.4 kg/ton of coal equivalent in 2005 to 93.32 kg/ton in 2010. Moreover, it is expected that all vertical kilns will be phased-out by the end of 2015.

The price of cement (presented in this section based on prices including value added tax of 17%) in Shandong has also experienced an increase over the years. Chart 10 below sets forth the movement of monthly price trend per ton of Portland Ordinary Cement (PO 42.5) in Jinan, the capital of Shandong Province from January 2006 to October 2011.

## Chart 10





Source: China Building Material Industry Association

The cement price in Jinan, Shandong remained at a constant level of RMB280 per ton throughout the period from January 2006 to April 2008. The cement price increased to RMB400 per ton in July 2008 and maintained at that level until the price increase further to RMB460 per ton in May 2011.

*Note:* In contrast to our average selling price shown in this prospectus, which has excluded VAT of 17%, the chart above shows the prices of Portland Ordinary Cement (PO 42.5) including VAT of 17%.

# Jiangsu Province

Jiangsu is also one of the most populous provinces in China with population of approximately 78.7 million by the end of 2010 and it is the second most affluent provinces in China. Its GDP reached approximately RMB4.09 trillion for the year ended 31 December 2010, contributing to approximately 10.2% of the China's GDP. It ranked the fourth among the provinces in terms of GDP per capita with approximately RMB52,000 as at December 2010. Chart 11 below sets forth the amounts and growth rates of GDP and FAI in Jiangsu and the PRC for the periods indicated.

# Chart 11

	Year ended 31 December					CAGR (%)	
	2006 2007 2008		2008	2009 2010		2006-2010	
GDP: RMB (in billions)							
Jiangsu	2,174.2	2,601.8	3,098.2	3,445.7	4,090.3	17.1%	
GDP Growth rate: (%)							
Jiangsu	14.9	14.9	12.7	12.4	12.6	17.1%	
China	12.7	14.2	9.6	9.2	10.3	16.5%	
FAI: RMB (in billions)							
Jiangsu	1,007.1	1,226.8	1,506.0	1,895.0	2,318.7	23.2%	
FAI Growth rate: (%)							
Jiangsu	15.2	21.8	22.8	25.8	22.4	23.2%	
China	23.9	24.8	25.9	30.0	23.8	26.1%	

Source: National Bureau of Statistics of China, Jiangsu Statistical Information Net

As shown in Chart 9, in 2010, Jiangsu Province had the largest cement production volume of approximately 156.5 million tons, contributing approximately 8.38% of the total production volume in China.

According to the Digital Cement Net, the government will invest approximately RMB65 billion on development of Nanjing, the capital city of Jiangsu. The city development plan includes the construction of six railway networks which expands the current railway networks farther to the cities of Luhe and Lishui, the construction of a high-technology park in Jiangning District and the construction of government subsidised housing of a total of approximately six million square metres in Nanjing. Furthermore, under the 12th Five-Year-Plan, the government will invest approximately RMB14.3 billion on constructing two expressways and expanding an existing expressway in Taizhou city of Jiangsu Province. All of the above, if implemented, will require vast amount of capital injection from the government and are expected to boost up FAI and the demand for construction materials which in turn favours the cement industry.

In addition, Lianyungang was the fastest growing city in Jiangsu Province during the 11th Five-Year-Plan. The completion of the construction of the Yun Tai Shan Tunnel in Lianyungang, the longest tunnel in Jiangsu by the end of 2010, is expected to further improve the accessibility of the cities within the province, which may accelerates the overall economic development of Jiangsu.

Cement price (presented in this section based on prices including value added tax of 17%) in Jiangsu had been stable at approximately RMB250 to RMB350 per ton in past few years up to 2009, while the price experienced a significant increase in 2010. Similar to Shanghai, Jiangsu government has limited the electricity supply on cement producers in the second half of 2010 from August to November, resulting in a surge in cement price. Chart 12 below sets forth the movement of the monthly price trend per ton of Portland Ordinary Cement (PO 42.5) in Nanjing, the capital of Jiangsu from January 2006 to October 2011.

#### Chart 12



Monthly prices of Portland Ordinary Cement (PO 42.5) in Nanjing, Jiangsu

Source: China Building Material Industry Association

It was noted that the cement price in Nanjing, Jiangsu had risen during the second half of 2010. Following the onset of the policy of electricity limitation in August 2010, the average price of PO42.5 cement increased by approximately 16% from RMB385 per ton in August 2010 to RMB445 per ton in September 2010. The cement price had increased in October and November and a significant surge in price to RMB570 per ton was noted in December 2010. Since February 2011, the cement price in Nanjing, Jiangsu has remained stable at RMB490 per ton.

*Note:* In contrast to our average selling price shown in this prospectus, which has excluded VAT of 17%, the chart above shows the prices of Portland Ordinary Cement (PO 42.5) including VAT of 17%.