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## BUSINESS

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### OVERVIEW

We are a leading, fast growing and vertically integrated copper producer, focusing on the mining, ore processing, leaching, smelting and sale of copper, based in Zambia. According to Wood Mackenzie, we were the first Chinese firm to invest in Zambia's copper assets since the privatization of its copper industry in the late 1990s and we were the largest PRC enterprise in terms of total overseas copper production in 2011 (including copper concentrate, blister copper and copper cathode). Our main products are copper concentrate, blister copper and copper cathode. We also produce sulfuric acid, a by-product generated during the blister copper smelting process. In 2011, we produced 39.3 kt of contained copper in concentrate, 150.9 kt of blister copper, 7.0 kt of copper cathode and 328.8 kt of sulfuric acid. Our ultimate Controlling Shareholder is CNMC, a PRC state-owned enterprise directly administered by the SASAC and engaged in the development of nonferrous metal resources, construction and engineering, as well as related trade and services, both in the PRC and overseas. We are the overseas platform for the CNMC Group in terms of copper and cobalt resources development.

Our business is carried out through our four subsidiaries in Zambia: NFCA, Luanshya, CCS and SML. NFCA and Luanshya operate our mining assets, while CCS operates our copper smelter and SML operates our copper leaching plants. We currently have four producing mines: the Chambishi Main Mine, the Chambishi West Mine, the Baluba Center Mine and the Muliashi North Mine. We have also recently begun production at two new projects: the Muliashi Leach Plant and the DRC Project. In addition, we are undertaking various other projects to increase our mine, leaching and smelting production. Our major development projects include the exploration and development of the Chambishi Southeast Mine, the expansion of the Chambishi Copper Smelter, and SML's development projects. We are also conducting various research projects with an aim to start cobalt production in the future. See “— Research and Development — Cobalt Development Plans”.

According to the Competent Person's Report, as of December 31, 2011, our JORC compliant proved and probable ore reserves were 57.6 Mt at an average grade of 1.29% copper and 122.2 Mt at an average grade of 1.36% copper, respectively. Our measured, indicated and inferred mineral resources were 61.3 Mt at an average grade of 1.48% copper, 155.6 Mt at an average grade of 1.69% copper and 210.2 Mt at an average grade of 1.75% copper, respectively. Our JORC compliant total contained metal reserves were approximately 2,404.1 kt of copper and 92.7 kt of cobalt. Our JORC compliant total contained metal resources were approximately 7,197.8 kt of copper and 261.6 kt of cobalt.

During the Track Record Period, we sold a substantial portion of our products to a small number of customers. In 2009, 2010 and 2011, sales to our top five customers accounted for 86.2%, 97.2% and 92.8%, respectively, of our total revenue. The Retained Group was our single largest customer in each of these years and accounted for 28.8%, 55.3% and 51.0% of our total revenue in 2009, 2010 and 2011, respectively. For additional details, see “Risk Factors — Risks Relating to Our Business and Industry — We derive a substantial portion of our sales from a small number of customers” and “— Sales, Distribution and Marketing”.

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The following table sets forth a breakdown of our revenue by geographical location in the periods indicated:

	Year ended December 31,		
	2009	2010	2011
	(US\$'000)	(US\$'000)	(US\$'000)
China <sup>(1)</sup> .....	200,275	750,744	847,976
Europe <sup>(2)</sup> .....	461,673	584,074	397,090
Africa <sup>(3)</sup> .....	34,342	22,467	38,840
<b>Total</b> .....	<u>696,290</u>	<u>1,357,285</u>	<u>1,283,906</u>

Notes:

(1) Including Hong Kong.

(2) During the Track Record Period, our major sales markets in Europe included Switzerland, the United Kingdom and Luxembourg.

(3) During the Track Record Period, our major sales markets in Africa included Zambia and South Africa.

### Summary of Operations

Our mining and ore processing operations are carried out through NFCA and Luanshya. NFCA, in which we have an 85% equity interest, holds three mining licenses covering an area of approximately 107 sq km. NFCA owns the Chambishi Main Mine, the Chambishi West Mine, the Chambishi Southeast Mine and the Chambishi Processing Plant. The Chambishi Main Mine produces sulfide ores and produced 1,028.3 kt of ore in 2011. The Chambishi West Mine commenced the production of mixed and sulfide ores in late 2010 and produced 487.1 kt of ore in 2011. We are currently undertaking the exploration and development of the Chambishi Southeast Mine, which is expected to commence production in 2016 and which, based on our current plans, will have an annual production capacity of 3,300 kt of ore upon its completion.

Luanshya, in which we have an 80% equity interest, owns the Baluba Center Mine, the Muliashi North Mine, the Baluba East Mine, the Mashiba Mine and the Baluba Center Processing Plant. The Baluba Center Mine produced 1,224.1 kt of sulfide ores in 2011. We have recently commenced production at the Muliashi Project, an integrated project for mining and leaching of copper oxide ores, which comprises the Muliashi North Mine, the Muliashi Leach Plant and the planned Baluba East Mine. See “— Our Mining Rights” and “— Mining and Ore Processing Operations — Life-of-Mine Plans” for additional details on our mining and exploration licenses and Life-of-Mine plans.

Our copper smelting operations are carried out through CCS, in which we hold a 60% equity interest. CCS operates the Chambishi Copper Smelter, which produced 150.9 kt of blister copper in 2011 and is the only large-scale overseas copper smelter owned by a PRC enterprise according to the Wood Mackenzie Report. We are currently expanding the facilities of the smelter to increase its annual production capacity to 250 kt of blister copper by 2013.

Our copper leaching operations are carried out through SML, in which we have a 67.75% equity interest. SML operates the Chambishi Leach Plant, which produced 7.0 kt of copper cathode in 2011, and the DRC Project, which commenced production in February 2012 and has a designed annual production capacity of 10 kt of copper cathode. In order to increase our production of copper cathode, we are currently developing a number of leaching projects, including the Mabende Project with a designed annual production capacity of 20 kt of copper cathode and the Kakoso Tailings Development Project with a planned annual production capacity of 3 kt of copper cathode.

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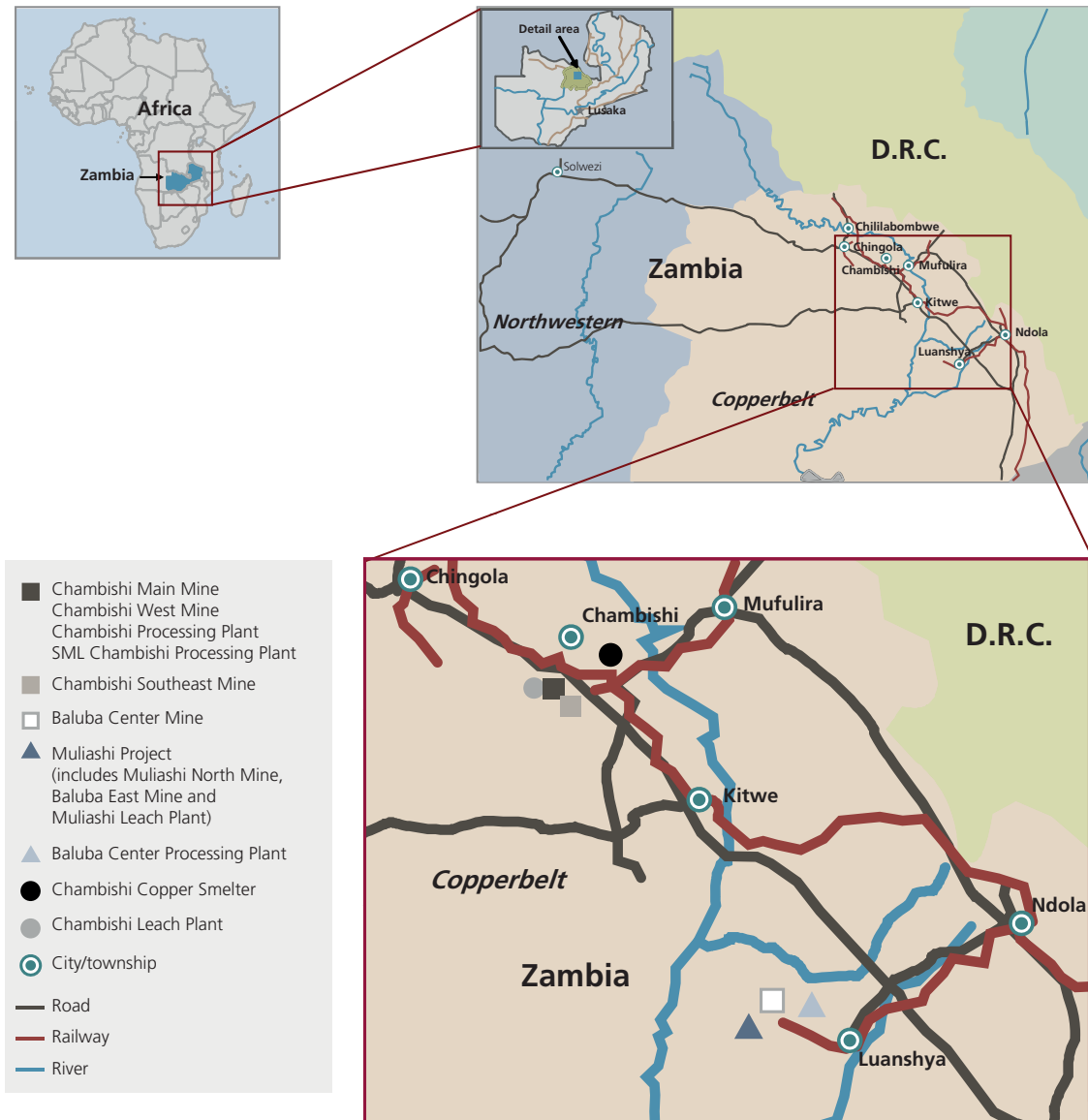
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SML also operates the SML Chambishi Processing Plant, which was completed in 2011 and has an annual processing capacity of 330 kt of ore.

### Asset Locations

The following map shows the locations of our principal mining, ore processing, leaching and smelting operations:



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### OUR COMPETITIVE STRENGTHS

We are a leading, fast growing and vertically integrated copper producer, focusing on the mining, ore processing, leaching, smelting and sale of copper, based in Zambia. We believe that the following competitive strengths contribute to our success and distinguish us from our competitors:

**We were the first PRC firm to invest in Zambia's copper assets since the privatization of the industry in the late 1990s and the largest PRC enterprise in terms of total overseas copper production in 2011**

According to Wood Mackenzie, we were the first PRC firm to invest in Zambia's copper assets since the privatization of the industry in the late 1990s. We ventured into the copper mining industry in Zambia in 1998 focusing on the development of the Chambishi Copper Mine. In the past 14 years we have developed into a vertically integrated copper producer with mining, ore processing, leaching and smelting operations producing copper concentrate, copper cathode and blister copper. We were the largest PRC copper producer in terms of total overseas copper production in 2011 (including copper concentrate, copper cathode and blister copper) according to Wood Mackenzie. We have accumulated ample experience, knowledge and understanding of the local copper mining industry in Zambia over years, which is vital to our continued growth and success in Zambia.

Furthermore, we have gained substantial experience in overseas project development as well as mergers and acquisitions, and we believe we enjoy first-mover advantage in pursuing additional expansion opportunities and acquisitions in Africa due to the strong relationships we have developed with the African business community and local governments, as well as market knowledge we have accumulated since our entry into Zambia in 1998. Our acquisition and development of the Chambishi Copper Mine and the Luanshya Mine demonstrate our ability to identify high-quality acquisition targets and effectively integrate them into our operations. With our history of successful overseas investments and acquisitions, our management track record, our experience in operating upstream and downstream copper operations, we believe we are well positioned to take advantage of acquisition opportunities in the copper industry in Zambia and other countries.

**We possess abundant high-quality copper and cobalt reserves and resources in Zambia, a major copper and cobalt producing country rich in minerals**

We benefit from our abundant copper and cobalt reserves and resources. According to the Competent Person's Report, as of December 31, 2011, our JORC compliant proved and probable ore reserves were 57.6 Mt at an average grade of 1.29% copper and 122.2 Mt at an average grade of 1.36% copper, respectively. Our measured, indicated and inferred mineral resources were 61.3 Mt at an average grade of 1.48% copper, 155.6 Mt at an average grade of 1.69% copper and 210.2 Mt at an average grade of 1.75% copper, respectively. Our JORC compliant total contained metal reserves were approximately 2,404.1 kt of copper and 92.7 kt of cobalt. Our JORC compliant total contained metal resources were approximately 7,197.8 kt of copper and 261.6 kt of cobalt. As of December 31, 2011, the ore reserves at the Chambishi Main Mine were expected to support its production for another 8.5 years, assuming a production rate of 1,000 kt of ore per year. As of the same date, the ore reserves at the Chambishi West Mine, the Baluba Center Mine and the Muliashi North Mine were expected to support mining for another 24, 11 and 12.5 years, respectively, according to the Competent Person's Report. In addition, ore reserves of the Chambishi Southeast Mine and the Baluba East Mine are expected to support 20 and seven years of mining following the commencement of operations. We believe our access to abundant high-quality copper and cobalt resources gives us a long-term competitive advantage to support our existing and future copper production operations, as well as potential cobalt production in the future.

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Our copper and cobalt reserves and resources are located in Zambia, an African country ranked sixth in the world in terms of copper resources and fifth in the world in terms of cobalt reserves, according to Wood Mackenzie. According to the same source, Zambia produced 699 kt of contained copper and 5 kt of contained cobalt, respectively, contributing to 4% and 6% of the world's copper output and cobalt output, respectively, in 2011. The abundant mineral resources, relatively stable political environment, comprehensive infrastructure, steady supply of electricity and water and investor-friendly environment make Zambia an attractive destination for mineral companies, in particular those focusing on copper and cobalt, like ourselves.

We are determined to leverage our abundant copper and cobalt reserves and resources in Zambia and further develop our mining and processing operations. In addition to our existing producing mines and tailings, we have several development and exploration projects, which have the potential to increase further our ore reserves and mineral resources base. We are currently undertaking further exploration at the Chambishi Southeast Mine, as well as undertaking other development and exploration projects, including the Mwambashi, Mashiba and Lufubu deposits. We are also conducting various research projects with an aim to start cobalt production in the future.

### **Our copper production possesses significant growth potential, which should assist us in taking advantage of any opportunities that arise from the growth in the global copper industry, particularly in China**

Copper is a ductile metal with versatile applications and is sourced by end-users in a wide range of industries for the manufacture of a diverse range of products, including electrical and electronic products, industrial machinery and equipment, transportation products and consumer and general products. The copper industry has experienced strong growth over the last decade. According to Wood Mackenzie, from 2001 to 2011, refined copper consumption increased from 14.8 Mt to 19.9 Mt, equivalent to an annual growth rate of 3.0%. According to the same source, the price of copper averaged US\$8,818 per tonne in 2011, representing an increase of 17% over the average copper price in 2010. The global demand for copper is expected to continue to increase by 4.2% per annum in the five years from 2011 to 2015, according to the Wood Mackenzie Report.

China is our main market with sales of our copper products in China (including Hong Kong) accounting for 66.0% of our revenue in 2011. The strong growth in the Chinese economy in the past three decades, in particular the continuously growing consumption in the infrastructure sector, has fueled strong demand for copper in China. According to Wood Mackenzie, the demand for refined copper in China has topped all other regions, accounting for 39% of the total world demand in 2011. From 2001 to 2011, China's demand for copper increased at a CAGR of 13.3% and is expected to continue to grow in the next five years. In order to capitalize on the strong demand for copper worldwide, including in China, and with the current favorable copper price, we have started and will continue with our expansion efforts to increase our copper mine production by expanding our mining and ore processing facilities on the back of our substantial reserves and resources.

In 2011, we produced 39.3 kt of contained copper in concentrate, 150.8 kt of blister copper and 7.0 kt of copper cathode. Our current plan is to increase our production volume to reach 57 kt of contained copper in concentrate, 270 kt of blister copper and 80 kt of copper cathode, by 2015. There are no caps on production in respect of our mining licenses.

As part of our expansion efforts, we are currently undertaking several projects. The expansion of the Chambishi Copper Smelter is scheduled to be completed in late 2012, bringing our designed blister copper production capacity from 150 kt to 250 kt per year by 2013. We also aim to increase our total annual copper cathode production to 80 kt in 2015. We expect to achieve this through

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increasing production at the Muliashi Project and the DRC Project, both of which commenced production in the first quarter of 2012, and the development of the Mabende Project and the Kakoso Tailings Development Project.

In addition, we are undertaking the exploration and development of the Chambishi Southeast Mine, which is currently expected to commence production in 2016, increasing the annual ore processing capacity of the Chambishi Copper Mine by 3,300 kt and our annual contained copper in concentrate production capacity by 63 kt.

### **Industry leading business model and technical expertise for our copper leaching business operations**

Our copper leaching operations use heap leaching, agitation leaching and solvent extraction/electrowinning technology to produce copper cathode. To differentiate ourselves from our competitors, we focus on treatment of copper tailings and processing of oxide ore and mixed ores. The business model we use in our copper leaching operations results in high profitability and short investment pay-back period due to the low level of capital expenditure and low cost of production arising from the low cost of raw materials. We believe our business model is unique as, to our knowledge, there are few, if any, copper leaching plants in Zambia or the PRC operating in a similar manner. We have collected and analyzed data in respect of tailings from a large number of mines in Zambia and are able to identify tailings that are economically feasible. We therefore enjoy first-mover advantage in utilizing copper tailings, oxide ore and mixed ores for our copper leaching operations and are well-placed to better utilize the abundant copper tailings resources in Zambia and the DRC.

We are also collaborating with Chinese research institutions to undertake research and development of bioleaching technology, which, if successful, may improve the adaptability of copper leaching to different ore inputs in order to enable us to more effectively utilize the abundant copper tailings resources in Zambia and the DRC and to process mixed ores.

### **We benefit from the long-term political and economic relationship between China and Zambia and thus the favorable policies of the Zambian government**

China has developed long-term political and economic relationships with Zambia. Since the establishment of diplomatic relations between China and Zambia in 1964, leaders of both countries have visited each other from time to time over the years. During the 1960s and 1970s, China provided financial and technical assistance in the construction of the Tanzania-Zambia Railway, one of the largest foreign-aid projects ever undertaken by China, which spans 1,860 kilometers, connecting Dar es Salaam, the capital of Tanzania, and Kapiri Mposhi in Zambia. China has also constructed highways, food processing plants, textile mills and wells in Zambia. China and Zambia have entered into various economic and technical cooperation treaties, as well as investment, tax and bilateral free trade treaties. In recent years, Chinese companies have invested in copper mining, textile milling and agriculture projects and opened bank branch in Zambia. During his 2011 visit to China, the former President of Zambia Dr. Kenneth Kaunda praised that CNMC's investments in Zambia have demonstrated the all-weather friendship between China and Zambia.

China and Zambia have established the Zambia-China Economic & Trade Cooperation Zone where two of our subsidiaries, CCS and SML, are located. CNMC Group has been appointed to construct the infrastructure and operate the zone. As a subsidiary of CNMC, we have historically benefited from the long-term political and economic relationship between Zambia and the PRC in our operating history and expect to continue benefiting from it in the future.



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In addition, we believe that to sustain our growth in Zambia, we should strive to achieve mutual benefit with the local community in Zambia through contributions toward its social and economic environment. We have undertaken initiatives such as the construction of a hospital, clinic and other community services facilities, and sponsored various sports activities in Zambia. Our operations in Zambia have also created new job opportunities. As a result of such continuous contributions, we have built a positive relationship with, and gained broad recognition and support from, the local community in Zambia.

The governmental and local community support that we have received and expect to continue to receive in Zambia has laid a solid foundation for our growth and success in Zambia, and we may continue to benefit from it in the future. Our subsidiaries in Zambia which are located within the Zambia-China Economic & Trade Cooperation Zone enjoy preferential tax treatment extended by the Zambian government. CCS and SML are exempted from the payment of income tax for five years starting from the first year of profitability; for the subsequent three years they are entitled to a 50% tax reduction, followed by a 25% tax reduction for the two years thereafter. Certain of our subsidiaries have also enjoyed preferential tax treatment in respect of VAT payable for our raw materials, withholding tax and tax holidays.

### **We benefit from our relationship with CNMC and the “go-abroad” policies promulgated by the PRC government**

As of the Latest Practicable Date, CNMC was our Controlling Shareholder and will continue to be our Controlling Shareholder immediately after the completion of the Global Offering. CNMC is a state-owned enterprise established in 1997, with operating history dating back to 1983, which is directly administered by the SASAC. Its main businesses include the development of nonferrous metal resources, construction and engineering as well as related trade and services, and it operates globally, including in the PRC, Africa, Middle East, Central and Southeast Asia and Australia.

We operate our business independently from CNMC and we believe our continuing relationship with CNMC will enhance our brand recognition in the PRC and worldwide. We sell the majority of our blister copper and copper cathode to copper refineries and processing plants through members of the CNMC Group, such as CNMC International Trade. We believe we will benefit from CNMC’s strong reputation and long-term relationships with its customers. We also benefit from the high-quality services provided by members of the CNMC Group as contractors in our exploitation, design and research, construction work, facilities repair and maintenance, and sales and trading.

As a PRC-owned overseas nonferrous metals mining company, we also benefit from the “go-abroad” policies promulgated by the PRC government to encourage PRC enterprises to invest in the natural resources industry overseas. For example, we enjoy governmental support and preferential treatment in credit borrowing from the PRC banks and tax payment, which is important for our operations as the mining industry is capital intensive in nature.

### **We have a strong and experienced management team with extensive industry and management expertise, and a strong local workforce**

Experienced mining technicians and personnel with established industry expertise are critical to the success of copper mining activities and operations. We have a team of professionals who are equipped with a deep understanding of and rich experience in the various aspects of our businesses, including exploration, mine design and construction, mining, processing, leaching, smelting, and sales and marketing of copper products.

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Our management team is led by five executive Directors and three other management members, most of whom have over 20 years of mining experience and management expertise, and who have been instrumental to our development. Many of our senior management and operations personnel and members of our Board of Directors have extensive experience in the copper mining industry in Zambia and the PRC. In addition, many of our key personnel have been working in Zambia since the establishment of NFCA in 1998. We believe that the high level of experience and expertise of our key management and operational personnel is crucial for us to operate in a highly effective manner. Their substantial overseas experience will allow us to identify expansion opportunities in other parts of the world. Our Directors and senior management also possess extensive experience derived from their direct involvement in our operations and, prior to joining our Group, other mineral, natural resources or infrastructure projects in Zambia and the PRC. In the future, we expect that our management team will be able to leverage its operational expertise in copper production for use in our planned cobalt operations as well.

As of December 31, 2011, we had 5,137 employees in Zambia, of which approximately 94% were local employees hired by us in Zambia. In addition, as of the same date we had 5,579 persons working in our operations who were our contractors' employees. Our strong local workforce also assists us with our understanding of the local culture and thus allows us to have a competitive advantage over new entrants to this market.

### **OUR BUSINESS STRATEGIES**

As the overseas platform of the CNMC Group for the development of copper and cobalt resources, we plan to accomplish our goal of being a leading nonferrous metals producer through the following strategies:

#### **Increase our copper and cobalt reserves and resources through further exploration and development**

We believe the amount of our copper and cobalt reserves and resources we possess is fundamental to the long-term sustainable growth of our business. We continuously aim to expand our current mineral reserves and resources base through further exploration. Through the increase of our mineral reserves and resources we will be able to extend the lives of our mines and secure a reliable supply of mineral raw materials for the copper smelting and leaching operations.

As of December 31, 2011, we had ten large-scale mining licenses in Zambia covering an aggregate area of approximately 237 sq km and one exploration license covering an area of approximately 339 sq km. We are currently undertaking exploration within the Chambishi and Luanshya mining areas for the purpose of further expanding our existing mining operations. This includes the exploration and development of the Chambishi Southeast Mine, which is currently expected to commence production in 2016, as well as several other development and exploration projects, including the Mwambashi Project, the Mashiba deposit and the Lufubu deposit.

In addition, we will continue to look for expansion opportunities in the DRC, which will allow us to tap into its rich mineral resources and further increase our mineral reserves and resources base.

#### **Further expand the production capacity of our mining operations to improve the vertical integration of our operations**

We seek to expand production capacity at our Chambishi Copper Mine and Baluba Center Mine to improve the level of self-sufficiency of our downstream smelting operations at CCS. With a larger



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scale of production, we will be able to increase the certainty of copper concentrate supply to the Chambishi Copper Smelter and further improve the vertical integration of our operations.

The Chambishi West Mine commenced production in November 2010 and is expected to increase the annual combined production of the Chambishi Copper Mine to 32 kt of contained copper in concentrate by 2014. We also aim to commence construction of the production facilities at the Chambishi Southeast Mine in 2012 with a view to achieving production in 2016. At the Baluba Center Mine, we commenced the first full year of production in 2010 and expect to reach annual production of 20 kt of contained copper in concentrate by 2013.

### **Further expand the production capacity of our copper leaching and copper smelting operations**

In order to achieve economies of scale and effectively reduce production unit cost, we aim to expand our total copper cathode production to 52 kt by 2013 and to 80 kt by 2015.

In March 2012, we commenced production at the Muliashi Project which has a designed annual production capacity of 40 kt of copper cathode. We also intend to expand the production of SML's leaching operations from 7 kt of copper cathode in 2011 to 40 kt of copper cathode in 2015. We aim to achieve this by increasing production at the DRC Project and through the development of the Mabende Project and the Kakoso Tailings Development Project. In addition, the DRC Project is expected to produce cobalt contained in cobalt salt in the future.

The heavy export duty that the Zambian government levies on copper concentrate coupled with a shortage in copper smelting capacity in Zambia has presented strong growth opportunities for the smelting industry in Zambia. In order to take advantage of such opportunities, in 2010 we commenced the expansion of our Chambishi Copper Smelter which, upon completion in late 2012, is expected to increase our annual production capacity of blister copper by 100 kt to reach 250 kt.

### **Focus on the research and development of copper mining, processing, smelting and leaching technologies, especially the separation of copper and cobalt, and bioleaching technology**

We will continue to leverage our technical expertise in copper mining, processing, leaching and smelting operations to develop advanced technologies aiming to further expand our production capacity, diversify our product portfolio, reduce our production costs and enhance our production efficiency and profitability. Taking into consideration our abundant cobalt reserves and resources and the significant market value and prospective market of cobalt, we will continue to focus on developing technology for the separation of copper and cobalt from copper-cobalt ores, including undertaking further research on recycling methods for the extraction of cobalt from copper concentrate, and copper and cobalt from smelting slag. See “— Research and Development — Cobalt Development Plans”. We believe the improved recycling methods will help us maximize the value of our resources and our production output, and will also make our operations more environmentally friendly.

We are also collaborating with Chinese research institutions on the research and development of bioleaching technology. If successfully developed, bioleaching technology may improve our copper leaching process by enabling us to utilize different ore inputs more effectively, which in turn will result in higher copper cathode production. See “— Research and Development — Bioleaching”.

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### **Continue pursuing suitable acquisition opportunities**

We will consider strategic opportunities to acquire other mining assets in Zambia and other African countries, and suitable downstream copper and cobalt leaching and smelting facilities with a view to further expanding our copper and cobalt reserves and resources and diversifying our downstream production platform. In assessing acquisition opportunities, we will carefully consider and seek to balance a variety of factors, such as whether the cost and benefit of the acquisitions satisfy our internal financial requirements taking into consideration our corporate strategy and long-term plan; the synergy between our existing operations and potential targets in terms of technology and know-how, management expertise and business compatibility; the geographical proximity to our existing operations; and the acquisition's ability to enhance the overall competitiveness and sustainability of our existing and future businesses.

For example, we intend to leverage on our size, regional presence and operating experience to acquire attractive value-enhancing opportunities in the DRC. The DRC is rich in minerals and, as of the end of 2010, had the most abundant reserves of cobalt in the world, while its copper resources were ranked thirteenth in the world, according to Wood Mackenzie. In February 2012, we commenced production at a copper leaching plant in the DRC owned by Huachin, a joint venture subsidiary of SML, which has an annual production capacity of 10 kt of copper cathode. See “— Leaching Operations — DRC Project”. Leveraging on the DRC Project, we intend to continue preparation work for operations in the DRC, including research of acquisition opportunities, exploration of mineral resources and establishment of copper leaching operations.

### **Continue to grow and train our workforce and improve our corporate social responsibility practices to meet the demands of our future development in Zambia and other countries in Africa**

Along with the expansion of our current production scale as well as planned expansion in Zambia and other African countries, we intend to further grow our workforce to meet our expansion needs. We will further optimize our workforce selection system in order to attract qualified and experienced management and technical personnel in our industry and maintain existing skill sets. We will also seek to improve the incentive mechanisms for our management and key employees to provide them with better incentives and align their interest with ours and that of our Shareholders. Furthermore, we plan to continue to enhance our in-house training for employees to provide them with cutting-edge technologies and industry know-how, as well as knowledge of environmental, social, health and safety issues.

We consider that operating in a safe and responsible manner is essential to ensuring that our business is respected at a local, regional and national level and by the investment community worldwide and we intend to continue to implement the relevant safety standards in our operations. We are also committed to contributing to the local community in Zambia and helping to improve social and economic environment, local infrastructure and living conditions, as well as creating local job opportunities by increasing the percentage of local employees in our workforce.

### **OUR PRODUCTS**

Our main products are blister copper, copper cathode and copper concentrate. We also produce sulfuric acid as a by-product generated during the copper smelting process.

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The following table sets out our production of blister copper, copper cathode, copper concentrate and contained copper in concentrate for the periods indicated:

<u>Product</u>	<u>Year ended December 31,</u>		
	<u>2009</u>	<u>2010</u>	<u>2011</u>
		(kt)	
Blister copper <sup>(1)</sup> . . . . .	108.4	165.1	150.9
Copper cathode . . . . .	6.5	7.1	7.0
Copper concentrate <sup>(2)</sup> . . . . .	53.9	99.7	124.1
Contained copper in concentrate <sup>(2)</sup> . . . . .	23.6	32.0	39.3

*Notes:*

- (1) Chambishi Copper Smelter's designed capacity of 150 kt is calculated on the basis of a year consisting of 330 working days. In 2010, the actual blister copper production exceeded the designed production capacity because the smelter performed no maintenance and operated at full capacity for more than 330 days.
- (2) All of the copper concentrate produced in 2010 and 2011 was sold internally to the Chambishi Copper Smelter for copper smelting. Currently, we do not plan to sell copper concentrate to external parties in the ordinary course of our business.

The following table sets forth the breakdown of our sales volume and revenue by product category for the periods indicated:

<u>Product</u>	<u>Year ended December 31,</u>								
	<u>2009</u>			<u>2010</u>			<u>2011</u>		
	<u>Sales Volume</u>	<u>Revenue</u>	<u>% of Revenue</u>	<u>Sales Volume</u>	<u>Revenue</u>	<u>% of Revenue</u>	<u>Sales Volume</u>	<u>Revenue</u>	<u>% of Revenue</u>
	(kt)	(US\$ '000)	(%)	(kt)	(US\$ '000)	(%)	(kt)	(US\$ '000)	(%)
Blister copper . . . . .	105.2	624,185	89.6	163.0	1,278,483	94.2	147.8	1,186,840	92.5
Copper cathode . . . . .	6.2	33,848	4.9	7.4	56,336	4.2	7.0	58,223	4.5
Contained copper in concentrate <sup>(1)</sup> . . . . .	5.1	28,218	4.1	—	—	—	—	—	—
Sulfuric acid . . . . .	196.7	10,039	1.4	313.6	22,466	1.6	338.2	38,843	3.0
<b>Total</b> . . . . .		<u>696,290</u>	<u>100.0</u>		<u>1,357,285</u>	<u>100.0</u>		<u>1,283,906</u>	<u>100.0</u>

*Note:*

- (1) All of the copper concentrate produced in 2010 and 2011 was sold internally to the Chambishi Copper Smelter for copper smelting. Currently, we do not plan to sell copper concentrate to external parties in the ordinary course of our business.

### Blister Copper

We produce blister copper at our Chambishi Copper Smelter and, according to Wood Mackenzie, we are the only PRC enterprise with large-scale overseas copper smelter production. Blister copper generally contains approximately 99% copper. We produce blister copper using copper concentrate from our Chambishi Copper Mine and Baluba Center Mine, as well as copper concentrate from other mine producers in Zambia. In 2009, 2010 and 2011, we produced 108.4 kt, 165.1 kt and 150.9 kt, respectively, of blister copper. The designed annual production capacity of our smelting operations is 150 kt of blister copper and is expected to increase to 250 kt of blister copper upon completion of the expansion in late 2012.

We currently sell the majority of our blister copper to members of the CNMC Group, such as CNMC International Trade, for onward sale to refineries in China. We sell the rest of our blister copper to international commodity traders, such as Trafigura AG Switzerland, for onward sale to customers around the world, and to Yunnan Copper Group, a minority shareholder of CCS.

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### Copper Cathode

We produce copper cathode at our Chambishi Leach Plant using a leaching process that involves heap leaching, agitation leaching and solvent extraction/electrowinning. The copper cathode we produced in 2011 contained on average 99.95% copper.

In 2009, 2010 and 2011, we produced 6.5 kt, 7.1 kt and 7.0 kt, respectively, of copper cathode. We plan to increase our total copper cathode production volume significantly to 52 kt by 2013 and 80 kt by 2015. Our expansion plans include increasing production at the Muliashi Leach Plant and the DRC Project, both of which commenced production in the first quarter of 2012 and the development of the Mabende Project and the Kakoso Tailings Development Project.

The majority of our copper cathode production is sold to members of the CNMC Group, such as CNMC International Trade, for onward sale to copper processing plants. We sell the rest of the copper cathode to international commodity traders, such as Trafigura AG Switzerland, for onward sale to end customers around the world.

### Copper Concentrate

We produce copper concentrate at the Chambishi Processing Plant, the Baluba Center Processing Plant and the SML Chambishi Processing Plant.

In 2009, 2010 and 2011, the Chambishi Processing Plant produced 53.3 kt, 50.3 kt and 61.1 kt of copper concentrate, equivalent to 23.6 kt, 22.0 kt and 23.2 kt of contained copper in concentrate, respectively. The Baluba Processing Plant resumed production in 2009 and produced 0.6 kt, 49.3 kt and 63.0 kt of copper concentrate, equivalent to 0.1 kt, 10.0 kt and 16.0 kt of contained copper in concentrate, in 2009, 2010 and 2011, respectively. The SML Chambishi Processing Plant completed construction in 2011 and has an annual processing capacity of 330 kt of ore.

We currently sell all of our copper concentrate to our subsidiary, CCS, for smelting into blister copper at our Chambishi Copper Smelter. After the Chambishi Copper Smelter commenced operations, we stopped selling copper concentrate to external customers. We believe that selling our entire production of copper concentrate to our smelter for further processing into blister copper is consistent with our business strategy of achieving vertical integration in order to generate higher economic value.

### Sulfuric Acid

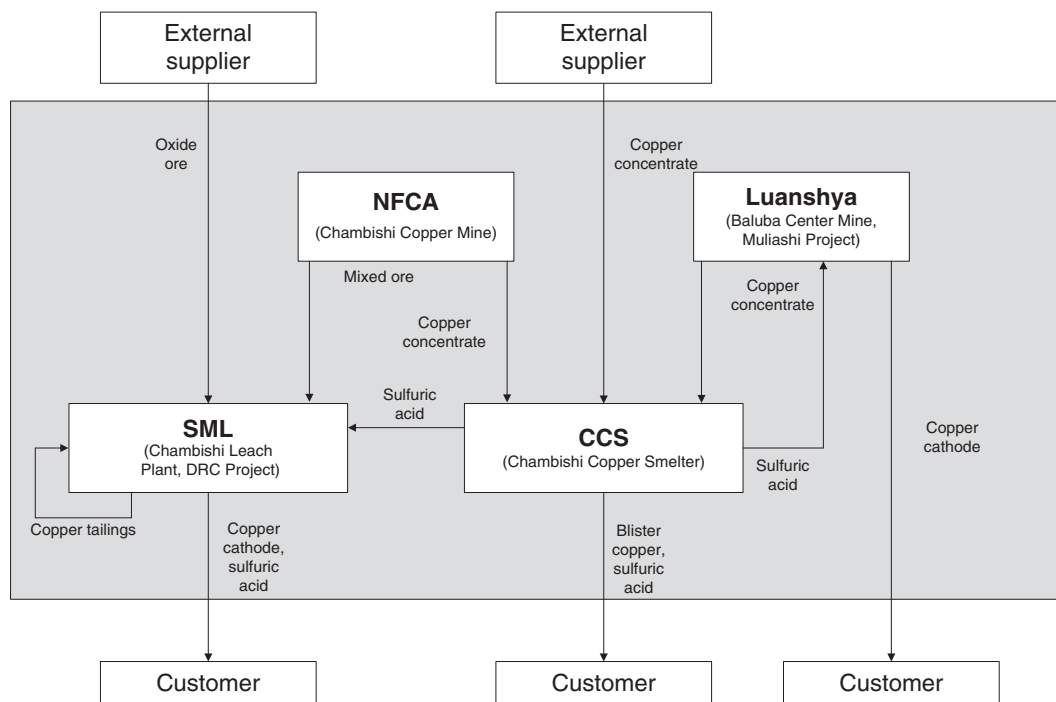
We produce sulfuric acid as a by-product generated during the copper smelting process at our Chambishi Copper Smelter. The sulfuric acid produced at the Chambishi Copper Smelter is sold to third-party customers and our leaching operations.

## OUR OPERATIONS

As a vertically integrated copper producer, our operations incorporate all aspects of copper production, including the mining, ore processing, leaching and smelting, as well as sales of copper. All the copper ore we mine is used in our smelting and leaching operations to produce blister copper and copper cathode. Our smelter, the Chambishi Copper Smelter, also utilizes copper concentrate purchased from third-parties to produce blister copper. Our Chambishi Leach Plant produces copper cathode using a leaching process involving heap leaching, agitation leaching and solvent extraction/electrowinning utilizing copper tailings, oxide ore and mixed ores.

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The diagram below shows our integrated supply/production chain and the respective functions and inter-relationship of our mines, concentrators and smelting and leaching plants.



NFCA is 85% owned by us and holds three large-scale mining licenses covering an area of approximately 107 sq km, including the Chambishi Main Mine, the Chambishi West Mine and the Chambishi Southeast Mine. Of these deposits, the Chambishi Main Mine and the Chambishi West Mine are currently in production, while the Chambishi Southeast Mine is in the exploration and development stage. We expect that the Chambishi Southeast Mine will commence production in 2016.

Luanshya is 80% owned by us and holds seven large-scale mining licenses covering a combined area of approximately 130 sq km, which includes Luanshya-Baluba, Muliashi, Roan Basin, Roan Extension East, Roan Extension West, Baluba East and Muva Hill deposits. Of these deposits, the Baluba Center Mine and the Muliashi North Mine are currently in production.

We also hold a 60% equity interest in CCS, which owns the Chambishi Copper Smelter and conducts our smelting operations, and a 67.75% equity interest in SML, which owns the Chambishi Leach Plant, the DRC Project and the SML Chambishi Processing Plant, and primarily conducts our leaching operations.

### MINING AND ORE PROCESSING OPERATIONS

#### Overview

Our mining operations typically include the excavation, transportation and beneficiation of copper ores. We are also engaged in several mining exploration and development projects, the completion of which is expected to increase our future production capacity and revenue. Our ore processing operations consist of crushing and grinding the ores and separating the copper ores from waste materials by a flotation process, classification and dehydration, resulting in copper concentrate.

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### Ore Reserves and Resources

We report our ore reserves and mineral resources in accordance with the JORC Code. All reserves and resources figures in this section have been extracted without material adjustment from the Competent Person's Report set out in Appendix III to this prospectus. Our Directors confirm that no material changes have occurred since the effective date of the Competent Person's Report. Unless otherwise indicated, all reserves and resources information in this prospectus is stated on a 100% ownership basis.

As of December 31, 2011, our proved and probable ore reserves were 57.6 Mt at an average grade of 1.29% copper and 122.2 Mt at an average grade of 1.36% copper, respectively. Our measured, indicated and inferred mineral resources were 61.3 Mt at an average grade of 1.48% copper, 155.6 Mt at an average grade of 1.69% copper and 210.2 Mt at an average grade of 1.75% copper, respectively.

The following table sets out the ore reserves of our subsidiaries, together with the ownership percentage, as of December 31, 2011:

<u>Company</u>	<u>Ownership percentage</u>	<u>JORC category</u>	<u>Average grade<sup>(1)</sup></u>	
			<u>Ore (Mt)</u>	<u>Total copper (%)</u>
NFCA .....	85%	<b>Reserves</b>		
		Proved .....	9.1	1.64
		Probable .....	<u>54.6</u>	<u>1.78</u>
		<b>Total</b> .....	<u>63.7</u>	<u>1.76</u>
Luanshya .....	80%	<b>Reserves</b>		
		Proved .....	48.5	1.22
		Probable .....	<u>67.6</u>	<u>1.07</u>
		<b>Total</b> .....	<u>116.1</u>	<u>1.11</u>

*Note:*

- (1) As only some of our deposits contain cobalt reserves, it would not be meaningful to include average cobalt grades in the table above. For information on our cobalt reserves, see the description of individual mining assets under "— Mining and Ore Processing Operations".



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The following table sets out the mineral resources of our subsidiaries, together with the ownership percentage, as of December 31, 2011:

Company	Ownership percentage	JORC category	Ore (Mt)	Average grade <sup>(1)</sup>	
				Total copper (%)	Oxide copper (%)
NFCA .....	85%	<b>Resources</b>			
		Measured .....	11.3	2.13	—
		Indicated .....	66.3	2.16	—
		<b>Subtotal<sup>(2)</sup></b> .....	<b>77.6</b>	<b>2.16</b>	<b>—</b>
		Inferred .....	151.0	1.88	—
Luanshya .....	80%	<b>Resources</b>			
		Measured .....	49.1	1.30	0.68
		Indicated .....	78.5	1.30	0.40
		<b>Subtotal<sup>(2)</sup></b> .....	<b>127.7</b>	<b>1.30</b>	<b>0.51</b>
		Inferred .....	46.0	1.55	0.59
SML .....	67.75%	<b>Resources</b>			
		Measured .....	0.8	2.18	0.34
		Indicated .....	10.8	1.63	0.63
		<b>Subtotal<sup>(2)</sup></b> .....	<b>11.6</b>	<b>1.68</b>	<b>0.61</b>
		Inferred .....	13.1	0.88	0.50

*Notes:*

- (1) As only some of our deposits contain cobalt resources, it would not be meaningful to include average cobalt grades in the table above. For information on our cobalt resources, see the description of individual mining assets under “— Mining and Ore Processing Operations”.
- (2) Only measured and indicated mineral resources can be used for ore reserve estimation and mine planning.

### Life-of-Mine Plans

The following table sets out the details of the Life-of-Mine plans for our producing mines and development projects, according to the Competent Person’s Report, as of December 31, 2011:

Mine	Designed capacity	2011 production	Life-of-Mine <sup>(1)</sup>
	(Mtpa)	(Mt)	(years)
Chambishi Main <sup>(2)</sup> .....	2.145	1.028	8.5
Chambishi West <sup>(3)</sup> .....	0.99	0.487	24
Chambishi Southeast <sup>(4)</sup> .....	3.3	n/a	20
Baluba Center <sup>(5)</sup> .....	1.5	1.224	11
Muliashi North <sup>(6)</sup> .....	4.5	n/a	12.5
Baluba East <sup>(7)</sup> .....	0.9	n/a	7

*Notes:*

- (1) For Chambishi West and Baluba Center, Life-of-Mine represents the remaining mine life of the respective mine as of December 31, 2011 according to the Competent Person’s Report. For development projects, Life-of-Mine represents the estimated mine life of each project following commencement of operations according to the Competent Person’s Report. SRK’s Life-of-Mine estimates are based on respective projects’ mine designs, which take into account the mineable reserves and the projected mining schedule. The designed maximum production capacity of each mine is disclosed in the table above.

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- (2) Production re-commenced in 2003. Remaining mine life of 8.5 years was calculated based on ore reserves at the Chambishi Main Mine as of December 31, 2011 divided by an assumed production rate of 1,000 kt of ore per year.
- (3) Production commenced in 2010.
- (4) Production is expected to commence in 2016.
- (5) Production re-commenced in 2010.
- (6) Production commenced in December 2011.
- (7) Production is expected to commence in 2017.

### **Producing Mines**

We currently own and operate four producing mines: the Chambishi Main Mine, the Chambishi West Mine, the Baluba Center Mine and the Muliashi North Mine.

#### ***Chambishi Main Mine***

The Chambishi Main Mine is situated at the northeast edge of the Chambishi Basin, approximately 360 kilometers north of Lusaka and 28 kilometers northwest of Kitwe. The mine's mineralized body extends more than 2,280 meters from east to west, with an average thickness of 8 meters. The deposit contains mostly sulfide ore, and ore minerals are mostly bornite and chalcopyrite.

The Chambishi Main Mine commenced production as an open-pit mine in 1965 and switched to underground mining in 1978. The mine suspended production in August 1987 due to the lack of profitability as a result of the low market price for copper, exacerbated by other factors including inefficient mining technologies and management issues. We are not aware of any regulatory non-compliance by the previous mine owners/operators, structural problems or environmental or labor issues arising from the operations of the mine by the previous operators that may have contributed to its closure. In 1998, NFCA acquired the mine and reconstruction work commenced in July 2000, followed by the commissioning of the mine in 2003. We currently own 85% of NFCA, with the remaining 15% held by ZCCM-IH.

The Chambishi Main Mine is an underground mine accessed by back-fill mining using trackless equipment. The ore is dumped into an internal orepass by a load-haul-dump unit and is then loaded into ore cars driven by electric locomotive and transported to the surface through the main shaft. Except for the main level, all underground and mining haulage in the Chambishi Main Mine is trackless. Starting from 2011, we have been using a third-party contractor, Jinchengxin, which is responsible for the development of tunnels, mining preparation and production, underground haulage, back-filling and maintenance of the ventilation system.

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The following table sets out the ore reserves and mineral resources at the Chambishi Main Mine as of December 31, 2011.

	Ore (Mt)	Average grade Total copper (%)
<b>Reserves</b>		
Proved .....	4.1	1.92
Probable .....	4.5	1.92
<b>Total</b> .....	<u>8.7</u>	<u>1.92</u>
<b>Resources</b>		
Measured .....	5.1	2.50
Indicated .....	5.6	2.49
<b>Subtotal</b> .....	10.7	2.50
Inferred .....	8.1	2.42

In 2009, 2010 and 2011, the Chambishi Main Mine produced 1,358.0 kt, 1,288.1 kt and 1,028.3 kt of ore, respectively. As of December 31, 2011, the ore reserves at the Chambishi Main Mine were expected to support mine production for another 8.5 years assuming a production rate of 1,000 kt of ore per year.

### ***Chambishi West Mine***

The Chambishi West Mine is situated to the west of the Chambishi Main Mine, at the northwest edge of the Chambishi Basin. The mine's orebody has an average thickness of 8 meters, with the eastern part of the body being relatively thicker. Ore minerals of this deposit contain mostly chalcopyrite and bornite with some chalcocite. The Chambishi West Mine produces mixed ores and sulfide ore.

The Chambishi West Mine was explored and developed after NFCA acquired the Chambishi deposit. The construction of infrastructure commenced in 2007 and mining in the Chambishi West Mine commenced in November 2010.

The Chambishi West Mine is an underground mine accessed by vertical shafts. Main shaft development combined with ramps is used and the mine employs the cut-and-fill extraction method. The ore is dumped into an internal orepass by a load-haul-dump unit and then hauled by self-dumping cars before being transported to the surface through the main shaft. Except for the main level, all the underground and mining haulage in the Chambishi West Mine is trackless. Since 2011, we have been using a third-party contractor, Jinchengxin, which is responsible for the development of tunnels, mining preparation and production, underground haulage, back-filling and maintenance of the ventilation system.

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The following table sets out the ore reserves and mineral resources of the Chambishi West Mine as of December 31, 2011.

	Ore (Mt)	Average grade Total copper (%)
<b>Reserves</b>		
Proved .....	5.0	1.41
Probable .....	<u>20.4</u>	<u>1.45</u>
<b>Total</b> .....	<u><b>25.3</b></u>	<u><b>1.44</b></u>
<b>Resources</b>		
Measured .....	6.2	1.83
Indicated .....	<u>25.3</u>	<u>1.88</u>
<b>Subtotal</b> .....	<b>31.4</b>	<b>1.87</b>
Inferred .....	17.3	2.09

The annual designed ore processing capacity at the Chambishi West Mine is 990 kt. The mine produced 50.0 kt and 487.1 kt of ore in 2010 and 2011, respectively. According to the Competent Person's Report, the Chambishi West Mine's ore reserves as of December 31, 2011 were expected to support another 24 years of mine production.

### ***Baluba Center Mine***

The Baluba Center Mine is situated on the northeast flank of the Muliashi Basin, approximately 320 kilometers north of Lusaka and 12 kilometers west of the city of Luanshya. The mine covers an area of approximately 46 sq km. The deposit contains both oxide and sulfide ores. The oxide mineral content increases upwards toward the surface, while the sulfide content increases with depth and becomes predominant approximately 60 meters below the surface. The sulfide deposit is approximately 3,600 meters long and has an average thickness of 10 meters. The oxidized cap extends approximately 3,000 meters from east to west at an average depth of 110 meters and is approximately 10 meters thick. The main copper-bearing mineral is chalcopyrite and the main cobalt-bearing mineral is carrolite.

The Baluba Center deposit was discovered in 1928, but was only developed in the late 1960s, coming into full production in 1973. Five years later, mining was suspended due to the lack of profitability as a result of the low market price for copper, exacerbated by other factors including inefficient mining technologies and management issues. The mine was subsequently taken over by ZCCM, the predecessor of ZCCM-IH. In 2004, the Luanshya Mine was acquired by ENYA Holdings BV and production was resumed, but it was suspended again in 2008 due to the global financial crisis. We are not aware of any regulatory non-compliance by the previous mine owners/operators, structural problems or environmental or labor issues arising from the operations of the mine by the previous operators that may have contributed to its closure. We currently own an 80% interest in Luanshya, with the remaining 20% held by ZCCM-IH.

The Baluba Center Mine is an underground mine. Shaft development combined with decline access is used and the mine employs the sublevel caving extraction method. The mine has two main shafts: B1, which is used primarily for ore and waste rock hoisting, and B2, which is used primarily for the hoisting of workers, materials and equipment. Trackless equipment is used for underground drilling,

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loading and haulage. The ore and waste rock are dumped to the orepass and then loaded into mine cars and transferred to dumping stations prior to primary crushing and hoisting to surface. Excavated ore is then sent by a conveyor belt to the Baluba Processing Plant situated approximately 11 kilometers from the mine. All mining work is independently operated by Luanshya.

The Baluba Center Mine is divided into the eastern and western zones. Except for several portions, the mining operation in the western zone is almost finished. Level development is progressing in the eastern zone.

The following table sets out the sulfide ore reserves and mineral resources of the Baluba Center Mine as of December 31, 2011:

	Ore (Mt)	Average grade	
		Total copper (%)	Total cobalt (%)
<b>Reserves</b>			
Proved .....	0.6	1.69	0.12
Probable .....	13.2	1.63	0.11
<b>Total .....</b>	<b>13.8</b>	<b>1.63</b>	<b>0.11</b>
<b>Resources</b>			
Measured .....	0.7	2.33	0.17
Indicated .....	15.9	2.25	0.15
<b>Subtotal .....</b>	<b>16.6</b>	<b>2.25</b>	<b>0.15</b>
Inferred .....	3.9	1.91	0.12

The following table sets out the oxide ore mineral resources of the Baluba Center Mine as of December 31, 2011:

	Ore (Mt)	Average grade		
		Total copper (%)	Oxide copper (%)	Total cobalt (%)
<b>Resources<sup>(1)</sup></b>				
Indicated .....	6.6	1.65	1.14	0.12
Inferred .....	1.6	1.70	0.93	0.10

*Note:*

(1) According to the Competent Person's Report, the oxide ore resources at the Baluba Center Mine are unlikely to be mined due to subsidence near the surface.

The annual designed capacity of the Baluba Center Mine is approximately 1,500 kt of ore. Production was resumed in 2009 and reached 765.4 kt of ore in 2010 and 1,224.1 kt in 2011. According to the Competent Person's Report, the mine's ore reserves as of December 31, 2011 were expected to support another 11 years of mine production.

### **Muliashi North Mine**

The Muliashi North Mine is part of the Muliashi Project, which is an integrated project for mining and leaching of copper oxide ores. The mine is located at the eastern edge of Muliashi Basin, approximately 3 kilometers south of the Baluba Center Mine.

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The Muliashi North deposit predominantly contains oxide ores, with malachite as the main copper-bearing mineral. Exploration of the deposit commenced in 1963, when the first boreholes were drilled, and additional drillings were carried out in the following years. As the deposit proved to contain mostly oxide ores and the required technology did not exist at the time, the site was not developed. In January 2007, a feasibility study was commissioned, followed by additional drilling and stripping of the overburden, and facilities and infrastructure construction. The mine commenced operations in late 2011.

The Muliashi North Mine is an open-pit mine with a designed capacity of 4,500 kt of oxide ore per year and has a projected mine life of 12.5 years, according to the Competent Person's Report. The 2012 ore production at the Muliashi North Mine is expected to be 4,700 kt. All of the mine's production is processed by the Muliashi Leach Plant. See "— Leaching Operations — Muliashi Leach Plant".

The following table sets out the ore reserves and mineral resources of the Muliashi North Mine as of December 31, 2011.

	Ore (Mt)	Average grade		
		Total copper (%)	Oxide copper (%)	Total cobalt (%)
<b>Reserves</b>				
Proved . . . . .	38.8	1.11	0.65	0.06
Probable . . . . .	22.1	0.95	0.57	0.07
<b>Total . . . . .</b>	<b>61.0</b>	<b>1.05</b>	<b>0.62</b>	<b>0.06</b>
<b>Resources</b>				
Measured . . . . .	38.9	1.14	0.67	0.06
Indicated . . . . .	22.1	0.98	0.59	0.07
<b>Subtotal . . . . .</b>	<b>61.0</b>	<b>1.08</b>	<b>0.64</b>	<b>0.06</b>
Inferred . . . . .	20.0	1.18	0.41	0.05

### Development Projects

In addition to the producing mines outlined above, we are currently engaged in the exploration and development of the Chambishi Southeast Mine, which is expected to commence production in 2016. In order to provide alternative ore resources for the Muliashi Leach Plant, we also plan to develop the Baluba East Mine.

#### ***Chambishi Southeast Mine***

The Chambishi Southeast Mine is situated on the northeast edge of the Chambishi Basin, approximately 7 kilometers southeast of the Chambishi Main Mine. The exploration of the Chambishi Southeast deposit commenced in 1903 and, starting in the early 1930s, a number of drilling campaigns were carried out. The deposit has two ore bodies, each containing both copper and cobalt. The north orebody is approximately 4,500 meters long, with an average thickness of 10 meters, and extends in a southeast/northwest direction. The south orebody is approximately 3,540 meters long and extends in a southeast/northwest direction. The main sulfide ore minerals are chalcopyrite, pyrite, pyrrhotite and carrolite. The cobalt-bearing minerals include carrolite, skutterudite and linnaeite.



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Based on resource estimates, we currently plan to conduct mining operations in the north orebody only. According to the Competent Person's Report, the south orebody is currently not mineable. We expect to commence the development of the Chambishi Southeast Mine in 2012. The Chambishi Southeast Mine will be an underground mine and, similar to the Chambishi Main Mine and Chambishi West Mine, main shaft development combined with decline access will be used. Our current expectation is that the mine will commence production in 2016. The expected capital expenditure from 2012 to 2016 is approximately US\$780 million.

The following table sets out the ore reserves and mineral resources of the Chambishi Southeast Mine as of December 31, 2011:

	Ore (Mt)	Average Grade	
		Total copper (%)	Total cobalt (%)
<b>Reserves</b>			
Probable .....	29.7	1.98	0.10
<b>Resources</b>			
Indicated .....	35.4	2.30	0.12
Inferred .....	125.6	1.82	0.10

The annual designed production capacity of the mine is 3,300 kt of ore and 63 kt of contained copper in concentrate. The mine is expected to produce 29.5 kt of contained copper in concentrate in 2016. According to the Competent Person's Report, the projected mine life of the Chambishi Southeast Mine is 20 years following the commencement of operations.

### ***Baluba East Mine***

The Baluba East Mine is part of the Muliashi Project, which is an integrated project for mining and leaching of copper oxide ores. The Baluba East Mine is located at the eastern end of the Baluba Syncline, approximately 2 kilometers southeast of the Baluba Center Mine. The Baluba East deposit contains both oxide and sulfide ores, with oxide mineralization overlaying sulfide mineralization. The main oxide minerals are malachite, cuprite and chrysocolla, and the main sulfide minerals are chalcocite, bornite and chalcopyrite.

As part of the Baluba East deposit was mined out in the past, additional drillings were carried out in 2007 to determine the mined-out area, the remaining ore in the oxide part and its grade. The Baluba East Mine is planned as an open-pit mining area with a designed annual capacity of 900 kt and a projected Life-of-Mine of 7 years, according to the Competent Person's Report. The basic design for the south part of the mine, where we plan to mine oxide ore, has been finished. The construction is expected to be completed and the mine is expected to commence production in 2017. Ore from the Baluba East Mine will be processed by the Muliashi Leach Plant.

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The following table sets out the ore reserves and mineral resources of the Baluba East Mine as of December 31, 2011.

	Ore (Mt)	Average grade		
		Total copper (%)	Oxide copper (%)	Total cobalt (%)
<b>Reserves</b>				
Proved .....	6.4	1.81	0.95	0.02
Probable .....	27.6	0.73	0.30	0.03
<b>Total</b> .....	<b>34.0</b>	<b>0.93</b>	<b>0.42</b>	<b>0.03</b>
<b>Resources</b>				
Measured .....	6.4	1.90	1.00	0.02
Indicated .....	27.6	0.77	0.31	0.03
<b>Subtotal</b> .....	<b>34.0</b>	<b>0.98</b>	<b>0.44</b>	<b>0.03</b>
Inferred .....	3.3	1.03	0.37	0.04

### Other Development and Exploration Projects

We have additional deposits where we are currently undertaking development or exploration, or which provide us with potential to undertake further exploration in the future.

#### **Mwambashi Project**

The Mwambashi deposit is located on the western flank of the Chambishi Basin, approximately 8 kilometers southwest of the Chambishi Copper Mine. It is approximately 600 meters long and continues approximately 250 meters below the surface. The deposit contains both oxide and sulfide ores, with oxide mineralization overlaying sulfide mineralization, and has an average thickness of 15 meters. The main oxide minerals are malachite and chrysocolla, and the main sulfide minerals are chalcopyrite, bornite and chalcocite.

The exploration work at the Mwambashi deposit was first conducted in the 1920s, when geological mapping and pitting were carried out. This was followed by a number of drilling campaigns between 1951 and 2006. In 2006, a feasibility study for the Mwambashi Copper Project was completed by TEAL Exploration & Mining Inc.

SML acquired the Mwambashi deposit in January 2011 from Edgeway Business Solutions Limited (an Independent Third Party) for a purchase consideration of US\$3 million. SML conducted its own due diligence investigation on the Mwambashi deposit without obtaining an independent valuation report, and negotiated with the seller to reach the final price. At the time of acquisition, the deposit was at an exploration stage. We currently expect to commence the development of the Mwambashi deposit in 2012.

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The following table sets out the mineral resources of the Mwambashi deposit as of December 31, 2011, estimated at a cut-off grade of 0.50%, and additional mineral resources at a cut-off grade of 0.30%.

	Ore (Mt)	Average grade	
		Total copper (%)	Acid soluble copper (%)
<b>Resources – Cut-off grade of 0.50%</b>			
Measured .....	0.8	2.22	0.91
Indicated .....	8.4	2.00	0.75
<b>Subtotal .....</b>	<b>9.2</b>	<b>2.02</b>	<b>0.76</b>
Inferred .....	1.8	2.10	0.26
<b>Additional resources – Cut-off grade of 0.30%</b>			
Measured .....	0.02	0.40	0.26
Indicated .....	2.4	0.35	0.21
<b>Subtotal .....</b>	<b>2.4</b>	<b>0.35</b>	<b>0.21</b>
Inferred .....	0.7	0.35	0.21

### ***Mashiba Deposit***

Mashiba deposit is an isolated deposit located approximately 6 kilometers south of the Baluba Center Mine. It is approximately 600 meters long and is characterized by relative thickness (up to 41 meters) compared to our other deposits and a relatively high copper oxide content. The initial drillings were carried out in the 1930s, with additional drilling campaigns carried out between 1950 and 2007.

The following table sets out the ore reserves and mineral resources of the Mashiba deposit as of December 31, 2011.

	Ore (Mt)	Average grade	
		Total copper (%)	Oxide copper (%)
<b>Reserves</b>			
Proved .....	2.7	1.35	—
Probable .....	4.8	1.40	—
<b>Total .....</b>	<b>7.4</b>	<b>1.38</b>	<b>—</b>
<b>Resources</b>			
Measured .....	3.2	1.89	0.24
Indicated .....	5.7	1.96	0.22
<b>Subtotal .....</b>	<b>8.8</b>	<b>1.93</b>	<b>0.23</b>
Inferred .....	5.0	1.67	0.43

### ***Muliashi South Deposit***

Muliashi South deposit is located approximately 3 kilometers south of the Muliashi North Mine and borders the Mashiba deposit to the west. The deposit's oxide cap extends approximately 800 meters on the surface and continues underground to the upper mining limit of the former underground

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mine. Most of the sulfide ores in this deposit have been extracted by the previous owner. Underground mining was resumed in 2008, but only lasted several months before the mine was shut down again in November 2008.

The following table sets out the oxide ore resources of the Muliashi South deposit as of December 31, 2011.

	Ore (Mt)	Average grade
		Total copper (%)
<b>Resources</b>		
Inferred .....	4.4	1.73

The following table sets out the sulfide ore resources of the Muliashi South deposit as of December 31, 2011.

	Ore (Mt)	Average grade	
		Total copper (%)	Oxide copper (%)
<b>Resources<sup>(1)</sup></b>			
Indicated .....	0.6	2.48	0.07
Inferred .....	0.1	2.50	0.01

*Note:*

(1) According to the Competent Person's Report, the sulfide ore resources of the Muliashi South deposit are unlikely to be mined due to subsidence near the surface.

### **Lufubu**

The Lufubu deposit is situated in the western part of the Muliashi license area (license number 8393-HQ-ML). Initial geological investigation was conducted in the area during the period from the 1930s to 1970s, followed by preliminary exploration of Lufubu North and Lufubu South. We plan to undertake further exploration in this area.

### **Ore Processing Operations**

We own a number of ore processing facilities, including the Chambishi Processing Plant, the Baluba Center Processing Plant and the SML Chambishi Processing Plant. We are also upgrading and expanding our existing plants and supporting infrastructure, and constructing new facilities.

#### ***Chambishi Processing Plant***

##### *Overview*

Chambishi Processing Plant started operations in 1965, initially using trench leaching to process oxide ores and mixed ores from open-pit and underground mining operations. In 1987, the plant was shut down and production ceased. NFCA took over the plant in 1998 and, following extensive reconstruction and upgrading works, the Chambishi Processing Plant commenced operations again in 2003.

In 2009, 2010 and 2011, the Chambishi Processing Plant produced 53.3 kt, 50.3 kt and 61.1 kt of copper concentrate, equivalent to 23.5 kt, 22.0 kt and 23.2 kt of contained copper in concentrate,

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respectively. The following table sets forth the details of the Chambishi Processing Plant's copper concentrate production for the periods indicated.

	Year ended December 31,		
	2009	2010	2011
Ore processing capacity <sup>(1)</sup> (kt) . . . . .	2,145.0	2,145.0	2,145.0
Treated ore (kt) . . . . .	1,358.7	1,330.5	1,569.2
Head grade (Cu %) . . . . .	1.81	1.75	1.67
Concentrate (kt) . . . . .	53.34	50.33	61.12
Concentrate grade (Cu %) . . . . .	44.06	43.78	38.03
Contained copper in concentrate (kt) . . . . .	23.5	22.0	23.2
Copper recovery rate (%) . . . . .	95.57	94.61	88.69

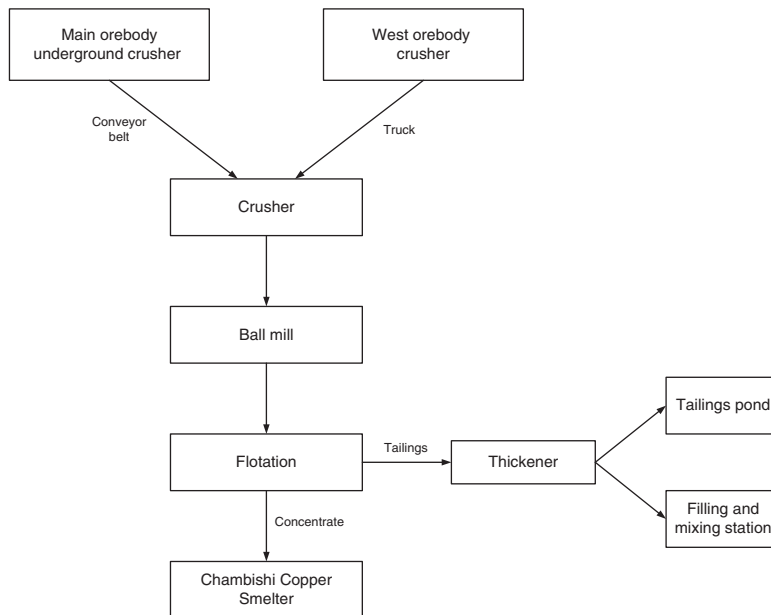
*Note:*

(1) Processing capacity relates to the annual processing capacity at the end of the year.

### *Concentration Process*

Concentrating is the first major stage of our processing operations. It is a process through which raw ores are reduced to smaller particles that can be separated into minerals and waste. Concentrating consists of crushing and milling the ores and separating the copper ores from waste materials by a flotation process, followed by classification and dewatering, resulting in a copper concentrate.

The diagram below briefly illustrates the concentration process employed by the Chambishi Processing Plant:



The Chambishi Processing Plant processes sulfide ores from the Chambishi Main Mine and the Chambishi West Mine. The ores are crushed in three stages into sizes no larger than 14 mm and transported to vibrating screens for pre-screening. Ore grains larger than 14 mm are fed to crushers again, and those of a smaller size are transferred to ore bins.

The ores are then transported to a ball mill, which grinds them to the consistency of powder. The finely ground ores are blended with a flotation reagent and pumped to flotation cells, which separate

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copper and waste materials, producing rough concentrates and tailings. The rough concentrates are then pumped to a flotation column for cleansing and to a thickener for condensation prior to being filtered by a frame filter press.

The final copper concentrate is sold to the Chambishi Copper Smelter. Tailings from flotation are pumped to a tailings pond for storage.

### *Tailings Storage Facility*

The tailings storage facility of the Chambishi Processing Plant is situated in the Musakashi River valley, approximately 7 kilometers from the plant. NFCA has made a series of improvements to the storage facility, which was originally designed in 1989, heightening and reinforcing the tailing dam and expanding the storage capacity to 5.73 million cubic meters. New tailings storage facilities are planned to be built in 2018 approximately 2 kilometers from the current facility, in case additional storage capacity is needed.

### **Baluba Center Processing Plant**

#### *Overview*

The Baluba Center Processing Plant was constructed in the early 1930s as part of the Roan Antelope Mining Complex. Following the acquisition of the plant by Luanshya in 2009, we have carried out extensive upgrading of the plant's equipment in order to resume production. The plant processes sulfide ore from the Baluba Center Mine and produces copper concentrate using a process similar to that of the Chambishi Processing Plant. The copper concentrate produced by the plant is sold to CCS for smelting, while tailings are dewatered prior to being pumped to tailings storage facilities.

As of December 31, 2011, the production capacity of the Baluba Center Processing Plant was 86 kt of copper concentrate. In 2009, 2010 and 2011, the Baluba Center Processing Plant produced 0.6 kt, 49.3 kt and 63.0 kt of copper concentrate equivalent to 0.1 kt, 10.0 kt and 16.0 kt of contained copper in concentrate, respectively. The following table sets forth the details of the copper concentrate production at the Baluba Center Processing Plant for the periods indicated.

	Year ended December 31,		
	2009	2010	2011
Ore processing capacity <sup>(1)</sup> (kt) . . . . .	1,500.00	1,500.00	1,500.00
Treated ore (kt) . . . . .	6.58	765.45	1,247.16
Head grade (Cu %) . . . . .	1.42	1.40	1.36
Head grade (Co %) . . . . .	0.13	0.10	0.11
Concentrate (kt) . . . . .	0.61	49.34	63.02
Concentrate grade (Cu %) . . . . .	14.57	20.30	25.42
Concentrate grade (Co %) . . . . .	1.07	1.09	0.90
Contained copper in concentrate (kt) . . . . .	0.10	10.0	16.0
Copper recovery rate (%) . . . . .	94.81	93.48	94.43
Cobalt recovery rate (%) . . . . .	76.05	67.56	40.14

*Note:*

(1) Processing capacity relates to the annual processing capacity at the end of the year.

### *Tailings Storage Facilities*

The tailings storage facilities of the Baluba Center Processing Plant are located in the Musiyakupatwa River valley, approximately 7 kilometers northwest of the plant, and currently store



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115.3 Mt of tailings. We are in the process of upgrading the storage facilities to increase their capacity.

### ***SML Chambishi Processing Plant***

In May 2011, we completed the construction of the SML Chambishi Processing Plant with an annual processing capacity of 330 kt of ore. The plant is located at the Chambishi West Mine and uses flotation to process mixed ores. The flotation process is substantially the same as the flotation process used by the Chambishi Processing Plant. Tailings are pumped to the existing leaching agitation plant for copper extraction using the leaching method. The flotation process is expected to produce 2 kt contained copper in concentrate per year. Copper concentrate from the SML Chambishi Processing Plant is treated at the Chambishi Copper Smelter and tailings are utilized by the Chambishi Leach Plant.

### ***Chambishi Southeast Processing Plant***

We are currently planning to construct the Chambishi Southeast Processing Plant, which will process raw ores from the Chambishi Southeast Mine. The plant will use flotation method to process sulfide ores and produce copper concentrate, which will be sold to Chambishi Copper Smelter. The expected annual production capacity of copper concentrate and contained copper in concentrate is 261 kt and 63 kt, respectively. We expect to complete the construction and commence production in 2016, with targeted output of 29.5 kt in 2016.

## **LEACHING OPERATIONS**

### **Chambishi Leach Plant**

#### ***Overview***

We conduct our copper leaching operations through SML which is 67.75% owned by us (55% direct interest plus 15% indirect interest through NFCA, in which we hold an 85% stake) and 30% owned by Hainan Sino-Africa Mining. SML owns the Chambishi Leach Plant which is located within the Chambishi mining area and uses a leaching process that involves heap leaching, agitation leaching and solvent extraction/electrowinning to produce copper cathode.

We completed the construction of the SML plant facilities in mid-2006 and production commenced in late 2006. The Chambishi Leach Plant had an initial annual design production capacity of 5 kt of copper cathode, which has been significantly enhanced through technology upgrading. Raw materials processed at the Chambishi Leach Plant include tailings from the Chambishi mining area, as well as oxide ore and mixed ores.

In 2009, 2010 and 2011, the Chambishi Leach Plant produced 6.5 kt, 7.1 kt and 7.0 kt, respectively, of copper cathode.

#### ***Leaching Process***

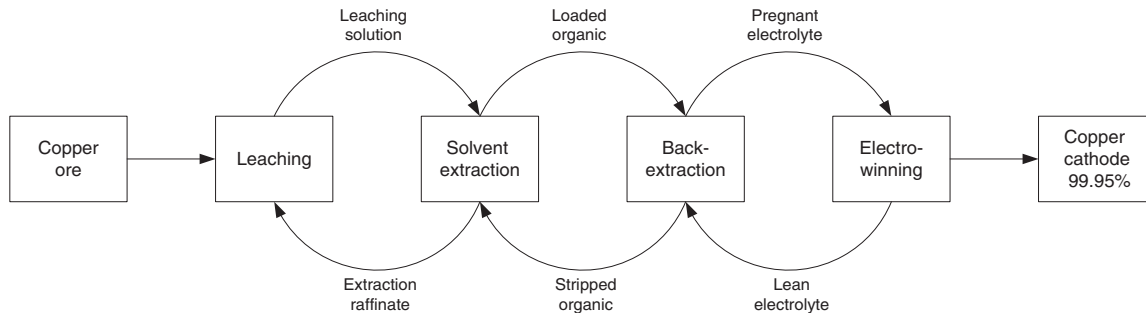
The Chambishi Leach Plant uses the hydrometallurgical method, which includes agitation leaching of tailings, heap leaching of oxide ore, leaching solution extraction and back-extraction, and the resultant solution's electrowinning.

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The diagram below briefly illustrates the leaching process employed by the Chambishi Leach Plant:



### *Agitation Leaching*

In agitation leaching, tailings are first transported by trucks to a place near the agitation leaching plant where they are sprayed with a raffinate solution. The resulting slurry is pumped to an agitation leaching tank, where sulfuric acid is added and solid copper minerals are turned into copper sulfate solution. After the leaching, the slurry is pumped to a thickener, from which the copper-containing solution is transferred to a sedimentation tank for further clarification. The resulting solution is then transferred to an extraction plant.

### *Heap Leaching*

In the first step of the heap leaching process, a crusher is used to crush the oxide ore to grain size no larger than 50 mm. Oxide ore is then transported to a heap, where it is sprayed with an extraction raffinate from the extraction plant. When the solution flows from the top to the bottom of the heap, sulfuric acid in the raffinate reacts with copper minerals, producing dissoluble copper sulfate, which is collected in a liquid storage container next to the heap. After sedimentation and clarification, the copper-containing solution is transferred to the extraction plant.

### *Solvent Extraction/Electrowinning*

At the extraction plant, extraction and back-extraction/recycling processes are used to purify the copper leach solution. The copper-containing solution is then pumped to electrolytic cells, where electrical current is passed through the solution to deposit clean copper on pure copper plates. Copper content of the resulting refined cathodes is above 99.95%.

### **Tailings Storage Facilities**

The tailings storage facilities of the Chambishi Leach Plant are situated close to the agitation leaching plant and cell leaching tailings pile, and consist of a tailings pond surrounded by dams. The pond has been in service since 2006 and has gradually expanded to the current size of 450,000 sq m.

### **Muliashi Leach Plant**

The Muliashi Leach Plant is part of the Muliashi Project and uses leaching process involving heap leaching, agitation leaching and electrowinning for production of copper cathode. The plant processes oxide ores from the Muliashi North Mine and in the future will also process ores from the planned Baluba East Mine.

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The plant's annual ore processing capacity and copper cathode production capacity is 4,500 kt and 40 kt, respectively. The plant commenced production in March 2012 and is expected to produce approximately 19 kt, 33 kt and 40 kt of copper cathode in 2012, 2013 and 2014, respectively.

The following table sets forth the designed annual production capacity and technical specifications of the Muliashi Leach Plant.

	<u>Technical specifications</u>
Heap leaching	
Feed ore (kt) .....	3,060
Ore grade (Cu%) .....	1.23
Copper leaching rate (%) .....	72.0
Agitation leaching	
Feed ore (kt) .....	1,440
Ore grade (Cu%) .....	1.36
Copper leaching rate (%) .....	82.0
Copper recovery rate from SxEw	
Copper extraction recovery rate (%) .....	98.0
Copper electrowinning recovery rate (%) .....	99.5
Copper cathode output (kt) .....	40.0

### **DRC Project**

The DRC Project is a leaching plant in the DRC owned by Huachin, a joint-venture subsidiary of SML, in which SML holds a 62.5% interest. The construction of this project was completed in late 2011 and production commenced in February 2012. The DRC Project is expected to produce 9 kt of copper cathode in 2012 and is expected to reach full capacity of 10 kt of copper cathode by 2013. The DRC Project is also expected to produce cobalt contained in cobalt salt in the future. We expect to further invest approximately US\$14 million in this project in 2012 and 2013.

### **Other SML Projects**

We are currently also undertaking other development projects intended at expanding the production capacity of our copper leaching operations, including the Mabende Project and the Kakoso Tailings Development Project.

#### ***Mabende Project***

The Mabende Project is a leaching project in the DRC, with a designed annual production capacity of 20 kt of copper cathode. The Mabende Project is under development and is expected to commence production in 2014. We expect the total investment for this project to be approximately US\$95 million from 2012 to 2014.

#### ***Kakoso Tailings Development Project***

The Kakoso Tailings Development Project is located approximately 25 kilometers north of Chingola and has resources of tailings of approximately 54.7 kt of contained copper. SML and Shenzen Resources Limited formed a joint venture for its development, in which SML holds an 88% equity interest. In 2010, SML conducted drilling in the Kakoso Tailing Dam. We expect the total investment for this project to be US\$17 million in 2012 and 2013. We expect the operation of this project to increase our annual copper cathode production capacity by 3 kt.

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The following table sets out the mineral resources of tailings of the Kakoso Tailings Development Project as of December 31, 2011.

	Ore (Mt)	Average grade	
		Total copper (%)	Acid soluble copper (%)
Resources			
Inferred .....	9.1	0.60	0.47

### SMELTING OPERATIONS

#### Chambishi Copper Smelter

##### Overview

We conduct our smelting operations through CCS which is 60% owned by us and 40% by Yunnan Copper Group. CCS owns the Chambishi Copper Smelter which is located approximately 4 kilometers east of the town of Chambishi and produces blister copper from copper concentrate using the ISA smelting technology.

CCS commenced the construction of main facilities in November 2006. In 2009, construction was completed and commercial production began. The Chambishi Copper Smelter has an annual design production capacity of 150 kt of blister copper and 300 kt of sulfuric acid. According to Wood Mackenzie, the Chambishi Copper Smelter is the only large-scale overseas copper smelter owned by a PRC enterprise.

In 2009, 2010 and 2011, the Chambishi Copper Smelter produced 108.4 kt, 165.1 kt and 150.9 kt, respectively, of blister copper, and 217.1 kt, 330.0 kt and 328.8 kt, respectively, of sulfuric acid.

##### Raw Materials for Smelting at CCS

Copper concentrate is the main raw material for the smelting operations at CCS. CCS procures the copper concentrate internally from our subsidiaries (including NFCA and Luanshya) as well as from Independent Third-Party suppliers. The table below sets forth the amount and percentage of copper concentrate procured from various suppliers in the periods indicated:

	Year ended December 31,					
	2009		2010		2011	
	Amount (US\$ million)	Percentage (%)	Amount (US\$ million)	Percentage (%)	Amount (US\$ million)	Percentage (%)
Our subsidiaries .....	100.3	14.5	219.8	19.4	285.9	26.1
Independent Third Parties .....	<u>590.1</u>	<u>85.5</u>	<u>915.6</u>	<u>80.6</u>	<u>807.6</u>	<u>73.9</u>
<b>Total .....</b>	<b><u>690.4</u></b>	<b><u>100.0</u></b>	<b><u>1,135.4</u></b>	<b><u>100.0</u></b>	<b><u>1,093.5</u></b>	<b><u>100.0</u></b>

##### Smelting Process

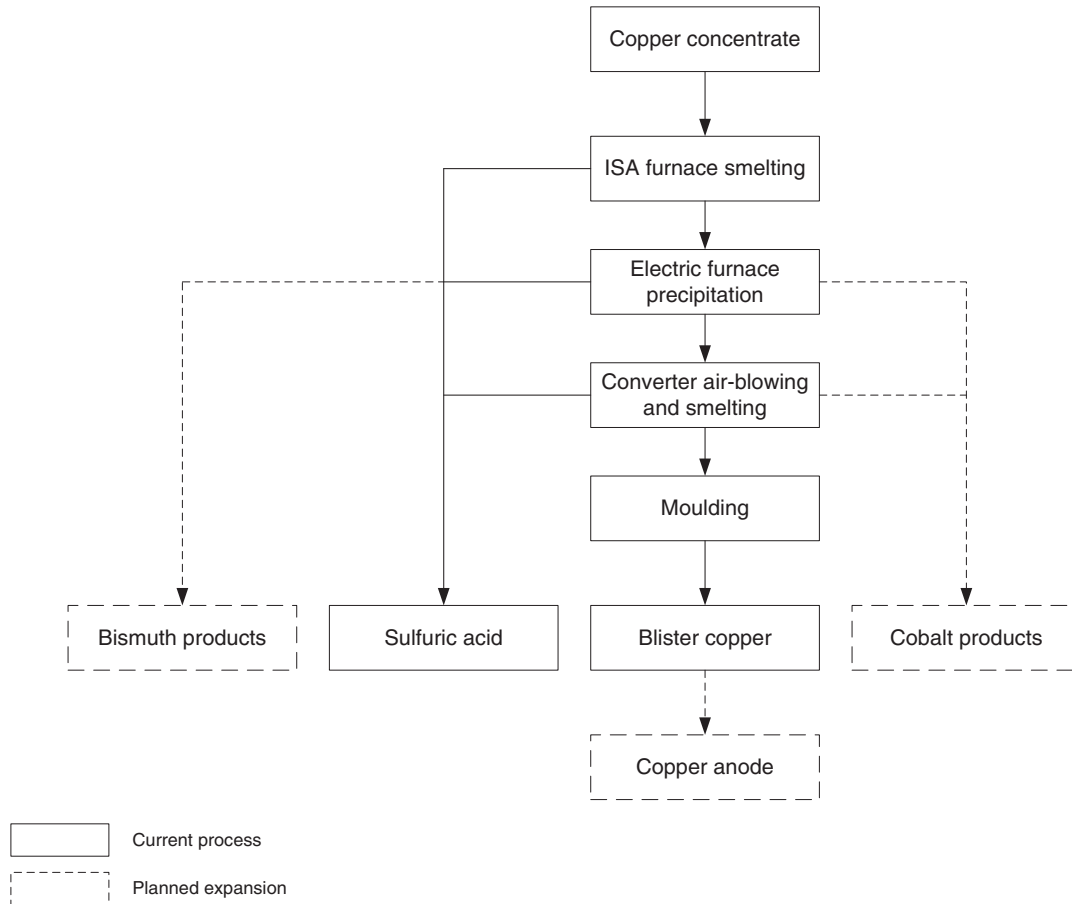
The Chambishi Copper Smelter uses the *ISA furnace oxygen injection and rich oxygen bath smelting — electric furnace precipitation — converter blow* technology and smelts copper concentrate from our mining operations, including the Chambishi Copper Mine and the Baluba Center Mine, as well as copper concentrate purchased from Independent Third Parties.

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The diagram below briefly illustrates the smelting process employed by the Chambishi Copper Smelter:



### *ISA Smelting*

Pyrometallurgical copper smelting uses copper concentrates as raw materials and quartz and limestone as fluxes. The concentrates are blended with fluxes and fed by a conveyor belt into the ISA smelting furnace, where they are melted, producing matte and slag. Matte is a mixture of metals and sulfides produced by smelting the sulfide ore of copper. Slag is a residue of the smelting process containing iron and other impurities.

The production of CCS's ISA furnace is designed to be suspended for maintenance once in a period during which the ISA furnace can be maintained at the normal operational condition. Since commencing operation in February 2009, the ISA furnace was suspended only once, in June 2011, in accordance with its maintenance schedule. The furnace was maintained at the normal operational condition between February 2009 and June 2011 and after the one-month suspension in June 2011.

### *Electric Furnace Precipitation*

The next step in the smelting process is separation of matte and slag in an electric furnace. Matte with copper content between 50% and 65% is then sent to a converter for further processing. Slag is cooled and transferred to a slag dump for storage.

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### *Converter Air-Blowing and Moulding*

In the converter, oxygen-enriched air is blown through the matte to remove impurities and produce blister copper which contains approximately 99% copper, along with converter slag and gas. The blister copper is then sent to a moulding workshop and poured into mould-forming copper plate.

### *Sulfuric Acid Production*

The gas generated in the smelting process is sent to a heat recovery boiler for cooling and dedusting, and then to the dust catcher for purifying prior to the production of sulfuric acid.

### **Expansion Plans**

We are currently undertaking the expansion of the Chambishi Copper Smelter to improve our production capacity of blister copper and sulfuric acid. The expected investment in 2012 is US\$69 million. The expansion is expected to be completed in late 2012 and is expected to increase our blister copper production capacity to 250 kt per year and sulfuric acid production capacity to 560 kt per year.

We have also commissioned research studies on the recovery of bismuth from smelting slag and smelting gas, and the recovery of cobalt from smelting slag. Tests are currently underway and we will consider further expansion plans based on their outcome. See “— Research and Development — Cobalt Development Plans”.

### **OUR MINING RIGHTS**

As of December 31, 2011, we had ten large-scale mining licenses in Zambia covering an aggregate area of approximately 218 sq km and one prospecting license covering an area of approximately 339 sq km. The following table sets out the details of our mining and prospecting licenses:

<b>Mining license No.</b>	<b>License type</b>	<b>Current license holder</b>	<b>Commencement date</b>	<b>Expiration date</b>	<b>Minerals granted</b>
7068-HQ-LML <sup>(1)</sup>	Large-scale mining license	NFCA	June 29, 1998	June 29, 2023	Copper, cobalt and other minerals
7069-HQ-LML	Large-scale mining license	NFCA	June 29, 1998	June 29, 2023	Copper, cobalt and other minerals
7070-HQ-LML <sup>(1)</sup>	Large-scale mining license	NFCA	June 29, 1998	June 29, 2023	Copper, cobalt and other minerals
8097-HQ-LML	Large-scale mining license	Luanshya	January 23, 2004	January 23, 2024	Copper, cobalt and other minerals
8396-HQ-LML	Large-scale mining license	Luanshya	October 19, 2006	October 19, 2031	Copper and cobalt
8394-HQ-LML	Large-scale mining license	Luanshya	October 19, 2006	October 19, 2031	Copper and cobalt
8393-HQ-LML	Large-scale mining license	Luanshya	October 19, 2006	October 19, 2031	Copper and cobalt
8395-HQ-LML	Large-scale mining license	Luanshya	October 19, 2006	October 19, 2031	Copper and cobalt
8404-HQ-LML	Large-scale mining license	Luanshya	November 9, 2006	November 9, 2031	Copper and cobalt
8392-HQ-LML	Large-scale mining license	Luanshya	October 19, 2006	October 19, 2031	Copper and cobalt
15201-HQ-LPL	Prospecting license	SML	December 20, 2011	December 20, 2013	Copper

*Note:*

- (1) Mining licenses No. 7068-HQ-LML and 7070-HQ-LML have been merged and form a single license with license No. 7069-HQ-LML.

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Mining licenses in Zambia are usually granted for a period of 25 years and can be renewed for another 25 years if an application is made within one year prior to the expiration date. We paid ZMK5,400,000 (equivalent of US\$1,104) in license fees in respect of the three mining licenses owned by NFCA and ZMK15,120,000 (equivalent of US\$3,092) in license fees in respect of the seven mining licenses owned by Luanshya in March 2010. There are no caps on production in respect of our mining licenses.

### TRANSPORTATION

We use different transportation methods during different stages of our mining, processing, leaching and smelting operations and the sales of our copper products.

Copper ore is transported by conveyor belt from the Chambishi Main Mine to the Chambishi Processing Plant and from the Baluba Center Mine to the Baluba Center Processing Plant. Copper ore from the Chambishi West Mine and the Muliashi North Mine is transferred to the Chambishi Processing Plant and the Muliashi Leach Plant, respectively, by truck.

We use trucks to transport copper concentrate from both the Chambishi Processing Plant and the Baluba Center Processing Plant to the Chambishi Copper Smelter for smelting. We also use trucks to transport copper tailings, oxide ore and mixed ores to the Chambishi Leach Plant for processing into copper cathode.

Blister copper and copper cathode are transported by truck from the Chambishi Copper Smelter, Chambishi Leach Plant and Muliashi Leach Plant to ports in Durban (South Africa), Dar es Salaam (Tanzania) and Walvis Bay (Namibia) for shipment to China and other parts of the world. Major ports in China we have been using for shipping our copper products include Zhangjiagang, Shanghai, Zhanjiang and Tianjin.

Sulfuric acid, a by-product of our copper smelting operations, is transported from the Chambishi Copper Smelter to our customers, who are located in Zambia, the DRC and Malawi, by truck.

Our logistics providers include our related companies, who are members of the Retained Group, such as Sinotra, as well as Independent Third Parties, such as Cargo Management & Logistics and Maynard Eng Ltd. We generally conclude yearly contracts with our logistics providers. The transportation rates are set to reflect factors such as statutory port tariffs, surcharges incurred at time of transportation and major fluctuations in exchange rates. Charges on each shipment are calculated by reference to the weight of the cargo and the destination.

### ENERGY

#### Electricity

We consume a substantial amount of electricity in our mining, ore processing, leaching and smelting operations. As our production capabilities increase and our business grows, our consumption of electricity is expected to grow accordingly. We purchase electricity primarily from local power suppliers. During the Track Record Period, we did not experience any material power supply shortages that resulted in prolonged suspension of our production operations.

#### Water

We consume a substantial amount of water in our mines and processing facilities, primarily in ore processing and for dust suppression. Our Chambishi Processing Plant sources its water supply from



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groundwater, while the Baluba Processing Plant sources its water supply from the Luanshya water reservoir. Water for Chambishi Copper Smelter is provided by the Kafue River, one of Zambia's principal rivers and a tributary of the Zambezi. Water for the Chambishi Leach Plant is provided by NFCA.

### CAPITAL EXPENDITURE

The table below sets forth our capital expenditure during 2009, 2010 and 2011 and the estimated capital expenditure in the years ending December 31, 2012 and 2013:

Capital expenditure	Year ended December 31,						Year ending December 31,			
	2009		2010		2011		2012		2013	
	(US\$ '000)	(%)	(US\$ '000)	(%)	(US\$ '000)	(%)	(US\$ '000)	(%)	(US\$ '000)	(%)
NFCA . . . . .	61,176	53.4	66,078	42.1	87,109	21.8	153,000	35.2	168,000	52.0
Luanshya . . .	40,899	35.7	72,180	46.0	229,170	57.4	109,002	25.1	5,585	1.7
CCS . . . . .	9,709	8.5	14,496	9.2	37,672	9.4	68,678	15.8	88,535	27.4
SML . . . . .	2,669	2.4	4,157	2.7	45,307	11.4	103,650	23.9	61,000	18.9
<b>Total . . . . .</b>	<b>114,453</b>	<b>100.0</b>	<b>156,911</b>	<b>100.0</b>	<b>399,258</b>	<b>100.0</b>	<b>434,330</b>	<b>100.0</b>	<b>323,120</b>	<b>100.0</b>

### AWARDS

NFCA has received the following awards:

- recognized by the Chinese Embassy in Zambia as the Advanced Unit of China-Zambia Cooperation for 2010; and
- First-class Award for Industrial Science and Technology Award for 2011 from the China Nonferrous Metals Industry Association.

Luanshya has received the following awards:

- recognized by the Zambian National AIDS Council for contribution to the prevention of AIDS in 2010;
- recognized by the Rotary Foundation with a Certificate of Appreciation in 2011; and
- recognized by the PRC Embassy in Zambia in 2010 as an Excellent Chinese Enterprise in Zambia.

CCS has received the following awards:

- Luban Award for 2009 for overseas projects; and
- First-class and Second-class Awards for Science and Technology Advancement Award for 2010 from the China Nonferrous Metals Industry Association.

SML has been recognized as an Outstanding Taxpayer for 2010 by the Zambia Revenue Authority and our Executive Director, Mr. Xie Kaishou, has been recognized as an "Outstanding Chinese Entrepreneur" in 2009 by the PRC Embassy in Zambia.

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### RESEARCH AND DEVELOPMENT

As of December 31, 2011, we had a research and development team consisting of 111 members. In 2009, 2010 and 2011, we incurred expenses for research and development of approximately RMB100.7 million (equivalent to approximately US\$15.6 million), RMB97.4 million (equivalent to approximately US\$15.1 million) and RMB144.2 million (equivalent to approximately US\$22.3 million), respectively.

We believe we have strong research and development capabilities. We also possess core technologies, such as double swirl spray gun technique and combustion control technique, which are applied in our smelting process.

In addition, we are actively collaborating with research institutions as we believe this provides us with insight into industry trends and emerging new technologies, enabling us to focus our current and future research and development efforts more effectively. We plan to continue to focus on, independently or jointly with other research institutions, research and development of copper mining, processing, smelting and leaching technologies, such as bioleaching, and the technology for separation of copper and cobalt from copper-cobalt ores, including undertaking further research on recycling methods for the extraction of cobalt from copper concentrate and smelting slag.

### Bioleaching

In order to better utilize the abundant low-grade tailings in Zambia, we are collaborating with Chinese research institutions for the research and development of bioleaching technology. If successfully developed, bioleaching technology will improve our copper leaching process by enabling us to utilize different ore inputs more effectively. Bioleaching technology may also be able to increase oxide ore heap leaching recovery rate, which would lead to improved heap leaching productivity. Moreover, bioleaching technology may improve the rate of extraction of copper from low-grade tailings as well as sulfide copper ores, which we are currently unable to utilize in leaching operations. This technology may also be able to improve the physical hardness and granulation of the heap and therefore improve the overall productivity of the leaching process. Our total research and development expenditure for this technology in 2012 is expected to be approximately US\$3.5 million.

### Cobalt Development Plans

As part of our strategy to develop our abundant cobalt resources, we are currently pursuing several projects with an aim to start cobalt production in the future, including further research on recycling methods for the extraction of cobalt from smelting slag and copper concentrate. Tests are currently underway and we will consider further expansion plans based on their outcome. We currently expect to complete the research relating to cobalt development and commence industrial production in three to five years.

In April 2011, CCS entered into a cooperation agreement with Shijiyintian to jointly carry out semi-industrial tests on the recovery of cobalt from Chambishi Copper Smelter's smelting slag, which, according to SRK, has a cobalt content of 0.8%-1.2%. Under the agreement, Shijiyintian agreed to build testing facilities at CCS at its own cost and CCS agreed to supply utilities and raw materials as well as participate in the tests and take possession of all products produced during the testing period. The parties agreed to jointly establish a bioleaching plant for cobalt recovery after the semi-industrial tests are completed with satisfactory results, and only then negotiate the shareholding ratio and other arrangements in detail. The plant is expected to be commissioned in late 2013 and

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have an annual production capacity of 0.5 kt to 0.7 kt of contained cobalt. CCS currently expects to invest US\$51 million over 2014 and 2015 in cobalt recovery projects.

We are also actively working on the technology to separate copper and cobalt from copper concentrate produced by the Baluba Center Processing Plant (which contains approximately 1% of cobalt) and produce cobalt concentrate. We have also engaged research institutions with respect to the processing of cobalt concentrate into cobalt hydroxide.

The financing for cobalt development will primarily include proceeds of the Global Offering, our own funds and, if necessary, additional financing.

In addition to these projects, the DRC Project is expected to produce cobalt contained in cobalt salt in the future. See “— Leaching Operations — DRC Project”.

### RAW MATERIALS, EQUIPMENT PROCUREMENT AND SOURCING

#### Raw Materials and Auxiliary Materials

The raw material for the copper smelting operations at the Chambishi Copper Smelter is copper concentrate purchased from our mining operations, including the Chambishi Copper Mine and the Baluba Center Mine, and from Independent Third Parties. The raw materials for the copper leaching operation at the Chambishi Leach Plant are copper tailings, oxide ore and mixed ores from the Chambishi mining area and from Independent Third Parties.

Our mining, ore processing, leaching and smelting operations consume many types of auxiliary materials including oxygen, diesel and other fuel. The diesel fuel we consume in our transportation and production facilities is primarily supplied by Puma Energy Zambia PLC. In addition, gasoline is consumed in the Chambishi Copper Mine and Baluba Center Mine, and coal and kerosene are consumed in the Chambishi Copper Smelter and Chambishi Leach Plant. These are primarily purchased from local suppliers that are Independent Third Parties. Oxygen for our Chambishi Copper Smelter is supplied by our own oxygen station.

#### Machinery and Equipment

We purchase major machinery and equipment used in our operations through related entities within the Retained Group, such as CNMC International Trade, which in turn procures it from certain suppliers in China, such as China National Heavy Duty Truck Group Co., Ltd., HuaiBei Mining Machinery Produce Co., Ltd. and Beijing General Research Institute of Mining and Metallurgy. We set out the technical requirements of machinery and equipment we need to purchase and our budget and CNMC International Trade obtains fee quotes from the Chinese market and then purchases such machinery and equipment on our behalf. We carry out regular inspections, maintenance and repairs of the machinery and equipment used in our operations.

#### Suppliers

Our major suppliers mainly consist of suppliers of copper concentrate, chemical products, explosives, lubricating oil, electric wires and cables, pipes, rubber products, steel, wood, fuel, equipment installation, mining and exploration services and accessories. In the selection of our suppliers, we consider factors such as price, quality, reliability of supply, lead time, business scale, production capability and commercial reputation. During the Track Record Period we did not experience any shortages in supplies that resulted in prolonged suspension of our production operations.

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Our five largest suppliers during the Track Record Period included suppliers of copper concentrate and other raw materials and equipment suppliers. In 2009, 2010 and 2011, purchases from our five largest suppliers accounted for 90.4%, 74.7% and 63.4% of our total purchases, respectively. During the same periods, purchases from our largest supplier accounted for 46.3%, 41.4% and 34.4% of our total purchases, respectively. Save for CNMC International Trade which was our fourth largest supplier in 2011, none of our Directors or any of their respective associates (as defined in the Listing Rules) or, so far as our Directors are aware, any Shareholder who owned 5% or more of our issued Share capital as at the Latest Practicable Date, has any interest in any of our five largest suppliers during the Track Record Period.

The principal terms of our contracts with suppliers are the terms of payment, delay penalties, testing and commissioning and acceptance of the completion. In general, we require a minimum performance security from the supplier prior to the commencement of the contract.

In 2009, 2010 and 2011, 14.5%, 19.4% and 26.1%, respectively, of the amount of copper concentrate used in the Chambishi Copper Smelter was supplied by our subsidiaries (including NFCA and Luanshya), while the remainder was purchased from Independent Third Parties. See “— Smelting Operations — Chambishi Copper Smelter — Raw Materials for Smelting at CCS”.

Except as disclosed in this prospectus, all of the suppliers are Independent Third Parties in which none of our Directors, Supervisors and their respective associates or shareholders who, to the knowledge of our Directors, hold more than 5% of our issued share capital, have any interest.

### **Third-Party Contractors**

In line with industry practice, we outsource most of our mining and exploration work (such as drilling) and most of our mine construction work to Independent Third Party contractors, such as Zambian Nonferrous Metals Exploration & Construction Limited, as well as to members of the CNMC Group, such as Fifteen MCC Africa. In 2011, NFCA entered into a mining contract with Jinchengxin in respect of the Chambishi Copper Mine, which provides for the development of tunnels, mining preparation and production, underground haulage, back-filling and maintenance of the ventilation system. The contract will expire in 2013.

Our Directors believe that outsourcing arrangements, if managed properly, can lower our operational costs and reduce our capital expenditures for machinery and equipment. For instance, in 2009, 2010 and 2011, NFCA paid aggregate fees of US\$42.7 million, US\$44.6 million and US\$56.0 million, respectively, to Jinchengxin (including its predecessor) for copper ores mining.

We typically select contractors through a tendering process taking into account the contractors' skills and experience. The Group does not have any review system or policy with respect to its contractors' safety record before engaging such contractors. All of our contractors must possess the requisite qualifications and capabilities for undertaking the work for which they are commissioned. We generally retain control over project design, production planning, on-site work monitoring and quality inspection and require third-party contractors to carry out their work according to the design and plan of the relevant assignment and in accordance with our quality standards and safety requirements. Pursuant to the agreements we entered into with our third-party contractors, third-party contractors are required to maintain insurance covering the safety and casualty of their employees that perform work for us. We are not responsible for and do not carry any insurance for the employees of third-party contractors. We have not experienced any material disputes with our contractors during the Track Record Period.

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In the Baluba Center Mine, all mining operations are undertaken by Luanshya's employees. All mining operations in the Muliashi North Mine are carried out by a contractor, Fifteen MCC Africa.

### SALES, DISTRIBUTION AND MARKETING

Our main products are blister copper, copper cathode and copper concentrate, of which blister copper and copper cathode are sold both to the PRC and other international markets, and copper concentrate is mainly sold to our Chambishi Copper Smelter for smelting into blister copper.

In 2009, we sold the majority of our copper cathode and blister copper to Independent Third Parties and the rest was sold to trading companies within the Retained Group. In 2010 and 2011, we sold the majority of our blister copper and copper cathode production to trading companies within the Retained Group. See "Connected Transactions — Non-exempt Continuing Connected Transactions — 1. CNMC Copper Supply Framework Agreement". Since we started commercial production of blister copper in March 2009, all of the copper concentrate produced by us is sold to the Chambishi Copper Smelter and currently we do not plan to sell any copper concentrate to third-party customers in the ordinary course of our business.

#### Sales Agreements

The agreements in respect of the sales of copper products to the Retained Group and customers who are Independent Third Parties typically include terms such as commodity and quality, quantity, delivery, shipment, price, payments and insurance. Under these sales agreements, the price of copper is generally determined with reference to the LME official cash settlement for Copper Grade A averaged over the quotational period which is generally one month determined with reference to the month of shipment. Depending on individual sales arrangements, payment may either be settled in full against presentation of specified documents including full set of bill of lading, or in stages whereby advance payment, provisional payment, supplementary payment and final payment are made in accordance with the terms of the contracts.

The following table sets forth the revenues and gross profit margins of our transactions with the Retained Group during the periods indicated.

	Year ended December 31,		
	2009	2010	2011
	(US\$ '000)	(US\$ '000)	(US\$ '000)
<b>Revenue:</b>			
Blister copper .....	181,631	726,335	626,874
Copper cathode .....	18,644	24,409	28,007
<b>Total</b> .....	<u>200,275</u>	<u>750,744</u>	<u>654,881</u>
<b>Gross profit margin:</b>			
Blister copper .....	17.0%	16.2%	11.9%
Copper cathode .....	64.7%	66.4%	50.9%
<b>Total</b> .....	21.4%	17.8%	13.6%

Our copper products are priced by reference to the LME-quoted price of copper during the Track Record Period. The terms of the sales contracts with the Retained Group provided that the selling price is determined on a Cost, Insurance and Freight (CIF) basis, which is higher than the average selling prices to our other customers determined on an Ex Works (EXW) basis. Under EXW basis, as we are not required to incur the freight charges to the port of destination, we usually provide a

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discount from the LME-quoted prices ranging from US\$200 to US\$260 per tonne to other customers. Under CIF basis, pursuant to which we are required to bear shipping and insurance costs, no such discount is provided to the Retained Group, which led to higher average selling price. The average freight and insurance charges incurred during the Track Record Period ranged from US\$196 to US\$264 per tonne. Our Directors are of the view that the different methods in determining the selling prices do not distort our historical performance.

### Major Customers

Our major customers during the Track Record Period included Trafigura AG Switzerland, LN Metals International Ltd, the Retained Group, Yunnan Copper Group, Transamine Trading SA (Swiss) and two other European trading companies, the principal business locations of which are the United Kingdom, Switzerland, and the PRC. Save for the Retained Group and Yunnan Copper Group, the rest of the above customers are Independent Third Parties. We commenced selling our products to our major independent customers between 2004 to 2009. We commenced sales to the Retained Group in 2006 and direct sales to Yunnan Copper Group in the second quarter of 2011. Before that, the Yunnan Copper Group purchased our products from the Retained Group and was not our direct customer. During the Track Record Period, our major sales markets included the PRC, Switzerland, the United Kingdom, Zambia, South Africa and Luxembourg. Our independent major customers, including those in Switzerland, are commodity traders whose business is to resell our copper products to third parties. We believe that each of our independent major customers, or a combination of a few of them, has the capacity to purchase at least a very significant portion of our production output as they are international trading companies and there have been instances in the past when we had to turn down part of their orders as their demand was greater than our supply capacity. Nevertheless, to minimize customer concentration risk, we diversify our sales to these few major customers, which were carefully selected with regard to their demand, creditworthiness, financial ability and reputation. We may selectively diversify our sales to other additional high quality customers in future should the need arise. However, we do not see the commercial need to overly diversify our customer base at this stage, which would bring additional administrative burdens.

Even though the Retained Group has copper production operations in the PRC and the copper products produced by us and the Retained Group are both sold in the PRC market, we believe that it is unlikely that there will be extreme competition between the copper products of our Group and that of the Retained Group in the PRC in view of the shortfall in copper supply in the PRC. The PRC, which is our major market, has severe supply shortfalls in both refined copper and copper concentrate. According to Wood Mackenzie, the refined copper supply shortage was 2,513 kt and copper concentrate supply shortage was 1,687 kt in 2011 on a contained copper basis. In the near future, a considerable shortfall between domestic supply and demand for copper in the PRC is also expected. For example, the supply deficit of copper concentrate in the PRC is expected to increase from 1.7 Mt in 2011 to 2.8 Mt in 2015. According to Wood Mackenzie, this shortfall will have to be met through imports of raw materials and refined metal. See “Industry Overview — China Copper Market Overview”. We maintain close commercial relationships with various copper refiners in the PRC, which are customers for blister copper, and downstream copper processing plants, which are customers for copper cathode. We believe that we will be able to sell our products directly to these refiners and copper processing plants upon needs in the unlikely event that we are unable to conduct sales via trading companies. In addition, copper cathode is actively traded on the LME, Shanghai Futures Exchange and COMEX, which can provide additional means of distribution for our Group’s copper cathode products.



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Accordingly, we are of the view that we do not rely on any of our major customers, including the Retained Group, in view of the following:

- (a) copper is a commodity and can be sold on public markets at a transparent market price;
- (b) our Group may easily find other replacement customers given the demand for copper exceeds its supply globally and in the PRC, our major market; and
- (c) the loss of any one major customer will not affect the financial performance of our Group materially as our other existing or past customers can absorb more of our Group's supply on no less favorable terms.

Even though we believe each of our independent major customers, or a combination of a few of them, has the capacity to purchase at least a very significant portion of our production and we are able to sell our copper products directly or indirectly in any relevant trading platforms such as the LME, we still sell to the Retained Group and have no intention to cease doing so in view of the more flexible payment settlement terms and the reduced counterparty risks offered by the Retained Group. Due to our affiliation with the Retained Group, the Retained Group is more ready to, at our request, make advance payments instead of issuing letters of credit to us, which allows us to better manage our working capital. The letters of credit that we have with independent customers usually have a 45-day settlement period. The advance payment made by the Retained Group thus allows us to save on the interest on bank loans which we may otherwise have to pay. However, in the event that the Retained Group ceases to make advance payments to our Group and issues only letters of credit to our Group, our Directors believe that there will be no material impact on the financial performance of our Group. In addition, due to the nature of commodity transactions, the settlement amount is usually relatively high. Consequently, settlement risk is an important consideration for us. While our independent major customers were carefully selected based on a number of factors including their creditworthiness, we believe that the risk of default by the Retained Group is even lesser as the Retained Group is a state-owned enterprise in the PRC. The more flexible payment settlement terms and the reduced counterparty risks offered by the Retained Group together with its increasing demand for our products fueled by the shortage of copper supply in the PRC are the primary reasons that led to the Retained Group having been our single largest customer since 2009.

### Hedging

Depending on market conditions and copper price movements, from time to time we enter into short-term copper futures contracts to hedge our net exposure to copper price fluctuations due to the difference between the amount of copper concentrate we expect to procure from external suppliers and the amount of blister copper we expect to sell to external customers. Forward sales contracts establish a selling price for future production at the time they are entered into, thereby reducing the impact of declining prices but also eliminating potential gains on price increases. We have strict internal control procedures in respect of hedging activities and regularly examine our hedging strategy. In addition, we closely monitor our hedging activities and do not hold or issue financial instruments or derivative financial instruments for trading purposes. We expect to continue to hedge our exposure to copper price fluctuations in the future through the use of copper futures contracts.

Currently only CCS engages in hedging activities. CCS has set up a futures trading group headed by the general manager of CCS and its members include the Assistant General Manager, Finance Manager and Sales Manager of CCS. All major hedging activities are subject to the approval of the futures trading group, such as the execution of hedging transactions and formulation of annual

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hedging plans. Pursuant to the hedging policies of CCS, the general manager of CCS, who is held accountable by and reports to the board of CCS, is responsible for approving the hedging plans that have been approved by the majority of the futures trading group members. The futures trading group may establish various posts such as trading, settlement, market analysis, audit and risk management if required to help to monitor the hedging transactions undertaken by CCS. Regular reports must also be prepared and the risk management post is required to monitor the risks daily, submit monthly report and alert any major events such as unusual or sudden price volatility to the futures trading group as soon as possible so that the necessary remedial actions may be taken. CCS's main objective in undertaking hedging activities is to minimize risks and it has never been engaged in speculative activities before. We conduct our hedging transactions on the futures exchange in London on which the clearing house serves as the central counterparty. The risk management post of the futures trading group of CCS sets cut-loss limits for hedging activities based on our outstanding futures positions, amount of unrealized gains or losses, credit limits, amount of deposits in futures margin account and prevalent market conditions.

### **Marketing Activities**

Due to our sales and distribution model, we have not engaged in any marketing activities during the Track Record Period.

### **QUALITY CONTROL**

Recognizing that a long-term and stable supply of copper products with consistent physical characteristics is crucial to our customers, we have implemented a quality control system to ensure that the characteristics and specifications of our copper products are able to meet the requirements of our customers.

We have a quality control team at each subsidiary responsible for quality supervision, examination and management. Our quality control team regularly prepares quality control reports for our management to review. A coordination meeting is held approximately once a month and our quality control department reports the result of its weekly examination and inspection in the meeting. Our operations have been certified as being in compliance with our own corporate standards.

We have also implemented internal production rules to ensure product quality. These rules are equally applicable to our employees and the employees of our third-party contractors. All the employees of our third-party contractors are under our management and supervision, and are required to follow the safety rules in our mining and exploration operations and conduct work in strict compliance with our technical standards. We hold meetings with the third-party contractors to solve technical problems. We also conduct regular internal appraisals in accordance with the requirements under Zambian and our own standard quality-management systems every month and have implemented preventive measures to reduce production risks.

### **STORAGE AND INVENTORY CONTROL**

Our inventory is comprised of raw materials, work-in-progress and finished products. Our inventory control policy is to maintain sufficient inventories for our production and sales while minimizing inventory levels. We have designated staff responsible for maintaining suitable storage conditions for all our inventories stored in our facilities.

In 2009, 2010 and 2011, our inventory turnover days, calculated as average inventory at the beginning and end of period divided by cost of sales and multiplied by the number of days for the



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period generating sales, were 62.3 days, 56.4 days and 56.9 days, respectively. See “Financial Information — Financial Ratios — Turnover Ratios — Inventory Turnover Days”.

### **CORPORATE SOCIAL RESPONSIBILITY**

We believe that conducting our operations in a way that promotes sustainable corporate and social development is essential to our success. Our goal is to operate transparently and ethically, promoting regional development and maintaining positive relationship with the local government, community and suppliers.

We guide, coordinate and assess corporate social responsibility (“CSR”) planning, practice and performance of our subsidiaries. Our top management is responsible for developing and planning CSR strategies. We have implemented a number of internal policies to take responsibility for the impact of our business activities on the environment, employees and local communities.

#### **Community and Public Awareness**

We maintain an ongoing dialogue with the public, government agencies and regulators. We believe directly engaging in the communities in which we operate is important. We are committed to communities near our mining operations, our employees and their families, the investment community, local and central governments, our suppliers, contractors and consultants and interested non-governmental organizations.

#### **Compliance with Environmental Laws and Regulations**

In order to minimize any damage to the environment caused by our operations, we carefully design mine and plant plans, implement pollution control recommendations from internal and external sources, monitor the effects of mining on mining areas and carefully design mine closure plans. We have also conducted several environmental impact studies relating to our assets and community infrastructure development projects and closely monitor the continuing impact of our operations. We employ a full time environmental manager tasked with monitoring and implementing environmental compliance. In addition, our entire workforce is charged with complying with our environmental policies. All employees receive environmental training at orientation and annual refresher training on environmental compliance.

In complying with environmental laws and regulations, we incurred US\$0.3 million, US\$0.9 million and US\$1.2 million for 2009, 2010 and 2011, respectively. Based on our experience, we expect that the future costs of compliance with environmental laws and regulations will remain similar to historic levels on a per unit of copper product basis.

#### **Environmental Policy**

We are committed to conducting our operations in a manner that complies with environmental laws and regulations, and endeavor to mitigate the adverse impact of our operations on the environment. Mining, ore processing, leaching and smelting operations inherently generate surface subsidence, solid waste, dust, waste matter and other industrial pollution and require disposal of waste and hazardous materials. We have obtained all requisite environmental permits and approvals to conduct our business, and our mining and production facilities, construction, operation, processes and equipment are in compliance with relevant national environmental and safety standards. We are committed to performing all of our mining and exploration activities in an environmentally conscious manner and returning the environment to a natural state as required by Zambian laws. We believe that conducting our activities in an environmentally responsible manner is integral to

good business management. All our employees and contractors are encouraged to accept, as their shared responsibility, that minimizing environmental harm is a priority when performing all activities.

### **Health and Safety Standards**

We believe that our most important assets are our employees. We consider injuries to our employees and/or damage to our physical assets a threat to our reputation and success. We will continue to provide effective training and appropriate and sufficient resources for people to work safely and effectively.

We insist that all employees and contractors must accept as their shared responsibility that zero harm and loss is a priority when performing all work-related activities. To achieve this target it is essential that our employees and contractors believe that all loss is preventable and accept responsibility for their personal safety and the safety of others and to protect the integrity of our physical assets at all times.

Each of our subsidiaries has a Safety Monitoring Division, which is responsible for the safety of our mining operations, processing plants and tailing dams, and which performs regular reviews of safety responsibilities for each plant. In addition, we have a number of safety-related training programs for our employees, including training programs, which new employees are required to complete before they start working, as well as special training programs for employees with roles that require obtaining certificates or licenses (such as the use of explosives). All our employees are provided with personal protective equipment adequate to the tasks they perform and areas where they work, such as anti-acid overalls and work shoes for employees who engage in the treatment of corrosive waste acid and transportation and storage of finished acid, hearing protection equipment for operators and high-temperature protective clothing and masks for employees exposed to high temperatures. We also provide our employees with dustproof equipment, even though not required under Zambian law. Employees without adequate personal protective equipment are prohibited from entering any work areas and are subject to penalties. We have also promulgated our internal Rules on Distribution of Personal Protection Equipment, which include detailed types of equipment required for various positions and areas as well their replacement cycles and clear procedures with respect to applying for personal protective equipment if the old one is lost or damaged. In addition, we organize regular examination of silicosis for our employees and offer first aid training.

We have policies and programs in place to ensure compliance with applicable Zambian laws and regulations as well as to track and improve overall performance, including our Health and Safety Policy and Plan, Emergency Response Plans and various hazard registers. Our health and safety policies, programs and reporting schemes seek to identify areas of non-compliance or areas for general improvement. These measures are also used to identify deficiencies by providing appropriate information and specialist advice to determine appropriate corrective actions.

We are in the process of implementing certain internal control measures, one of which is a bi-weekly review of our compliance with the relevant laws and regulations by the Chief Compliance Officer. Please refer to the paragraph “— Legal and Compliance” below and the section entitled “Directors and Senior Management” for more information about our Chief Compliance Officer, Compliance Committee and internal control measures. In addition, our Mine Manager, who is required under relevant Zambian mining safety laws to have the requisite mining and engineering qualifications, is entitled to carry out inspections at any time and suspend production due to a potential hazard. See the section headed “— Employees — Injuries” for additional information on our Mine Managers, our continuous improvements to reduce the number of accidents in our operations and our other measures to improve the safety condition of our working place.

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We have engaged SRK to review and improve certain aspects of our health and safety standards and have implemented their recommendations in order to ensure our health and safety policies are in line with international standards. These recommendations include improving accident response equipment, housekeeping procedures for entrance areas, safety procedures for visitors, signage at hazard points, waste management and ensuring that all employees are equipped with sufficient personal protective equipment. Based on SRK's recommendations and the Company's corrective action plans, and having made reasonable enquiries, the Sponsors have reasonable grounds to believe that, upon full implementation of those measures and monitoring by SRK and/or the external expert to be appointed in 2012, the Group will have occupational health and safety measures that are adequate, effective and fit for the Group's current operations.

In a letter dated March 9, 2012, the Mines Safety Department of Zambia has confirmed that we are in compliance with the general Zambian safety, health and environmental requirements. Our total health and safety compliance costs in 2009, 2010 and 2011 were US\$1.9 million, US\$3.6 million and US\$3.4 million, respectively.

### **Community Development**

We are committed to developing long-term and positive relationships with the communities in which we operate. Since entering Zambia in 1998, we have invested in a number of infrastructure projects, including a road between Chambishi and Kitwe, a transportation center in Kitwe, bus shelters in Chambishi and Kalulushi, a farmers' market for the Garneton community, and power facilities in Chambishi, as well as other public facilities. We have also made a number of social contributions over the same period.

We have planned and implemented a number of community development programs focusing on employment, education and health. Our goal is to generate employment in the areas in which we operate, thereby directly contributing to the development of the communities surrounding our mines. We believe that, besides all the accompanying programs and projects, creating employment opportunities for the community is one of the major contributions to local development and wealth. As of December 31, 2011, we employed approximately 94% of our workforce locally. Our remuneration system covers a wide range of welfare aspects and includes, among other benefits, housing subsidies, meal subsidies, education allowances, overtime pay, annual leave and transportation subsidies. In addition, our employees and their families can enjoy free medical care and ambulance emergency services. Each year we organize physical examinations and occupational diseases checks for our employees and also take steps to prevent occupational diseases.

We have participated in improving the local education system, providing support to educational programs at all levels. We have provided funding for local secondary schools and technical schools, and established scholarships for outstanding university students majoring in mining, mineral processing and electrical engineering. We also select outstanding employees and university graduates to go to China for advanced studies.

We are supporting prevention of AIDS, malaria, polio and other serious diseases in the local communities. Each year, we carry out activities to raise awareness of disease prevention and promote healthy lifestyles. These included, among others, donating computers and other office equipment to the *Organization of African First Ladies against HIV/AIDS*, contributions to Kalulushi Hospital's AIDS-prevention program and donating spraying equipment to the local government in support of the anti-malaria program of Zambia's Ministry of Health. In April 2011, we participated in an eye care event *Brightness Mission 2011*, in which we sponsored 109 free cataract surgeries for members of the local community.

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We promote the growth of local suppliers, giving them preferential treatment in the procurement process, thereby creating a large number of new employment opportunities, although we are not obligated to provide such preferential treatments and we have not entered into any agreement with the Zambian government for the provision of the preferential treatment. We intend to, as part of our community development efforts and on a voluntary basis, prefer to procure from local suppliers rather than other suppliers if the terms and conditions offered by the local suppliers are at least as favorable as those offered by other suppliers. These local suppliers, owned and operated by local Zambian citizens, are of various scales and provide various auxiliary materials, such as gasoline, coal and kerosene. Our gross profit margin or results of operation are not expected to be materially affected since there should be no material differences between the prices and other terms offered by these local suppliers and those offered by other suppliers.

While the above initiatives are generally voluntary, Luanshya also has certain obligations arising from the Agreement Relating to Investments and Concessions for the Luanshya Copper Mines Plc, such as the improvement of medical services in the community, construction of infrastructure, running a trust school and the Luanshya Craft School, as well as ensuring the availability of basic sports and recreational services to our employees and their families. See “Our History and Reorganization — Shareholding History of Our Zambian Subsidiaries — Luanshya”.

### INSURANCE

We have obtained property all risks insurance covering material damage, machinery breakdown and employers liability for the period from January 1, 2012 to December 31, 2012. We have also obtained motor vehicle insurance. It is the market practice in Zambia that the insurance contract is signed on an annual basis and we intend to renew all of our insurance policies upon their expiry.

During the Track Record Period, we did not make any material claims under our insurance policies. We will continue to assess our risk portfolio and make necessary and appropriate adjustments.

### COMPETITION

Our primary products for external sale are copper products, including blister copper and copper cathode. We compete on the basis of product quality, stability of supplies and reliable and timely delivery. We believe that our vertically-integrated business model provides us with significant competitive advantages, enabling us to better control our production costs, shorten the supply and inventory cycle in our production process and effectively allocate our product mix. In addition, as a general legal requirement worldwide, mining enterprises must obtain exploration and mining licenses to conduct exploration and mining activities. We believe that these governmental measures and industry barriers to entry are beneficial to us and have the effect of strengthening our competitiveness against smaller copper producers.

While we believe that we have a unique position in the copper market, as a supplier of copper we are still subject to the same competitive dynamics as other participants in the industry. Since substantially all of our operations are located in Zambia, we face competition in Zambia. We believe that the major copper producers operating in Zambia include Vedanta Resources plc, First Quantum, Glencore International plc and Equinox Minerals Limited. If more copper mining companies enter into Zambia or existing copper mining companies in Zambia expand their operations and production capacity, we will face strong competition in terms of acquiring copper resources, recruiting local employees and purchasing raw materials and ancillary materials. Since we sell and intend to continue selling a majority of the copper we produce in China, we also face competition in the Chinese market. Competition in the Chinese copper industry is based on many

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factors including, among others, price, production, capacity, copper quality and characteristics, transportation capability and costs. Due to their location, some of our Chinese competitors may have lower transportation costs than we do. We also face competition in the international market. The international market for copper products is an open market, and the prices of copper products are principally dependent on supply and demand in the marketplace. Some of our international competitors may have greater copper production capacity as well as greater financial, marketing, distribution and other resources than we do, and may benefit from more established brand names in the international market.

### EMPLOYEES

As of December 31, 2011, we had 5,137 employees, of whom 324 were Chinese citizens and the remaining 4,813 employees were from Zambia.

The positions occupied by our local Zambian employees mostly include machine operator, truck driver, construction worker and other labor-intensive positions. Our local Zambian employees are employed under employment contracts negotiated between us and local labor unions in Zambia which set out fully, among other things, the employee's responsibilities, remuneration, benefits and grounds for termination of employment.

In addition, as of December 31, 2011, we had 5,579 persons working in our operations employed by our contractors. These workers are employees of the third-party contractors and we have no employment relationships with them according to our Zambian counsel. The positions occupied by such workers are generally the same as the positions occupied by our local Zambian employees.

The Group's Zambian legal adviser is of the view that, based on the standard contracts and collective agreements reviewed, the Group is in compliance with the minimum requirements under all relevant Zambian laws and regulations relating to the Group's employment of its employees.

### Employee Remuneration Policy

Our remuneration policy is designed to attract, retain and motivate highly talented individuals to ensure the capability of our workforce to implement our business strategies. Key principles of our remuneration policy are to:

- set competitive rewards to attract, retain and motivate highly skilled people;
- establish short and long-term incentive programs, including, but not limited to, the equity incentive plan;
- ensure that remuneration planning continues to be integrated within our business planning process; and
- ensure that total reward levels and performance targets are set at appropriate levels to reflect the competitive market in which we operate, the prevailing economic environment and the relevant performance of similar companies.

We seek to accomplish the above goals by conducting annual remuneration reviews which take into account individual performance, the economic environment, the need for certain employees to travel and spend time in Zambia in general and at mine sites in Zambia in particular, as well as the industry standard for comparable job positions. For each of our subsidiaries, we have established a remuneration system which meets the requirements prescribed by applicable Zambian laws and

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regulations. In Zambia, the Minimum Wages and Conditions of Employment Act sets minimum wages and other conditions applicable to certain categories of employees. To our best knowledge, we are not aware of any instances of allegations against us that our subsidiaries have not complied with these minimum wage requirements. The wages at our subsidiaries have been negotiated with trade unions. We also provide other benefits to our employees, such as free medical care, housing subsidies, meal subsidies, transportation subsidies and education allowances.

### **Employee Retirement Benefit Schemes**

We maintain employee retirement benefit schemes for our seconded Chinese employees and for our local Zambian employees as required by relevant laws in the PRC and Zambia, as applicable. In 2009, 2010 and 2011, our employee retirement benefit schemes contributions were approximately US\$3.1 million, US\$7.1 million and US\$9.5 million, respectively. We have not experienced any default in making employee retirement benefit scheme payments nor received penalties from the PRC and Zambian governments for any violation of the social security related regulations.

### **Collective Agreements**

A substantial portion of our employees are members of trade unions. We negotiate collective agreements with representatives of the unions on a regular basis. These agreements primarily cover employees' responsibilities, remuneration, benefits and grounds for termination of employment. Current collective agreements at our operations in Zambia are typically one year in duration and are subject to expiration at various times in the future.

NFCA currently has collective agreements with NUMAW and MUZ. These agreements cover the period from January 1, 2012 to December 31, 2012.

Luanshya has collective agreements with MUZ and NUMAW covering the period from January 1, 2012 to December 31, 2012.

CCS has a collective agreement with NUMAW covering the period from April 1, 2012 to March 31, 2013.

SML has a collective agreement with NUMAW covering the period from January 1, 2012 to December 31, 2012.

For each of our subsidiaries, the terms of the collective agreements apply to all of its members. The collective agreement should be interpreted in conjunction with the individual fixed-term contract signed between each company and its employees.

We plan to commence negotiating with the labor unions about the renewal of these collective agreements before they expire. We endeavor to conduct such renegotiations with the labor unions in an orderly manner and, to the best of our knowledge, there has been no disturbances or disputes in connection with the renegotiations. However, there can be no assurance that the trade unions and the workers would not engage in prolonged work stoppages concurrently with their renegotiations with us, which could result in labor disputes or disturbances (including civil disturbances or riots) that could have a material adverse effect on our business, financial condition and results of operations. For additional details, see the section entitled "Risk Factors — Risks Relating to Our Business and Industry — Our business, financial condition and results of operations may be materially and adversely affected by labor disputes, labor conflicts and disruptions" in this prospectus.



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### Training

We continue to provide training for our employees with respect to business, market position, workplace safety standards, environmental protection, technical and product knowledge, quality control and management.

### Injuries

We are committed to the health and safety of our employees and contractors and surrounding communities. Our operations developed, implemented and maintained health and safety management systems tailored to the specific needs of our operations and activities. Performance is regularly monitored by tracking first aid injuries, lost time injuries, MSD reportable accidents and fatalities.

Under Zambia's strict safety regulations, an accident is reportable to the Mines Safety Department of Zambia (the "MSD") if it either caused a fatality or caused an accident due to which the injured worker took a leave of more than three working days (an "MSD reportable accident"), or is alternatively referred to as a "minor injury" if it is a lost-time injury causing the injured worker to take a leave of no more than three working days. During the Track Record Period, we have not experienced any accidents at any of our subsidiaries having a material adverse effect on our production, financial condition or results of operations.

In order to avoid future accidents, we have been improving, and will continue to improve, our safety procedures and conditions, including additional training for our employees and contractors' employees, better workplace safety facilities and personal protection equipment. Each site where a fatal accident has happened is immediately closed and the accident is reported to the MSD, which starts investigation of the accident and inspects the site. The cause of each fatal accident is also investigated and reported internally. After investigating each fatality, the MSD would issue an investigation report, identifying the accident's cause and the individuals at fault. If an accident was caused by human error, the MSD would impose fines on the individuals at fault, not the relevant employer. If an accident was caused by inadequate safety measures, the MSD would require the company to make improvements. Once the MSD becomes satisfied (or, depending on the circumstances, the company's self-assessment is satisfactory) with the improvements, operations at the accident site may be resumed. Pursuant to the MSD investigation reports, none of the fatal accidents during the Track Record Period were attributable to us and all of them were attributable to the negligence of our employees and contractors' employees in failing to follow relevant safety procedures in mining and production operations, as determined by the MSD investigation reports. For each MSD reportable accident, we are required to carry out a self-investigation and report to the MSD in the following month. The MSD will decide whether to conduct an on-site investigation or issue a written confirmation only. Pursuant to the MSD's confirmations, none of our MSD reportable accidents during the Track Record Period were attributable to us and all of them were attributable to the negligence of our employees and contractors' employees. Our Zambian legal adviser has advised that our subsidiaries have complied with all relevant laws and regulations relating to health and safety, and the Company confirms that it has not been penalized by any relevant governmental authority in respect of the above mentioned incidents. We endeavor to continuously improve these measures, which we believe to be adequate, and provide better training to our employees and contractors' employees. Chunlai Wang, who is an Executive Director and the Vice President of our Company, will monitor and oversee safety measures.

In 2011, there were four fatalities, 20 MSD reportable accidents and 127 minor injuries in our operations, involving three, 10 and 35, respectively, employees of our contractors; the fatalities were

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caused by contractor employees' negligence in operation and non-compliance with relevant rules and procedures. In 2010, there were four fatalities, 21 MSD reportable accidents and 77 minor injuries in our operations, involving one, eight and 16, respectively, employees of our contractors; the causes of the fatalities included rockfall, a traffic accident and an electric shock. In 2009, there were five fatalities, 33 MSD reportable accidents and 112 minor injuries in our operations, involving three, 23 and 52, respectively, employees of our contractors; the causes of fatalities included rockfall and a conveyor belt accident resulting from an employee's negligence. We have settled compensation claims in respect of all of the above accidents, except for six claims, which are currently being litigated. All of these claims relate to injuries sustained in mine accidents (including one fatal accident) and, according to our Zambian legal adviser, our estimated aggregate maximum potential liability is ZMK640 million (equivalent to approximately US\$130,879). We have been advised by our Zambian legal adviser that, to the best of its knowledge having made due enquiry at the relevant High Court Registry, we are not subject to any outstanding liabilities in relation to mine accidents, fatalities or injuries save for the claims disclosed above.

There have been no instances of under-reporting of MSD reportable incidents by the Group. In accordance with the relevant laws and regulations relating to health and safety in Zambia, the Group has implemented comprehensive safety rules and procedures, which include the procedures for reporting accidents and personnel overseeing the measures, to ensure that workers and safety officers have full access to these procedures and are able to use them, and are not hindered in any way. The Group's Mine Managers, who are full-time designated safety officers in each subsidiary and whose appointment are required to be approved by the MSD, are entitled to directly report to the MSD on safety issues, including accidents. The working-level operation manager that is responsible for supervising the work site and workers involved in an accident is required to report the accident to the Mine Manager of the relevant subsidiary, who is required to report the accident to the general manager of that subsidiary and, if the accident is MSD reportable, is also required to report such accident directly to the MSD. The Group's Zambian legal advisor is of the view that the Group has complied with all relevant laws and regulations relating to health and safety in Zambia.

In 2005, BGRIMM Explosive (Zambia) Ltd., Co. ("BGRIMM Zambia"), an explosive manufacturing company owned and controlled as to 60% by Beijing General Research Institute of Mining and Metallurgy (an Independent Third Party), which operated on land owned by NFCA, experienced an industrial accident causing an explosion reportedly resulting in the death of 45 employees of BGRIMM Zambia. Our subsidiary NFCA held a 40% stake in BGRIMM Zambia and did not have any management or operational control over BGRIMM Zambia. While this accident resulted in adverse media reports and harm to our reputation, it did not have any material adverse effect on our financial condition and results of operations. Our Zambian legal adviser is of the view that all compensation claims arising out of the 2005 accident at BGRIMM Zambia have been settled.

NFCA was also sued by its former employees claiming compensation for personal injuries sustained in connection with two incidents arising from riots and disturbances that took place over two days in July 2006. In July 2006, some employees of NFCA rioted due to some misunderstanding between the management of NFCA and the trade union relating to interpretation of the collective agreement. According to the judgment of the High Court, during the riot, the rioting employees damaged NFCA property and assaulted members of staff. Given the rioting workers, in order to ensure staff safety and protect company property, the Head of Mine Police at NFCA, who was a Zambian citizen on duty, fired at the gate of the plant, and subsequently, gave an order to a Mr. Que, who was at a residential area on NFCA property, to open fire to defend that area. NFCA had the proper license of gun possession for authorized employees. Mr. Que, who was a deputy equipment manager in the mining department and was not authorized to possess a gun, was ordered by the Head of Mine Police to take possession of a gun under the circumstances. Certain then-employees (who are the



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plaintiffs in the claim) were injured. On March 30, 2011, the court delivered judgment in favor of the plaintiffs on the ground that the shootings in both incidents were unjustified and amounted to excessive use of force, and also found the order by the Head of Mine Police to Mr. Que was unjustified and amounted to an abuse of power, and found NFCA to be vicariously liable for the actions of the Head of Mine Police and Mr. Que, who were employees of NFCA. We have decided not to appeal the court's judgment after considering the potential distraction of management from business operations, related costs and the adverse publicity that may arise during a prolonged appellate review process. The court held a hearing on April 26, 2012 to assess the amount of damages to be paid by NFCA. According to the court's assessment, NFCA is required to pay the damages in the amount of approximately ZMK209,480,000 (approximately US\$42,838.45) and NFCA's total liability, including payment of relevant interests on the determined damages and legal costs incurred by the plaintiffs, is estimated to be ZMK717,430,000 (approximately US\$146,714). While we do not expect the foregoing will have a material adverse effect on our condition and results of operations and our Zambian legal adviser is of the same view, this accident may result in adverse publicity and harm to our reputation. Please refer to the section headed "— Labor Disruptions" below for details of measures we have implemented to improve our relationship with the employees, which we believe should help prevent such incidents from occurring again in the future.

To our best knowledge, no one was killed during the July 2006 riots. We are unable to provide the exact figure for the number of people injured during the July 2006 riots because (1) the court's judgment is only limited to the six plaintiffs who have brought claims against us, and (2) we have not counted the number of other people injured during the riots. The claims in relation to the July 2006 riots mentioned above relate only to claims which have been brought against us. Our Zambian legal adviser is of the view that the lapse of time would render any claim arising from the shooting incident in 2006 statute barred since under Zambian law claims arising from personal injuries must be taken to court within three years from the date the cause of action arose. Therefore, we are of the view that the risk is remote that any claim may be brought by other persons against NFCA or the Group after Listing.

During the Track Record Period, we have been making continuous improvements to reduce the number of accidents in our operations, including (i) repairing and maintaining in good condition all facilities and equipment regularly, (ii) establishing a safety inspection system, including a designated officer in each subsidiary overseeing the general safety matters and working-level operation managers, for whom there are no special requisite qualifications under the relevant Zambian mining safety laws, in each workshop responsible for inspecting working areas, correcting violations against safety rules, reporting potential safety hazard as well as suspending production when necessary in accordance with the relevant rules, (iii) implementing a safety accountability system which includes assigning the responsibility of ensuring safety of each subsidiary to the senior management of that subsidiary, who are supported by (a) the subsidiary's safety department, (b) managerial personnel at each mine, workshop and operation area who are held responsible for the safety at their respective posts, and (c) other departments and employees, whose safety records are all monitored, evaluated, reported, and rewarded or penalized in accordance with the Group's internal safety rules, and increasing the significance of safety in performance reviews, (iv) providing continuing safety training sessions to our employees, (v) ensuring that there is sufficient safety administration personnel in our operations, members of which are adequately trained and/or qualified as certified safety engineers and review the adequacy of our safety conditions daily, (vi) establishing a system to manage dangerous and hazardous substances and (vii) further enhancing our risk management concerning safety supervision and emergency rescue by (1) improving our emergency response procedures, for both general and various specific scenarios, including failure of main ventilation fans, underground flooding, underground fire, surface fire, power outage and fatal accident, among others,

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(2) installing additional protective equipment in our underground mining facilities and providing additional personal protective equipment, (3) enhancing the experience and strengthening the expertise of its underground mining rescue team, and (4) improving the safety education and training system for all mine site visitors and employees. We also require our contractor companies to ensure that their employees brought onto site are suitably skilled and experienced to execute their task safely. We believe these measures will help us improve the safety of our workplace.

The person responsible for implementation of these new measures is the Mine Manager, who reports to the general manager. The Mine Manager is a full-time designated safety officer in each subsidiary, whose appointment must be approved by the MSD. The Mine Manager is entitled to directly report to the MSD on safety issues and is required under relevant Zambian mining safety laws to have the requisite mining and engineering qualifications, as well as sufficient mining experience. Other responsible personnel include working-level operation managers who are primarily responsible for supervising the operations and are also responsible for supervising safety matters. There are no special requisite qualifications for these working-level operation managers. The Mine Manager and the responsible personnel at working-level are supervised by the general manager and the board of directors. The general manager is responsible for the safety accountability system and report to the board of directors of each respective subsidiary.

We provide safety trainings for new employees when they join us. In addition, pursuant to our operation plan for each year, we may schedule one or more training sessions in that year. Furthermore, our working-level operation managers provide brief safety training to workers each day before they start working, primarily reminding them of the relevant safety procedures.

We also have our own clinic to deal with emergency patients and an ambulance to transfer patients in serious condition and we have procured occupational health and safety insurance for our employees, the scope of which we believe is adequate.

In order to further reduce the occurrence of accidents and improve our overall health and safety performance, we are in the process of engaging, and expect to finish in 2012 the appointment of, an external expert to conduct a comprehensive review of our health and safety management and practices, to make recommendations for further improvement, to provide corrective action plans and to monitor implementation of these plans as needed. We expect the implementation of recommendations and corrective action plans to further improve our health and safety performance and reduce the number of accidents. The Sponsors are of the view that the implementation of recommendations and corrective action plans provided and monitored by SRK and/or the external expert to be appointed in 2012 should improve our health and safety performance and minimize accidents. We currently have no plans to engage such safety expert to conduct review on an annual basis due to the following: (a) we currently conduct self-review of safety conditions regularly; (b) the Mining Safety Department of Zambia reviews our safety conditions regularly; (c) CNMC Group is capable of providing adequate safety expertise upon our request; (d) we have been continuously improving our overall safety conditions, which have contributed to the decline in the number of accidents in our operations over time; and (e) after 2012, we may continue to appoint external safety expert to review our safety conditions on an as-needed basis after the expert review is conducted in 2012.

### **Labor Disruptions**

We have in the past experienced short-term suspensions of mining and processing operations as a result of both legal and illegal strike actions, which have all taken place in Zambia, by employees over disputes relating to wage increases, collective agreements, employment contracts or other

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matters. Such strike actions have on occasion resulted in civil disturbances at our subsidiaries. Such disputes have in the past been resolved and strikes ended following negotiations with the relevant labor unions. Civil disturbances and riots have resulted in some personal injuries and property damage. We have not purchased any insurance policy to cover incidents of labor disruptions.

In July 2006, due to some misunderstanding between the management of NFCA and the trade union relating to interpretation of the collective agreement, approximately 300 workers at NFCA engaged in civil disturbance, which resulted in work stoppage, property damages and worker injuries; the civil disturbance ended after NFCA agreed to improve its communication with unions, reaffirmed the workers of their benefits under the collective agreement, established a labor relation department to address labor disputes and complaints, and implemented rules and procedures for addressing labor complaints.

In March 2008, due to a delay in communication with workers by the newly established unions, approximately 400 workers at CCS engaged in a strike, which did not result in significant loss to CCS as its facilities were still under construction. The strike ended after CCS and the union concluded negotiating the annual collective agreement.

In January and February 2011, due to a misunderstanding of the changes in the labor relationship arrangement of a new mining contractor with NFCA, approximately 500 workers at NFCA engaged in civil disturbance, which resulted in work stoppage, property damages and worker injuries caused by police intervention. The civil disturbance ended after NFCA agreed to improve the communication between the mining contractor and the unions, as well as further improve the rules and procedures for addressing labor complaints.

In March 2011, after CCS rejected the workers' demand for a significant wage increase shortly before signing the new annual collective agreement, approximately 300 workers at CCS engaged in a strike, which resulted in a two-day work stoppage. The strike ended after CCS agreed to provide additional fringe benefits to the workers and to further improve communication with its labor force, but it maintained the major terms of the collective agreements that were negotiated before the strike.

In October 2011, there were widespread strikes in Zambia which affected numerous companies and not just our Group. Workers went on strike to demand wage increases as an aftermath of the successful election of the current President, who had proposed to increase workers' wages during his presidential campaign. The widespread strikes subsided after the Zambian government began to intervene by persuading the workers to return to work and rely on labor unions and the ordinary wage negotiation mechanism. The workers at NFCA and CCS went on strike without support from the labor unions, demanding an immediate and significant wage increase, which was the newly elected Zambian President's campaign promise. The strike at NFCA involved as many as approximately 1,000 workers, most of whom were employed by Jinchengxin, a third-party contractor, and resulted in a total of 11 days of work stoppage. The strike ended after NFCA and Jinchengxin agreed to accept part of the workers' demands and also agreed to immediately commence wage negotiation with the labor unions. As SML's facilities are located within NFCA's premises, approximately 130 workers at SML, not on strike themselves, were unable to work for the three days that the striking workers at NFCA blocked access to SML's facilities; SML did not increase its workers' wages, and the workers at SML voluntarily returned to work after the striking workers at NFCA stopped blocking the access to SML's facilities. The strike at CCS involved approximately 600 workers and resulted in a 5-day work stoppage; even though CCS did not increase its workers' wages, the strike ended as the workers voluntarily returned to work after CCS convinced the workers that both sides should collaborate with each other constructively to resolve their disputes and persuaded the workers to return to work and rely on labor unions as the proper channel to conduct negotiations with CCS.

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In December 2011, due to a dispute over compensation structure and personnel issues, as many as approximately 500 workers at Luanshya engaged in a strike, which resulted in a four-day work stoppage. The strike ended after Luanshya management and the workers agreed to continue the annual compensation structure negotiation while work is resumed.

The labor disputes prior to January 2011 (including the disputes in July 2006) were between the Group and its employees. All other disputes since January 2011 were between the Group, on the one hand, and employees of the Group and employees of the Group's contractor, on the other hand.

For additional details, see the section headed "Risk Factor — Risks Relating to Our Business and Industry — Our business, financial condition and results of operations may be materially and adversely affected by labor disputes, labor conflicts and disruptions" in this prospectus.

We have implemented a number of measures to improve our relationship with the employees with the goal of reducing the possibility of recurrence of strike actions or other labor disruptions in the future. Such measures include increasing wages and other compensations, enhancing benefits (such as organizing health examinations), improving our communications with employees and our effectiveness in addressing employee complaints, as well as further improving the workplace safety conditions. The general manager of each of our subsidiaries, who reports to the board of directors of the respective subsidiary, oversees the implementation of these measures. We believe that these measures have been, and expect that they will be, effective and adequate in reducing the possibility of recurrence of strike actions or other labor disruptions. The mines' management has improved its communication and strengthened the connection with labor unions. The workers' benefits under the collective agreements have been reaffirmed and we ensure they are implemented. A functional department has been established to coordinate the resolution and settlement of labor disputes and complaints. The general manager of each of our subsidiaries, who reports to the board of directors of the respective subsidiary, oversees the functional department. The senior management team, including the general manager, controls the functional department through appointing its personnel, supervising their duties, reviewing their performance and replacing them if necessary. The functional department has introduced special procedures for addressing labor complaints to further facilitate resolution of any disputes, which include: (1) the general manager and the deputy general managers hold monthly meetings with employees to understand and discuss their complaints and suggestions, (2) the general manager and the deputy general managers give access of their mailbox to employees to convey their complaints and suggestions in writing, (3) the general administrative department, the head of which reports to the general manager, reviews and processes mails from employees as well as reports them to the senior management, and (4) the human resources department, the head of which reports to the general manager, solves issues raised by employees in their complaints and suggestions. Taking into consideration the above mentioned measures and their implementation by the Group, and having made reasonable enquiries, the Sponsors have reasonable grounds to believe that such measures will be adequate and effective in improving the Group's relationships with its employees. The Company has recently worked with an external specialist labor consultant to better understand how the Group can improve its management of labor-related risks. The specialist labor consultant has recommended the Group (i) to continue to build more robust communication channels and worker grievance mechanism, including the communication of national legislation, safety, work shift policies and expectations to all workers and contractors, (ii) to consider establishing better central human resource/labor relations coordination, further improve current human resource system and personnel, (iii) together with the health and safety expert, to conduct safety review, including underground and personal protection equipment procedures, and (iv) to review competitors' compensation, devise strategy for worker skill retention and transfer. The Group expects to implement the recommendations provided by the labor consultant within the next approximately 12 months from the Listing Date.

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We are involved in disputes with our employees (former or current) in the ordinary course of business and most of such ongoing disputes relate to alleged unfair/unlawful termination or breach of employment contracts, wrongful calculation of wages/benefits, compensation for injuries and false imprisonment and defamation. None of such disputes, individually or in the aggregate, is material to us. As far as we are aware, the largest amount of potential exposure is related to a claim for unfair and unlawful termination of an employment contract raised by a former employee, which is approximately US\$60,000. We have filed the reply to the statement of claim denying the plaintiff's claims and this case is currently in progress.

### LEGAL AND COMPLIANCE

As of the Latest Practicable Date, we were not involved in any actual or pending legal or arbitration proceedings that we believe would have a material adverse impact on our financial condition or results of operations.

A mining company operating in Zambia is required to make ongoing cash contributions to the EPF on an annual basis based on the results of an EPF audit undertaken annually as required under the Mines Act of Zambia and as a condition to the grant of a mining right. Mining companies are also required to provide a bank guarantee to the Zambian government for the amount difference between the cash portion of the estimated closure costs and the total estimated closure costs. Such non-compliance may result in nonrenewal or cancellation of mining and exploration licenses if a notice of default is issued and the subject of the notice of default is not remedied within 60 days of receipt. The contravention of the requirement to contribute to the EPF may result in a fine of up to ZMK3.6 million (equivalent of US\$736) or imprisonment for a term of up to two years, or both. In addition, each person who is a director of the mining right holder or is in charge of the mine and who is aware of the breach, is deemed to have committed the offence and liable for the same penalties.

We have paid all outstanding cash contributions except for SML which has been informed by the relevant authority that its outstanding cash contribution is still subject to further assessment and may only be paid after a demand notice has been issued by the relevant authority. SML will pay the outstanding cash contribution by the deadline specified in such demand notice. Our Zambian counsel is of the view that SML will not be deemed to be in breach because the amount payable cannot be ascertained in the absence of assessment.

Luanshya, CCS and NFCA have issued associated guarantees with respect to estimated mine closure costs in accordance with the deadline specified in the relevant demand notice and have provided these to the EPF. SML has not obtained a letter of guarantee as it has not received a demand notice. SML is aware of its current obligation to lodge such letter of guarantee in the amount as ascertained by EPF in a letter to our legal counsel and will obtain such letter of guarantee as soon as practicable and in any event by the deadline specified in any relevant demand notice.

As of the Latest Practicable Date, to the best of our knowledge having made due inquiry, we had not received any notice of default.

CCS is currently in dispute with Kalulushi Municipal Council ("KMC") regarding the property rate applied by KMC to CCS for 2012, which is higher than the rate stipulated in an agreement between CCS and KMC. Our Zambian legal adviser is of the view that the agreement may not be enforceable due to the lack of the resolution of KMC and the lack of approval of the Rating Valuation Tribunal. CCS has referred the matter to the Ministry of Local Government and Housing of Zambia, and has undertaken to pay all outstanding property rates as determined by the relevant authority.

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During the Track Record Period and as of the Latest Practicable Date, our material non-compliance matters and the rectification actions taken or to be taken by us are set forth below.

<u>Material non-compliance matters</u>	<u>Description</u>	<u>Rectification actions taken/to be taken by us</u>
<ul style="list-style-type: none"> <li>● Lack of the required appropriate insurance coverage</li> </ul>	<p>We had not obtained the required appropriate insurance coverage for certain of our mining and prospecting licenses.</p>	<p>We have purchased and maintained appropriate insurance as required.</p>
<ul style="list-style-type: none"> <li>● Failure to pay area charges</li> </ul>	<p>We had been requested by the relevant Zambian authorities to pay area charges for certain of our mining and prospecting licenses at certain intervals for ease of administration.</p>	<p>We have paid all outstanding area charges as requested by the relevant Zambian authorities.</p>
<ul style="list-style-type: none"> <li>● Failure to pay license fees</li> </ul>	<p>We had been requested by the relevant Zambian authorities to pay the license fees for certain of our mining and prospecting licenses at certain intervals for ease of administration.</p>	<p>We have paid all outstanding license fees as requested by the relevant Zambian authorities.</p>
<ul style="list-style-type: none"> <li>● Failure to make full cash contribution to EPF and lodge associated guarantees</li> </ul>	<p>We had not paid the cash contributions to EPF in full, nor had we lodged guarantees of EPF with relevant Zambian authorities.</p>	<p>Except for SML, we have paid all outstanding cash contributions to EPF and have lodged associated guarantees.</p> <p>The amounts of cash contribution and guarantee of SML are subject to further assessment by the relevant Zambian authority and SML has not received any demand notice yet. SML will pay the cash contribution and obtain a guarantee letter as soon as practicable and in any event by the deadline specified in the relevant demand notice.</p>



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<u>Material non-compliance matters</u>	<u>Description</u>	<u>Rectification actions taken/to be taken by us</u>
<ul style="list-style-type: none"> <li>Lack of statutory periodical reports at the Mining Cadastre Office (the “MCO”)</li> </ul>	<p>We had been required to file statutory reports periodically to the MSD and the Mines Development Department (“MDD”). Our filed reports cannot be located at the MCO, which maintains a public registry for all mining records.</p>	<p>We have filed these statutory periodical reports as required. Both the MSD and the MDD issued letters to confirm that we are in compliance with such filing requirements.</p> <p>We are currently consulting with the MCO as to why our filed reports could not be located, and have undertaken to procure the MCO to update its records and to file such statutory periodical reports in a manner and form acceptable to the relevant Zambian authority.</p>
<ul style="list-style-type: none"> <li>Outstanding payment to NAPSA and the Workers Compensation Fund</li> </ul>	<p>NFCA and SML had not made all statutory deductions and contributions for their employees to the NAPSA and the Workers Compensation Fund as required by Zambian laws.</p> <p>CCS had not made all statutory deductions and contributions for its employees to the Workers Compensation Fund as required by Zambian laws.</p>	<p>Each of NFCA and SML has made all outstanding payment to the NAPSA and the Workers Compensation Fund for its employees.</p> <p>CCS has made all outstanding payment to the Workers Compensation Fund for its employees.</p>
<ul style="list-style-type: none"> <li>Failure to comply with all environmental protection legislation and regulations</li> </ul>	<p>We had not complied with all legislation and regulations relating to environmental protection as required by Zambian law, including failing to fulfill all conditions relating to a decision letter issued by ZEMA.</p>	<p>We have fulfilled all outstanding conditions as required in the decision letter issued by ZEMA and have rectified the other non-compliance in the time and manner satisfactory to relevant Zambian authorities.</p>

We have taken the following steps to rectify our non-compliance matters:

- Consulting with local counsels to clarify the relevant requirements under applicable laws and regulations.
- Consulting with regulatory authorities to confirm our compliance status with respect to applicable laws and regulations.
- Taking appropriate steps to rectify identified non-compliance matters, including, among others, procuring appropriate insurance coverage, paying outstanding area charges and license fees,

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and lodging outstanding cash contributions and issuing associated guarantees with respect to estimated mine closure costs. Except as disclosed above with respect to certain outstanding cash contributions payable and a letter of guarantee to be lodged by SML, these instances of past non-compliance have since been rectified.

We are in the process of implementing the following internal control measures to prevent reoccurrence of non-compliances and certain internal control measures are expected to be completed by June 2012. The implementation of the measures are expected to be ongoing:

- *Compliance Policy.* We are formulating a comprehensive compliance policy setting out the Company's policies on legal and regulatory compliance matters. The policy will require the Company to maintain a compliance register which contains an index of all licenses, permits, approvals and certificates held or required by our Group, the conditions attaching to such licenses, permits, approvals and certificates and the various times by which such conditions are to be fulfilled. Further, the compliance policy will also state that our Group shall obtain all necessary licenses and approvals from government authorities, operate in full compliance with local laws and regulations and maintain proper records of documents. All subsidiaries and departments are required to comply with such policy.
- *Compliance Committee.* We have established a Compliance Committee of the Board comprising two independent non-executive directors, namely Mr. Chuanyao Sun and Mr. Shuang Chen, and a non-executive director, namely Mr. Tao Luo. Our Board will specify the duties of the committee. The committee will submit monthly compliance reports to the Board to keep the Board informed of the Group's compliance status and also make recommendations to resolve any compliance issues identified.
- *Designated Compliance Principal.* Mr. Aibin Hu, our joint company secretary, will act as our chief compliance officer and be in charge of our overall compliance management. The chief compliance officer will report to the Compliance Committee on a bi-weekly basis. There will also be a designated compliance principal in each subsidiary responsible for compliance matters of that entity. Such compliance principals will report to the chief compliance officer on a weekly basis and will be independent of the management of the subsidiaries.

Mr. Aibin Hu has been employed by the Group in Zambia since 2007. He has extensive knowledge of the copper mining industry and is familiar with the legal and regulatory environment applicable to the Group in Zambia. He is currently the company secretary of Luanshya and has been employed at Luanshya since its acquisition in June 2009. In preparation for the Listing, Mr. Hu has been in charge of Luanshya's preparation work and regularly liaises with and assists Zambian legal counsel. In his role as team leader for the post-acquisition integration of Luanshya into the CNMC Group, he was involved in most aspects of the integration, with legal and compliance matters being one of the areas in which he was most critically involved. For instance, he helped Luanshya in the renewal/re-issuance of its mining licenses and operating permits and re-application for title certificates for land owned by the company in the new name of Luanshya and oversees the on-going litigation cases which originated prior to CNMC's acquisition of Luanshya. He also assisted CNMC with the transition of ownership of Luanshya from the previous owners ENYA to CNMC, including assisting with the change of name of the company and the issuance of shares to the new shareholders. Mr. Hu liaises with external legal counsels as and when required. In addition, Mr. Hu attended his MBA degree from Beijing Jiaotong University in 2008, and, as part of his MBA, has taken courses in accountancy.



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The four nominated compliance principals (who will report to the CCO on a weekly basis) are each currently employed in Zambia by the Group and are familiar with the operations of the subsidiaries by which they are employed. The nominated compliance principals have experience in liaising with governmental and regulatory authorities in Zambia and assisting the respective subsidiaries in applying for and obtaining various permits, licenses and authorizations required for such subsidiary's operations.

The Sponsors are of the view that, based on Mr. Hu's qualifications and extensive experience in the copper industry in Zambia, his familiarity with the legal and regulatory environment and experience in the administration of legal and compliance matters resulting from his roles within Luanshya and the assistance to be given to him by the four compliance principals, and taking into consideration the further compliance training on Zambian laws and regulations to be held, the CCO and the compliance principals have sufficient experience and qualification to monitor and handle compliance matters.

- *Compliance Training.* Our Directors and senior management have received compliance training in respect of the Listing Rules, the Takeovers Code, the SFO, the Companies Ordinance and the Business Registration Ordinance. We will also conduct regular compliance training for our employees to enhance their understanding of the current laws and regulations applicable to our Group, the obligations of each subsidiary to fulfill the conditions of its licenses, permits, approvals and certificates held or required, the importance of compliance and consequences of non-compliance, the methods to improve compliance and ensure that the relevant rules are implemented in practice, including proper record-keeping. We will arrange for compliance training in respect of Zambian laws and regulations to be given to the Compliance Committee, the Chief Compliance Officer, the management, compliance principals and relevant employees of our subsidiaries before the Listing and subsequently on an annual basis, with ad hoc training to be held if there are any material changes to the laws or regulations which apply. Training will also be given to new compliance personnel at the time of being appointed.
- *Consulting with Local Counsels.* We will from time to time consult with local counsels in relation to the latest legislative developments in the locations where we operate, the potential impact such developments may have on our business and consider the recommendations or advice of such local counsels.
- *Compliance Culture.* We will endeavor to establish an effective compliance culture and ensure that our subsidiaries and employees understand the relevant rules and regulations and take the initiative to comply.

Our Directors believe that the non-compliances we have experienced in the past largely stemmed from our imprecise interpretations of the relevant local rules and regulations, the significant amount of time taken by certain local authorities to respond to our inquiries to clarify certain local rules and regulations as well as the changes in the political situation in Zambia. To prepare for our listing, our Zambian legal adviser had helped to clarify the applicability and applications of these rules and regulations and advised us on compliance with regard to the same. To prevent the reoccurrence of non-compliances, the internal control measures outlined above have been designed to enhance our understanding of the local rules and regulations applicable to our Group and keep ourselves updated as to changes in these rules and regulations. The establishment of the compliance principals, Compliance Committee and the appointment of Chief Compliance Officer also ensure that there will be constant monitoring for compliance. Accordingly, our Directors believe that the above internal control measures are adequate, effective and fit for our current operation environment under Rule 3A.15(5) of the Listing Rules. The Group's internal control measures have also been reviewed

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by an internal controls consultant, Deloitte Touche Tohmatsu CPA Ltd., who is an Independent Third Party. The internal controls consultant has made recommendations to the Group in respect of certain improvements that may be made. These improvements are being implemented and are expected to be completed by June 2012. Based on the internal controls consultant's recommendations, and having made reasonable enquiries, the Sponsors have reasonable grounds to believe that, upon full implementation of the internal controls consultant's recommendations, the Group will have internal controls measures that are adequate, effective and fit for the Group's current operations.

Save as disclosed above, we believe and our Zambian legal adviser is of the view that we are in compliance with applicable Zambian laws and regulations in all material respects. Furthermore, we believe, and our Zambian legal adviser is of the view, that we have obtained all necessary licenses, approvals and permits that are required for our business operations in Zambia, and paid all compensation. We believe that we have obtained permits from ZEMA regarding environmental protection and other licenses required before the commencement of our projects. Based on the legal opinion of our Zambian legal counsel, we have obtained and maintained all necessary licenses, authorities, approvals and permits as required by Zambian law or any governmental authority in Zambia with regard to environmental protection, and we have complied with all relevant laws and regulations relating to health and safety and environmental protection up to December 31, 2011. We are in the process of renewing these licenses, authorities, approvals and permits for 2012 in accordance with Zambian laws and regulations.

Currently there are no sanctions imposed by the European Union, the United States or other governments or organizations against Zambia that may adversely impact our operations and there are no money laundering or other corruption accusations against us or, to our knowledge, any of our employees.

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### LAND AND BUILDINGS

#### Owned Properties

According to a due diligence report issued by Jones Lang LaSalle Corporate Appraisal and Advisory Limited, an independent property valuer and consultant, as of December 31, 2011, the properties we owned in Zambia and the DRC consisted of 68 parcels of land with a total site area of approximately 193,138,245.04 sq.m and 429 buildings or units with a total gross floor area (“GFA”) of approximately 322,216.28 sq.m. The properties the Group owned also consist of 34 buildings and various structures with a total planned GFA of approximately 89,540.83 sq.m which are currently under construction. Based on the aforesaid criterion, we have divided the owned properties into 8 property interests, the details of which are set forth below:

Property No.	City/Province/Country	Description	Site Area (sq.m)	GFA (sq.m)	Size Range of GFA (sq.m)	Usage	Carry amount (US\$'000)	Percentage*
1.	Luanshya/ Copperbelt/ Zambia	27 parcels of land, 138 buildings and various structures together with the Muliashi Leach Plant under construction erected thereon	126,468,940	170,437.63	4 to 16,890.72	Production/ Ancillary/ Residential/ Administration	179,441	12.2%
2.	Kalulushi/ Copperbelt/ Zambia	2 parcels of land, 42 buildings and various structures together with 19 buildings and various structures under construction erected thereon	4,817,503	51,568.79	30 to 11,420	Office/ Production/ Ancillary	81,027	5.5%
3.	Kitwe/ Copperbelt/ Zambia	a parcel of land	60,930	N/A	N/A	Residential	N/A	N/A
4.	Chambishi/ Copperbelt/ Zambia	31 buildings and various structures together with 3 buildings and various structures under construction erected on the land of property no.6	N/A	14,961	38 to 2,537	Office/ Production/ Ancillary	13,887	0.9%
5.	Kalulushi/ Copperbelt/ Zambia	a parcel of land and an office building erected thereon	6,020	651.75	N/A	Office	included in above property no.4	included in above property no.4
6.	Chambishi/ Copperbelt/ Zambia	27 parcels of land, 182 buildings and various structures erected thereon	61,686,209.74	77,394.56	3 to 13,175	Office/ Production/ Ancillary	30,464	2.1%
7.	Kitwe/ Copperbelt/ Zambia	9 parcels of land, 22 buildings and various structures together with a residential building under construction erected thereon	19,740.30	4,426.20	2.2 to 652	Residential/ Ancillary	included in above property no.6	included in above property no.6
8.	Likasi/ Katanga/Congo	a parcel of land, 13 buildings and various structures together with 10 buildings and structures under construction erected thereon	78,902	2,776.35	36 to 314	Residential/ Ancillary	4,573	0.3%
<b>Total:</b>			<b>193,138,245.04</b>	<b>322,216.28</b>	<b>N/A</b>		<b>309,392</b>	<b>21%</b>

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Aforesaid properties nos. 1, 2 and 6 are the main production sites of the Company or its subsidiaries and contribute an important portion of revenue to the Group. No property is identified to be subject to any encumbrances, liens, pledges, mortgages impacting the operations of the Group. Jones Lang LaSalle Corporate Appraisal and Advisory Limited is of the view that properties nos. 1, 2 and 6 are material properties of the Group.

As at December 31, 2011, portions of property no. 1 above with a carrying amount of US\$164,511.25 (equals to approximately 0.01% of the total assets\*) were leased to third parties. These buildings are classified as property interest relating to “property activities”, the remaining properties are classified as “non-property activities”. As at December 31, 2011, the aggregate carrying amount of the property interest that forms part of the Group’s property activities did not exceed 1% of its total assets, and the calculated percentage of each property interest that form part of the Group’s non-property activities did not exceed 15% of its total assets.

According to section 6(1) of the Companies Ordinance (Exemption of Companies and Prospectuses from Compliance with Provisions) Notice, this prospectus is exempted from compliance with the requirements of section 38(1) of the Companies Ordinance in relation to paragraph 34(2) of the Third Schedule to the Companies Ordinance, which require a valuation report with respect to all our company’s interests in land or buildings, since no single property interest that forms part of our property activities has a carrying amount of 1% or more of total assets, and no single property interest that forms part of our non-property activities has a carrying amount of 15% or more of total assets.

We have not received the relevant land title certificates for 21 of 68 parcels of land with a total site area of approximately 9,011,422.74 sq. m, comprising approximately 5% of the total site area the Group occupied. The relevant parcels of land without land use rights consist of a tailings storage facility, an office, a parcel of industrial land and several residential areas, which we do not believe are crucial to our operations. We have submitted applications for the relevant land use rights certificates but owing to the administrative efficiency of the relevant governmental departments in Zambia, we have yet to receive such certificates. We currently expect to receive such certificates by December 2012. Please refer to “Risk Factors — Risks Relating to Our Business and Industry — We do not possess land use rights certificates for certain parcels of land we occupy”.

### **Leased Properties**

As of May 21, 2012, which is the latest practicable date as of which such information is available, we leased 15 buildings and various structures with an aggregate gross floor area of approximately 20,888 sq. m located in the city of Kitwe and the town of Chambishi in Zambia, comprising approximately 6.5% of the total gross floor area of buildings used by us. These properties are leased from a connected party and most of them are used for administration, support and other miscellaneous purposes. As of the same date, the Group also leased 5 parcels of land with a total site area of approximately 139,450 sq. m located in the DRC from an Independent Third Party. These properties are used for production and ancillary purposes.

As of May 21, 2012, which is the latest practicable date as of which such information is available, we leased 8 office units with a total gross floor area of approximately 790.08 sq. m located in the PRC from two connected parties, which are used as our offices, comprising approximately 0.2% of the total gross floor area of buildings used by us.

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\* According to the combined balance sheet set out in Appendix I to this prospectus, the carrying amount of our total assets as at December 31, 2011 was US\$1,473 million.

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According to section 6(1) of the Companies Ordinance (Exemption of Companies and Prospectuses from Compliance with Provisions) Notice, this prospectus is exempted from compliance with the requirements of section 38(1) of the Companies Ordinance in relation to paragraph 34(2) of the Third Schedule to the Companies Ordinance, which require a valuation report with respect to all our company's interests in land or buildings, since no single property interest that forms part of our property activities has a carrying amount of 1% or more of total assets, and no single property interest that forms part of our non-property activities has a carrying amount of 15% or more of total assets.