China's Mining Industry at Home and Overseas

Development, Impacts and Regulation

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Greenovation Hub is a grass-root environmental NGO with a global outlook. G:HUB believes development should be ecological, and only by collaborative effort can environmental problems be solved. We provide innovative tools to enable wider public participation in environmental protection and foster joint power of civil society, business and government to accelerate China's green transition.

The Climate and Finance Policy Centre of G:HUB conducts research on China-relevant issues in climate, energy and sustainable finance with a global perspective. We promote effective policy-making and implementation and support public participation and stakeholder involvement in the process, to foster a positive transition to a low carbon economy, and a sustainable and equitable development model that is climate resilient and has a reduced global ecological footprint.

This report is divided into two parts: the main report and a case study supplement. Both parts are available in Chinese and English.

The PDF version can also be downloaded from the Greenovation Hub website
English: www.ghub.org/cfc_en/mining2014
Chinese: www.ghub.org/cfc/mining2014

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MAIN REPORT

List of Abbreviations

BRICS	Brazil, Russia, India, China and South Africa
CAD Fund	China-Africa Development Fund
CBRC	China Banking Regulatory Commission
CCCMC	China Chamber of Commerce of Minerals, Metals and Chemicals Importers and Exporters
CDB	China Development Bank
China Exim	Export-Import Bank of China
Chinalco	Aluminum Corporation of China
CITIC	China International Trust and Investment Corporation
CNMC	China Nonferrous Metal Mining Group
CNOOC	Chinese National Offshore Oil Corporation
CNPC	China National Petroleum Corporation
CPPCC	Chinese People's Political Consultative Conference
CSR	Corporate Social Responsibility
CSRC	China Securities Regulatory Commission
DRC	Democratic Republic of Congo
EIA	Environmental Impact Assessment
EITI	Extractive Industries Transparency Initiative
EP	Equator Principles
FDI	Foreign direct investment
GDP	Gross domestic product
G:HUB	Greenovation Hub
GRI	Global Reporting Initiative
ICBC	Industrial and Commercial Bank of China
ICMM	International Council on Mining and Metals
IFC	International Finance Corporation
IPO	Initial public offering
M&A	Mergers and Acquisitions
MEP	Ministry of Environmental Protection of the People's Republic of China
MIIT	Ministry of Industry and Information Technology of the People's Republic of China
MLR	Ministry of Land and Resources of the People's Republic of China
MOFCOM	Ministry of Commerce of the People's Republic of China
NDRC	National Development and Reform Commission of the People's Republic of China
NGO	Non-governmental organization
NORINCO	China North Industries Group Corporation
NPC	National People's Congress
ODI	Outbound direct investment
OECD	Organisation for Economic Co-operation and Development
SACMS	State Administration of Coal Mine Safety

SAFE	State Administration of Foreign Exchange
SASAC	State-owned Assets Supervision and Administration Commission
SAWS	State Administration of Work Safety
SEC	U.S. Securities and Exchange Commission
SEPA	State Environmental Protection Administration
SEZ	Special economic zone
SOE	State-owned enterprise
SSE	Shanghai Stock Exchange
SZSE	Shenzhen Stock Exchange
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNEP FI	UNEP Financial Initiative
WISCO	Wuhan Iron & Steel Co. Ltd.

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Executive Summary

China's mineral resources are extensive and diverse, and the country is now the world's top producer of a number of important metals and minerals. The mining industry has been an important driver of China's growth and has helped to facilitate the rapid development that the country has experienced over the past three decades. Chinese mining companies are also pursuing overseas projects with support from China's "going out" strategy, through which the Chinese government encourages companies to expand their operations overseas. China now plays an increasingly important role in the global mining industry, with investments spreading across the world.

The principle aim of this report is to promote discussion around China's domestic and overseas mining investments and how regulation of outbound investment and financing can be improved. By producing this report and case studies in both Chinese and English, G:HUB seeks to increase access to important information, identify challenges, and encourage positive discussion between Chinese and international actors concerned about these issues. Research for this report was conducted between June 2012 and December 2013, and included both desk-based and field research in China, Laos, Cambodia and Peru.

The Growth of China's Domestic Mining Industry

By the end of the second Sino-Japanese War in 1945, China's mining industry was largely in ruins. After the war, energy resources and raw materials were required to rebuild the country. Old mines were rehabilitated and expanded, and exploration for new mineral deposits began. In the late 1970s, the industry was boosted by China's "reform and opening" policies, and since then China's mining outputs have increased enormously. The rapid growth China has experienced over the last three decades has been fuelled in part by its mining and metals industries. The industrialization of the country and extensive infrastructure development would not have been possible without high outputs of steel and other construction materials. Likewise, without China's coal industry, there would have been insufficient electricity to power the factories and industries that propelled China to its current position as the world's second largest economy. Mining and metal production generates large revenues and supports secondary industries such as those supplying machinery and equipment. Products of the mining industry can be traded on international markets, further adding to China's foreign currency reserves, and the industry directly employs millions of Chinese citizens and also creates downstream employment.

Although mining and metals production has played an important role in China's economic growth, it is a high risk industry with significant potential for adverse impacts. In addition to being energy intensive and producing high emission levels, mines have caused pollution to ground water and rivers, caused landslides, and disturbed large areas of land. All mining activities impact on the environment to some degree, and some impacts cannot be avoided. However, environmental impacts need to be mitigated to the greatest extent possible and subject to sound management systems. Numerous examples from within China show that this is not always the case. In addition, over-production of some commodities continues to challenge China's efforts to reduce emissions and energy consumption. In some cases, local governments have approved

mining operations and processing plants in order to boost local economic growth, but have failed to take into consideration other environmental and social factors. Mining in China has also become infamous for its poor safety record, and while mine safety is improving, serious accidents leading to death and injury continue to make headlines.

Environmental Regulation in China: A Work in Progress

Many of the concerns highlighted above have been acknowledged by the Chinese Government. Measures have been taken to improve safety in Chinese mines, and in recent years the Chinese Government has also made commitments to build a more ecologically-friendly society, with aims to cut carbon emissions caused by energy-intensive industries. Steps have been taken to close small and outdated mining projects or consolidate them with larger companies in an attempt to improve safety standards, environmental compliance and reduce over-production. In addition to the laws covering mine licensing, production standards and health and safety, there are also laws and regulations covering pollution discharge and emissions, and requirements that environmental impact assessments be conducted prior to project approval and development.

Financiers are subject to environmental guidelines developed by the China Banking Regulatory Commission (CBRC) which encourage China's banks to promote "green" lending, support the growth of a green economy, and improve management of environmental and social risks. Some Chinese banks have also adopted internal policies for lending to high-polluting industries and for assessing environmental and social risks of potential investments. Mining companies listed on the Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE) are subject to disclosure regulations and guidelines, and both exchanges have issued guidelines on corporate social responsibility (CSR) reporting. It is encouraging to see collaboration between the Ministry of Environmental Protection (MEP) and financial regulators on green credit and securities policies. This highlights the joint responsibility that enterprises, financiers, regulators and policy makers share in working towards a more sustainable development model and improving management of the social and environmental impacts associated with high-risk industries such as mining.

While China's regulatory framework has developed significantly in recent years, gaps still remain, and it has become clear that stronger and more detailed mechanisms need to be adopted in order to protect China's environment and sustainably manage the utilization of the country's resources. Although significant improvements have been made mine safety, and greater attention is being paid to the environmental and social impacts of mining, there is still much progress to be made, and strong regulation is a key element in improving the management and exploitation of China's mineral resources.

Even after legal and regulatory reforms take place, a major challenge that remains is ensuring that laws and regulations are implemented. A crucial problem within China is that the costs associated with breaking the law are sometimes lower than the costs of following the law. For example, paying fines may be cheaper than conducting high-quality and timely environmental impact assessments, paying for expensive waste treatment facilities, or installing and using emissions reduction technology. Amendments

to the Environmental Protection Law aim to counter this problem by including stricter penalties for violations.

An on-going concern is the disconnect between national and local level authorities, as incentives for local governments to deliver strong growth figures often eclipse concern for environmental protection. This is an issue that will need to be addressed in order to ensure that improved laws and regulations are fully implemented. As China continues to develop its legal and regulatory framework, cooperation between the various authorities needs to continue to develop, and the gap between regulation and implementation reduced. As progress is made in these areas, there is also scope for China to work more diligently to address social and environmental impacts related to overseas projects, and to continue the development of appropriate standards for application beyond its borders.

China's Overseas Mining Industry

A large number of Chinese mining companies are also investing in overseas mining projects. This is supported by China's "going out" strategy, through which companies are encouraged to move into overseas markets. China's overseas investment in all sectors has risen rapidly since 2004, reaching over US$107 billion in 2013. Chinese mining companies are now active across the world, with investments in a diverse range of countries, including developed, middle-income, and developing economies. Chinese mining companies are going out for various reasons, for example: to secure mineral resources that are scarce in China, to gain access to global markets and mineral supply chains, and to reduce over-production of certain mineral commodities at home.

In terms of both outbound direct investment (ODI) flows and accumulated ODI stock, mining has been one of the most important industries for Chinese outbound investment, ranking in the top four overseas industries since China's Ministry of Commerce (MOFCOM) began publishing statistics in 2004. Chinese mining companies employ various strategies to pursue overseas projects, and these strategies are constantly evolving. Historically, state-owned enterprises dominated overseas mining investment, but private companies now play an increasingly significant role. Investors are using various vehicles, including wholly-owned subsidiaries and joint-ventures. Joint-ventures may involve two or more Chinese companies, private or state-owned enterprises from the host country, international mining companies, or a combination. Some projects are greenfield investments, whereas others involve acquiring equity in existing projects. With many established western companies falling on hard times during the financial crisis, a number of Chinese enterprises have stepped in and acquired significant mining interests in well-established international mining companies.

There are many potentially positive outcomes of China's investments in overseas mining. The large injections of capital associated with mining can stimulate industry and contribute to the development of much needed infrastructure in developing countries. Mining can create local employment and increase incomes around mine areas, and contribute to the development of downstream industries. At the national level mining can contribute to GDP growth and an increase in exports. However, in a number of cases Chinese overseas mining projects have also been associated with negative social and environmental impacts. This includes cases of environmental pollution, resettlement problems, and conflicts with local people. These issues can be exacerbated by poor communication with affected people and low levels of transparency – two weaknesses that are often attributed to Chinese investors.

In some cases Chinese investors may lack awareness of local situations or be inexperienced in communicating with local people. In other cases they may simply lack responsibility or utilize unethical

business practices. It is also possible that some problems are caused by local factors that were not envisioned by investors, or which are beyond their control. Regardless, improved regulations and guidelines for outbound investors can help ensure the rights and interests of local people are respected, improve protection for the environment, and help to build company reputations. At the very core of the challenges highlighted here is the need for Chinese enterprises to build and develop a more responsible corporate culture.

Domestically, China still needs to improve standards in its own mining industry, ensuring that environmental standards are raised, safety improved, and that the industry in general is regulated more effectively. At the same time, progress needs to be made in developing "green lending" standards in China's finance sector. With much progress still to be made at home, it is important that Chinese companies active overseas not only invest capital, but also support mutually beneficial development, contribute to local economies, and avoid bringing in poor practices. One way that this can be realized is through the adoption of strong and binding regulations for overseas investment, and adoption of best practice by Chinese enterprises.

China's Safeguards for Overseas Investment Continue to Develop

When investing overseas, Chinese companies have traditionally relied on host country regulations and policies to deal with issues such as environmental protection, resettlement and compensation. Additionally, strong relations with host governments often tend to be prioritized over establishing good connections with local communities and civil society groups. However, after a series of troubled projects and negative publicity, the shortcomings of this approach have become apparent. The Chinese Government has acknowledged that standards in overseas investment need to be improved, and state institutions, regulatory bodies and a number of financiers have made progress in recent years to adopt policies that seek to avoid or minimize the adverse impacts of overseas projects.

In recent years, bodies including the State Council, MOFCOM, MEP, CBRC, and China's policy banks have passed dozens of policy documents related to various aspects of overseas investment. Most recently this includes the MOFCOM/MEP Guidelines for Environmental Protection in Foreign Investments and Cooperation and CBRC's Green Credit Guidelines. A draft guideline on social responsibility in overseas mining operations is also currently under development by the China Chamber of Commerce of Minerals, Metals and Chemicals Importers and Exporters (CCCMC). The quality of these policies continues to develop, but significant challenges remain in ensuring that they are implemented. However, most of these policies are not mandatory and lack grievance mechanisms for people to challenge alleged non-compliance. It is likely that there is limited awareness of these guidelines in host countries, and in the absence of a body responsible for monitoring their implementation, it will be difficult to compel companies to follow the policies in full.

The development of guidelines related to Chinese overseas investment and financing show promise, and have created a foundation for the development of a more comprehensive system of environmental, social and governance policies. However, there is still much work to be done. As China becomes increasingly integrated into the global investment landscape, adopting voluntary finance guidelines such as the Equator Principles and supporting transparency initiatives such as Extractive Industries Transparency Initiative (EITI) could help Chinese investors to ensure that overseas projects are more sustainable and that benefits are shared more equitably. A number of institutions, such as the International Finance Corporation (IFC) and the Organization of Economic Co-operation and Development (OECD) already have strong policies and guidelines in place, some specifically related to

mining and minerals. These policies have been tried and tested over a number of years and the lessons learned here can inform the development of stronger policies for China's overseas investment.

So far only a handful of Chinese companies and banks have adopted best practice frameworks such as OECD guidelines or EITI. However, CBRC's Green Credit Guidelines, the MOFCOM/MEP Guidelines for Environmental Protection in Foreign Investments and Cooperation, and China Exim Bank's Guidelines for Environmental and Social Impact Assessments all state that lessons should be learned from international best practice. CCCMC's draft guidelines for overseas mining explicitly references several key international standards, including the ISO 26000 Guidance on Social Responsibility, the UN Global Compact, Equator Principles, EITI and the UN's Guiding Principles on Business and Human Rights. Implementing these standards can help to ensure Chinese investments do not cause harm to people or the environment in host countries, but it is also in the best interests of investors to learn from and work towards adopting best practices in the mineral sector. Raising standards can help to improve public perceptions of Chinese investment, which in turn can facilitate smoother investments and reduce the risk of conflict and project failure.

Case Studies: The Diverse Approach of Chinese Mining Companies

This report is accompanied by a case studies supplement which provides examples of four diverse mining projects implemented by Chinese mining companies in China, Peru, Laos, and Cambodia. These case studies involve the companies Zijin Mining Group, MMG Limited, China Railway Group, and Cambodia Iron and Steel Mining Industry Group. The cases illustrate the varied approaches adopted by Chinese mining companies when investing in China and around the world. Each case looks at the company background (and the background of the parent company where applicable), its commitments to corporate social responsibility and other relevant policies. The case studies then examine specific mining projects in more detail, looking at both potential and actual benefits, impacts, and lessons that may have relevance to other Chinese mining investments. For more detail on the case studies, readers are encouraged to refer to the supplement to this report.

Conclusions

While China has benefitted considerably from its domestic mining industry, the country is also having to deal with the heavy pollution caused by energy and resources intensive industries. As China's mining industry has developed, so have regulatory frameworks. Over the last 20 years a large body of environmental regulations have also been adopted, many of which are relevant to the mining sector. However, implementation remains a major challenge. This must be addressed as a matter of urgency, and as China's laws and regulations continue to develop, so must the effectiveness of enforcement mechanisms.

Mining continues to be a major focus for Chinese overseas investment, with Chinese companies active across the globe in countries with various economic, political and geographical characteristics. As is the case within China, overseas mining investments can bring potentially huge benefits to host nations, however, a considerable number of overseas investments in the sector have encountered challenges or have been connected to adverse impacts. Against this backdrop, China is working to develop guidelines and policies for overseas investment and financing. There are still no binding social or environmental safeguards, although several guidelines have now been developed. These guidelines have created a strong basis for further improvements in overseas investment policies, but work must now be done to implement and build on these standards.

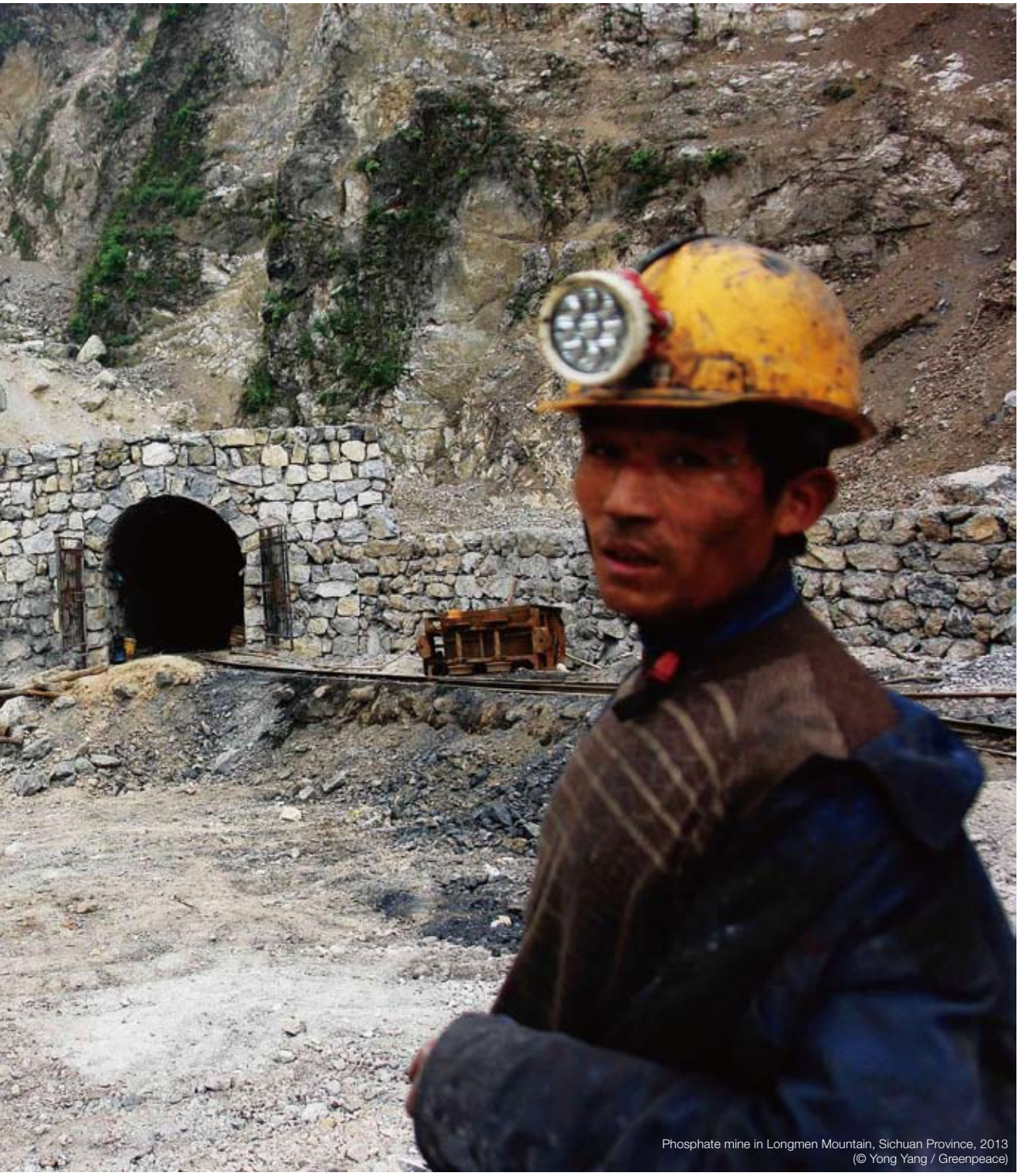
Phosphate Mining in Sichuan Province, 2013
(© Ma Dong / Greenpeace)

The most detailed guidelines currently in place concerning safeguards in China's overseas investment and finance are the MEP/MOFCOM Guidelines for Environmental Protection in Foreign Investment and Cooperation and CBRC's Green Credit Guidelines. Both were passed fairly recently and it is therefore too early to assess their impact. However, there are a number of measures that could be taken in order to ensure that the guidelines have the maximum impact, including: dissemination, integration of the guidelines into project approval and evaluation processes, increasing accountability through publication of project information and documentation, and working towards developing enforcement and grievance mechanisms.

No matter where in the world Chinese companies invest, they must follow local laws and regulations. However, in some cases, host countries may have undeveloped mining industries and/or weak environmental regulation. In such cases, Chinese mining companies should take the initiative to implement higher standards. China now has many decades of experience developing its mineral resource sector, and therefore has abundant experiences, both positive and negative, to draw on. Although implementation of environmental regulation still needs to be improved within China, the relatively developed nature of domestic environmental regulations could be used as a minimum standard for companies going out. In the long term, Chinese investors need to work towards developing polices equivalent to best international practice. A wealth of guidelines and frameworks are currently available, including those of the OECD, World Bank, IFC, and initiatives such as EITI, the Equator Principles and the Global Compact, all of which can inform this process.

As China enters a new stage in its development and environmental awareness increases, it is important that difficult issues such as those raised in this report are dealt with. This is not only important within China, but is also important for China's reputation as a global actor with an increasingly important role to play in international governance and sustainable development. In the coming years, this role is likely to continue to grow. As a major player in global investment, finance and trade, China is in a unique position to provide a model for other emerging economies seeking to develop overseas investment opportunities. At the same time, as China improves the standards and practices applied in overseas investment and companies and financiers move closer towards applying international best practices, there is the potential for positive experiences to be brought back home to China. If this does occur, it will help to improve the standards of domestic investment, increase sustainability, and contribute to China's green transition.

Much of the discussion in this report has focussed on the laws, regulations and policies that are currently in place to regulate the social and environmental impacts of China's domestic and overseas mining industry. However, it is not just policy that needs to change. The mindset and awareness of Chinese enterprises also needs to develop, and investors and financiers need to understand more clearly how their projects impact on local people and the environment. While policy makers and regulatory bodies can develop enhanced social and environmental safeguards for domestic and overseas investment, those responsible for developing and financing projects also need to understand that generating revenue and creating jobs is not the only priority. In order to achieve the admirable goals of "win-win" development and "mutual benefit", investment and development must be conducted in a responsible manner, with negative impacts mitigated to the greatest extent possible. This is crucial if China is to be successful in its mission to build the "ecological society". ■



Phosphate mine in Longmen Mountain, Sichuan Province, 2013
(© Yong Yang / Greenpeace)

Introduction to the Research

As a Chinese NGO dedicated to environmental protection, Greenovation Hub (G:HUB) has conducted this research in order to contribute to the on-going discussions regarding China's progress in developing environmental and social standards for investment and finance. In particular, we hope that by promoting encompassing and open discussions on China's overseas investment and its footprint, all parties can draw on the best domestic and foreign experiences and lessons, and in the process implementation can be improved and more responsible practices developed. G:HUB seeks to encourage positive change in policy making and implementation regarding overseas investment, finance and trade, and in the process it is hoped that this will support the development of China's positive role in global environmental governance. G:HUB aims to continue to create space and promote multi-stakeholder dialogue based on similar research and case study analysis in the coming years.

Aims of the Research

This report seeks to outline the current trends and impacts associated with China's mining industry, and looks at the regulation and norms that apply to these investments. The report focuses specifically on mining as it is a major area of both domestic and overseas investment for Chinese companies, and one that comes with significant risks if environmental and social impacts are not properly mitigated.

As the world's second largest economy, China plays a major role in overseas investment and global finance. This role is likely to continue to grow in the coming years. It is therefore crucial that Chinese companies adopt and develop responsible and sustainable approaches to overseas investment and achieve China's goal of pursuing the "green path" of development. As a major player in global investment, finance and trade, China is in a unique position to provide a model for other emerging economies seeking to develop overseas investment opportunities.

The principle aim of this report is to promote discussion around China's overseas mining investments and how regulation of outbound investment and financing can be improved. As China's domestic mining industry has been a major contributor to China's growth it also explored here. The experiences, trends, impacts and challenges observed in the domestic mining industry may also have implications for overseas investments. Likewise, the development of domestic regulation, especially regulation related to environmental issues, may have implications for overseas projects.

The activities and practices associated with Chinese mining companies' overseas investment have received considerable media attention, but for the most part this is concentrated in foreign press. A number of studies and reports have been produced by international organizations, think tanks and researchers, but to date the research conducted within China has been more limited. In particular, there is a lack of detailed case studies which bring together information and experiences from the field. By producing this report and case studies in both Chinese and English, G:HUB seeks to increase access to important information, identify challenges and encourage positive discussion between Chinese and international actors concerned about these issues. This report also seeks to identify areas where future research may be beneficial. Research for this report was conducted between June 2012 and December 2013, and included both desk-based and field research in China, Laos, Cambodia and Peru.

Backed-up by case studies focussing on three different companies, the report aims to highlight the experiences,

trends, implications and challenges observed in these projects, as well as areas where regulation and implementation needs to be strengthened. It is hoped that this overview can improve awareness and understanding about the complex and diverse nature of Chinese domestic and overseas investments in the mining sector, and the commonly observed impacts of these projects. Although the focus of this report is on the mining sector, much of the discussion here will have application to other high-risk industries and to Chinese overseas investment in general.

Methodology

A variety of methods were used to gather data for this research. Initial data collection and desk-based research commenced in Beijing in June 2012 and continued throughout 2013. This included a review of available books, journals, articles, research reports, and online sources such as company and government websites. In addition, an extensive search of related Chinese and international media articles was conducted. Analysis was conducted of the key policies, laws, regulations, and guidelines that have significance to China's domestic and overseas mining industry, and to overseas investment in general. This analysis is integrated throughout the report.

Case studies were developed which focus on three different Chinese companies with projects in China, Peru, Laos and Cambodia. These case studies were based on desk-based research and document review, as well as fieldwork in Peru, Laos, and Cambodia. The case studies are included in a supplement to this report.

Report Overview

The report begins by focussing on mining in China, how the domestic mining industry has developed and how it impacts on the economy, society and the environment. Part 2 of the report provides an overview of regulation of mining in China, focussing mainly on environmental standards, environmental assessments, and public participation. The report then shifts focus to China's overseas mining industry in Part 3, and discusses the "going out" strategy in more detail, before focussing on mining investment. Part 4 of the report looks at the regulation of environmental and social impacts of overseas investments. This includes an overview of recent developments in China's overseas investment and finance policies and guidelines as well as discussion of voluntary initiatives and best practice. Finally, Part 5 of the report provides discussion and recommendations based on the key findings of the report.

The case study supplement includes three company case studies that look in more detail at four Chinese mining projects across the world. These case studies focus on:

- **Zijin Mining Group:** Covering two projects, the Rio Blanco mine project in Peru, and Zijinshan gold and copper mine in Fujian Province of China.

- **MMG Limited:** Looking in detail at the activities of China Minmetal's subsidiary, MMG Limited, and its gold and copper mine in Sepon, Laos.

- **Cambodia Iron and Steel Mining Industry Group & China Railway Group:** An overview of a proposed mega-project to develop a new iron ore mine and steel plant in northern Cambodia along with a new railway to connect the mine to a purpose built port on the coast. ■

Part 1: Mining in China

Small-scale mining has taken place in China for many generations but it was not until the 19th Century that the mining industry began to develop and methods were modernized. Many of China's mines and processing plants were damaged during the Sino-Japanese war (1937-1945). After the war ended, efforts were made to re-build the industry and coal and steel production became major drivers of China's growth. As well as iron ore and coal, China has deposits of various energy related mineral resources, metallic minerals, and non-metallic resources. China is now a leading producer of more than 20 different types of minerals and has also become a major importer and exporter of mineral resources. Domestically the industry has provided benefits such as employment and generation of local and national GDP, but across the country there are many examples of the often severe negative impacts that can potentially result from this type of development.

The Mining and Minerals Industry in China

The Development of the Domestic Mining Industry

For hundreds of years China has engaged in mining activities, although it was not until the mid-1800s that the mining industry began to modernize.[1] After the end of the Sino-Japanese War in 1945, energy resources and raw materials were required to rebuild the country. Old mines were rehabilitated and expanded, and exploration for new mineral deposits began. China's mining outputs have since increased enormously. In 1949, output of nonferrous minerals was just 13,000 tonnes. This increased to 34.24 million tonnes in 2011.[2] Coal production increased from 32 million tonnes in 1949 to 3.52 billion tonnes in 2011,[3] and steel production from 150,000 tonnes to 683 million tonnes.[4] The production figures for iron, gold, and chemicals for use in fertilizer have also increased dramatically.[5]

Despite the rapid progress made in developing the mining industry from the end of the war up to the 1970s, companies continued to utilize out-dated equipment and techniques, and the industry was inefficient and uncompetitive. After the "reform and opening-up" policies were introduced in 1978, administrative reforms were made in order to make the mining industry more suited to China's transition to becoming a "socialist market economy". This included the adoption of the Mineral Resource Law in 1986.[6]

During the first 30 years of the People's Republic of China the development of the mining sector was driven by state-owned enterprises (SOEs). However, after reforms took root the mining sector also opened to other types of enterprises, including private mines, township and village mines, and joint-ventures between Chinese and foreign mining companies.[7] According to the Ministry of Land and Resources, in 2011 around 56% of investment in mining exploration came from private companies.[8]

The Growth of China's Mining Sector

A 2013 report by the United Nations Environment Programme (UNEP) found that China is now the world's biggest consumer of primary materials, including minerals and metal ores. China's per capita

China is the world's leading producer of more than 20 different types of metals and minerals. China's mineral trade accounted for around 25% of the country's total trade in 2011.
USGS Minerals Yearbook 2011

consumption increased from 31% of world average levels in 1970 to over 162% of the world average in 2008. This jump in consumption is the result of huge investment in public infrastructure and manufacturing, and is double the average for the rest of the Asia-Pacific region.[9] The mineral and metal resources that have fed this boom have come both from domestic reserves and from overseas.

According to China's 2003 Policy on Mineral Resources, the country has identified reserves of 10 energy-related mineral resources (including oil, natural gas, coal, and uranium), and 54 types of metallic mineral resources (including iron, manganese, copper, bauxite, lead and zinc). Additionally there are reserves of 91 varieties of non-metallic resources (including graphite, phosphorus, and sulphur).[10] These resources are spread across the country, and reserves have been identified in every one of China's provinces and regions. Mineral abundance varies from place to place, although the western and central regions (including the provinces of Xinjiang, Gansu, Shaanxi, Shanxi, and Inner Mongolia) are known to have the most extensive resources.[11]

Some metals and minerals exist in quantities large enough to meet China's domestic needs and can also be exported to other countries. However, there are also minerals that do not exist in sufficient volumes, including petroleum, high-grade iron ore, potash, and copper ore, which need to be imported.[12] For example, in 2011 China imported 70% of its copper resources from overseas. According to an analysis conducted by the Ministry of Land and Resources, 25 minerals will be in short supply in China by 2020, 11 of which are considered to be of key importance to the national economy.[13] This is likely to lead to increased exploration for domestic mineral deposits, as well as increased imports and investments in overseas mining projects by Chinese companies.

China has now become one of the most important mineral and metal production and consumption centres in the world. According to one assessment of the Chinese mining industry, in 2011 China was the world's leading producer of more than 20 metals and minerals, including aluminium, cement, coal, gold, graphite, iron and steel, lead, magnesium, rare earths, and zinc. For many other mineral commodities, China ranks amongst the top three producers.[14] According to the Ministry of Land and Resources, as of late 2012 China had 107,700 mines. Although this figure is high, it is in fact a decrease on previous years, as many smaller mines are being consolidated or closed.[15]

The Impacts of Mining in China

Economic Development and Employment Opportunities

The rapid growth China has experienced over the last three decades has been fuelled in part by its mining and metals industries. The industrialization of the country and extensive infrastructure development would not have been possible without high outputs of steel and other construction materials. Likewise, without China's huge coal industry, there would have been insufficient electricity to power the factories and industries that propelled China to its current position as the world's second largest economy.

Mining and metal production generates large revenues, which constitutes a significant portion of the country's GDP. According to the National Bureau of Statistics, in 2010 mining directly contributed around 5.2% of China's total GDP.[16] This figure is significantly higher if downstream industries and revenues are taken into account. According to the International Council on Mining and Metals (ICMM), in 2010 the total production value of mining in China was over US$69.2 billion, which is an increase of over 555% since 2000.[17] As well as generating revenue through taxation, royalties and sale of resources, mining also supports secondary industries such as those supplying machinery and other services to mining companies. Products of the mining industry can be traded on international markets, further adding to China's foreign currency reserves.

The mining sector directly employs millions of Chinese citizens and according to the National Bureau of

Statistics, in 2011 the total labour force in the mining sector was 6.11 million.[18] The industry also creates downstream employment, for example, by creating business for companies that provide supplies or services to the mine and company employees. Mining companies may also contribute to the local economy in the vicinity of the mine by developing water and electricity supplies and other infrastructure, and in some cases may also contribute to local public services such as education, training and healthcare.

Environmental Degradation

Despite the opportunities and benefits commonly associated with mining, it also comes with the risk of serious environmental and social impacts. The most obvious and immediate impact is generally on the environment in the immediate vicinity of the mine. Mining can be extremely intensive in terms of resource consumption, and large amounts of water and electricity are often required during the various stages of mining and processing. For example, the mining, washing and processing of coal are all extremely water intensive. 70% of China's 15,000 coal mines are located in water-scarce regions,[19] and inefficient mining operations in these areas threaten to exacerbate drought by over-exploiting groundwater.

Mining and processing also produces large amounts of solid and liquid waste, some of which can be highly toxic. Waste that is not properly disposed of can become a serious environmental hazard. Chemicals used in mining may also run off and poison drinking water and land, rivers and lakes. China's 2003 Policy on Mineral Resources stated that serious waste and environmental pollution needed to be urgently addressed.[20] In recent years a number of serious water pollution cases have made headlines, and government studies have confirmed the existence of "cancer villages" emerging in areas affected by heavy pollution.[21]

In early 2012 a serious pollution case was reported in Chinese and international media after huge amounts of cadmium were found in the Longjiang River in the Guangxi Zhuang Autonomous Region. Cadmium is a heavy metal often associated with mining and smelting operations. According to local officials, 40,000 kilograms of fish were killed during a two week period after up to 20 tonnes of cadmium leaked into the river from upstream mining industries.[22] In addition to the large fish kill, drinking water supplies were polluted. An emergency response team said the pollution affected the water supplies of people more than 300km from the site of the spill, and at one point investigators recorded cadmium levels that were 80 times over the legal limit. The Mayor of Hechi Prefecture reportedly stated that the incident "exposed the backwardness of our thinking and methods regarding the development of the economy, the weakness of our environmental awareness, and the lack of government oversight." [23]

In July 2013 another spill, this time of thallium and cadmium, affected 110km of the Hejiang River in Hezhou, Guangxi. This affected the water supply of 30,000 people living downstream in Guangdong province, who could not use the river water for almost three weeks. Following the spill the Hezhou government closed 112 illegal metal mines along the Maweihe River.[24] A serious pollution case also occurred at Zijin Mining Group's Zijinshan mine in Fujian, which is discussed in detail in the accompanying case study supplement.

The issue of water pollution in China is critical, and it was reported in mid-2012 that studies by the Ministry of Environmental Protection (MEP) found underground water at 57% of monitoring sites in cities across China to be either polluted or extremely polluted. The cause of the pollution is thought to be upstream industrial activities, including mining.[25] This pollution is known to be entering the food chain, and research conducted in 2007 and 2008 by scientists at Nanjing Agricultural University found that up to 10% of China's rice may be contaminated by cadmium.[26]

In April 2014, the MEP released the findings of research conducted between 2005 and 2013 which found

that 16.1% of China's soil was polluted and 19.4% of agricultural land is polluted. The study found multiple causes for the soil contamination, but human industrial and agricultural activities were chiefly to blame, and the research found industrial waste contaminating land around factories and mines. This pollution results in reduced quality and quantity of crops, but also threatens the health of people who consume food that is grown in polluted soil. There is also the risk that pollutants in the soil will permeate underground and contaminate drinking water sources. [27]

Mining has also taken its toll on the land surface in and around mining sites. According to the Ministry of Land and Resources, in 2012 mining areas covered around 2 million hectares, which is expanding by between 33,000 and 47,000 hectares each year. However, only 15% of land is being reclaimed and restored after mining activities have finished. In order to address this issue, China passed a regulation in 2011 aiming to increase the rate of land reclamation. [28]

In some areas mining has caused areas of land to become unstable and dangerous. In 2008, disaster hit Xiangfen County, Shanxi Province, when a mudslide engulfed Linfen City. The mudslide occurred after a reservoir at an illegal mine burst during heavy rain and released tons of iron ore tailings on to villages below. Xinhua news agency reported the death toll to be 254, with 1,047 people displaced by the incident. [29]

Although domestic and global demand for metals has reduced drastically in recent years, production in China remains high, especially for steel, aluminium and coke. As well as driving down prices, overproduction and underutilization of metal and mineral outputs also jeopardizes the Chinese Government's ability to meet emission and pollution reduction goals, as these industries are often highly polluting and energy-

Coal mine near Hailar, Inner Mongolia, 2005
(© Herry Lawford)

Water pollution from a pharmaceutical plant, Inner Mongolia, 2013 (© He Shan)

Mining areas cover 2 million hectares of land in China.This expands by 33,000-47,000 hectares per year. Only 15% of land is reclaimed and restored.
Ministry of Land and Resources, 2012

intensive.[30] According to a director from the Ministry of Industry and Information Technology (MIIT): "It has been proved that the existing regulation measures fail to stop the indiscriminate development of the steel sector … we should explore a new way to regulate the sector and make it follow market rules and develop orderly."[31] In July 2013 the MIIT instructed 1,400 companies, including many metal and mineral processing companies, to cut production.[32] However, China is still struggling to address the issue of overproduction.

Social Impacts of Mining

There is less research and media coverage dedicated to the social impacts of mining in China than there is to environmental impacts, which makes analysis of these issues challenging. However, the social impacts are certainly significant and are closely linked to many of the environmental issues outlined above. People living close to mining areas have to live with the inconvenience and health risks associated with dust and noise from mining sites and facilities. As mentioned above, water pollution is an increasingly serious concern, and the effects of industrial pollution on people's health are becoming increasingly apparent. Chronic illnesses that are caused or exacerbated by pollution will impact on household income as medical expenses increase, and in some serious cases poor health may impact on individual's ability to live a normal life.

A 2007 report by the World Bank and China's State Environmental Protection Administration (SEPA)[33] found that environmental pollution falls most heavily on the poorer areas of China, including Ningxia, Xinjiang, Inner Mongolia, and other low-income provinces that are rich in minerals.[34] While these areas may benefit from increased investment and job opportunities provided by mining, the gains may be offset by the impacts on public health. Pollution may also result in loss of fisheries and impact on agricultural productivity, which again disproportionately impacts on the poorer members of society. Water pollution can reduce agricultural outputs and poison crops, while water intensive mining practices can lower the water table and reduce the amount of water available for irrigation.[35] As discussed above, much of China's mining industry is located in areas where water supplies are already stretched.

Local people may have their agricultural or residential lands expropriated in order to make way for mining activities. In some cases villages may lie within the mining area, or villages located close to mines may have to be moved because of safety concerns. For example, in the tin mining city of Gejiu in Yunnan, an entire township had to be relocated due to the threat of landslides.[36] Resettlement can lead to serious economic and social impacts if not handled well. Mining can also lead to the loss of grasslands and erosion of top soil, which impacts on local livelihoods of those who rely on the land for grazing livestock. This can impact on the traditional ways of life of some ethnic minority groups such as Mongolian herders in Inner Mongolia, where much of China's coal mining is focussed.[37]

Over-reliance on mining in some towns and cities has also begun to impact on resident's livelihoods as resources become depleted. According to the National Development and Reform Commission (NDRC), up to 2011 there were 69 cities classified as "resource exhausted". Fluctuations in global mineral prices also pose significant challenges to areas that depend heavily on a single resource. The city of Gejiu, already mentioned above, has historically been dependent on tin mining. Heavy investment in the tin mining and processing industry has brought economic development, but when the value of tin dropped in 2008, two thirds of the city's tin producers ceased operations. There are numerous other towns and cities in China whose economies have a similar single-industry focus. As China is now integrated to the global metals market, fluctuations in mineral values can have serious impacts for local industry and the people that depend upon it. Cities such as Gejiu are working to adapt their industries, but the process of shifting from

"Coal Mining: Most deadly Job in China"
China Daily headline, 2004

an economy focussed on resource extraction to one that is more diverse is not easy. [38]

Shanxi has also suffered in recent years as the value of coal has dropped. A large number of mines have closed or ceased production, impacting on local people's livelihoods. Meanwhile the impacts of extensive exploitation are clearly apparent. The former Governor of Shanxi was quoted in 2012 as saying: "Overproduction and bad practices have resulted in serious air and water pollution, subsidence and rampant mine disasters, and dealt a heavy blow to people's interests and the sustainable development of the local economy." Shanxi is struggling with serious land subsidence due to underground mining, and in 2012 the Governor stated that 600,000 people may need to be relocated in the next 5 years.[39]

In extreme situations the above factors have contributed to discontent among local people which has flared up into social unrest. Chinese and international media have covered a number of incidents in recent years where local residents have protested due to conflict with mining companies. In one well publicised case, residents of Shifang, Sichuan Province, protested for several days in June 2012 due to opposition to the construction of a copper refinery. Residents of Shifang were reportedly concerned about the potential environmental impacts of the project. The concerns of local people grew after the company and local authorities failed to release detailed environmental assessment data. The protests resulted in the project's cancellation. [40]

Mine Safety and Working Conditions

In China, one of the most frequently reported problems in the mining industry is mine safety. The long-term health of workers is an issue, especially in coal mines, where they may fall victim to pneumoconiosis or "black lung disease" after years spent working in mines with inadequate safety equipment. A 2011 news report quoted a Ministry of Health estimate that over 6 million people suffer from this condition in China.[41] China's mines are notoriously dangerous places to work and accidents affect thousands of workers every year. In 2004 the China Daily ran an article titled "Coal Mining: Most deadly Job in China", which stated that although China produced 35% of the world's coal in 2003, it recorded 80% of the world's deaths in coal mine accidents.[42] In recent years the government has taken measures to improve mine safety, but there are still frequent reports of serious accidents at mines in China, many of which have resulted in loss of life and serious injury.

In 2005, 214 miners lost their lives in a gas explosion at Sunjiawan coal mine in Liaoning province.[43] Torrential rain flooded a mine in Xintai, Shandong province, in 2007 leaving 181 miners dead,[44] and in the same year 105 miners were killed in an explosion at the Xinyao coal mine in Shanxi Province.[45] Another explosion in the Tunlan coal mine in Shanxi killed 74 and hospitalized 114 in 2009.[46] Later in the same year a further 108 people died in Heilongjiang's Xinxing coal mine.[47] In 2010 in Wangjialing coal mine, Shanxi Province, a mine shaft flooded and trapped 153 mine workers. Incredibly, 115 of the miners were rescued after being trapped underground for 8 days.[48] More recently in August 2012 an explosion in the Xiaojiawan coal mine in Sichuan Province killed 45 men in what was the worst mine disaster since 2009.[49] May 2013 was also a bad month for mine safety in China, as 28 were killed in a coal mine in Luzhou, Sichuan,[50] and 12 more men were killed in a coal mine in Pingba County of Guilin.[51] This followed on from an accident in March 2013, when over 80 miners were buried by a landslide at a gold mine in Tibet.[52]

In most of these incidents, media reports indicate that poor management or safety lapses either caused or exacerbated these disasters. In a number of cases, company and local government officials have faced administrative action and even criminal charges. For example, after the Xinyao case, 17 company and government officials were later sentenced to time in prison for their role in the disaster.[53]

"While China has rapidly shaken off general poverty in the past three decades through economic reforms and opening-up, it has been facing increasingly serious environmental problems."
China Daily editorial, 2013

Figure 1: Annual Death Toll in China's Coal Mines, 2000-2011 [54]

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Number of Deaths	5543	5670	6995	6434	6027	5986	4746	3786	3215	2631	2433	1973

Although serious mine safety incidents continue to occur, official government statistics show that the situation has improved consistently over the last decade. According to the State Administration of Work Safety (SAWS) the annual death toll in China's coal mines dropped to just over 1,970 fatalities in 2011. This is a significant drop from 2002, when nearly 7,000 deaths were recorded.[55] These figures only cover coal mines, and statistics for deaths and injuries in other types of mine are not available.

The death toll in China's coal mines continued to drop during 2012, when it was reportedly the lowest for 60 years.[56] While these statistics suggest that considerable progress has been made, on average more than 5 workers still died every day in Chinese coal mines in 2011. It should also be kept in mind that some accidents may not be reported, especially in illegal mines.

Much of the blame for mining disasters in China is placed on small mines, which are often accused of cutting corners in order to maximize profits (although it should be noted that a number of serious accidents have also occurred at large state-run mines). The Chinese Government has taken steps in recent years to close many small mines or merge them with larger operations.[57] For example, in Inner Mongolia it was reported that in 2012 almost 2,900 mines were closed over a seven year period.[58] In 2013 China set a target of closing a further 5,000 small coal mines.[59]

Conclusion

Since the establishment of the People's Republic of China, heavy industry including mining and mineral processing has played a significant role in China's development. Today China has a broad range of mining and mineral industries, including large- and small-scale operations, some with modern facilities and some antiquated. While state-owned mining giants have traditionally dominated the sector, private companies are playing an increasingly important role in the development of China's mining sector. The mining industry has helped to fuel China's remarkable growth, but this has come at a high environmental cost. Both

the positive and negative impacts of mining in China over the past few decades should provide lessons for the future and should guide the reform of the sector. Likewise these lessons should be kept in mind by companies and financiers investing in overseas mining projects, especially when those investments are taking place in countries with undeveloped mining industries. This is returned to in Part 3 of the report.

Many of the issues highlighted here have been acknowledged to some extent by the Chinese Government, and measures have been taken to strengthen the legal and regulatory framework related to the industry. In recent years the Chinese Government has made commitments to building a more ecologically-friendly society, and aims to cut carbon emissions caused by energy-intensive industries. In an attempt to improve safety and environmental compliance and to reduce overproduction, steps have been taken to close small or outdated mining projects or consolidate them with larger companies. It remains to be seen what impact on-going reforms will have on the mining sector, but it is clear that the current model continues to prioritize economic benefits over environmental protection and public health, and a more sustainable path needs to be found.

Without a strong legal and regulatory framework for overseeing the industry, China will not be able to mitigate the potential negative impacts of mining on the environment and society. In recent years various laws and regulations related to mining and the environment have been developed. This is the focus of the following part of this report. ■

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Part 2: Environmental Regulation of Mining in China

Mining and mineral processing are industries that are energy intensive and have the potential to cause serious environmental and social impacts if not well regulated. A number of government bodies and authorities play a role in the regulation and oversight of the industry, and China has various laws and regulations in place relating to issues including water, air and solid waste pollution, labour and safety, and compensation for land acquisition. In addition, banking guidelines also apply to project financiers, and for a number of years the Chinese Government has been encouraging investment in more sustainable projects.

Although China's environmental regulation is relatively well developed, in places it lacks detail, and consistent enforcement is often lacking. The country's environmental law was recently amended, which has potentially significant implications for the regulation of China's domestic mining industry – provided the law is well implemented. This part of the report provides an overview of the institutions responsible for the regulation of mining in China, as well as the legal and regulatory framework relating to environmental impacts of mining.

Institutions Responsible for Regulation of the Mining Industry

A number of government bodies play important roles in the regulation and monitoring of the mining and mineral processing industry in China. Listed below are some of the key bodies involved.

Ministry of Land and Resources: The principle body responsible for the regulation of mineral resource development is the Ministry of Land and Resources (MLR). The MLR is responsible for the planning, administration, protection and rational utilization of natural resources, including land and minerals. The ministry examines and approves applications to explore and mine mineral resources, and has the authority to register and grant licenses.[60]

Ministry of Environmental Protection: In 2008 the State Environmental Protection Administration (SEPA) was upgraded to the Ministry of Environmental Protection (MEP), and given administrative powers equal to other ministries. Among other things, the ministry is responsible for conducting assessments regarding environmental quality issues, and for monitoring natural resource development and utilization.[61] The MEP is responsible for overseeing the implementation of environmental laws and regulation, and has issued numerous circulars, regulations and standards related to water and air pollution and waste management. As explained below, the MEP and its local bureaus are responsible for approving environmental impact assessment reports – including for mining projects.

Ministry of Industry and Information Technology: The Ministry of Industry and Information Technology (MIIT) is responsible for developing standards and planning for the reorganization of certain industries. For example, the ministry has taken steps to reduce overcapacity and pollution in China's steel industry. The MIIT aims to raise standards and increase the efficiency of China's steel industry, phase out outdated technology, conserve energy and reduce

emissions. Those companies that do not meet national standards will face higher electricity prices and stricter administrative measures.[62] In recent years the ministry has also sought to tackle overproduction and illegal mining of rare earths.[63]

State Administration of Work Safety & State Administration of Coal Mine Safety: Mining projects are subject to monitoring by the State Administration of Work Safety (SAWS), an agency under the supervision of the State Council. SAWS is responsible for supervision and regulation of work safety in China and is in charge of organizing investigations into major accidents when authorized to do so by the State Council.[64] Coal mine safety is the responsibility of the State Administration of Coal Mine Safety (SACMS), an agency that sits under SAWS. [65]

State-owned Assets Supervision and Administration Commission: State-owned enterprises (SOEs) are subject to the oversight of the State-owned Assets supervision and Administration Commission (SASAC) of the State Council. Among its various roles, SASAC guides the reform and restructuring of SOEs, and appoints and removes the top executives based on their performance.[66] In addition to supervising and managing state-owned assets of SOEs, SASAC encourages improved corporate social responsibility (CSR) in state-owned enterprises.[67]

The work of various other government entities also impacts on the mining industry, for example, the National Development and Reform Commission, Ministry of Commerce, Ministry of Finance, and the State Administration of Taxation.

Legal & Regulatory Framework

Mineral Resources Law

China's Constitution affirms that all mineral resources belong to the state, and that the state should

Table 1: Summary of Major Instututions Involved in Regulation of Mining in China

Institution	Role
Ministry of Land and Resources (MLR)	• Principle body responsible for regulation of mineral resource development. • Examines and approves applications to explore and mine mineral resources. • Registers and grants licenses.
Ministry of Environmental Protection (MEP)	• Conducts assessments regarding environmental quality issues. • Monitors natural resource development and utilization. • Oversees implementation of environmental laws and regulation. • Responsible for evaluating environmental impact assessment reports.
Ministry of Industry and Information Technology (MIIT)	• Develops standards and planning for reorganization of key industries. • Adopted measures to reduce overcapacity and pollution in mining and mineral processing industry. • Aims to raise standards and increase efficiency, phase out outdated technology, conserve energy and reduce emissions.
State-owned Assets Supervision and Administration Commission (SASAC)	• Under supervision of State Council, oversees state-owned enterprises. • Promotes reform and restructuring of SOEs and improved corporate governance. • Appoints and removes top executives of SOEs. • Encourages improved corporate social responsibility in SOEs.
State Administration of Work Safety (SAWS)	• Under supervision of State Council, responsible for supervision and regulation of work safety in China. • Organizes investigations into major accidents when authorized by the State Council. • State Administration of Coal Mine Safety (SACMS) sits under SAWS.


Alluvial sand mining in Tibet, 2013
(© Dawa Kadro)

ensure the rational use of these resources.[68] The main law that covers the use of mineral resources is the Mineral Resources Law. Under this law, any party that wishes to conduct mining must apply for approval and must pay resource tax and mineral royalties to the state.[69]

Before any application for mining rights is approved there should be an examination of the mining proposal, including the safety plan and environmental protection measures. After production commences, mining operations must follow labour and safety regulations. Legal provisions for environmental protection must also be followed, land should be used economically and after mining activities have stopped, the license holder should rehabilitate affected areas. If a mine causes loss of livelihood for local people they should be compensated. Any company that violates the Mineral Resources Law may be ordered to suspend their activities and pay compensation to those who suffer losses. Offenders may have unlawfully mined products confiscated, can be fined, and may also be subject to criminal charges.[70] In 1994 the State Council issued a decree setting out additional rules for the implementation of the Mineral Resources Law, adding more detail to the original law and providing guidance on how it should be applied.[71]

Environmental Protection Law

The Environmental Protection Law was first adopted on a trial basis in 1979 and fully enacted in 1989. The law was developed while China was in the initial stages of its reform and opening period. After the rapid development that followed, it became clear that the law was in need of significant reform. In August 2012, a draft amendment to the law was posted on the website of the National People's Congress (NPC) and the public were encouraged to provide comments.[72] An updated draft was released in July 2013 for an additional one month public comment period,[73] and the amended law was finally approved in April 2014.[74] The law went through several rounds of revision and was subject to fierce debate. Early drafts were criticized by some lawyers and environmental organizations, and while there are still some concerns regarding lack of detail in some key provisions,[75] the law is a considerable improvement on its predecessor. The new law will enter into force on 1 January 2015.

The Environmental Protection Law aims to protect and improve the environment, prevent and control pollution, safeguard public health, promote "ecological civilization" and facilitate sustainable economic and social development.[76] The law emphasizes that environmental protection is a basic national policy of China, and that the state should adopt policies and measures that coordinate economic and social development with environmental protection.[77] The Law contains general provisions for issues including pollution control, environmental impact assessments (EIAs) and the supervision and management of environmental protection activities. The law is supported by a large number of complimentary regulations, technical guidelines and standards related to environmental protection that have been adopted in recent years.[78] Specific laws covering issues including air, solid waste, and water pollution are also in force.[79]

Under the Environmental Protection Law, natural resources should be exploited and utilized in a

rational manner that conserves biological diversity and safeguards ecological security. The state is required to define an ecological "red line" protecting important ecological zones and areas with sensitive or fragile environments. This includes areas with rare and endangered animals, areas where major water sources are found, and areas of significant scientific, cultural, and historical value. Damage to areas within this ecological red line are strictly forbidden.[80]

Enterprises that emit pollutants are required to apply for a permit which specifies the volume of discharge permitted. These enterprises must pay pollution fees to the state, and revenue from these fees should be spent on environmental protection activities. The Environmental Protection Law states that enterprises must put in place pollution prevention and control measures, and the necessary pollution control equipment should be constructed and commissioned at the same time as the principal part of the project. Finally, enterprises must establish an internal environmental protection accountability system which identifies the responsibilities of relevant staff.[81]

The relevant environmental protection departments and bureaus are entrusted with the responsibility for environmental supervision and administration within their area of authority. These bodies have the power to conduct site inspections of enterprises, public institutions and other producers and business operators that discharge pollutants. The law states that enterprises, public institutions and any other business operators must prevent and reduce environmental pollution, and shall bear the liability for any environmental damage that they cause. If an enterprise is found to be illegally discharging pollutants, it should be fined and ordered to resolve the issue. If the situation is not rectified, further fines may be levied on a daily basis.[82]

The law asserts that state supervision at all levels must be strengthened, and if staff within the environmental protection administration are found to be in violation of the law they may be subject to

Coal Mine, Datong, Shanxi Province, 1999
(© Peter Van Den Bossche)

administrative sanctions. At the County level and above, officials from the environmental protection administration or local governments may be demoted, or in serious cases, dismissed for violations of the law. This includes committing acts such as improperly issuing permits, covering up environmental irregularities, failing to investigate a reported pollution incident or failing to issue an appropriate decision, and tampering with or forging monitoring data.[83]

The amended law also includes proactive measures for improving China's environment and states that the government may provide incentives to enterprises that exceed pollution reduction targets, for example, by providing favourable financial, tax, and pricing policies.[84] The law also includes important provisions for public participation – this is returned to below.

China's Criminal and Civil Law

China's Criminal Law also includes provisions for the punishment of environmental offences, and contains a section on "Crimes of Undermining Protection of Environmental Resources". This includes causing major environmental accidents by dumping waste or toxic material. The Criminal Law contains a specific offense of engaging in mining operations without obtaining the appropriate permit. It is also an offence to use destructive mining methods to extract mineral

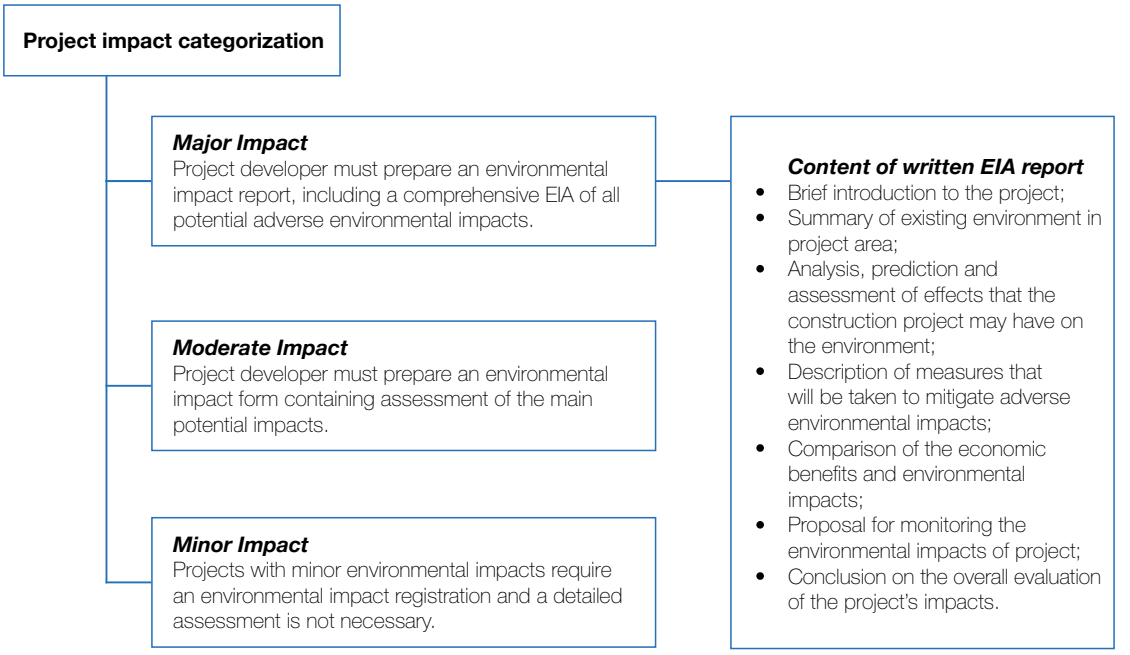
resources. These offences are punishable by a fine or time in prison, and in cases where the damage is serious the sentence may be higher.[85] China's Tort Law also states that if a party causes environmental pollution that results in harm they may also be subject to tort liability.[86]

Environmental Impact Assessment Law

An environmental impact assessment (EIA) is an evaluation of the potential positive and negative impacts of a proposed plan or project. EIAs take into account the environmental, social and economic elements of a project and propose measures to avoid or mitigate potential harms. The concept of the EIA was first introduced in China in the 1970s, and in the following years the requirements and regulation of the EIA process began to evolve.[87] China's amended Environmental Protection Law states that projects with environmental impacts shall be subject to environmental impact assessment which is developed in accordance with the relevant laws. Without an EIA, construction must not commence. In cases where an EIA needs to be conducted, the project owner must communicate with potentially-affected people and solicit public opinions. The government department responsible for examining and approving the EIA documents must make the documents public, with the exception of details that concern commercial secrets or information deemed confidential by the State.[88]

The principle law related to EIAs is the Environmental Impact Assessment Law which was adopted in 2002. The law says assessments should be objective, open and impartial and provide a scientific basis for decision-making. The law creates three categories for different types of projects depending on whether the potential impacts are major, moderate or minor. Only those with major impacts require a full "EIA Report". The EIA law gives a basic outline of what should go into an EIA report.[89] Additional guidelines have been published by the MEP which provide more detailed instruction as to what should be included in an EIA

Figure 2: Project Impact Categorization and EIA Report Content



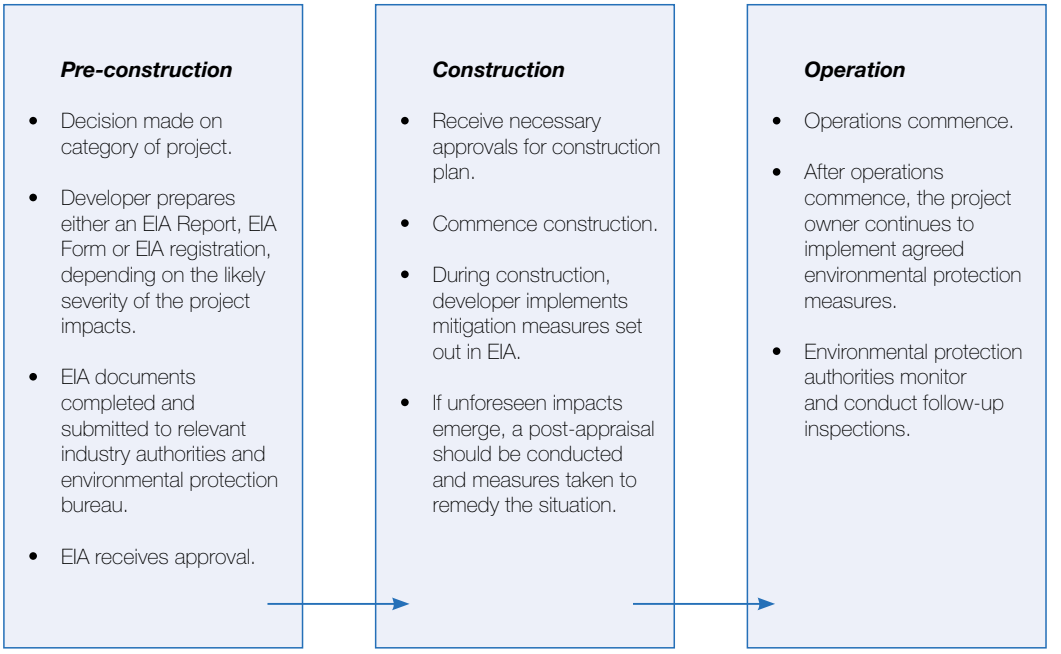
Report. This includes specific guidelines for mining projects.[90]

The law states that for projects that are likely to have major impacts, the project developer must seek the opinions of relevant entities, experts and the general public. This should be done through public meetings, hearings or other means. When the project developer submits its EIA report to the relevant authorities, the developer should explain why it adopts or rejects any comments submitted during the consultation process. If an EIA evaluation document fails to gain approval of the examining body, the project should not be approved or commence construction. [91]

After project approval and during construction, project developers must implement the mitigation measures that were set out in the EIA report in order to avoid or minimize environmental impacts. In order to monitor the impacts of projects after construction commences and when they become operational, the environmental protection authorities are required to conduct follow-up inspections.[92]

The EIA process is a crucial element of China's regulatory framework. Due to the potential for serious environmental impacts associated with mining and mineral processing projects, EIAs are required before projects can be legally approved. If a project developer fails to complete an EIA, they may be fined or subject to administrative punishment. However, the maximum fine according to the Environmental Impact Assessment Law is RMB 200,000 (approximately US$32,700),[93] which is not a significant amount for a major company. It may be the case that operating illegally and paying the fine is more profitable than implementing a project that is in full compliance with the law. One study from 2005 found that more than 50% of EIAs are conducted after a project has commenced construction and after other approvals and licenses have already been received from the local level.[94] A China Daily article from early 2013 suggested that the pass rate for EIAs was almost

Figure 3: Basic Overview of EIA Process



100%. In many cases the EIA is conducted after major decisions have already been made regarding the design and location of a project, and the process is often seen as little more than a formality.

There are also concerns regarding the quality of EIA reports. An investigation by the MEP in 2013 found that of 500 agencies qualified to conduct EIAs in China, 88 were underperforming. The investigation found that staff capacities in some agencies were low and the quality of assessment documents produced was poor. Some agencies were found to have used inaccurate data in their reports.[95] The MEP has developed detailed rules and a system for accrediting EIA agencies, but it has been found that in some cases EIA agencies outsource or "lend" there accreditation to other companies, or obtain credentials through illegitimate means. Governments in a number of provinces have launched campaigns to tackle these irregularities.[96] The MEP is now also publishing the names of EIA companies that have been punished for breaches of regulation. [97]

Another challenge that needs to be overcome is the potential for conflict of interest. Local environmental protection bureaus are responsible for ensuring that EIA regulations are implemented, but the bureaus are also subject to the control of local governments. As mentioned elsewhere in this report, local governments often prioritize projects that generate high levels of tax and employment, and which increase local GDP. Environmental protection bureaus may feel pressured or influenced to approve EIA assessments for such projects. The EIA law states that if an EIA is approved in a way that is not in compliance with the law, those responsible will be subject to administrative punishment and may be criminally liable.[98] There are examples of officials from environmental protection bureaus being punished for improperly approving proposed projects or failing to properly inspect active projects. For example, two inspectors and a vice-director were jailed in 2012 following a cadmium spill from two tin mines in Guangxi Zhuang Autonomous Region.[99] However, such punishment generally occurs only after a pollution incident brings such violations to light.

Public Participation & Information Disclosure

Despite the positive steps that have been made in developing the legal and regulatory framework for environmental protection, concerns have been raised that public participation and access to information remain inadequate. In recent years the public has become increasingly aware of environmental issues and less willing to tolerate polluting projects. Subsequently there has been an increase in the number of high-profile public demonstrations against projects that were approved with minimal or no public consultation. According to data from the MEP in 2012, mass demonstrations related to environmental concerns have increased at an annual rate of 30%. According to one lawmaker quoted by Xinhua news agency: "When the public has inadequate channels for expressing their concerns and protecting their interests, the existing laws will not work for environmental protection."[100]

Public participation is crucial for an effective system of environmental protection, however, the Environmental Impact Assessment Law does not provide details about what form public participation should take.[101] In order to fill this gap the State Environmental Protection Agency issued its Interim Measures for Public Participation in Environmental Impact Assessment in 2006. In 2007, SEPA also adopted its Measures on Open Environmental Information for trial implementation in order to regulate the disclosure of information related to environmental issues. These measures provided further opportunities for the public to become involved in environmental protection and to obtain information about projects and plans that may affect them. [102]

In a Circular issued by the MEP in November 2012, the ministry urged local authorities to be more transparent when providing information related to environmental

"When the public has inadequate channels for expressing their concerns and protecting their interests, the existing laws will not work for environmental protection."
Chinese lawmaker quoted by Xinhua news agency

issues, especially regarding review and approval of projects. The Circular states that in cases where projects involve the public's vital interests, information should be disclosed to a wider public audience and decisions should only be made after receiving and listening to public comments. The MEP also called on relevant authorities to publish information on environmental monitoring, including data related to air quality, water quality and major pollutants, and called for a list of enterprises with substandard environmental practices to be made public. [103]

More recently, in January 2012, the MEP published new Technical Guidelines for Environmental Impact Assessment: General Programme, which elaborates on earlier guidelines on public participation. The Guidelines state that stakeholders, including social groups, NGOs, residents and experts should be consulted in the form of surveys, forums, panel discussions, and public hearings, and that the consultation should facilitate informed consent of stakeholders. This requires that the details of the project, predicted impacts and proposed mitigation measures are disclosed in order for people to fully understand the implications of the project.[104] Although the guidelines further clarify the process for public disclosure of information, in practice it is still difficult to obtain potentially sensitive environmental information. The 2007 Measures on Open Environmental Information states that environmental protection departments may not disclose information that involves state secrets or trade secrets.[105] However, there is no clear definition of what constitutes state or trade secrets, and requests for information are often rejected on these grounds.[106]

The amended Environmental Protection Law emphasises the importance of public participation, and in Article 5 states that environmental protection activities in China must adhere to five key principles, one of which is public participation. The law states that citizens and organizations have the right to obtain environmental information, participate in and supervise environment protection activities. To facilitate this, the environmental protection authorities at various levels are required to disclose information and improve public participation procedures. Environmental protection departments at the County level and above are required to disclose information on environmental quality, monitoring, emergencies, granting of permits, and collection and use of pollutant discharge fees. They should also disclose to the public the names of those found to be violating the law. The amended law also states that citizens and organizations are entitled to report and complain regarding environmental pollution and activities causing ecological damage. In cases where activities cause environmental pollution, ecological damage, or harm to the public interest, certain organizations have the right to file litigation with the court.[107]

Green Credit Guidelines[108]

In addition to the legal requirements set out above, there are also environmental guidelines that apply to China's finance sector. The China Banking Regulatory Commission (CBRC) is the body responsible for developing rules and regulations governing China's banking institutions.[109] In 2007 the CBRC, State Environment Protection Agency, and People's Bank of China jointly published Opinions on Implementing Environmental Protection Policies and Preventing Credit Risks. This document called on Chinese banks to stop providing credit to enterprises and projects not conforming with the country's industrial policies or environmental laws, and to limit expansion of high polluting and energy intensive industries. Banks were instructed to rigorously examine applications and monitor loans, and not to provide credit for new projects that did not pass environmental assessments. [110]

In early 2012, the CBRC issued its Green Credit Guidelines, which build on the 2007 opinions and provide more detail on how China's banks can promote green credit, support the growth of a green economy, and manage environmental and social risks. The guidelines instruct banks to improve due

diligence and ensure comprehensive assessments of proposed projects. In addition, banks are encouraged to conduct strict compliance reviews of clients to ensure that all necessary documents and permits are obtained and submitted and that the client effectively monitors and controls project risks. The guidelines state that credit should not be approved for clients with non-compliant environmental or social performance. Banks should continue to make assessments throughout a project's life cycle, and if major risks are identified funds may be suspended or loans terminated. [111]

According to one estimate, up to 80% of capital provided to domestic industries comes from Chinese banks.[112] The banking sector therefore has a major role to play in the country's attempts to reduce emissions and pursue a more environmentally friendly development model. Guidelines such as those developed by the CBRC are therefore highly significant, but at present they do not constitute binding rules. It therefore remains to be seen what impact these guidelines will have on the banking sector and on developers seeking finance for high-risk projects, including projects in the mining sector.

Voluntary Principles

In addition to policies and guidelines such as those adopted by the CBRC, some Chinese banks have adopted internal policies for regulating lending to high-polluting industries and assessing environmental and social risks of investments. China's Industrial Bank has also signed up to the Equator Principles, which is a voluntary framework for determining, assessing and managing environmental and social risks associated with project finance.[113] A number of mining companies have also signed up to voluntary principles such as the UN Global Compact and the

Phosphate Mining in Sichuan Province, 2018
(© Ma Dong / Greenpeace)

Global Reporting Initiative. Voluntary principles are returned to in Part 3 of this report.

Stock Market Regulations

Mining companies that are listed on the Shanghai Stock Exchange (SSE) and Shenzhen Stock Exchange (SZSE) are subject to disclosure regulations and guidelines. This includes requirements for extractive companies to disclose accounting practices, estimates of resource assets, and information regarding transfer of mining rights. The SSE and SZSE have also issued guidelines on company CSR reporting.[114] In addition, the China Securities Regulatory Commission (CSRC) has issued a number of regulations and guidelines, which have come to be known as the Green Securities Policy. Before companies engaged in high polluting

Table 2: Key Documents Related to Regulating the Environmental Impacts of Mining in China

Name	Year	Type	Issuing body	Summary
Constitution of the People's Republic of China	1982	Constitution	NPC	States that all mineral resources belong to the state, and that the state should ensure the rational use of resources.
Mineral Resources Law	1986 (amended 1996)	Law	NPC	Sets basic conditions for mining in China, including license application and approval, conditions for mine operation, rehabilitation, etc.
Environmental Protection Law	2014	Law	NPC	Contains general provisions for environmental protection, pollution control, environmental impact assessments (EIAs) and includes penalty provisions for environmental violations.
Environmental Impact Assessment Law	2002	Law	NPC	Creates rules and procedure for the conduct of EIAs, requirement for public participation, and includes penalty provisions for non-compliance.
Criminal Law	1997	Law	NPC	Includes provisions for punishment of environmental crimes. Also includes specific offense of engaging in mining operations without a permit.
Torts Law	2010	Law	NPC	States that if a party causes environmental pollution that results in damage they may also be subject to tort liability.
Decree N°152 of the State Council, Rules for Implementation of the Mineral Resources Law	1994	Decree	State Council	Adds guidance for the application of the Mineral Resources Law, among other things adds details on compensation and mine rehabilitation.
Interim Measures for Public Participation in Environmental Impact Assessment	2006	Interim Measure	SEPA	Defined the scope, process, methods and timeframe for public participation in the EIA process.
Measures on Open Environmental Information	2007	Measure	SEPA	Introduced new trial regulations for the disclosure of information related to the environment.

industries make an initial public offering (IPO) in China they must first be subject to an evaluation by the Ministry of Environmental Protection. This includes companies in the steel, cement, aluminium and coal industries.[115] Companies are also required to make public disclosures if they are involved in any major pollution incidents. The Chinese company Zijin has been fined by the CSRC in the past for violating these rules (this is covered in the case studies supplement).

Conclusion

China has multiple laws and regulations in place related to the regulation of mining. This includes laws on labour and safety, environmental protection and assessment, water, air and solid waste pollution. But, as illustrated in Part 1 of this report, the mining industry is still connected to serious and widespread pollution problems and Chinese mines can still

Name	Year	Type	Issuing body	Summary
Technical Guidelines for Environmental Impact Assessment: General Programme	2012	Guidelines	MEP	Guidelines add extra detail to existing rules on public participation.
Guidelines to State-owned Enterprises Directly under Central Government on Fulfilling CSR	2008	Guidelines	SASAC	Guidelines encourage SOEs to fulfil corporate social responsibilities.
Notice on IPO Application for Manufacture Companies in Highly Polluting Industries	2008	Notice	CSRC	These two documents create the requirement that highly polluting industries apply for evaluation by MEP and obtain approval of their environmental performance prior to attempting an initial public offering (IPO).
Guidelines on Enhancing the Supervision and Management of Environmental Protection for Listed Companies	2008	Guidelines	MEP	
Opinions on Implementing Environmental Protection Policies and Preventing Credit Risks	2007	Opinions	CBRC, SEPA, People's Bank of China	Encouraged Chinese banks to stop providing credit to enterprises and projects not conforming to the country's industrial policies or environmental laws, and limit expansion of high polluting and energy intensive industries.
Green Credit Guidelines	2012	Guidelines	CBRC	Guidelines require banks establish mechanisms for managing risks, develop standards for rating clients' risks, improve due diligence and ensure comprehensive assessments of proposed projects.
Equator Principles	Revised in 2013	Voluntary principles	EP Financial Institutions	Voluntary credit risk management framework. Principles apply only to the lending of banks that have signed up to the principles.

be extremely dangerous places to work. In some cases this is the result of inadequate regulation, or regulations that lack detail, whereas some problems are caused by a lack of implementation of existing laws and standards. Nonetheless, China's environmental legal framework is in the process of reform, and the legal framework is becoming increasingly more sophisticated. This has significant implications for the regulation of China's domestic mining industry.

The Environmental Protection Law was first enacted on a trial basis in 1979 and fully enacted in 1989. In 2014, almost 25 years since the law was first passed, an amended law was finally approved by the NPC. The law has been welcomed by many people as an improvement on the previous version, however, even after legal reforms take place, a major challenge that will remain is ensuring that laws and regulations are implemented. In 2004 a joint investigation by SEPA and the Ministry of Land and Resources showed that only 30-40% of mining projects completed the required EIA procedures, and in some provinces the percentage was as low as 6-7%.[116] The amended Environmental Protection Law aims to counter this problem by including stricter punishments for companies that illegally dump waste or fail to control their emissions.[117]

Regulation of green financing is also developing, and the collaboration between the MEP and the financial regulators shows promise, highlighting the joint responsibility that enterprises, financiers, regulators and policy makers share in working towards promoting more sustainable development and management of social and environmental impacts. However, an on-going concern is the disconnection between national and local level authorities. At the local level there are strong incentives for local government to deliver strong growth figures, which often eclipses concern for environmental protection. This is an issue that will need to be addressed in order to ensure that improved environmental regulation is fully implemented.

As China continues to develop its environmental legal framework, cooperation between the various authorities needs to continue, and the gap between regulation and implementation reduced. As progress is made in these areas, there is also scope for China to work more diligently to address social and environmental impacts related to overseas projects and develop appropriate standards for application beyond China's borders. The remainder of this report will now focus on China's overseas mining industry. ■

Part 2: Environmental Regulation of Mining in China

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Part 3: China's Overseas Mining Industry

In 2001 the Chinese Government's 10th Five Year Plan stated that Chinese companies would be encouraged to seek investment opportunities beyond China's borders. This has become known as the "going out" strategy, and since 2004 China's overseas investment has risen rapidly. According to China's Ministry of Commerce, overseas investments in 2013 exceeded US$107 billion, and accumulated outbound direct investment stock reached over US$660 billion. Mining is a major focus for China's overseas investment, and mining companies are now active in both developed and developing countries across the world. Investors use a variety of approaches to establish overseas projects, including wholly-owned and joint-ventures, greenfield developments, and acquisition of existing projects and mining licenses. Both private and state-owned companies are engaged in overseas mining, although the industry is still largely dominated by state-owned enterprises.

As Chinese mining companies have become more visible overseas, their activities have attracted much attention. The media, civil society, academics, politicians and various other observers have commented on the impact of Chinese investments in mineral resources, and in a number of cases this attention has been critical. While it is important to identify the positive impacts that Chinese investment is having around the world, it is also crucial to address these concerns and look critically at the challenges that Chinese companies face in dealing with the environmental and social impacts of overseas investment. The following section of the report provides an overview of China's overseas mining industry and discusses some of the challenges Chinese companies have encountered in recent years.

China's Mining Companies Go Global

Background to China's "Going Out" Strategy

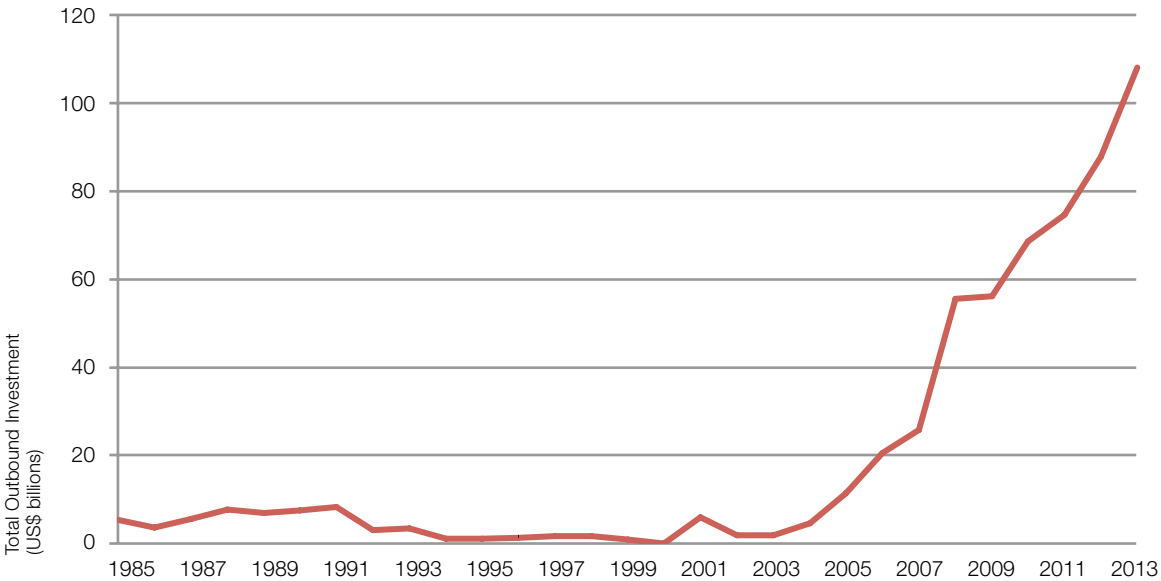
In 1978 China introduced its "reform and opening-up" policies and the country embarked upon a new chapter in its economic development. China began to open up to foreign investment, and around the same time Chinese state-owned enterprises (SOEs) gradually began to increase their overseas activities. In the late 1990s the government began to more actively encourage Chinese enterprises to invest overseas, in what has since become known as the "going out" or "going global" strategy.[118]

The going out strategy was formally recognized in China's 10th Five-Year Plan (2001-2005), which encouraged domestic companies to invest in overseas construction projects, and promote trade and export of products, services and technology. The plan also called for companies to invest overseas in strategic natural resources. In order to assist companies investing overseas, the Government committed to provide financing, insurance, foreign exchange, tax incentives and other services.[119] The 11th Five-Year Plan (2006-2010) re-emphasized government support for qualified enterprises to engage in overseas investment,[120] and the 12th Five-Year Plan (2011-2016) called for the acceleration and expansion of outbound investment. The Plan encourages investment in research, manufacturing and the development of international brands and marketing networks. Agricultural cooperation and construction are also recognized as priority areas. The Plan also calls for the establishment of sound

US$ 107.84 billion:
China's overseas investments in 2013

US$ 660.48 billion:
China's accumulated ODI stock as of 2013
Ministry of Commerce of the People's Republic of China

Figure 4: MOFCOM Figures on Outbound Direct Investment, 1985-2013 [125]



laws and regulations for overseas investment, and states that companies operating overseas should ensure that they fulfil their social responsibilities and bring benefits to local people.[121]

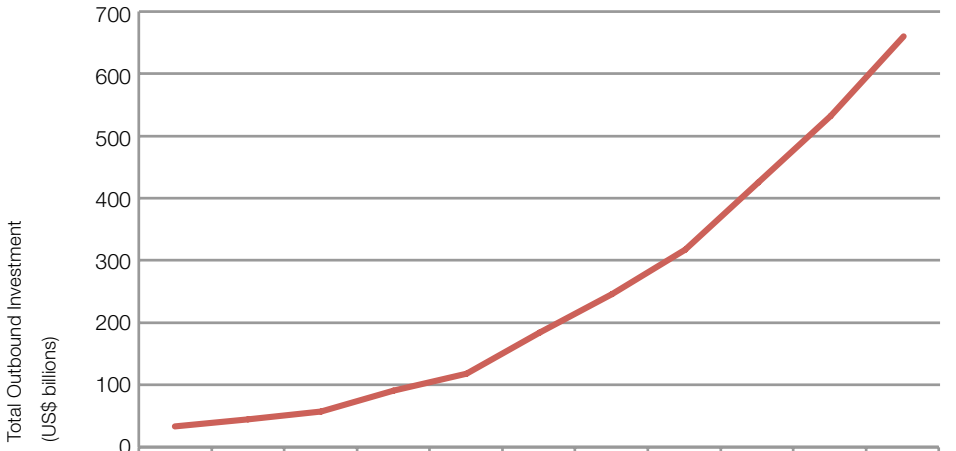
Inflows of foreign direct investment (FDI) have traditionally been much higher than China's outbound direct investment (ODI). However, in recent years the government has stated that it wishes to balance the two. The Ministry of Commerce (MOFCOM) has predicted that ODI will match incoming FDI by 2015, in part because of the large amount of foreign reserves China currently has at its disposal, and because of China's "huge demand for agriculture and mining products".[122] China may even become a net investor in the coming years.

Levels of China's Outbound Direct Investment

It is difficult to accurately assess the exact amount of investment currently flowing out of China. There are multiple and conflicting statistics in the public domain, and different observers use varying criteria for measuring China's ODI. For the purposes of this report, the official statistics of China's Ministry of Commerce are used. It should be noted that these figures cover mainland China, and do not include overseas investment originating from the Special Administrative Region of Hong Kong.

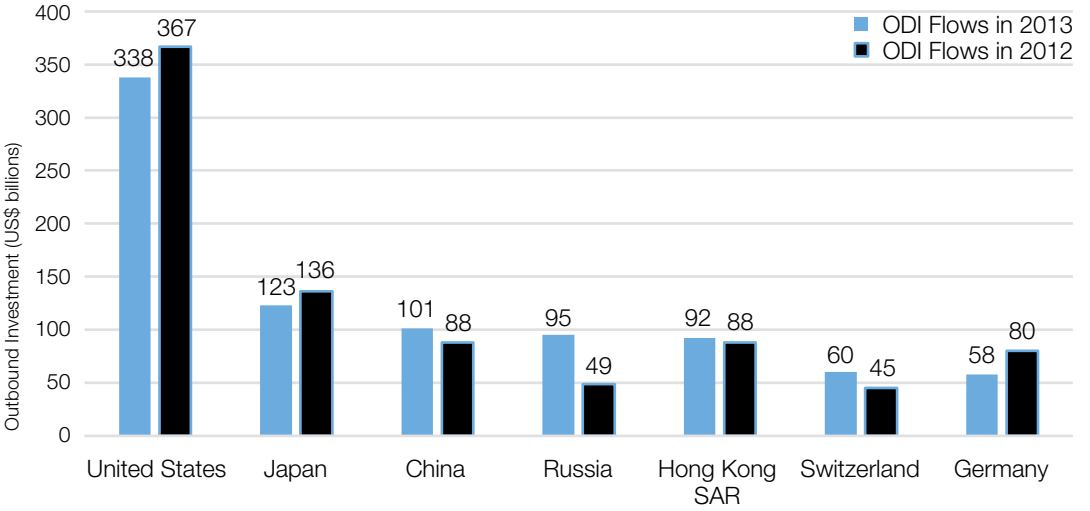
Although differing figures exist regarding China's ODI, one thing all data sets have in common is they indicate that since the early 2000s China's overseas investment has increased rapidly. According to MOFCOM, China's non-financial outbound investment reached US$92.7 billion in 2013, which is an increase of more than 34 times the amount invested just eleven years previously in 2002. Including investments in the financial sector, outbound investment for 2013 reached a total of US$107.84 billion. As of 2013, China's accumulated ODI stock stood at US$660.48 billion.[123] This places China third in the world, behind the US and Japan, in terms of outbound investment flows.[124]

Figure 5: MOFCOM Figures on Accumulated ODI Stock, 2003-2013 [126]



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cumulative Investment (US$)	33.2	44.8	57.2	90.6	117.9	183.9	245.7	317.2	424.7	531.9	660.4

Figure 6: Global Outbound Direct Investment in 2012 and 2013 (UNCTAD statistics) [127]



According to MOFCOM, up to 2013 more than 15,300 Chinese companies established around 25,400 overseas enterprises across 184 countries and regions. The ministry also states that by the end of 2013, overseas projects employed more than 1.96 million people, 967,000 of whom were non-Chinese.[128]

Why Are Chinese Mining Companies Investing Overseas?

There are numerous motivations behind China's going out strategy, one of which is the acquisition of natural resources such as oil, gas and minerals. As was discussed in Part 1 of this report, despite having

considerable domestic mineral reserves, China has a shortage of a number of key mineral resources. For example, China's domestic supplies of copper meet less than 30% of the country's demand, with the remainder imported from countries including Chile, Peru, Australia and Mongolia.[129] China is also heavily reliant on imported iron ore for its domestic steel production, and in 2010 60% of the iron ore used in China's steel industry was imported. [130]

In January 2012 the Ministry of Industry and Information Technology (MIIT) issued the 12th 5-year development plans for several important areas of the economy. The 5-year plan for the nonferrous metals sector states that priority will be placed on developing China's overseas metal base, and developing bilateral relationships for extraction with other countries. According to a China Daily report: "In overseas markets, China will encourage capable Chinese enterprises to explore copper, aluminum, zinc, nickel and titanium resources and speed up the process of setting up overseas nonferrous metal supply bases".[131] The 5-year plan for the iron ore and steel sector also encourages companies to invest in chromite, coke, iron ore, and manganese projects in other countries in order to secure supplies of raw materials.[132]

Overseas Investment Strategies

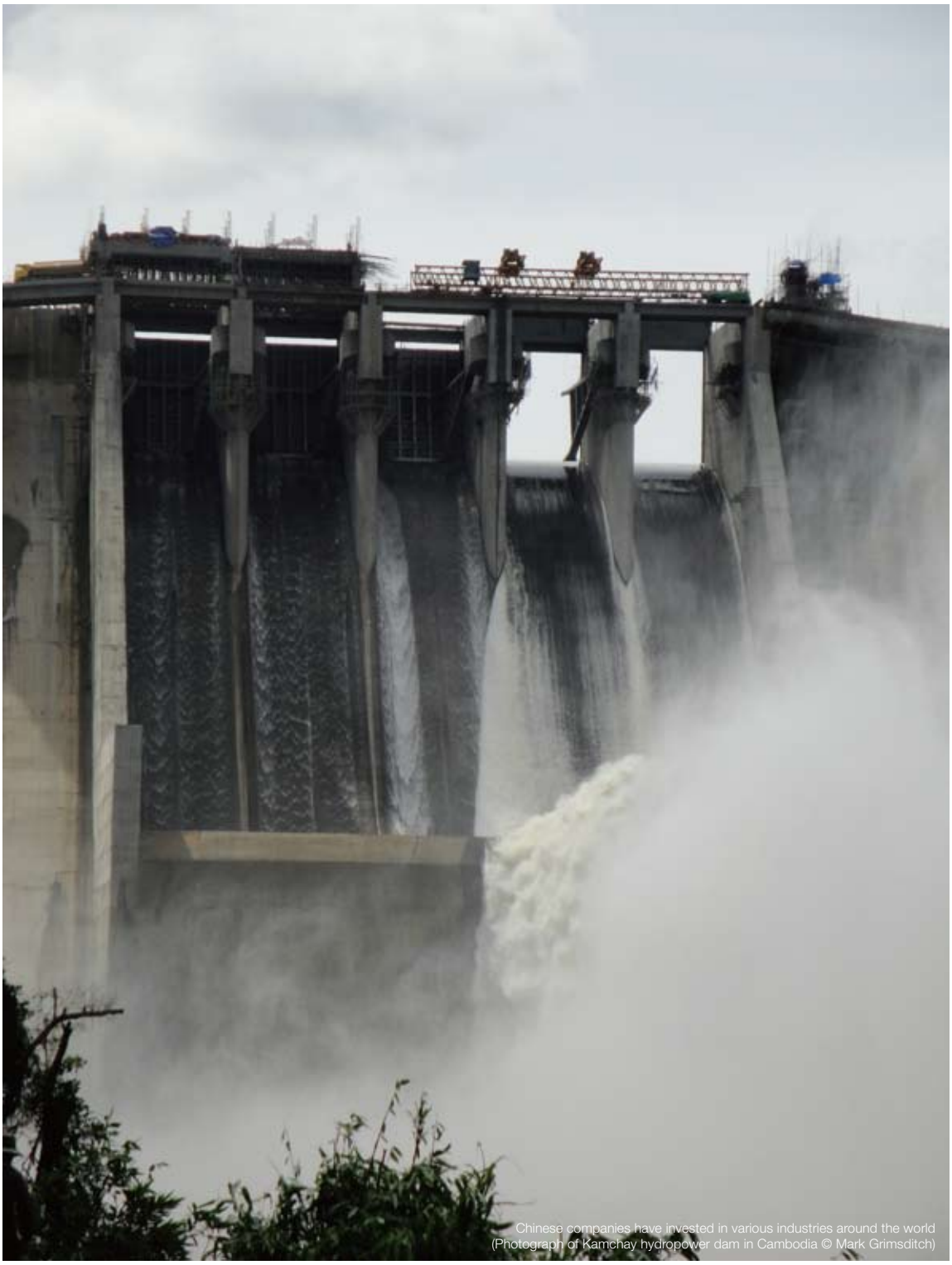
For Chinese companies, traditional methods of overseas investment include establishing wholly-owned subsidiaries or setting up joint-ventures with local companies and developing "green-field" type projects, where companies build a project from scratch. However, vehicles for overseas investment are becoming more diverse, and investors in the extractives sector are also purchasing equity stakes in established companies and up-and-coming companies. In addition to direct investment, Chinese companies are also winning contracts to provide construction services and supply equipment. Chinese metals companies are also signing "off-take" deals with mines that are already producing. Through these deals the purchasing company acquires the right to buy a set amount of a mine's mineral output at an agreed price. [133]

Mergers and acquisitions (M&A) have become an increasingly common tool for Chinese companies to invest in overseas mining projects. In 2011 mergers and acquisitions accounted for 36.4% of total ODI flows.[134] This rose to almost 50% in 2012.[135] Through M&As, companies are able to quickly gain access to advanced technology, sales networks and existing markets, as well as acquiring established brand names and other strategic assets. According to a report by Xinhua, the energy and mining sectors accounted for the largest number of foreign acquisitions in 2012. [136]

A number of high profile acquisitions in the natural resource sector have made headlines in recent years. State-owned firms including Sinopec, Sinochem, Chinese National Offshore Oil Corporation (CNOOC) and China National Petroleum Corporation (CNPC) have all been involved in large mergers and acquisitions. In 2009, the state-owned mining company China Minmetals took over Australian mining company OZ Minerals.[137] This is explored in more detail in the case studies supplement. Although this approach to overseas investment is becoming increasingly common for Chinese enterprises, a large number of mergers and acquisitions have failed – several involving mining companies. A Bloomberg article from April 2013 reported that over the last 5 years Chinese companies attempted US$107 billion worth of mining takeovers, but US$45 billion (or 42%) failed. This included attempted acquisitions by Chinalco, Zijin, and China National Gold. [138]

How Much of China's ODI Goes into Mining?

MOFCOM's annual statistical bulletin on overseas investment sets out the distribution of China's ODI across the various sectors. The bulletin breaks investment down into 17 different areas, and in terms of both ODI flow and accumulated ODI stock, mining has been one of the most important industries for

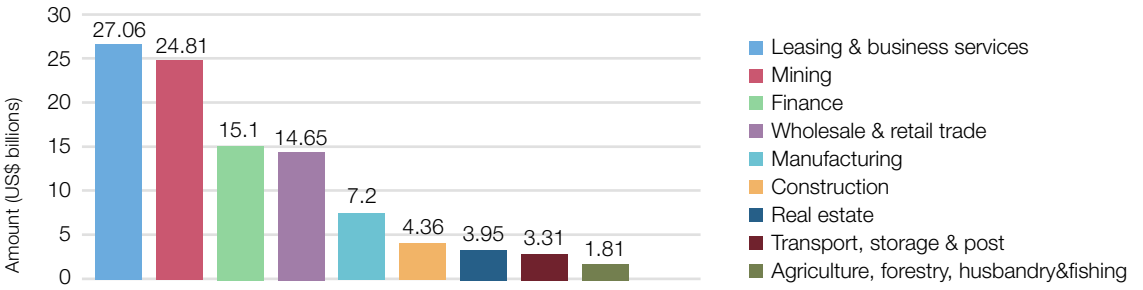


Chinese companies have invested in various industries around the world
(Photograph of Kamchay hydropower dam in Cambodia © Mark Grimsditch)

Table 3: MOFCOM Statistics on Chinese ODI in Mining, 2004-2013 [139]

Year	Annual ODI flow to mining sector			Accumulated ODI stock in mining		
	Amount (US$ billion)	% of total investment	Rank	Amount (US$ billion)	% of total ODI stock	Rank
2004	1.80	32.7%	1st	5.95	13.3%	3rd
2005	1.68	13.7%	4th	8.65	15.1%	3rd
2006	8.54	40.4%	1st	17.90	19.8%	2nd
2007	4.06	15.3%	4th	15.01	12.7%	4th
2008	5.82	10.4%	4th	22.87	12.4%	4th
2009	13.34	23.6%	2nd	40.58	16.5%	3rd
2010	5.71	8.3%	4th	44.66	14.1%	3rd
2011	14.46	19.4%	2nd	67.00	15.8%	3rd
2012	13.54	15.4%	2nd	74.78	14.3%	3rd
2013	24.81	23.0%	2nd	106.17	16.1%	2nd

Figure 7: Top Ten Sectors for China's ODI in 2013 [140]



outbound investment, ranking in the top four industries since MOFCOM statistics started in 2004. It should be noted that this includes investment in oil and gas.

As mentioned above, China's official outbound investment statistics use 17 different categories to classify investment flows. Most of these categories are clear, for example, education, real estate, and mining. The sector that receives the most investment is "leasing and business services", which accounted for over 25.1% (US$27.06 billion) of China's investment in 2013.[140] However, this category is vague and could overlap various other sectors. One academic study on this issue found that a large portion of ODI reported as "business services" actually went into the mining sector. [141]

The Heritage Foundation, a US think-tank, has developed an investment tracker that records Chinese overseas investments worth over US$100 million. Rather than using official government data, the China Global Investment Tracker uses industry data and reports to calculate statistics for Chinese ODI. Heritage Foundation data indicates that between 2005 and 2012 China invested US$90.2 billion in metals, which was second only to investments in energy and power.[142] An analysis of Chinese investments by the private equity fund A Capital found that 51% of mergers and acquisitions in 2011 involved oil or mineral resources.[143] Although the various datasets provide slightly different figures for China's overseas investments in mining, all data indicates that mineral resources are a major target of China's ODI.

State-Owned Enterprises and Private Companies

Historically China's large state-owned enterprises have been responsible for the majority of overseas investment. Although SOEs are still behind the majority of large overseas investments, private companies are becoming increasingly active overseas. MOFCOM statistics for 2012 state that SOEs share of total ODI stock had dropped to under 60%, down from over 80% in 2006.[144] According to one official from MOFCOM quoted by the China Daily in 2012, private investments will eventual surpass those of state-owned enterprises.[145] Increasingly there are reports concerning large mining investments by private companies, for example, China Daily reported in 2012 that a privately owned company from Shandong Province, Xiangguang Copper, acquired a 10% stake in Spanish firm EMED

Table 4: Chinese Mining Companies with the Largest Overseas Assets, 2012 [152]

Rank	Company	Background
12	**Aluminum Corporation of China (Chinalco)**	The largest aluminium producer in China and second largest in the world. Overseas investments include the Morococha mine in Peru.
13	**CITIC Group**	State-owned investment company with investments in coal, iron ore, aluminium and ferroalloys. Overseas interests include CITIC Metal's purchase of stake in Brazil CBMM, and CITIC Pacific's Sino Iron Project in Australia.
17	**China Minmetals Corporation**	One of the largest metals and minerals trading companies in the world and China's largest iron and steel trader. Overseas activities include the subsidiary MMG Limited, which has investments in Australia, Laos and Africa.
19	**China Poly Group Corporation**	Large company originally specializing in defence products and trade, now diversified with investments in multiple sectors including energy and mining.
23	**Yanzhou Coal Mining Company**	A company specializing in coal mining and railway transportation of coal. The company's overseas investments include a number of coal mines in Australia.
30	**Shanghai Baosteel Group Corporation**	The biggest steel producer in China, Baosteel runs a large number of overseas companies, and is seeking to expand investment in overseas mineral resources.
31	**China Huaneng Group**	A power company with overseas investments in coal mining.
32	**China North Industries Group Corporation (NORINCO)**	A defence company with diversified business interests. Overseas mining investments include a copper mine in Myanmar.
34	**China Metallurgical Group**	Diversified company with investments in mining, real estate, papermaking, etc. Overseas investments in mines in Afghanistan and Papua New Guinea.
37	**Chongqing Chonggang Mineral Development Investment**	State-owned company focussing on mineral exploration and mining technology development. Overseas investments in Australia.
39	**Sinosteel Corporation**	Major company engaged in development, processing and distribution of mineral resources. One of the first Chinese mining companies to "go global". Engaged in joint-ventures in Australia and South Africa, among others.
46	**Jinchuan Group**	A Gansu-based company specializing in mining and processing of products including nickel and copper. Projects around the world, including Africa and Australia.
50	**Shougang Corporation**	One of China's largest steel companies, with overseas operations in Peru and Zimbabwe, among others.
51	**China Nonferrous Metal Mining Group (CNMC)**	A state-owned mining company with investments in nonferrous metals at home and abroad. Has overseas projects in Zambia and Mongolia, among others.
52	**SINOHYDRO**	China's biggest hydropower company, now diversified into other sectors. Overseas projects include copper in Democratic Republic of Congo and potash mine in Laos.

Mining. In the same year, the Fujian based Rongtai International Group Holdings bought eight iron ore mines in Australia, with the aim of shipping iron back to Fujian for processing in Chinese steel mills.[146]

In some cases, private and state-owned companies are now working in partnership. This is illustrated in the case study supplement of this report, which includes a joint-venture between the private company Cambodia Iron and Steel Mining Industry Group and the state-owned China Railway Group, who plan to jointly develop a major iron and steel project in Cambodia.

It has been reported that private firms face greater obstacles than SOEs in receiving government approval and state subsidies for overseas investments,[147] and often struggle to negotiate the

Rank	Company	Background
53	**Wuhan Iron & Steel Group Corporation (WISCO)**	A well-established iron and steel processing company, WISCO is seeking to secure iron ore resources through overseas investments.
59	**Hunan Valin Iron & Steel Group**	Producer of iron and steel products. Owner of 16.5% share in Australian mining company Fortescue Metals Group.
61	**Jiangsu Shagang Group**	Privately owned steel producer with plants in China and investments in Australian iron ore mining and steel production.
68	**China National Gold Group Corporation**	China's largest gold producer. Reportedly exploring for gold in Congo, Brazil, Russia, Venezuela and Bolivia.
69	**Jinan Jien Nickel Industry**	Shanghai Stock Exchange listed nickel company. Overseas projects include a 15% stake in Australian company Metallica Minerals.
71	**Shandong Iron and Steel Group**	Major Chinese steel producer. In 2012 the company invested US$1.5 billion in London-listed African Minerals, which has an iron ore mine in Sierra Leone.
72	**Hebei Iron and Steel Group**	Large state-owned steel company. Overseas projects include 20% share in Canadian company Alderon Iron Ore.
74	**Anshan Iron and Steel Group**	One of China's largest steel producers. Overseas sales network of 10 companies and investments including a joint-venture with Australian Gindalbie Metals.
80	**Daye Nonferrous Metals Company**	Hubei-based state-owned company specializing in exploration and development of nonferrous mines. Overseas projects in Mongolia and Kyrgyzstan.
83	**China Railway Engineering Group**	State-owned company and one of the largest global construction companies. Overseas mining interests in Venezuela and Cambodia (see case studies supplement).
94	**Shenhua Group Corporation**	State-owned group of companies with coal mines, power generation, rail and shipping across China. Overseas projects in Mongolia, Russia, Indonesia and Australia.
95	**Jinduicheng Molybdenum Group**	State-owned company and one of the biggest molybdenum producers in Asia. Has overseas investments in Argentina and Canada.
96	**Guangdong Guangxin Holdings Group**	A state-owned enterprise group with diverse investments. The group's subsidiary, Guangxin Mining Group, has overseas mining investments in Australia, Madagascar among others.

complicated approval process to use foreign currency in overseas investments.[148] However, government policy is now changing in order to promote private companies' overseas ventures and to encourage financiers to support private enterprises.[149] Along with improved access to credit and preferential taxation, an increase in the global use of the Chinese Yuan may also increase investment opportunities for the private sector.

Overview of China's Overseas Mining Activities

Investment and trade in mineral resources plays a major role in China's engagement with the global economy, and according to China's Minister for Land and Natural Resources, import and export of mineral resources accounted for 35% of China's total foreign trade in 2011.[150] Over the last decade, Chinese companies have diversified the types of minerals being sourced from abroad. In addition to iron ore and coal, companies now target various other minerals, including copper, tin, zinc, nickel and uranium. According to the Vice-Chairman of the China Nonferrous Metals Industry Association, rapid development and urbanization within China support the growing demand for nonferrous mineral resources. [151]

The MOFCOM overseas investment bulletin includes a table of the 100 Chinese companies with the largest foreign assets. Among these companies, at least 28 have overseas investments in mining and metals.

As can be seen above, many of China's biggest overseas investors are active in the mining sector and are invested in projects across the world. Smaller companies are also seeking overseas investments in mineral resources, and some companies that have not previously specialized in mining are beginning to diversify into the sector. The remainder of this section provides an overview of Chinese mining investments around the globe. Although this summary is by no means comprehensive, it is intended to provide a snapshot of Chinese investment in different regions of the world, and aims to illustrate the diversity of approaches and investment targets of Chinese companies in the overseas mining sector.

Africa

Trade between China and Africa has risen significantly in recent years, and in December 2012, China's Global Times reported that trade had hit a record high of US$163.9 billion.[153] Much of the exports coming out of Africa are natural resources such as oil, minerals and timber, as well as agricultural products. According to a 2008 World Bank report, China sources 80% of its cobalt imports and 40% of manganese imports from Africa, and Chinese firms are also investing in projects for minerals including copper, bauxite and iron ore.[154] Recipients of Chinese mining investment include the Democratic Republic of Congo, Gabon, Guinea, Zambia, South Africa, Tanzania, Mozambique and Zimbabwe.

The China-Africa Development Fund (CAD Fund) is a development fund set up in 2007 with the aim of supporting Chinese enterprises investing in Africa and promoting the development of Sino-African commercial ties and trade. One of the fund's four main target industries is natural resources, which includes mineral resources.[155] CAD Fund has invested in a number of mining projects, for example, it is a major shareholder in the South African mining company Weisizwe, along with the private Chinese

China in Africa illustration from China Daily, 2012
(© Li Min / China Daily)

company Jinchuan Group and local partners. In early 2013 the China Development Bank approved a US$650 million loan for the company to develop a platinum mine. [156]

Chinese companies have engaged in joint-ventures with local private and state-owned companies, and more recently have begun to join forces with established international mining companies. In 2010 the Chinese state-owned mining company Aluminum Corporation of China (Chinalco) entered a joint-venture with the British-Australian mining giant Rio Tinto to develop the Simandou iron ore project in mineral rich Guinea in West Africa. This project also includes investment from the World Bank's private investment arm, the International Finance Corporation (IFC), which owns a 4.6% equity stake in the project. In 2014 the parties submitted their investment framework to the Guinean national Assembly. If approved, this US$20 billion deal will be the largest iron ore and infrastructure development project in Africa.[157] Chinese companies have also acquired stakes in existing companies. For example, in 2013 Tianjin Materials and Equipment Group Corp, agreed to pay US$990 million for a 16.5% stake in African Minerals' Tonkolili iron ore mine in Sierra Leone. [158]

In a number of cases, Chinese companies with strong state backing and access to large loans from China's policy banks have entered into agreements to develop processing facilities and infrastructure such as power supply, roads, railways and ports in order to facilitate extraction, processing and transport of raw materials to markets. Chinese companies are also developing several special economic zones (SEZs) across Africa. Various activities are taking place in these economic zones, including mineral processing. For example, the Zambia-China Economic and Trade Cooperation Zone includes copper processing facilities. This SEZ is developed by China Nonferrous Metals Group (CNMC), which has extensive investments in copper extraction in the area – including a US$832 million copper mine that was approved in 2012. [159]

Latin America

China has become a major investor in Latin America and a large percentage of this investment goes into the extractive industries.[160] Mining investments have increased in the last few years, with projects approved, under development, or in operation in Peru, Chile, Brazil and Bolivia, among others. The size of these investments varies greatly, but a number of large investments have made headlines in local and international media, and several have been the focus of academic studies and civil society reports.

Minerals dominate Peru's exports to China, and according to one report account for 60% of the country's total exports to China in 2012.[161] Chinese companies are active in developing a number of large projects for the exploitation of resources including copper, iron and gold. The first Chinese mining company to commence operations in Peru was Shougang, which began development of the Marcona iron ore mine in the early 1990s after purchasing a Peruvian state-owned company.[162] Another major SOE, China Minmetals, acquired the rights to the El Galeno copper and gold mine after buying a majority stake in the Canadian company that previously held the license. [163]

After several years of development, state-owned Chinalco began production at the massive Toromocho copper mine.[164] The project is reportedly worth US$3.5 billion and will increase Peru's metal output by 17%.[165] This is Chinalco's biggest overseas project and is predicted to produce 250,000 tonnes of copper per year, much of which will reportedly be exported to China under a free trade agreement.[166] In April 2014, a consortium of Chinese companies led by Minmetals subsidiary MMG Limited acquired 100% of Glencore Xstrata's Las Bambas copper mine in Peru for over US$6 billion. This will be one of China's biggest ever investments in an overseas copper project. [167]

Elsewhere in Latin America, China is a major trading partner with Chile, which exports large amounts of copper and other minerals to China. The two

countries aim to develop this trade relationship further, and Chinese companies are linked to a number of mining projects in Chile. This includes China Minmetals, which invested over US$500 in a joint-venture with the world's biggest copper producer, Chile's state-owned Codelco copper company.[168] Venezuelan officials announced in 2012 that an agreement had been signed with the China International Trust and Investment Corporation (CITIC) to jointly develop the Las Christinas gold mine, which is one of the largest gold reserves in the world.[169] CITIC has also signed an agreement to conduct a five year survey to develop a map of all of Venezuela's mineral resources. [170]

Investment in mining in some parts of Latin America can be high risk, and there are a number of high-profile cases of companies from various countries becoming involved in disputes with local communities. In 2010 one study identified 118 mining conflicts in 15 countries in Latin America.[171] A number of Chinese projects have run into such problems, including the Rio Blanco copper mine in Peru, in which Zijin Mining Group has purchased a majority stake. This project, which has stalled due to opposition from local people, is discussed in more detail in the case studies supplement. Problems associated with Shougang and Chinalco's investments in Peru are also returned to later in this part of the report.

East and Central Asia

Chinese mining companies are also active in East Asia, including Mongolia and North Korea. China is a major investor in Mongolia, and according to one report, up to 2011 more than 5,600 Chinese companies had invested US$3 billion in the country, representing nearly 50% of Mongolia's incoming foreign investment.[172] This includes a number of Chinese mining operations, as well as joint-ventures between Chinese and Mongolian firms. The state-owned China Nonferrous Metal Mining Group (CNMC) is active in zinc mining,[173] and China National Nuclear Corporation is conducting feasibility studies for development of uranium.[174] To the east, China is reportedly the biggest importer of coal and iron ore from North Korea, where Chinese companies are also active in exploration and extraction.[175] Due to the difficult business climate, many other foreign projects in North Korea have failed and China is the only country that has enjoyed significant success in the sector. [176]

Elsewhere, in Central Asia, Chinese companies are active in several countries, including Kazakhstan and Uzbekistan. This includes projects targeting uranium deposits, and the China General Nuclear Power Group has entered a number of joint-ventures with SOEs in the two countries.[177] In Tajikistan, Zijin Mining Group holds a controlling share in a joint-venture with the Tajik government through which it operates a number of gold mines.[178] China has also been active in exploring for mineral resources in Afghanistan, although work has been slowed by the security situation.[179]

Southeast Asia

In mainland Southeast Asia, Chinese companies are active in Laos, Myanmar, Vietnam, and Cambodia. Most of the foreign investors active in the Cambodian mining sector are either from China or Vietnam. In December 2012 a previously unknown privately-owned mining firm signed a deal with a subsidiary of China Railway Group to develop a US$11 billion mine, steel plant, railway and port project – this is covered in detail in the case study supplement. Aside from this as-yet unrealized project, a number of large companies have shown interest in Cambodia's mineral reserves, including Guangxi Nonferrous Metals Group.[180] Many smaller companies are also involved in exploration. Chinese companies also play a major role in Laos' mineral sector, and the case study supplement of this report also includes a project from Laos which is owned by China Minmetals subsidiary MMG Limited.

China imports substantial quantities of bauxite from Vietnam and in 2009 state-owned Chinalco signed a

China's total investment in Australia between 2006 and 2012 was US$45.1 billion. 79% was invested in the mining sector.
KPMG & University of Sydney, "Demystifying Chinese Investment"

Guangxi Nonferrous Metals exploration project in Preah Vihear, Cambodia (© Ji-Sook Lee)

deal to invest in a bauxite project with a Vietnamese state-owned company.[181] Chinese mining companies also have a presence in Myanmar, including a copper mine held by a joint-venture of the Chinese company Wanbao and the Myanmar government. This project is returned to later in this part of the report. Beyond mainland Southeast Asia, Chinese mining companies are also active in the Philippines, Malaysia and Indonesia.

North America & Australia

A significant number of China's overseas mergers and acquisitions in the mining sector have involved mining companies from developed countries, including Canada and Australia. According to a 2012 report by KPMG and the University of Sydney, between 2006 and 2012, China invested a total of US$45.1 billion in Australia, 79% of which went into mining.[182] China is a major export market for Australian minerals and in the last decade a number of large Chinese state-owned and private companies have acquired or purchased equity in existing companies, or established joint-ventures with Australian mining companies. In 2012, Zijin Mining purchased a majority share in Australia's Norton Gold Fields, which according to the company was the first successful attempt by a Chinese company to take over an operational large-scale overseas gold mine.[183] In July 2013, state-owned China Molybdenum Co. Ltd. agreed to buy an 80% share of Rio Tinto's Northparkes copper and gold mine for US$820 million.[184]

Canada has large untapped reserves of minerals such as copper and nickel, which China is eager to acquire to meet domestic demand. As companies hit by the financial crisis in Canada struggled to find funding for proposed projects, some began to look to Chinese investors to either buy equity or purchase struggling assets.[185] Both China Minmetals and Wuhan Iron & Steel (WISCO) hold equity stakes in Canada's Century Iron Mines,[186] and the Minmetals subsidiary MMG Limited has copper and zinc exploration projects in Izok Corridor, Northern Canada.[187] In 2011, three major Chinese state-owned companies announced a US$1.36 billion joint-venture to develop coal resources in British Columbia. [188]

Positive Impacts of China's Overseas Mining Investments

Chinese investment in overseas mining brings a number of potential benefits for host countries. As with China's domestic mining investment, overseas projects can potentially contribute to an increase in host countries' GDP. Taxes on income, profits and fuel, royalty payments, land rental and license fees all raise revenues for host nations. For example, the Sepon mine in Laos, which is run by the China Minmetals subsidiary MMG Limited, has reportedly raised US$1 billion in direct revenue between 2002 and May 2013.[189] According to Chinalco and Rio Tinto, the planned joint-venture to develop an iron ore mine, railway and port in Guinea will double the country's GDP.[190] The products of mining can also benefit secondary industries, for example, by producing materials for use in the agriculture and construction industries, and for use in the development of infrastructure.

Chinese companies are investing in a number of developing countries that have abundant mineral resources but undeveloped mining industries. Investment from Chinese companies can facilitate technology transfer to these countries and support the development of the mining sector. The infrastructure associated with mining projects, for

example, improved road networks, railways, ports and power supply can also support the development of other industries. For example, the Cambodia Iron and Steel Mining Industry Group and China Railway Group steel project, covered in the case study supplement of this report, has been promoted by the developers as a potential driver for Cambodia's industrialization. Railway and port components will be used to connect the mine to markets, but may also facilitate wider development of the mining sector and other industries that are currently held back by weak infrastructure.

Mining projects can also generate employment. Although there are no detailed statistics that indicate how many local people are employed on China's overseas mining projects, according to MOFCOM, by the end of 2012 Chinese overseas projects directly employed more than 1.49 million people, 709,000 of whom were non-Chinese.[191] According to the Chinese Government, Chinese investment has created 50,000 jobs in Zambia, much of which is in mining.[192] Chinalco and Rio Tinto have stated that their Guinea joint-venture will generate 45,000 jobs.[193] Mining can also generate downstream employment, and businesses may benefit from supplying products and services to the mining company and mine employees. Employment can raise local incomes and in turn improve quality of life. Increasing the purchasing power of local people also supports the growth of local economies. Additionally, in some cases investors support the improvement or development of public services such as local healthcare or educational facilities. Infrastructure developments may also benefit the general public, for example, by improving transport links and energy supplies to remote areas.

Of course the above benefits cannot be realized if investment is not conducted in a responsible manner, and these benefits are not always as clear cut as they may appear. Increase in GDP can be a useful indicator of the impact of a particular investment, but it should not be viewed in isolation. A mining project may raise GDP in the short-term, but if mining causes serious pollution or social unrest, the long-term impacts may cancel out these benefits. In countries with weak rule of law and/or regulatory systems that are not able to manage major resource investment, there is a risk that rapid development of the mining sector and other industries could in fact be economically and socially harmful to some. In order to understand the broader impacts of China's overseas investment in mining it is important to also look at the challenges that mining companies have faced while going out and to highlight some of the concerns that have been raised regarding the practices of Chinese mining firms.

Concerns Regarding Chinese Mining Companies' Conduct Overseas

A review of global media, civil society reports, academic literature and statements by government officials from across the world shows that there is a wide range of opinions on Chinese overseas investment. The Chinese Government and media are often eager to promote the positive impacts of Chinese investment and its potential for "win-win" cooperation between investors and host nations, and many leaders in recipient countries have also voiced strong support for Chinese investment. However, there is also a large amount of coverage that is critical. There are a number of specific cases where Chinese investors have been accused of improper or irresponsible conduct. There are also more general criticisms of Chinese companies' approach to overseas investment, including the lack of comprehensive safeguards for dealing with social and environmental impacts.

Critical coverage of Chinese investment has been particular widespread in the western media, but it is also present in local press, and in a number of cases political figures have also joined the debate and raised concerns about the approach of Chinese investors. In some cases this criticism may be motivated by political

Chinalco's Toromocho copper mine will require the resettlement of 5,000 people. The resettled people will be offered housing in a new town, which will cost US$50 million to construct.
China Daily article: "Companies Still Drawn to Peru, Despite Obstacles"

factors, but the fact cannot be ignored that there are real concerns about the conduct and practice of many Chinese companies active abroad, and this is impacting on perceptions of Chinese investment in general. A number of these issues are discussed in more detail below. It should be kept in mind that these issues are not exclusive to Chinese companies, and mining is a high-risk sector for investment no matter what the nationality or background of the company. However, these issues need to be acknowledged and understood in order to improve the quality of Chinese investments in the sector.

Environmental Impacts

As discussed earlier in this report, despite the fact that China has relatively well-developed regulations for environmental protection, implementation is weak, and China's environmental problems are well-known across the world. China's domestic environmental situation no doubt casts a shadow over Chinese company's overseas ventures, and concerns are often raised that Chinese companies may export poor environmental standards.

Mining is a high risk area for investment and can come with significant potential for negative environmental impacts. Many of China's overseas mining investments are in developing countries where rule of law is still weak, and/or legal framework for environmental protection is still developing. Subsequently, several high profile overseas mining projects have been connected to environmental pollution. In cases where incoming investors pay inadequate attention to environmental assessment and management, companies risk encountering local opposition.

As mentioned earlier, the Chinese steel giant Shougang was the first Chinese miner to enter Peru in the 1990s when it purchased the company Hierro Peru. Unfortunately the company has run into multiple problems in the following two decades, and has developed a poor reputation, which some observers have suggested still reflects badly on other Chinese investors.[194] The company has received four fines for violating environmental regulations, including pumping waste water into the sea. In 2006, the Ica regional government declared a state of "environmental emergency" in the area of the mine.[195] In late March, Chinalco was ordered to partially halt activities at the huge Toromocho mine in Peru after an investigation by Peru's environmental regulator. Inspections found that the company had been improperly dumping waste water into the Huacrococha and Huascacocha lakes. [196]

Resettlement & Compensation

Inevitably some mining projects will require resettlement of local people or acquisition of agricultural and forest land. This may affect individual landholders, and can also impact on communally held land and the lands of indigenous people. As land acquisition and compensation can be an extremely sensitive and complex issue, strong mechanisms are needed to ensure that relocation is done in an appropriate way and that compensation is adequate and paid in good time.

When mining projects require large-scale land acquisition in China, the local government plays a major role in the process of allocating compensation and facilitating relocation. It has been observed in a number of cases that when investing abroad Chinese investors view resettlement and compensation issues as being the responsibility of the local government rather than the company.[197] However, it is risky to rely on state actors to handle this process unsupervised in countries where the government has limited resources to support the process, or lacks experience and understanding of the complex nature of conducting large-scale land acquisition appropriately.

One case that has attracted considerable attention due to the scale of resettlement is Chinalco's Toromocho copper mine project in Peru. Chinalco's


Toromocho mountain peak, Peru
(© Luis Manuel Claps)

plan to develop the Toromocho copper mine involves the relocation of 5,000 people from the mining area.[198] A new town has been built by the company in order to accommodate the relocated people. The town reportedly has lighting, a modern sewage system, waste water treatment facilities, and flood defences. The town has also been equipped with a police station, clinics, primary and secondary schools, and several churches catering to different faiths. 1,050 two-story homes have been built for tenants and people have already begun to move to the town, although some people have voiced opposition to moving.[199] According to the company a new town will be built at the cost of US$50 million and will be the biggest privately funded social project in Peru's mining history.[200] Chinalco hired a local mining consultancy firm to conduct community consultations and the resettlement project has been highlighted as a potential model for other Chinese companies.[201] However, it should be noted that it is much too early to assess the success of this resettlement project, or the impacts of the mine itself. It has also been reported that some local people are unhappy with the location and size of the replacement housing and refuse to move.[202] Aside from resettlement issues, the project will result in significant damage to the Toromocho Mountain, and as mentioned earlier, in 2014 the project was implicated in local water pollution and the company was ordered to suspend operations until the problem was resolved.

Communication with Local People & Understanding of Local Cultures

Chinese investors are often criticised for being too focussed on building relationships with government partners while overlooking the need to communicate and cooperate with local communities and civil society.[203] It is important to build relationships and communication channels with local groups and communities in order to keep them informed about company activities, but also to gather information that may be important for a project's implementation. Without such communication, companies may overlook community concerns or fail to identify issues that are impacting local people. If companies fail to communicate and earn community trust, they will not be able to obtain the "social license" necessary to conduct operations, and the chance of conflict with local people is increased.

During a press conference in early 2012, a spokesman for the National Committee of the Chinese People's Political Consultative Conference (CPPCC), stated that China should learn to leverage "public diplomacy" to help Chinese companies to go

"A majority of Chinese companies are still in an early stage on the road … They lack in-depth and comprehensive knowledge about overseas markets, practices and rules, and they are not adept at conducting public diplomacy with the local communities"
CPPCC Spokesman quoted in the China Daily, 2012

global more smoothly and efficiently. According to this spokesman, the majority of Chinese companies still have much to learn about investing overseas, and "lack in-depth and comprehensive knowledge about overseas markets, practices and rules, and they are not adept at conducting public diplomacy with the local communities."[204]

When companies are seen as being too close to the government but inaccessible to local people, this is likely to lead to discontent and also presents a poor corporate image. This is especially problematic in countries with a reputation for oppressive or corrupt government, and/or where governments lack legitimacy in the eyes of some social or ethnic groups. An article from the Global Times in late 2012 identified a number of these issues, and provided the examples of the Monywa copper mine (discussed in more detail below) and the Myitsone dam project, both in Myanmar. In both cases the companies focussed their efforts on securing official backing but neglected communication with local people, media and civil society.[205] In the case of the Monywa copper mine, the company president was quoted in the China Daily as saying: "Local people were not involved in our development plan."[206] This no doubt contributed to subsequent conflicts with affected people.

If companies do not adequately consult with affected people and if they fail to integrate into local communities they may also fail to understand the subtleties of local cultures. As will be discussed in Part 4 of this report, the Chinese Government expects Chinese enterprises to respect local customs and cultures when investing overseas. Community dialogue is crucial to ensure that this is achieved.

Worker Safety & Labour Issues

Working conditions in some of China's overseas mines have also come under criticism. As noted in the first half of this report, China's domestic industry has a troubling safety record. Although government statistics indicate that the situation is improving in China, Chinese mines still have a reputation for being dangerous places to work. This reputation precedes Chinese mining companies as they invest overseas, which again may lead to concerns that poor safety practices could also be exported.

In Zambia in 2006, workers protested against the working conditions at the Collum coal mine. Two Chinese managers subsequently opened fire on the workers, injuring more than 10 people. The managers were arrested but the charges were later dropped.[207] In 2013 the Zambian Government revoked the license of Collum Coal and seized the mine because of the company's poor health, safety and environmental record. Zambia's mining minster stated that the company did not provide approved protective equipment or have emergency medical facilities.[208]

A number of overseas mining projects have encountered labour unrest. This has caused disruption in production, and in some isolated cases has resulted in violence. In the Shougang case referred to above, the last two decades of operation at the company's Hierro Peru mine have been disrupted by a large number of strikes and industrial actions. According to one report, there have been between one and four serious strikes every year since the early 1990s.[209] Another article states that on several occasions the mine has lost over 40 days per year to strike action.[210] A number of Chinese mines in Africa have also struggled with labour disputes. The Chambishi mine in Zambia, which is run by a subsidiary of China Nonferrous Metal Corporation, has also seen serious strike action and in 2011 the company reportedly threatened to fire all workers who did not return to work within a 48 hour deadline.[211] Before the Collum coal mine (referred to above) was closed, a protest by workers regarding pay turned violent and a Chinese manager was killed and several others injured.[212]

The practice of bringing Chinese labour to work on overseas projects has also been a focus of concern in some countries. There are no reliable statistics on how many Chinese are working overseas, but it is

common for Chinese companies to bring in Chinese nationals to work on overseas projects. However, the practice varies from company to company and depends on the conditions and labour available in the country hosting the investment. It is still common for senior positions to be taken by Chinese nationals, but by working towards greater levels of localization at all levels, overseas enterprises can increase local ownership, enhance local incomes, and facilitate skills transfer in developing countries. Employing local people also means that local knowledge can also be incorporated into company decisions, which can help to avoid or mitigate issues that could lead to conflict.

Conflict with Local Communities

A number of Chinese mining projects have run into conflict with local communities. These conflicts have arisen in response to various issues, including environmental pollution, displacement, dissatisfaction with compensation rates, and lack of access to employment opportunities.

In some cases conflict with local people has led to serious disruption of company activities. For example, in Kyrgyzstan in late 2012, 450 people threatened to destroy company offices at Zijin's Orlovka gold mine. This incident reportedly occurred after a company vehicle driven by a Chinese national killed a local person's horse. This led to the evacuation of all Chinese staff and temporary suspension of the project.[213] Companies from several other countries have also run into conflict with local people in the country. However, the head of China's Chamber of Commerce in Kyrgyzstan stated that Chinese investors can learn lessons from such incidents, and need to better understand the local political context, power imbalances between different social groups, and the distribution of interests. [214]

Another recent high-profile incident involved the Letpadaung copper mine in Myanmar. The mine originally dates back to the 1980s, during which time it was run by a Yugoslavian company, and later by a Canadian company. Throughout this time the area around the mine has been heavily polluted by the project, which has had significant impacts on the livelihoods of local people. In 2011 the Chinese company China North Industries Corporation (NORINCO) acquired a stake in the project.

The mine is now run by a joint-venture owned by Wanbao Mining (a NORINCO subsidiary) and a company owned by the Myanmar military. Many of the environmental problems caused by the mine have been blamed on the mines previous owners, especially regarding the mismanagement of tailings and pollution of groundwater.[215] However, conflict erupted in 2012 when the Chinese company took over the project and announced plans for a US$1 billion expansion. Affected communities claimed that they were not properly compensated for loss of land, and that acid from the mine had destroyed their farmland and contaminated drinking water. Local people and monks also feared that harm would come to sacred Buddhist sites located in the area. Protests began and the government responded by sending in riot police who reportedly injured 100 people. Media and local people claimed that during this crackdown the police used incendiary weapons, and pictures were published of villagers and monks with horrific burns. Soon after, small demonstrations were held outside the Chinese embassy in Yangon.[216]

The project was suspended after the protests turned violent and a subsequent investigation found that the police used disproportionate force and that the mine had caused environmental pollution. The report identified issues that the company should correct, including improving environmental assessments, increasing transparency, and paying appropriate compensation to affected people.[217] In July 2013 the Chinese Embassy and representatives of several state-owned firms active in Myanmar held a media event to discuss the impacts of their investments. A representative of Wanbao said that the company would carry out the recommendations of the investigation, and that the firm would provide

"Chinese enterprises own capital, capacity and technology, but what they lack is their cultural responsibility and corporate social responsibility … China's ODI growth cannot be sustained if this problem is not solved."
Counsellor from MOFCOM's Department of Outbound Investment and Economic Cooperation, quoted in China Daily, 2012

jobs, appropriate compensation and build facilities including schools and healthcare clinics to help affected communities. [218]

Again, it is important to note that it is not only Chinese mining companies that have come into conflict with local communities in their overseas investments. However, there are a significant number of high-profile cases where conflicts have arisen and have been brought about by community concerns regarding company conduct. The Letpadaung case highlights shortcomings in the company's approach in a number of areas, including weak due diligence, lack of communication and openness with affected communities, and inadequate environmental management systems. In this case the company did not address local people's concerns for some time, and at first dismissed them as being inaccurate or politically motivated.[219] The company eventually agreed that project implementation should be improved, but if the company had addressed these issues earlier conflict could have been avoided or minimized.

Transparency

Transparency in the extractive industries is a concern the world over, and without commitments to enhance transparency by investors, host governments and regulatory bodies, the scope for corruption and misuse of funds is huge. As well as impacting on a company's corporate image, accusations of corruption can be harmful to a company's relationship with local communities and civil society groups and may make them a target for media scrutiny. If a company is not trusted by people in the host country, especially by those living in the vicinity of the project, it will struggle to maintain the social license to operate.

In 2013, the organization Transparency International released a report that ranked companies from emerging economies according to their commitments to anti-corruption and transparency. The Chinese companies assessed in this report performed poorly, and received an overall rating of 2 out of 10. This was the lowest score of the BRICS countries (Brazil, Russia, India, China and South Africa), as can be seen in the diagram below. [220]

This assessment provided scores according to each company's organizational transparency, reporting on anti-corruption activities, and country-by-country reporting. There were five mining companies among the 33 Chinese companies assessed, and they all scored poorly. [222]

The Transparency International assessment applies to company activities in general, and does not focus on overseas projects, but the low scores suggest that much work still needs to be done to develop a more transparent corporate culture among Chinese enterprises. Lack of transparency is likely to impact on both domestic and overseas projects, as well

Figure 8: Transparency International - Average Transparency Scores of Companies from BRICS Countries[221]

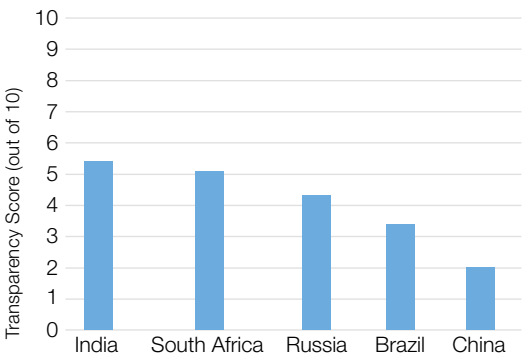


Table 5: Transparency International - Transparency Scores for Chinese Mining Companies

Company	Score
Yanzhou Coal Mining Company	2.8
Baosteel Group	2.0
Chinalco	1.3
Anshan Iron and Steel Group	1.3
China Minmetals	0.8

as impacting negatively on the image of Chinese companies in general.

Ensuring transparency in the process of securing mining rights and in on-going mining operations is crucial for investors from all countries, and a commitment to strong disclosure regulations is especially important in countries with undeveloped regulatory bodies and/or weak rule of law. In order to tackle this problem and promote best practice, a number of initiatives have been developed, including the Extractive Industries Transparency Initiative (EITI). China is not a member of EITI, but companies listed on the Shanghai and Hong Kong stock exchanges are required to disclose some information about payments connected to resource deals. These issues are discussed in more detail in Part 4 of this report.

Conclusion

The above overview of China's overseas mining industry illustrates how China's mining companies have expanded their global reach. Chinese mining companies employ various strategies to pursue overseas developments, and these strategies are constantly evolving.

There are certainly many potentially positive outcomes of China's investments in the mineral sectors of developing countries. Principally, huge injections of capital can stimulate industry and contribute to the development of much needed infrastructure. Mining can create local employment and increase incomes around mine areas, and contribute to the development of downstream industries. On a national level mining can contribute to GDP and increase exports. However, Chinese companies have come under criticism in a number of specific cases, and also more generally for lacking high quality environmental and social policies, and for failing to communicate adequately with local people.

It is important to remember that Chinese companies that are investing abroad come from varied backgrounds and the local conditions where each overseas investment is made differ greatly from place to place. It is therefore not possible to say that there is a single "China model" for overseas mining investments. There are a broad range of companies active overseas, with a range of standards and very different investment records and reputations. It is therefore unhelpful to make generalizations about the motivations, conduct and practices of China's companies abroad.

Nonetheless, the issues outlined above indicate that there may be some cross-cutting concerns regarding the way Chinese mining companies implement their projects overseas. A number of high-profile projects have been connected to environmental pollution or social conflict, which is likely to reflect badly on Chinese investors in general. For example, according to one scholar based in Peru, Shougang's long running labour conflicts, accusations of environmental pollution and contractual breaches mean that incoming Chinese companies have "a lot to prove."[223] In Africa, Botswana's President has publicly raised concerns about Chinese investment. In an interview with South African media he stated that due to some bad experiences with Chinese companies, in the future "we are going to be looking very carefully at any company that originates from China in providing construction services of any nature." [224]

Perhaps responding to some of these concerns and criticisms, a number of Chinese officials have made public statements that Chinese enterprises investing overseas should apply high standards and ensure that benefits are shared with local people. In March of 2013, China's Vice Foreign Minister stated that there had been "growing pains" in Africa-China trade and investment cooperation, and that despite rapid increases in trade and investment, "there is not much progress in quality improvement."[225] A counsellor from MOFCOM's Department of Outbound Investment and Economic Cooperation echoed similar concerns, stating that "Chinese enterprises own capital, capacity and technology, but what they

lack is their cultural responsibility and corporate social responsibility." He went on to say that "China's ODI growth cannot be sustained if this problem is not solved."[226] At the very core of this problem is the need to build and develop a responsible corporate culture among Chinese enterprises.

Earlier this paper focussed on China's domestic mining sector and highlighted a number of concerns regarding conduct of mining companies within the country. Domestically, China still needs to make progress towards improving its mining industry, ensuring that environmental standards are raised, safety improved, and that the industry in general is regulated more effectively. With much progress still to be made at home, it is important that Chinese companies going global invest capital, contribute to mutually beneficial development, and contribute to local economies, but also avoid exporting poor standards. Strong regulation is needed in order to make this a reality, and although there is still much work to be done, it can be seen that the Chinese Government and a number of Chinese enterprises and financiers are taking steps in this direction. This is the focus of the next part of this report. ■

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Part 4: Environmental & Social Policies Related to Overseas Mining Projects

Mining projects, and the infrastructure associated with mining projects, come with significant risk of social and environmental impacts if not implemented in a responsible manner. Traditionally the approach of Chinese developers and financiers has been to rely on host country legislation and regulations to avoid or mitigate project impacts and to ensure protection of the rights of local people. However, this approach comes with high risks in situations where the host country has weak legal and regulatory systems or struggles with poor governance. It is therefore important that investors and financiers of overseas projects have sound policies and systems in place to avoid or mitigate negative impacts.

Historically, this has been a weak area of Chinese overseas investment. However, this situation is changing, and in recent years a number of guidelines have been issued by various state institutions aiming to improve the implementation of overseas projects. China's policy banks have also adopted guidelines for their financing which include social and environmental requirements. These policies apply generally to overseas investments, including mining. Part 4 focuses on these guidelines, as well as stock market regulations, and the potential impact of voluntary initiatives such as the Global Compact and the Extractive Industries Transparency Initiative.

Bodies Responsible for Regulation of Chinese Overseas Investment

Various government ministries and agencies are involved in the regulation of overseas investment. Below is a summary of the main institutions responsible for overseas investment policy and regulation.

State Council: The State Council is China's top administrative body. It is chaired by China's Premier and includes the heads of the major government agencies. The State Council drafts laws and regulations and supervises China's ministries and other entities such as SASAC (see below). It is also directly involved in the approval process for high value overseas projects that concern "sensitive" countries, regions or sectors. [227]

National Development and Reform Commission (NDRC): The NDRC is China's main government body responsible for formulating and implementing strategies for national economic and social development. The NDRC must approve overseas investment projects that involve sensitive countries, regions or sectors, and projects with investment exceeding US$1 billion.[228] Some of the NDRC's

administrative responsibilities related to overseas investment are delegated to provincial level Development and Reform Commissions.

Ministry of Commerce (MOFCOM): China's MOFCOM is responsible for formulating strategies, guidelines and policies for developing domestic and foreign trade and international economic cooperation. This includes drafting laws and regulations related to foreign trade and investment. MOFCOM also plays a role in the process of approving and filing applications by Chinese companies to invest in and set up overseas investment projects.[229] The ministry delegates some of its administrative responsibilities related to overseas investment to provincial level commerce bureaus.

State Administration of Foreign Exchange (SAFE): SAFE is an institution under the People's Bank of China responsible for supervising the use and managing flows of China's foreign exchange reserves. [230]

State-owned Assets Supervision and Administration Commission (SASAC): As discussed in Part 2 of this report, state-owned enterprises are subject to the oversight of SASAC.[231]

China Banking Regulatory Commission (CBRC): The CBRC is the body responsible for developing rules and regulations for the supervision of China's banking institutions. The CBRC aims to promote financial stability and financial innovation, and enhance the competitiveness of the Chinese banking sector.[232] The CBRC has issued credit guidelines which include provisions applying to Chinese banks' financing of overseas investments.

Ministry of Environmental Protection (MEP): As discussed in Part 2, China's MEP is responsible for overseeing the implementation of environmental laws and regulation within China. The ministry has limited influence over the approval and implementation of overseas projects, but has issued joint guidelines with MOFCOM concerning the environmental performance of Chinese companies investing overseas.

Approval Process for Overseas Investments

In early 2014 new rules were issued which simplify and relax the approval process for outbound investments. Previously, approval was required by the NDRC or MOFCOM for all outbound investments. Under the new regulations, most investments require only that a filing (or notification) is made. Only investments that are of very high value or are in "sensitive" countries, regions or sectors now require approval. Sensitive countries or regions include those that China does not have diplomatic relations with, and countries subject to international sanctions or affected by war. Sensitive sectors include those that require large-scale land and resource development, telecoms, media, and several other industries. [233]

The new rules significantly increase the thresholds for requiring national-level approval, which in theory should speed up the approval process and reduce the backlog of projects awaiting approval. Under the new rules, overseas investments of US$1 billion or more require NDRC approval, and projects with a value exceeding US$2 billion will require State Council approval. Investments worth less than US$1 billion do not require approval unless the investment concerns a "sensitive" region or industry. These lower value investments simply require a filing with the NDRC and MOFCOM at the national or local level, depending on the nature of the investment. Table 6 provides a breakdown of the new rules: [234]

Social and Environmental Safeguards Contained in Chinese State Policies for Overseas Investment

The process of applying for and receiving approval for overseas investments has evolved considerably

Table 6: Updated Approval and Filing Requirements for Overseas Investment[235]

Nature of Overseas Project		Approval Required			Filing Required			
		SC	NDRC	MOFCOM	NDRC	LDRC	MOFCOM	LDCOM
Project in sensitive country, region or sector and investment of US$2bn or more		X	X	X				
Project in sensitive country, region or sector			X	X				
Other projects with investment US$1bn or more			X				X	
Projects by Central SOEs with investment between US$300m and US$1bn					X		X	
Projects by other entities with investment between US$300m and US$1bn					X			X
Projects with investment less than US$300m	By Central SOEs				X		X	
	By other entities					X		X

SC - State Council
NDRC - National Development and Reform Commission
LDRC - Local Development and Reform Commission
MOFCOM - Ministry of Commerce
LDCOM - Local Department of Commerce

Table 7: Summary of Major Instututions Involved in Regulation of Chinese Overseas Investment

Body	Role
State Council	• China's top administrative body, chaired by China's Premier. • Drafts laws and regulations, supervises China's ministries and other major state entities. • Directly involved in approval process for overseas projects with investment over US$2 billion and which concern sensitive countries, regions or sectors.
National Development and Reform Commission (NDRC)	• Main government body responsible for formulating and implementing strategies for economic and social development. • Responsible for approving overseas projects involving investment of over US$1 billion and projects which concern sensitive countries, regions or sectors. NDRC and its local departments also receive filings for other types of overseas investment.
Ministry of Commerce (MOFCOM)	• Formulates strategies, guidelines and policies for international economic cooperation. Includes drafting laws and regulations related to overseas investment. • Responsible for approving applications by Chinese companies to invest in overseas projects which concern sensitive countries, regions or sectors. MOFCOM and its local departments also receive filings for other types of overseas investment.
State Administration of Foreign Exchange (SAFE)	• Under the People's Bank of China. • Responsible for supervising use and flows of China's foreign exchange reserves.
State-owned Assets Supervision and Administration Commission (SASAC)	• Under supervision of State Council, oversees state-owned enterprises. • Promotes reform and restructuring of SOEs and improved corporate governance. Encourages improved corporate social responsibility in SOEs.
China Banking Regulatory Commission (CBRC)	• Responsible for developing rules and regulations for supervision of China's banks. • Issued green credit guidelines, which include provisions applying to Chinese banks • investing overseas.
Ministry of Environmental Protection (MEP)	• Responsible for overseeing implementation of environmental laws and regulation. • Issued joint guidelines with MOFCOM concerning environmental performance of Chinese companies investing overseas.

"Enterprises making overseas investment shall earnestly learn and abide by the relevant domestic and foreign laws, regulations, rules and policies, and follow the principle of 'mutual benefit and win–win'."
Measures for Overseas Investment Management (Article 3), MOFCOM

over the past three decades. Initially the system was complex and highly centralized, but this has been relaxed over time as the government has sought to encourage Chinese companies to invest overseas.[236] As explained earlier, the approval process was further relaxed and decentralized in 2014. In addition to these regulations, MOFCOM, the Ministry of Environment, and the China Banking Regulatory Commission have all issued guidelines related to the environmental and social impacts of overseas project. A number of key developments are presented below. [237]

Compliance With Local Laws and Regulations, Improving CSR

In recent years, policy documents have been released related to various aspects of Chinese overseas investment. A number of these documents have emphasized the principle that enterprises must abide by local laws when investing overseas, and must commit to improve their corporate social responsibility (CSR) standards.

In 2006 China's State Council issued its Nine Principles on Encouraging and Standardizing Foreign Investment. These principles call on Chinese enterprises to improve implementation of overseas investments, comply with local laws and regulations, commit to social responsibility, pay attention to environmental protection, and support local communities and people's livelihoods.[238] As already discussed in this report, SOEs are subject to the oversight of SASAC, which has also issued guidelines to encourage improved corporate responsibility of centrally-owned SOEs. In 2008, SASAC issued its Guidelines to the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities. The guidelines state that fulfilling corporate social responsibilities is necessary to ensure the sustainable development of enterprises as well as society and environmental resources.[239] Additionally, the Measures for Overseas Investment Management issued by MOFCOM in 2009 state that "Enterprises making overseas investment shall earnestly learn and abide by the relevant domestic and foreign laws, regulations, rules and policies, and follow the principle of 'mutual benefit and win–win'." [240]

The above principles, measures and guidelines are important, but they lack detail on how exactly Chinese companies can improve the implementation of overseas investment, and they do not clearly define the meaning or implications of terms such as "corporate social responsibility". However, they do indicate that there is high-level support for improving standards. This was further emphasized in China's 12th Five-Year Plan (2011-2016), which called for the establishment of sound laws and regulations for overseas investment, and stated that companies operating overseas should ensure that they fulfil their social responsibilities and bring benefits to local people. More recently, a number of guidelines have been developed which further develop these principles.

More Detailed Standards Begin to Develop

In February 2013, after several years of drafting, China's Ministry of Environmental Protection and Ministry of Commerce issued the joint Guidelines for Environmental Protection in Foreign Investment and Cooperation. These guidelines call on companies with overseas projects to respect local customs and beliefs, abide by local regulations, and promote harmonious development of the economy, environment and local communities. They also state that companies should conduct environmental impact assessments and create plans to mitigate negative impacts associated with their investments. After operations commence, companies should monitor pollution and establish emergency contingency plans in case of accidents. The guidelines also state that companies should improve communication with local people and gather opinions and suggestions concerning the operation and environmental impact of development projects.[241] After the guidelines were published, an MEP official was quoted in Bloomberg

News as saying: "We want our companies to realize that they must look after environmental issues in domestic and overseas investments … No side will win if the environment is neglected, and we have many lessons in this regard." [242]

It was also reported in 2012 that six of China's ministries and bureaus had released "cultural guidelines" covering how Chinese companies investing overseas should deal with differences in language, customs, values and religious beliefs. The guidelines also emphasized the importance of creating work opportunities for local people and following good corporate social responsibility standards.[243] In addition to the general guidelines discussed above, China's State Forestry Administration issued guidelines in 2007 that apply to companies developing overseas tree plantations, and in 2009 issued joint guidelines with MOFCOM that apply to activities of companies conducting forest-related activities overseas.[244] China's International Contractors Association has developed a Guide on Social Responsibility for Chinese International Contractors, which covers issues including: safety, supply chain management, environmental protection and community development.[245] At the time of writing there are no guidelines that apply specifically to overseas mining investment, but as discussed in the box below, a new guideline is currently being developed.

The guidelines discussed above all fall short of providing binding frameworks for overseas investment, but they add additional detail to earlier guidelines and principles. Importantly they deal specifically with areas of concern such as environmental impacts, public communication and public participation. Although they are a positive step forward, the guidelines lack accountability mechanisms, and there is no process through which people can raise grievances or report poor practices. The Chinese Government now faces the challenge of encouraging the implementation of these guidelines. As the overseas guidelines are a relatively new development, it remains to be seen what impact they will have. A great deal will depend on the ability of MOFCOM and the MEP to publicize and disseminate these guidelines to companies with overseas operations. Once the guidelines are widely known and understood, oversight and monitoring of overseas projects will be necessary in order to assess the scale of implementation and assess the need for further policy development.

Monitoring and Evaluation of Overseas Projects

Although there are no evaluation mechanisms built into the overseas investment guidelines discussed above, the Interim Measures for Joint Annual Inspections of Overseas Investments require MOFCOM and SAFE to conduct annual inspections of overseas project performance. Companies are given an evaluation score based on the status and appraisal of their investment project, and companies that score poorly should not be eligible for preferential state support for future overseas investments.[252] This evaluation process originally focussed on profitability and compliance with Chinese law, but since 2009 the evaluation has incorporated local performance issues. For example, if a company is reprimanded by the recipient country for a violation of local laws, or if problems emerge related to safety, environmental issues, or labour, the company may also lose points during the evaluation. [253]

There is only limited information available on this inspection process, and results are not made public. However, it is promising that an inspection mechanism is in place, and there is potential for this to be expanded and developed to evaluate project performance more broadly, including an assessment of compliance with environmental and social guidelines. SASAC also has powers to conduct inspections of the overseas investments of central SOEs, but it is not clear how frequent these inspections are conducted, how thorough they are, and to what extent they consider social and environmental performance. [254]

"We want our companies to realize that they must look after environmental issues in domestic and overseas investments … No side will win if the environment is neglected, and we have many lessons in this regard."
MEP Official, quoted by Bloomberg News in February 2013

Draft Guideline for Social Responsibility in Chinese Outbound Mining Investment

During 2013-14 the China Chamber of Commerce of Minerals, Metals and Chemicals Importers and Exporters (CCCMC) developed the draft Guideline for Social Responsibility in Chinese Outbound Mining Investment. This draft was prepared with bilateral support from the German Government and was released for public comment in March-April 2014. The guideline is expected to be launched in late 2014. [246]

The draft guideline was released as this report was being finalized, therefore it was not possible to include an exhaustive analysis here. However, it is clear that the guideline in its draft form represents a significant step forward when compared to overseas investment guidelines issued by other bodies. At the outset, the CCCMC guideline acknowledges that to date "Chinese mining companies have not systematically implemented responsible mining practices, nor disclosed sustainability information nor complied with relevant international standards". To address these issues, the guideline aims to "regulate Chinese mining investment and operations and to guide Chinese companies to develop specific CSR and sustainability strategies as well as management systems." [247]

The guideline follows the core areas of the ISO 26000 Guidance on Social Responsibility, but also takes into consideration the principles of the Global Compact, Equator Principles, Extractive Industry Transparency Initiative and other international standards and initiatives. It also takes into account the Guiding Opinions of China's SASAC, as well as industry-specific sustainability standards such as the Sustainable Development Framework of the International Council of Minerals and Metals (ICMM). The guideline also makes explicit reference to the UN's Guiding Principles on Business and Human Rights.[248] The guiding principles in the draft guideline are: [249]

- Ensure compliance with all applicable laws and regulations.
- Adhere to ethical business practices.
- Respect human rights and protect the rights and interests of employees.
- Respect nature and protect the environment.
- Respect stakeholders.
- Strengthen responsibility throughout the value chain.

The guideline also contains a clause stating that the CCCMC will conduct evaluations of the CSR performance of Chinese companies engaged in outbound mining investment and "encourage and award the best performing companies".[250] However, there is no discussion of penalties for those companies that fail to implement, and despite the guideline including "mandatory" clauses,[251] it is not clear from the existing draft how they will be enforced.

China's Financial Sector and Overseas Investment

In addition to the regulations and guidelines that apply to project developers, the China Banking Regulatory Commission (CBRC) has developed Green Credit Guidelines which apply to Chinese financiers' domestic and overseas activities. China's policy banks have also adopted environmental and social guidelines related to their overseas financing.

CBRC's Green Credit Guidelines

In 2007 the China Banking Regulatory Commission, State Environment Protection Agency, and People's Bank of China jointly published Opinions on Implementing Environmental Protection Policies and Preventing Credit Risks. This became the foundation of China's Green Credit Policy. As discussed in Part 1 of this report, the Opinions instructed Chinese banks to reduce credit to enterprises and projects

not conforming with the country's industrial policies or environmental laws, to limit expansion of high polluting and energy intensive industries, and increase funding to green investments. However, the Opinions did not explicitly mention overseas financing.

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China Banking Regulatory Commission

In early 2012 the CBRC issued its Green Credit Guidelines, which built on the Green Credit Policy. The guidelines address issues including due diligence, compliance review of clients, and assessments of project performance. Article 21 of the Guidelines explicitly addresses overseas investment, and states:

> "Banking institutions shall strengthen the environmental and social risk management for overseas projects to which credit will be granted and make sure project sponsors abide by applicable laws and regulations on environmental protection, land, health, safety, etc. of the country or jurisdiction where the project is located. The banking institutions shall make commitments in public that appropriate international practices or international norms will be followed as far as such overseas projects are concerned, so as to ensure alignment with good international practices."

This marks an important stage in the development of China's financial regulation, and indicates that the CBRC is willing to push China's banks to improve the sustainability of overseas lending. However, the guidelines are again not binding and do not create legal obligations that Chinese financiers must follow. There is currently no grievance procedure or enforcement mechanism in place to ensure that the guidelines are fully implemented. During a China Daily interview soon after the guidelines were issued, a deputy director-general from the CBRC said that the next step for the CBRC is to set up key indexes to make the guideline more specific and to develop a rating system for Chinese banks. [255]

Environmental and Social Guidelines of China's Policy Banks

The exponential growth of China's overseas investment over the last decade would not have been possible without the support of the Chinese banking sector. In particular, the China Development Bank (CDB) and the Export-Import Bank of China (China Exim) have provided huge amounts of finance to overseas projects in support of China's going out strategy. In 2011 the Financial Times reported that for the first time, lending to developing countries by CDB and China Exim had exceeded the equivalent arms of the World Bank. [256]

China Exim and the CDB were established as "policy banks", with the role of supporting the Chinese Government's economic and development polices, and both are now active in the promotion and financing of overseas investment.[257] Although the CDB became a commercial joint-stock bank in 2008, it is still very much active in supporting government policy through its financing.[258] Both CDB and China Exim have been involved in numerous high value mining and metals projects, providing loans for new projects and supporting overseas mergers and acquisitions. As well as being subject to the CBRC's Green Credit Guidelines, both banks have developed institutional social and environmental guidelines that apply to their overseas financing.

China Exim plays a key role in supporting China's going out strategy and supports Chinese companies by providing export seller's credits, export buyer's credits, commercial loans and guarantees, among other services. China Exim is also responsible for China's program of concessional loans.[259] In 2012, 14.6% of the bank's financing went to overseas projects and 7.2% to overseas project contracting. [260]

In 2008 China Exim published its Guidelines for Environmental and Social Impact Assessments of the China Export and Import Bank's Loan Projects. The guidelines include a specific section covering evaluation of overseas projects, which states that an EIA should be done both during the pre-loan period and after the project begins implementation. Overseas projects should abide by the requirements of the environmental laws and regulations of the host, and in cases where the host country has inadequate or incomplete environmental protection mechanisms or assessment standards, the project should either follow China's standards or international practices.[261]

中国进出口银行
THE EXPORT-IMPORT BANK OF CHINA

China Exim's guidelines also state that overseas projects must respect the land and resource rights of local people, handle resettlement in an appropriate manner, and if projects are likely to have severe environmental impacts they should be subject to public consultations. Based on the borrower's environmental and social assessments, China Exim can negotiate amendments to project plans, and if necessary include environmental and social conditions in a loan contract. China Exim should inspect projects during construction and implementation, and borrowers should report regularly to the bank on the status of implementation and any social or environmental impacts experienced on the ground. China Exim has the right to cease loan disbursement and demand early repayment if serious environmental or social impacts emerge during construction or operation and the borrower is unable to remedy them.[262]

The China Development Bank is a major financier of overseas projects and in 2012, 16.49% of the CDB's loans went overseas.[263] Up to the end of 2012 the bank had outstanding foreign currency loans of US$224.5 billion and offshore yuan-denominated loans totalling RMB 72.6 billion. According to the Bank's 2013 annual report: "With such large-scale lending in place, the Bank further cemented its status as a pillar of overseas investment and financing in China."[264] The CDB has supported the operations of various mining companies, including the major state-owned companies Chinalco, Minmetals and Baosteel.

国家开发银行
China Development Bank

The CDB has also taken steps to improve the environmental and social standards of its finance portfolio, and claims to have developed environmental policies and internal performance indicators that are based on the United Nations Global Compact's ten principles related to human rights, the environment, labour and corruption. Although the CDB has published summaries and referred to these policies in CSR reporting, the full documents are not publicly available.[265] The CDB has a project appraisal department, and project assessments include an appraisal of the environmental and social risks. Loan applications must include an environmental impact assessment completed by an independent evaluator, and the Bank can reject loans on environmental grounds. If necessary, the CDB can add environmental standards and costs into loan covenants in order to oblige borrowers to follow through on their environmental commitments.[266] According to the CDB's website, the bank issues credit ratings to its clients. Bank clients who are penalized for environmental infringements may have their credit rating lowered, which could potentially jeopardize future loans, and in serious cases the CDB may suspend lending. [267]

The development of social and environmental policies by China Exim and CDB represent positive steps towards improving standards of overseas projects. However, China Exim's social and environmental

Table 8: Key Policies Related to Environmental and Social Impacts of Chinese Overseas Investment

Name	Year	Issuing body	Summary
Interim Measures for Joint Annual Inspections of Overseas Investments	2002	Ministry of Foreign Trade and Economic Cooperation[268] & SAFE	MOFCOM and SAFE required to conduct annual inspections of overseas investors. Based on appraisal, enterprises are given evaluation scores. Low scoring companies may lose preferential state support for overseas investments.
Nine Principles on Encouraging and Standardizing Foreign Investment	2006	State Council	Calls on Chinese enterprises to improve implementation of overseas investments, comply with local laws and regulations, commit to CSR, pay attention to environmental protection, and support local communities and livelihoods.
Environmental and Social Impact Assessments of the China Export and Import Bank's Loan Projects	2007	China Exim	Guidelines apply to the lending of China Exim Bank. Includes specific section on evaluation of overseas projects, states that EIAs should be done before loan approval and monitoring should continue after implementation. Overseas projects must respect land and resource rights of local people and resettlement must be handled appropriately. Projects with severe environmental impacts should be subject to public consultations. Exim may include environmental and social conditions in the loan contract if necessary.
Guidelines to the State-owned Enterprises Directly Under Central Government on Fulfilling CSR	2008	SASAC	Guidelines encourage SOEs to fulfil corporate social responsibilities.
Measures for Overseas Investment Management issues	2009	MOFCOM	State that enterprises must learn and abide by relevant domestic and foreign laws, regulations, rules and policies, and follow the principle of 'mutual benefit and win–win'.
12th Five-Year Plan of the People's Republic of China (2011-2016)	2011	NPC	The Plan calls for the establishment of sound laws and regulations for overseas investment, and states that companies operating overseas should ensure that they fulfil their social responsibilities and bring benefits to local people.
Green Credit Guidelines	2012	CBRC	Guidelines encourage Chinese banks to establish mechanisms for managing risks, develop standards for rating clients' risks, improve due diligence and ensure comprehensive assessments of proposed projects. Guidelines address overseas projects and state that banks should strengthen environmental and social risk management for overseas projects and ensure project developers abide by applicable laws and regulations on environmental protection, land, health, safety, etc. of the country or jurisdiction where the project is located.
Guidelines for Environmental Protection in Foreign Investment and Cooperation	2013	MOFCOM & MEP	Companies active overseas should respect local customs and beliefs, abide by local regulations, and promote harmonious development of the economy, environment and local communities. Investors should conduct EIAs and create plans to mitigate negative impacts and monitor pollution. Enterprises should improve communication with local people and gather public opinion related to the project.
Overseas Investment Projects Authorization and Record Management	2014	NDRC	Policy updated the process for approval of overseas investments. Under the new measures, approvals are only necessary for investments of over US$1 billion and investments in sensitive countries, regions and sectors. Other investments only require a filing with the appropriate body.
Draft Guideline for Social Responsibility in Chinese Outbound Mining Investment	2014	CCCMC	Draft guideline currently being developed by CCCMC. States that companies should ensure compliance with all laws and regulations; adhere to ethical business practices; respect human rights and protect employees; protect the environment; respect stakeholders; and strengthen responsibility throughout the value chain.

policies are lacking in detail, and the CDB's full policies are currently not publicly available. There are no specific procedures for public participation or access to information regarding CDB and China Exim funded projects, and no grievance mechanisms exist for people who feel that they have been negatively impacted by the banks' projects. The assessment of project proposals is done behind closed doors and neither bank publishes detailed documents or assessments of approved projects, which limits the potential of these policies.

China's Commercial Banks

Chinese financing to major overseas projects was in the past dominated by the CDB and China Exim, but since regulations were relaxed, China's commercial banks have become increasingly important actors in China's overseas investment. Three of China's biggest banks, Industrial and Commercial Bank of China (ICBC), China Construction Bank and Bank of China, have all significantly increased their overseas financing, which includes investments in mining and metals companies.

Some of China's commercial banks have developed guidelines for financing which incorporate social and environmental considerations. They are also encouraged to follow the credit guidelines issued by the CBRC. However, few banks have publicly released their guidelines, and no commercial banks have published specific policies for overseas investment. Awareness of international best practice is developing among Chinese banks, but to date only one Chinese bank has adopted the Equator Principles. This is returned to later in this part of the report.

Regulations Affecting Publicly Listed Companies

As mentioned in Part 2, Chinese companies listed on the Shanghai and Shenzhen stock exchanges are subject to the disclosure regulations and guidelines issued by the stock exchange and by the China Securities Regulatory Commission. Under these rules, prior to listing on the Chinese stock exchange, companies whose projects include high polluting industries must first apply to the Ministry of Environment for evaluation and approval.[269] As Chinese companies continue to expand their presence globally, they will also become subject to the regulations of stock exchanges based outside mainland China. For example, the Hong Kong Stock Exchange has disclosure rules for extractive companies which require applicants, at the point of listing, to provide information related to tax, royalties and other payments to governments. Companies are also required to disclose information related to project risks arising from environmental, social, and health and safety issues, as well as compliance with local laws and plans for rehabilitation of sites after project closure.[270]

In the United States, the Dodd-Frank Wall Street Reform and Consumer Protection Act may also have important impacts on Chinese extractive companies. Under Section 1504 of the Dodd-Frank Act, all companies that file an annual report to the U.S. Securities and Exchange Commission (SEC) and engage in developing oil, gas and mineral resources must disclose details of taxes and other payments that they make to governments, regardless of where that company is based. In the European Union, the Transparency Directive similarly requires extractive companies that are publicly listed on EU-regulated stock exchanges to publish details of their payments to governments in all countries where they operate. EU Member States have until November 2015 to incorporate the Directive into national law. Elsewhere, Norway adopted comparable legislation in January 2014, and the Canadian government is aiming to introduce a similar law by April 2015. The reporting standards of Chinese companies have in the past been found to be lacking, and the legislation listed above may therefore raise challenges for Chinese companies listed outside China.

In addition, Section 1502 of the Dodd-Frank Act specifically addresses the issue of companies sourcing certain minerals, known as "conflict minerals", from the Democratic Republic of Congo (DRC) and its nine neighbouring countries, which may have funded or benefited armed groups in those nations. Section 1502 states that any U.S.-listed companies that use tantalum, tin, gold, or tungsten that may have originated in these countries must carry out due diligence on its supply chain and complete a Conflict Minerals Report, including a description of the due diligence that was used to identify the country of origin of those minerals.[271] Chinese companies that supply U.S. manufacturers may also find that they have to provide evidence that they have conducted high-quality due diligence meeting international standards in order to do business with those companies.

Optional Environmental, Social and Sustainability Frameworks

As can be seen above, the Chinese Government, banking regulator, and policy banks have all taken measures to develop environmental and social safeguards for overseas investment, although progress still needs to be made to improve and fully implement these standards. As Chinese companies seek to compete on the global stage, it will become increasingly important that enterprises are willing and able to follow international best practice. The MOFCOM/MEP Guidelines for Environmental Protection in Foreign Investments and Cooperation recognize this, and encourage Chinese enterprises to learn from the principles, standards and practices of international organizations and multi-lateral institutions.[272]

Some Chinese companies have begun to adopt some of the optional environmental, social and governance frameworks currently available. Although most have been slow to embrace these standards, many companies, especially larger enterprises are at least aware of them.

United Nations Global Compact

The UN Global Compact is a policy initiative for businesses that are committed to aligning their operations and strategies with ten principles in the areas of human rights, labour, environment and anti-corruption.[273] The Global Compact is purely voluntary, and does not include mechanisms for sanctioning member's non-compliance. At the time of writing, 216 Chinese companies had signed up to the UN Global Compact, although only 134 had provided timely progress reports. The remaining 82 companies were classed as "non-communicating" members. More than 10 of the active members are mining companies or have investments in mining, including Shougang, Baosteel, China Minmetals, China Nonferrous Metal Mining Group, Datang Corporation, Huaneng Group and Sinosteel.[274] The chairman of the Chinese oil company Sinopec is also a Global Compact board member.[275] In 2006 China Development Bank became the first large state-owned Chinese bank to join the UN Global Compact. [276]

The Global Reporting Initiative (GRI)

The Global Reporting Initiative (GRI) is an organization that develops "sustainable reporting frameworks" for companies and organizations. These frameworks create a structure in which companies can report on the economic, social and environmental impacts of their work. GRI has also published a specific supplement for the mining and metals industry.[277] A number of Chinese companies have adopted GRI reporting standards, including MMG Limited, a subsidiary of China Minmetals (returned to in the case studies supplement of this report). The initiative is again voluntary, and there are no sanctions for companies that fail to publish reports.

"Companies are encouraged to study and learn from the principles, standards and common practices adopted by international organizations and multilateral financial institutions."
MOFCOM/MEP Guidelines for Environmental Protection in Foreign Investments and Cooperation, Article 22

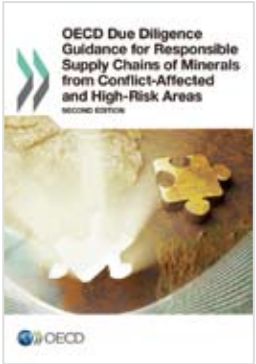
As discussed earlier in this report, SASAC has urged centrally-owned SOEs to improve CSR both at home and abroad, and has encouraged the publication of CSR reports. SASAC's 2008 guidelines on CSR state that enterprises should engage in dialogue with international organizations and engage in the formulation of international CSR standards.[278] Adopting frameworks such as those developed by GRI could provide SOEs a template with which to realize strong CSR reporting standards.

OECD Guidelines for Multinational Enterprises

The Organisation for Economic Co-operation and Development is an international economic organisation of 34 countries founded in 1961. Its mission is to promote policies that will improve the economic and social well-being of people around the world.[279] The OECD's Guidelines for Multinational Enterprises include chapters on human rights, information disclosure, due diligence, and the environment, among other issues. Although the guidelines are not binding, they include a grievance mechanism. Parties are not obliged to engage in the grievance process, and it cannot issue a binding judgement. However, the grievance mechanism can mediate disputes and seek to find a resolution between the concerned parties.[280] It is the role of companies themselves to adhere to these guidelines, but the countries that endorse them are obliged to establish a National Contact Point in order to promote the guidelines and assist in the resolution of issues arising from alleged non-adherence in specific cases. The Contact Point is also responsible for maintaining relationships with representatives of the business community, worker organisations, NGOs and others. [281]

China is not an OECD country and has not endorsed the guidelines, although eight other non-OECD countries have done so. They include Argentina, Brazil and Peru. Adoption of these guidelines by China could potentially provide a useful platform for addressing specific grievances connected to Chinese overseas projects.

OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas



The OECD has also released guidelines that relate specifically to mineral supply chains. The OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas provides detailed recommendations to help companies respect human rights and avoid contributing to conflict through their mineral purchasing decisions and practices. The Guidance is for use by any company potentially sourcing minerals or metals from conflict-affected and high-risk areas. It includes recommendations for companies operating throughout the whole mineral supply chain, from mining to retail, and provides a five-step due diligence framework. This includes establishing management systems, identifying and assessing supply chain risks, designing and implementing strategies to respond to risks, commissioning third-party audits, and publicly reporting on supply chain due-diligence.

The Guidance was developed through a multi-stakeholder process involving African countries, industry, civil society, and the UN. It was formally adopted in 2011 and has since been updated with special supplements for Tin, Tungsten, Gold and Tantalum. Various public and private actors have referenced the Guidance, and it is recognized by the U.S. Securities and Exchange Commission, endorsed by the U.S. Department of State, and it has been endorsed by the UN Group of Experts on the DRC, whose final report was supported

by the UN Security Council.

The Guidance is voluntary, and as mentioned above, China is not a member of the OECD. However, the Guidance is regarded as an international best practice standard, and Chinese enterprises may benefit significantly from understanding and adopting its content. [282]

Extractive Industries Transparency Initiative

The Extractive Industries Transparency Initiative (EITI) is a global coalition of governments, companies and civil society groups working to improve openness and accountable management of revenues from natural resources. Countries that are members of the initiative are required to uphold the EITI Standard, which requires disclosure of taxes and other payments to governments. This disclosure is done through annual reports.[283] At the time of writing there are 27 countries that are EITI compliant, and 17 candidate countries that are implementing EITI but are not yet in full compliance. [284]

Chinese mining companies are investing in several of these countries, and as such will have to agree to publicly divulge the details of payments they make to governments. This illustrates another area where Chinese mining and metal companies need to become familiar with international frameworks related to investment in the extractive industries. It is also possible for companies to become supporting members of the EITI and commit to supporting its implementation. However, only one Chinese company, China Minmetals subsidiary MMG, is currently signed up to EITI. [285]

UNEP Financial Initiative (UNEP FI)

In the financial sector, a number of Chinese banks have signed up to the UNEP Financial Initiative (UNEP FI). UNEP FI members are required to sign up to a statement of commitment covering sustainable development, sustainability management, and public awareness and communication.[286] UNEP FI is another non-binding framework for improving sustainability, and includes no compliance obligations or mechanisms. Chinese signatories include: China Development Bank, China Merchants Bank, Industrial Bank and Shenzhen Development Bank. [287]

The Equator Principles

The Equator Principles (EP) is a more detailed and robust set of voluntary guidelines for the financial sector. The EP is a risk management framework for assessing and managing environmental and social risks in projects. Based on the standards of the International Finance Corporation, the principles aim to provide a minimum standard for due diligence to support responsible risk decision-making by financial institutions. As of 2013, 78 financial institutions from 35 countries had signed up to the principles. Equator Principles Financial Institutions must commit to implement the EP in their internal environmental and social policies, procedures and standards for financing projects. They must also commit not to provide project finance or loans to projects where the client will not, or is unable to, comply with the Equator Principles.[288]

A number of Chinese banks have set up groups to study the EP and claim to be integrating the principles into their work, for example, in 2008 the CDB established an internal Equator Principles Working Group, and stated in its 2012 annual report that the principles are being gradually applied in the bank's business development.[289] However, at the time of writing the Industrial Bank is the only Chinese bank to have signed up to the EP. The CBRC's 2012 Green Credit Guidelines state that Chinese banking institutions should strengthen environmental and

social risk management for overseas projects, and that financing for such projects should be aligned with international best practices.[290] Chinese banks may be able to move closer to achieving this goal by adopting frameworks such as the Equator Principles.

Conclusion

Over the last 10 years, China's overseas investment has seen a rapid increase across all sectors, and natural resources have been a major focus of this investment. While this investment has in many cases come with significant benefits for the host country and investor, there are also a considerable number of Chinese projects that have come under criticism for alleged poor social and/or environmental standards.

When investing overseas, Chinese companies have traditionally relied on host country regulations and policies to deal with issues such as environmental protection, resettlement and compensation. Additionally, strong relations with host governments are often prioritized over establishing good connections with local communities and civil society groups. However, after a series of troubled projects and associated negative publicity, the shortcomings of this approach are becoming apparent. The Chinese government has acknowledged that standards in overseas investment need to be improved, and state institutions, regulatory bodies and a number of financiers have made progress in recent years in adopting policies that seek to avoid or minimize the potential adverse impacts of overseas projects. The environmental and social policies of investors and financiers can play an important role in ensuring that local laws and regulations are adequately complied with, and when necessary can fill gaps that exist in local regulation.

In recent years, bodies including the State Council, MOFCOM, MEP, CBRC, and China's policy banks have passed dozens of policy documents related to different aspects of overseas investment. The quality of China's policies related to social and environmental standards continues to develop, but they still lack detail, and significant challenges remain in ensuring that guidelines are implemented. Most of the environmental and social policies discussed in this part of the report are not mandatory and lack grievance mechanisms for people or groups to challenge alleged non-compliance. It is also likely that there is limited awareness of these guidelines in host countries, and without any central authority responsible for monitoring implementation, it will be difficult to compel companies to follow the policies in full.

The development of guidelines related to Chinese overseas investment and financing show promise, and have created a good foundation for the development of comprehensive social and environmental policies. However, there is much work still to be done.
As China becomes increasingly established and integrated into the global investment landscape, adoption of voluntary guidelines such as the Equator Principles and supporting transparency initiatives such as EITI will help to ensure that overseas projects are more sustainable and that benefits are shared more equitably. A number of institutions, such as the International Finance Corporation and OECD, already have strong policies and guidelines in place. These policies have been tried and tested over a number of years and the lessons learned can inform the development of stronger policies for China's overseas investment and financing.

Chinese companies are also beginning to enter joint-ventures with international companies and financial institutions that have in place strong safeguards and management systems. For example, as mentioned in Part 3, the Chinese SOE Chinalco has entered a joint-venture with Rio Tinto to develop the Simandou iron ore project in Guinea. Rio Tinto is a well-established firm and has company policies on issues including human rights, governance, communities and the environment. The International Finance Corporation also holds a 4.6% equity stake in the project, and its sustainability framework and performance standards will also have to be adhered to in the implementation

of the project. This is an interesting development, and as Chinese companies continue to expand overseas and engage with international companies and financial institutions, cases such as this have the potential to further expose Chinese investors to international standards.

It is often remarked that many Chinese companies see CSR in terms of philanthropy, rather than a guiding philosophy for responsible practice.[291] However, this is not a sustainable approach, and both financiers and developers need to work towards mainstreaming best practice throughout their overseas operations, moving beyond corporate philanthropy into genuine environmental and social risk management. This will require detailed management systems and dedicated departments responsible for implementing environmental, social and governance policies. At present, very few Chinese companies have such mechanisms in place. As China continues to develop its role as a global investor, it is important that strong social and environmental policies inform all aspects of overseas investment, from central decision making all the way down to practical implementation on the ground. ■

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Part 5: Discussion & Conclusion

Both China's domestic and international mining industries are evolving. At home, companies in all heavy industries are faced with pressure from an increasingly aware and outspoken public, and from the State, both calling for higher standards, lower levels of pollution, and more rational use of resources. Overseas, intense scrutiny of Chinese investments by the media, civil society, academics and others has also led to calls for improved social and environmental standards.

This report aimed to explore these issues in more detail, looking at the trends, impacts and regulation of both domestic and overseas mining investment. The final part of this report concludes with a discussion of several key issues raised in the report.

Key Challenges Need to be Addressed in the Domestic Mining Industry

Part 1 of this report looked at the development of China's domestic mining industry and took stock of some of the major benefits and impacts that have been observed in recent years. While there are clear economic benefits associated with mining, China is now having to deal with heavy pollution caused by energy and resource intensive industries and the associated impacts on the environment and citizens' health. Although the situation regarding mine safety in China appears to be improving, the issue still needs to be fully addressed. As China enters a new stage in its development and environmental awareness increases, it is important that these difficult issues are dealt with. This is not only important within China, but is also important for China's reputation as a global actor with an increasingly important role to play in international investment, development, and environmental governance.

Overseas Mining Has Become a Major Focus for Chinese Investment

Investment in overseas mining projects is a major focus for Chinese companies going out, and the mining sector has been a top destination for Chinese investment since MOFCOM began publishing statistics on ODI. Among the top 100 Chinese enterprises with assets overseas, more than a quarter are mining companies or have mining interests. There are many potentially positive outcomes of China's investments in the mineral sectors of developing countries, including employment generation, infrastructure development, GDP growth and increased exports. However, in a number of cases Chinese mining projects have been connected to negative social and environmental impacts. This includes cases of environmental pollution, labour disputes, and conflicts with affected people. These issues can be exacerbated by poor communication with local people and low levels of transparency – two weaknesses that are often attributed to Chinese investors.

Approaches of Chinese Investors Are Becoming Increasingly Diverse

While overseas investment continues to grow, Chinese companies in various sectors are increasingly using more diverse strategies. This includes working through wholly-owned subsidiaries, creating joint-ventures, and purchasing equity stakes in existing companies. Mergers and acquisitions are becoming a common approach for Chinese investors, especially in the mining sector. Although state-owned companies have historically dominated overseas investment, private companies are now becoming more active, which is likely to add further diversity to the nature and approach of overseas mining investments.

Joint-ventures have historically been implemented between two or more Chinese companies, or a Chinese company and a local partner in the country hosting the investment. However, Chinese companies have more recently begun to form joint-ventures with established international mining companies, including industry leaders. Mergers and acquisitions have also allowed Chinese companies to gain stakes in already established companies. This developing landscape means that Chinese enterprises are now able to work with or acquire companies that already have in place environmental and social policies and management systems that are of a higher standard than is the norm for Chinese companies. This increased exposure to international standards could potentially support improvements in the management systems and standards of Chinese companies.

On the other hand, there is also a risk that Chinese companies may acquire equity or control of projects that have in the past been poorly managed or implicated in environmental and social problems, as was the case at Letpadaung in Myanmar and Rio Blanco in Peru. Unless dealt with appropriately, past problems may hamper future implementation by the Chinese investor and result in further negative impacts.

Standards and Practices Differ Between Companies

Critics of Chinese overseas investment practices often suggest that Chinese companies are exporting poor standards and bad practices that have been learned at home in China. However, this perspective fails to take into account that there is no single approach to investment in China or overseas that is adopted by all investors and developers. As is the case with any other country, there are companies that perform well and there are companies that perform poorly. This is true of Chinese companies active within China and those active overseas.

Company attitudes and policies concerning social and environmental issues are certainly important, but a company's past experience also plays a big part in how it engages in overseas projects, and those with less experience operating in complex overseas environments are more likely to encounter problems. Local conditions also play a large role in the outcomes of overseas mining projects. In countries with strong regulation and developed mining industries, such as Australia or Canada, there are few negative reports related to the conduct of Chinese mining companies. In countries with still developing industries and countries with weak regulation and governance, there are numerous reports covering problems associated with Chinese mining projects. In some ways, Chinese companies appear to adapt to local situations, and rather than exporting bad practices, it could be argued that many companies are more likely to follow the minimum standard necessary in the area where they are investing. This is clearly problematic in areas where there are gaps in regulation and/or weaknesses in local governance. This illustrates the need for Chinese companies to ensure that strong management systems are developed for overseas projects and that progress is made to bring these systems into line with international best practice.

Both Domestic and Overseas Standards Are Developing

China's domestic framework for the environmental regulation of mining is fairly well developed, and although it is lacking in some areas, there is at least a strong foundation for further development. The Mineral Resources Law includes requirements for companies to respect labour and environmental regulations, and includes provisions for compensation and rehabilitation of mining areas. The Environmental Protection Law covers issues including emissions standards and pollution control, sets requirements for EIAs, and requires that companies inform local people if a pollution incident occurs. Over the last 20 years a large body of supplementary environmental regulations have been adopted, but implementation remains a challenge. Many smaller mining companies continue to operate illegally, and as can be seen in the Zijinshan case study (included in the case study supplement), some major companies have also failed on numerous occasions to abide by environmental regulations. China's EIA law is developed, but again there are challenges in ensuring full implementation. As laws and regulations continue to develop, so must the effectiveness of enforcement mechanisms.

Overseas investments are still not subject to any binding social or environmental safeguards, although several guidelines have now been developed. Environmental protection guidelines developed by MOFCOM and the MEP encourage companies to conduct EIAs, put in place measures to reduce potential adverse environmental impacts, and improve communication with local people. Various other documents have been published in which Chinese Government agencies have called on companies investing overseas to develop CSR policies, follow local laws, and contribute to local livelihoods. A guideline specifically focussing on overseas mining is currently being developed by the China Chamber of Commerce of Minerals, Metals and Chemicals Importers and Exporters. This guideline is much more detailed than existing policies related to overseas investment, and makes reference to various international standards.

However, none of the above documents or guidelines impose compulsory minimum standards or define mechanisms for enforcement. These guidelines have created a strong basis for further improvements in social and environmental safeguards in overseas investment, but work must now be done to implement and build on these standards.

The Role of Chinese Financiers is Crucial

China has rapidly risen to become a major actor in global finance, and Chinese banks now play a crucial role in financing both domestic and overseas mining projects. China has made considerable progress towards developing environmental guidelines for the financial sector, encouraging Chinese banks to steer their financing toward more efficient and less-polluting projects. The Green Credit Guidelines developed by the CBRC have created a sound basis for improving social and environmental criteria for the approval of loans and credit for domestic and overseas projects. However, as with the investment guidelines discussed above, the Green Credit Guidelines contain no enforcement mechanisms. The next step for the CBRC and other concerned stakeholders is to monitor the implementation of the guidelines and to develop mechanisms to make them fully operational.

China's policy banks have developed more detailed guidelines and criteria for assessing applications for financing, although assessments are not conducted openly and there is little information available in the public domain related to specific projects. Increased transparency is needed in order for relevant stakeholders to monitor the implementation of these policies and guidelines, and if necessary raise concerns or suggestions for improvement.

Improving Implementation of Guidelines for Overseas Investment and Financing

The most detailed guidelines that are currently in place concerning safeguards in China's overseas

investment and finance are the MEP/MOFCOM Guidelines for Environmental Protection in Foreign Investment and Cooperation and CBRC's Green Credit Guidelines. The guidelines were both passed fairly recently and it is therefore difficult to assess their impact. However, there are a number of steps that could be taken in order to ensure that the guidelines have maximum impact:

- Disseminate the guidelines: It is important that companies and financial institutions are fully aware of the guidelines, and it is therefore necessary for MOFCOM, MEP and CBRC to disseminate to state-owned and private companies, industry associations, financiers, and others, and ensure that the guidelines are widely known and understood. It is also important that companies disseminate the guidelines to their subsidiaries and encourage and monitor their implementation.

- Integrate guidelines into approval and evaluation processes: The MOFCOM /MEP investment guidelines could be integrated into pre-approval process for overseas projects. When companies apply for the necessary approvals or register overseas projects with the NDRC, MOFCOM, SAFE, etc., the relevant authorities should assess the company's ability to operationalize all aspects of the guidelines. During evaluations of project implementation the guidelines could be used as a baseline for measuring a company's performance. Negative evaluations should be taken seriously, and appropriate measures taken.

- Increase accountability and transparency by disclosing project information and documents: Chinese companies and financiers do not consistently publish or share information related to overseas investments. In some cases it is extremely difficult to find out how a project is being financed and who the major investors are, and important project documents such as EIA reports are generally not made available to the public. By publicizing non-confidential project data, EIA reports, assessments and evaluations, a broader group of stakeholders can assess project performance, which will in turn increase transparency and accountability of both investors and financiers.

- Work towards developing grievance mechanisms: Neither the environmental protection guidelines or Green Credit Guidelines include complaints mechanisms. This means that affected people have nowhere to voice concerns if they feel that they are being negatively impacted by a project. Establishing such mechanisms again contributes to increased accountability and can provided a valuable platform for addressing the concerns of local people, and can help to ensure that the guidelines are fully implemented.

Chinese Investors and Financiers Can Learn from Existing International Standards

Although Chinese policy makers have acknowledged for some time that more needs to be done to improve standards in overseas investments, it is only relatively recently that more detailed guidelines have been developed. On the other hand, international financial institutions like the World Bank, economic organizations such as the OECD, and coalitions including the EITI have been working for several years to develop comprehensive standards for global investment and financing. While China may be reluctant to adopt standards that it has not played a role in developing, there are valuable lessons to be learned from the existing standards of these respected international institutions. This is supported by China's Guidelines for Environmental Protection in Foreign Investment and Cooperation, which

encourage enterprises to research and learn from the principles, standards and practices related to environmental protection that have been adopted by international organizations and multilateral financial institutions (article 22). Likewise, the Green Credit Guidelines state that banks should commit to align with international best practice and norms in their financing for overseas projects (article 21).

Standards such as those discussed in Part 4 of this report could provide important guidance to companies and financiers involved in overseas mining projects, as can the Operational Policies of the World Bank and the Performance Standards of the International Finance Corporation, which have become a benchmark for many other institutions, as have OECD guidelines. Membership in voluntary initiatives such as EITI and the UN Global Compact could also increase the exposure of Chinese companies to new developments in international best practice, and raise the profile and reputation of Chinese investors. Chinese financiers should also follow the lead of the Industrial Bank and take steps towards adopting the Equator Principles in order to improve the sustainability of both domestic and overseas financing.

Bringing Improved Standards Back to China

Chinese companies are sometimes accused of going out and taking poor environmental standards and practices with them. However, there has been much less discussion about the possibility that Chinese companies investing overseas may bring improved standards back to China. As Chinese companies expand their presence in developed mining sectors such as those of Australia and Canada, they may be exposed to improved standards and practices which could be replicated domestically. In cases where Chinese companies have acquired control or equity in established mining companies, they may also adopt strong management and safeguard systems that were in place prior to the acquisition. This was the case in MMG's acquisition of Australian mining company OZ Minerals (covered in the case studies supplement). Likewise, as Chinese companies enter joint-ventures with established international mining companies, there is also scope for them to learn from the standards and management systems of their partners.

Adopting High Standards in Overseas Investment Has Mutual Benefits

In principle, China's overseas investment should support the concepts of "mutual benefit" and "win-win" development. High social and environmental standards can help to make these slogans become reality. Not only is it in the interests of local people that incoming investors adopt high standards, it is also in the best interest of the investors themselves. In recent years a large number of Chinese overseas projects have failed to make a profit. A 2012 China Daily article quoted Ministry of Commerce estimates which show more than 27% of companies set up overseas by state-owned enterprises reported losses that year.[292] In many cases these losses were the result of poor investment decisions, but some projects have failed due to local opposition. This can potentially be avoided if investors are more cautious when entering new areas, conduct operations according to strict standards, communicate appropriately with local people, and appropriately mitigate the impacts of their investments. When local standards are lacking, Chinese companies should fill the gap by operating to the higher standards expected in China, or ideally by implementing international standards.

While there are many responsible Chinese investors doing business across the world, a considerable number of high profile problematic investments by Chinese investors have attracted the attention of the media, civil society, academia and some members of the public. If current trends continue and overseas investment continues to rise, the number of problematic projects will also rise unless more

stringent standards are applied. By ensuring that high quality EIAs are conducted and appropriate environmental management plans are in place, companies can minimize environmental risks, and in the process reduce the chance of incurring penalties or harming local livelihoods. Conducting business in a transparent manner, communicating with local communities, and giving people the opportunity to discuss and voice concerns can improve trust and understanding between local people and incoming investors.

Conclusion

Following the rapid development of China's economy and the exponential increase of overseas investment, a number of Chinese companies have become well-known names in the global mining industry. While they control large amounts of capital and hold mining rights over many thousands of square kilometres, company performance is mixed, and standards still need to be improved. There are positive signs that progress is being made domestically, as China's environmental laws continue to develop and government policy seeks to move China closer towards building the "ecological society". Overseas investment and financing guidelines are also developing, and a number of mining companies have joined initiatives such as the UN Global Compact, and have started to study initiatives such as the Equator Principles and EITI. However, as illustrated throughout this report, despite the progress made in recent years, there is still much work to be done, both at home and overseas.

Much of the discussion throughout this report has focussed on the laws, regulations and policies that are currently in place to regulate the social and environmental impacts of China's mining industry. However, it is not only policy that needs to change. The mindset and awareness of Chinese enterprises also needs to develop, and investors and financiers need to understand more clearly how their projects impact on local people and the environment. While policy makers and regulatory bodies can develop enhanced social and environmental safeguards for domestic and overseas investment, those responsible for developing and financing projects also need to understand that raising revenues and creating jobs is not the only priority. In order to achieve the admirable goals of "win-win" development and "mutual benefit", investment and development must be conducted in a responsible manner, with negative impacts mitigated to the greatest extent possible. This is crucial if China is to be successful in its mission to build the "ecological society". ■

292 China Daily, *Wary of Investment Risks,* 31 August 2012. http://www.chinadaily.com.cn/opinion/2012-08/31/content_15722744.htm (accessed April 2014).

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气候与金融面面观

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