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Foreword

Mineral resources are an important part of natural resources, and an important material foundation for the development of human society. Great achievements have been obtained in the survey and development of China’s mineral resources in the past five decades since the founding of New China. A great number of mineral resources have been verified, and a fairly complete system for the supply of mineral products has been established, providing an important guarantee for the sustained, rapid and healthy development of the Chinese economy. At present, over 92% of the country's primary energy, 90% of the industrial raw and processed materials and more than 70% of the agricultural means of production come from mineral resources.

China attaches great importance to sustainable development and the rational utilization of mineral resources, and has made sustainable development a national strategy and the protection of resources an important part of this strategy. Immediately following the UN Environmental and Development Conference in 1992, the Chinese government took the lead in formulating the "China Agenda 21 - the White Paper on China's Population, Environment and Development in the 21st Century." It approved and implemented the "National Program on Mineral Resources" in April 2001, and, in January 2003, began to implement "China's Program of Action for Sustainable Development in the Early 21st Century."

To build a well-off society in an all-round way is China’s objective in the first 20 years of the new century. China will spend mainly on the exploitation of its own mineral resources to guarantee the needs of its modernization program. The Chinese government encourages the exploration and exploitation of the mineral resources in market demand, especially the abundant resources in the western regions, to increase its domestic capability of mineral resources supply. At the same time, an important government policy to import foreign capital and technology to exploit the country’s mineral resources, make use of foreign markets and foreign mineral resources, and help Chinese mining enterprises and mineral products enter the international market. The Chinese government holds that to have foreign mining companies enter China and Chinese mining enterprises enter other countries to make different countries mutually complementary in resources is of great significance for the common prosperity and healthy development of world mineral resources prospecting and exploitation.

I. The Present Situation of Mineral Resources and Their Exploration and Exploitation

China has discovered 171 varieties of minerals, and 158 of them with proved reserves. There are 10 energy-related minerals, including oil, natural gas, coal, uranium and geotherm; 54 metallic minerals, including iron, manganese, copper, aluminum, lead and zinc; 91 non-metallic minerals, including graphite, phosphorus, sulfur and sylvite; and 3 liquid minerals, including groundwater, and mineral water. There are nearly 18,000 mineral deposits in China, including more than 7,000 big
The basic characteristics of China’s mineral resources are:

The total quantity of the resources is fairly big and there is a fairly complete variety of minerals. China has found a rather complete variety of mineral resources, and a fair abundance of mineral resources in total quantity. Large reserves have been verified of major minerals, such as coal, iron, copper, aluminum, lead and zinc. The country enjoys obvious advantages in the world in the resources of coal, rare earths, tungsten, tin, molybdenum, antimony, titanium, gypsum, bentonite, mirabilite, magnesite, barite, fluorspar, talc and graphite. There are abundant geothermal and mineral water resources, and the quality of the groundwater is good on the whole.

The per-capita quantity of the resources is small, and there is an imbalance between supply and demand for some of the resources. The huge population and the low per-capita quantity of mineral resources are a basic national condition in China. The per-capita quantity of mineral resources held by the Chinese people is at a comparatively low level by global standards. There are acute shortages of diamonds, platinum, chromite and sylvite.

Superior mineral ores exist side by side with inferior ones. There are both high-quality ores and those of low grade and complex constituents. The quality is fairly high for tungsten, tin, rare earths, molybdenum, antimony, t alc, magnesite and sphalite, while in the case of iron, manganese, aluminum, copper and phosphorus there is an excess of low-grade ores, aragenous and associated ores and those refractory for dressing and smelting.

The resources with a low degree of geological control account for a greater proportion of the verified reserves of the mineral resources. In the structure of the verified reserves of the resources, there are more resources, but less reserves or asic reserves; more resource reserves with poor economic workability or with uncertain economic significance, but less resource reserves with ideal economic workability; more controlled and deduced resource reserves, and less verified resource reserves.

The conditions for mineralization are good, and there are good prospects for finding more mineral resources. There is a big potential for finding more oil, natural gas, gold and copper. The deeper formations and outlying areas of the old mining areas and the western regions are the major substitute areas of mineral resources.

China was one of the first countries in the world to develop its own mineral resources. After the founding of New China, the Chinese government made great efforts to strengthen geological work, and explicitly demanded that this work should go ahead of the economic construction. It formulated the strategic principle for “the development of the mining industry” and made specific arrangements for the exploration and development of mineral resources in all its five-year plans. Great progress has been made in the exploration and exploitation of mineral resources, so that China has gradually become a major country in mineral resources and the mining industry. Mineral resources prospecting and exploitation have supplied large quantities of energy and raw and processed materials for economic construction; provided important sources of revenue; accelerated the development of regional economies, especially economic development in regions inhabited by the ethnic minorities as well as remote and border areas; promoted the rise and growth of mining cities (townships) with mineral resources exploitation as their pillar industry; and solved the problem of employment for large numbers of local people, thus taking a major contribution to socio-economic development in the country.

A large number of mineral resources have been discovered and ascertained. The discovery and construction of a large batch of oil and gas fields, represented by the Daqing Oilfield, has turned China from an oil-poor country into one of the major oil-producing countries in the world. China has discovered or expanded a number of major mineral deposits, including the rare-earth metal mine in Bayun Obo, the Daxing Copper Mine, the Jinchuan Nickel Mine, the Shizhuyuan Tungsten Mine, the Janchuan Molybdenum Mine, the Ashile Copper Mine, the Jiaojia Gold Mine, the Yulong Copper Mine, the Dachang Tin line, the lead-zinc mines at Changba and Lanping, the Dongsheng-Shenmu Coalfield, the Zijinshan Copper-Gold Mine and the Angbajain Geothermal Field. It has also discovered and ascertained a number of major sources of groundwater supply. Parts of the western regions have gradually revealed good prospects for finding mineral resources. New resources have been found in the outlying areas or deeper strata of some of the existing mines. A succession of achievements has been made in the new
The scale of mineral resources exploitation has expanded rapidly. In 1949, China had just over 300 properly developed mines, producing annually about 120,000 tons of crude oil, 32 million tons of coal, 160,000 tons of steel, 13,000 tons of non-ferrous metals, 10,000 tons of pyrite and less than 100,000 tons of phosphorus. Over the past 50 years or more, China has developed a large supply system for energy, mineral products and other raw and processed materials, with the successful construction of large petroleum-producing bases such as Daqing, Shengli and Liaohe; large coal-mining centers such as atong, Yanzhou, Pingdingshan, Huainan, Huaibei and Junggar; large iron and steel production bases such as Shanghai, nshan, Wuhan and Panzhuhua; large non-ferrous metal refining bases such as Baiyin, Jinchuan, Tongling, Dexing and Gejiu; and large chemical mining centers such as Kaiyang, Kunyang and Yunfu. The mushrooming of mining cities has accelerated urbanization in the country. At present, China’s output and consumption of mineral products rank among the biggest in the world. In 2002, China had 489 large mines, 1,025 medium-sized ones, and well over 140,000 small ones and sand and clay quarries, employing a total of 9.07 million people, with the output value of the mining industry coming to 454.2 billion yuan. Produced 167 million tons of crude oil and 32.7 billion cu m of natural gas. The amount of mineral ores, and sand and clay excavated totaled 4.849 billion tons, including 1.38 billion tons of raw coal, 231 million tons of iron ore, and 23.01 million tons of phosphorus ore; while the output of 10 non-ferrous metals totaled 10.12 million tons. The output of raw coal, steel, 10 on-ferrous metals and cement ranks first in the world; the output of phosphorus ore and pyrite ranks second and third, respectively, and that of crude oil takes the fifth place. The state-owned mining enterprises form the pillar of mineral resources exploitation in China, and also the stable supply base for its energy and raw and processed materials industries. The crude oil, natural gas and 36% of the output of other mineral ores come from 7,679 state-owned mining enterprises. The state-owned mining enterprises have not only laid the foundation for industrial and agricultural development, but also made important contributions to the improvement of the people’s living standards and the growth of the comprehensive national strength. Since the mid-1980s, other types of mining enterprises have also witnessed rapid development. There are now 40,000 non-state-owned mining enterprises, including 132 established with investment from Hong Kong, Macao and Taiwan, and 160 with foreign investment.

The level of mineral resources protection and rational utilization has been gradually raised. In the past 50-odd years, China has made great progress in its use of geophysical exploration, geo-chemical exploration, remote-sensing, drilling and coring technologies, laboratory test and computer technology for mineral resources prospecting. It has raised the scientific and technological level of its mineral resources exploration. Notable results have been obtained in the multipurpose survey and recovery of mineral resources, and the rate of resources utilization has been gradually increased. At present, the recovery rate of scrap steel in China is 40%, and the comprehensive recovery rate of scrap non-ferrous metals is 27.70%. Supplies of practically all platinum-group and scattered elements have come from the multipurpose use of mineral resources. Early one third of the raw materials for sulfuric acid are also recovered in the production of non-ferrous metals. Some of the state-owned mining enterprises produce the coal-associated gas, oil shale, kaolin and high-alumina clay for multipurpose development, and process and utilize coal gangue and flyash, reaping good economic results and environmental benefits.

Foreign trade in mineral products has grown fast. China’s total volume of imports and exports of mineral products, energy and raw and processed materials came to US$111.1 billion in 2002, accounting for 18% of China’s total volume of imports and exports. Mineral products that were imported in large quantities included crude oil, iron ore, manganese ore, copper ore and potash fertilizer. Meanwhile, China exported large quantities of lead, zinc, tungsten, tin, antimony, rare earths, magnesite, fluorspar, barite, talc, and graphite, and other leading mineral products. China’s cooperation with other countries in the field of mineral resources is expanding constantly. Through prospecting for offshore oil and gas resources in cooperation with foreign companies, a number of new oil and gas fields have been discovered, and the offshore oil and gas output has grown year by year. Prospecting for and exploitation of oil and gas resources in other countries have reached a certain scale. Prospecting for and exploitation of hard rock mineral resources in other countries have also begun. Relations of cooperation in long-term research and development in the field of coal bed methane have been established with some
countries.

However, there are still some contradictions and problems in mineral resources survey and development in China. They are mainly:

The contradiction between the fast economic growth and the huge consumption of some mineral resources. There is a fairly large gap between the supply and demand in oil, high-grade iron, high-grade copper, fine-quality bauxite, chromite and ilomite. The degree of difficulty in looking for mineral resources by geological means in the eastern regions has increased, and the increase range of proved reserves there has slowed down. The production in some mines has entered the middle or late stage, and their reserves and output are decreasing year by year.

Serious waste and environmental pollution still exist in the exploitation and utilization of mineral resources. The overall situations of the mining areas are not satisfactory, and the prospecting and mining technologies are backward, and there still serious waste in the consumption of resources. The protection of the environment of the mines calls for further improvement.

Mineral resources exploration and exploitation are imbalanced between regions. The western regions and the outlying arts of the central regions abound in resources, but their natural conditions are poor, their ecological systems are weak, and the work of geological survey and assessment remains at a low level, thus restricting the development of the resources.

The degree of market-oriented exploration and development of mineral resources is not high. The market-oriented systems regarding the rights of prospecting for and extracting of minerals should be further improved. Management of mineral resources should be further improved and standardized. The scope of international exchange and cooperation in the field of mineral resources should be further broadened.

II. Targets and Principles for Mineral Resources Protection and Rational Utilization

In the first 20 years of the 21st century, China will build a well-off society in an all-round way, so the total demand for mineral resources will continue to increase. China will strengthen its survey, prospecting, exploitation, planning, management, protection and rational utilization of mineral resources, implement the strategy of sustainable development, take a new road to industrialization, and strive to increase the ability of the mineral resources to guarantee its socio-economic development. China will continue to increase the economic returns, social benefits and environmental benefits of mineral resources to the full by implementing an effective policy concerning mineral resources in accordance with the requirements of surveying and exploiting mineral resources in an orderly way and with compensation, striking a balance between supply and demand, optimizing composition, and seeking intensive development and high efficiency.

China's general targets for the protection and rational utilization of its mineral resources in the early 21st century are:

To increase the ability of the mineral resources to guarantee the building of a well-off society in an all-round way. We shall raise the effective input into mineral resources prospecting and exploitation, increase the range and depth of prospecting and exploitation, strengthen the protection of mineral resources, and increase their supply. We shall open still wider to the outside world and take an active part in international cooperation. We shall also establish a reserve system for strategic resources, lay up necessary reserves of mineral resources vital to the national economy and the people's livelihood, and ensure the safety of the country's economy as well as the sustained and safe supply of mineral commodities.

To promote the improvement of the ecological environment of the mines. We shall reduce and control pollution and amage to the environment of the mineral resources caused in the production links of mining, dressing and smelting or refining and bring about a benign cycle in the exploitation of mineral resources and protection of the ecological environment; improve the laws and regulations for environmental protection in mining areas, and exercise still stricter examination and supervision over the law enforcement concerning the control of the ecological environment of the mines; and increase publicity and education to raise the awareness of the mining enterprises and the whole society regarding the importance of resources environmental protection.
To create a development environment for fair competition. In light of the requirements for establishing a socialist market economic system and the operation law governing mineral resources exploration and exploitation, we shall further improve the laws and regulations concerning the management of mineral resources; adjust and perfect the policy on mineral sources; improve the investment environment; provide excellent information service; and create an open, orderly, sound and unified market environment in which all market subjects can compete on an equal footing.

To attain the above targets, China will continue to adhere to the following principles:

Persisting in the strategy of sustainable development. We shall implement the measures for protecting resources and correctly handle the relations between economic development and resources protection; exploit resources in the course of reformation and protect them in the course of exploitation; strengthen mineral resources prospecting; exploit mineral resources in a rational way and economize on their utilization; strive to increase efficiency in the utilization of resources; and open a new road to industrialization featuring high sci-tech content, good economic returns, low resources consumption, less environmental pollution, and full play to the advantages of human resources.

Adhering to the orientation of reform toward establishing a market economic system. Under the guidance of the state industrial policy and plan, we shall give full play to the basic role of the market in the allocation of mineral resources, and establish a mechanism for optimum resources allocation combining government macro control with market operation. We shall strengthen control over the total quantity of mineral resources exploitation, foster and standardize the prospecting and mining rights market, promote the diversification of mineral resources exploration, exploitation and investment, and standardize business operation, and earnestly safeguard the legitimate rights and interests of the state owners and the holders of exploration and mining rights.

Persisting in balanced development between regional mineral resources prospecting and exploitation and environmental protection. We shall work out unified plans and correctly handle the relations between eastern and western regions, between well-developed and less-developed regions, between prospecting and exploitation, between state-owned mining enterprises and non-state-owned mining enterprises, and between scale exploitation and excavation by small mines. We shall further implement the strategy of large-scale development of the western regions, accelerate exploration and exploitation of mineral resources in the western regions, especially the dominant minerals and minerals in short supply at home, support mining towns and old mines in their search for substitute resources, and promote the balanced development of regional economies and healthy development of mineral resources prospecting and exploitation. We shall persist in combining mineral resources exploitation with attention to the interests of the regions inhabited by ethnic minorities, and strengthen the protection, restoration and control of the mining environment on the principle of putting prevention first and combining prevention with control.

Persisting in widened opening-up and cooperation with other countries. We shall improve the investment environment, encourage and attract foreign investors to prospect for and exploit mineral resources in China. We shall promote international cooperation in mineral resources, and make such cooperation mutually complementary and beneficial in accordance with the rules of the WTO and international convention.

Persisting in making sci-tech progress and innovations. We shall implement the strategy of rejuvenating the nation by science and technology; strengthen efforts in tackling key technological problems and popularizing and applying technological achievements in the investigation and assessment of mineral resources and their prospecting and exploitation and multipurpose use and in the prevention and control of environmental pollution in mining areas; strengthen the R & D of new and new technologies involved in the development of new energy sources, new material technologies and marine mineral resources; and improve basic research on new theories, new methods and new technologies. We shall improve the quality of the workers; train a contingent of sci-tech personnel with mastery of advanced scientific theories and the ability to make innovations in mineral resources prospecting and exploitation; and promote the transformation of the prospecting and exploitation from a traditional industry to a modern industry, from a labor-intensive industry to a technology-intensive industry, and from extensive management to intensive management.

Persisting in managing mineral resources strictly according to law. We shall improve the legal system, endeavor to
Qinghai will be exploited in an appropriate way. Greater efforts will be made to exploit coal bed methane. China boasts fairly large coal resources in southwest China. There will be no major changes in the position of coal as China's main energy source in the near future. However, the structure with coal as its main source causes serious air pollution, and some adjustments must be made to it. China will make full use of its coal and hydro power resources, and develop cleaning technologies for coal, including coal washing, dressing, quenching and gasifying technologies. The scale of coal production in the eastern regions will be stabilized, stress will be laid on the development of the coal resources in Shanxi and Shaanxi provinces and the Inner Mongolia Autonomous Region, the coal resources in southwest China will be exploited in a rational way, and the coal resources in Xinjiang, Gansu, Ningxia and Inner Mongolia will be exploited in an appropriate way. Greater efforts will be made to exploit coal bed methane. China boasts fairly large coal resources in southwest China.
large quantities of low-grade resources which, however, are insufficient to meet the demand. To solve the problem of insufficient oil and gas supply, China will first exploit and utilize its domestic oil and natural gas resources. Abundant petroleum resources have been discovered in the western regions. The Tarim and Junggar basins in Xinjiang, the Ordos Basin on the borders of Shaanxi, ansu, Ningxia, Inner Mongolia and Shanxi, and the Qadang Basin in Qinghai all show great potentials for development. Important discoveries have also been made in the Bohai Sea area. In exploration and exploitation of oil resources, emphasis will be placed on prospecting work in the old oilfields on the basis of exploiting the deeper formations in the eastern regions, developing the oilfields in the western regions and accelerating the exploration of offshore oil and gas resources; at the same time, efforts will be exerted to make new discoveries in the new formations and regions to increase the verified oil reserves at a maintain a rational rate of self-sufficiency in oil. In exploration and exploitation of natural gas resources, emphasis will be placed on the Tarim, Ordos and Qadang basins, and the Sichuan-Chongqing region along the west-east gas pipeline, as well as the East China Sea Basin, to increase the reserves, raise the output and gradually improve China's energy structure.

Strive for a rational distribution of regional geological exploration and exploitation of mineral resources. The comparative advantages of the mineral resources in the western regions are conspicuous, and their distribution is concentrated, thus providing the resources foundation for the formation of dominant pillar industries. Of the country's 158 minerals with proved reserves, 138 are found in the western regions. The more than 30 minerals found in the western regions, including coal, oil and gas, sylvite, chromite, rare earths, phosphorus, nickel, vanadium, manganese, copper, uranium and zinc, have comparative resources advantages in the country. With the implementation of the western development strategy, the accelerated construction of infrastructure facilities and ecological protection will help to connect quickly the resources and the resource-related products of the western regions with the domestic and international markets, thereby greatly improving the conditions for the exploitation of mineral resources and the entry of mineral commodities into the market. The Chinese government encourages the commercial exploration of mineral resources, including oil, natural gas, salt gas, high-grade coal, copper, gold, high-grade manganese, sylvite and groundwater in the western regions, with emphasis on the resource-rich areas, to promote the rational exploitation and deep processing of oil, natural gas, non-ferrous metals, sylvite, phosphorus and other mineral resources in the western regions and accelerate the change from resources advantage to economic advantage. In the central and eastern regions, emphasis will be placed on tapping the potentials of mineral resources, strengthening their multipurpose use and expanding their processing industrial chain. Exploration of tungsten, tin, antimony, lead, zinc and rare earth resources will be started in accordance with the targets of the adjustment of national industrial structure. Full play will be given to the advantages of the central and eastern regions in regional location and technologies in the exploitation of non-metallic minerals, so as to raise the level of deep processing and the degree of intensive utilization of non-metallic minerals, open new fields for their application and increase the market competitiveness of the products. At the same time, we will start the work of looking for substitute resources in existing mines in the central and eastern regions. Maritime areas under Chinese jurisdiction abound in mineral resources. The Chinese government will continue to strengthen the prospecting and exploitation of oil and gas resources in these areas and conduct search into other mineral resources, and take an active part in the international activities of seabed mineral resources search, prospecting and exploitation.

Accelerate the structural adjustment of mineral resources exploitation and utilization. The degree of intensiveness and modernization of mineral resources exploitation in China is still somewhat low, and it is necessary to optimize the structure, innovate technologies and improve management in this regard. China will speed up the structural adjustment of mineral resources exploitation and utilization, increase productive capacity and raise efficiency. Through technological transformation of mining enterprises and improvement of their management mechanism, the Chinese government encourages the active introduction of clean production, and the application of mature and high and new technologies in mineral resources prospecting and exploitation, so as to raise the level of prospecting and exploitation. We shall introduce scale exploitation, raise the level of intensiveness and eliminate backward and scattered mining capacity. Mining enterprises which operate without licenses, cause environmental pollution, waste resources or do not have the proper conditions for safe operation shall be closed down in accordance with the law. Through market and policy guidance, we shall develop mining enterprises couples with international competitiveness. We shall continue to support and assist non-state-owned mining enterprises in their development.

Raise the level of multipurpose utilization of mineral resources. Of China's proved mineral resources, there are fairly large quantities of low-grade resources which are still difficult of utilization under the present technological and economic
conditions. The exploitation and utilization of these resources is an important way to solve the shortage of mineral resources supply. The Chinese government encourages the accelerated conversion of resources with poor economic workability into sources of economic workability by strengthening the construction of the necessary infrastructure facilities in the resource-rich regions, improving the external conditions for the construction of mines, using high and new technologies, and reducing the cost of exploitation. To achieve multipurpose utilization of the country’s resources is one of China’s important technological and economic policies on mineral resources prospecting and exploitation. China carries out comprehensive prospecting, overall evaluation, comprehensive exploitation and multipurpose utilization of mineral resources. It encourages and supports mining enterprises to exploit and utilize low-grade refractory resources, and encourages and supports them to develop and use substitute or secondary resources to increase the sources of resources supply and reduce production costs.

China issues the "Interim Provisions Concerning Certain Questions on the Multipurpose Utilization of Resources" in 1985, regulated the "Opinions on Making Further Multipurpose Utilization of Resources," and published the "Catalogue of Resources for Multipurpose Utilization" in 1996. It has adopted preferential policies for the multipurpose utilization of mineral resources in the fields of enterprise income tax and value-added tax, and it encourages mining enterprises to raise the level of the multipurpose resources utilization by reliance on scientific and technological progress and innovations.

Save energy and reduce consumption. China encourages the development of technologies for deep-processing of mineral products, new energy sources and new material technologies as well as technologies and technical processes that save energy, materials and water, reduce consumption and raise the efficiency of resources utilization. We shall develop the renewable sources of energy and nuclear power, increase the use of clean coal and CBM, and reduce the proportion of coal directly burned. We shall develop new metals, new non-metals and substitutes for conventional mineral materials and reduce the dependence of an economic society on conventional mineral materials.

Establish a system for the reserves of strategic mineral resources. China will put the major strategic resources in the reserves order by stages and in groups, on the basis of the present situation concerning the supply and demand of mineral resources, as well as its national strength.

Solve step by step the problem of substitute resources in old mines. Some of the large and medium-sized state-owned mines in China have entered their middle or late stages, and have insufficient substitute resources. Some old mining enterprises can no longer continue their operations because their resources are exhausted. The Chinese government will increase its policy support for them by formulating rational financial and tax policies in line with the characteristics of mineral resources prospecting and exploitation, to create good external conditions for their survival and development. We shall encourage large old mines to look for substitute resources so as to prolong their service life.

IV. Widening the Opening of, and Cooperation in, Mineral Resources Exploration and Exploitation

China will carry out its policy of opening to the outside world unswervingly. It will take an active part in international cooperation in the field of mineral resources to promote the exchange of domestic and foreign resources, capital, formation, technology and markets on the basis of reciprocity and mutual benefit.

China implements the policy of encouraging foreign businesses to invest in mineral resources prospecting and exploitation in the country. China encourages domestic mining enterprises to cooperate with international mining companies, draw on advanced international experience, import advanced technology and operate in accordance with international practices. China began to open its oil industry to the outside world in 1982 by using foreign capital and technology to prospect and exploit oil and gas resources. As a result, the range of exploitation has been extended, and the output of crude oil has risen by big margins. Now, China has begun to participate in the exploitation of petroleum resources outside the country. The Chinese government has already taken or will take a number of new measures to further improve the environment for foreign investment, widen the opening-up and strengthen international cooperation.

Giving further encouragement to foreign businesses to invest in China. China issued the "Opinions on Further
export of mineral products in accordance with the principle of reciprocity and mutual benefit. The Chinese government shall formulate a unified policy on the import and market.

Further improving cooperation with foreign companies in prospecting and exploiting oil and gas resources. In the field of oil and gas resources, the Chinese government has always adopted the pattern of cooperation with foreign companies through one "window" based on product-sharing contracts, and this has been widely endorsed by foreign oil companies.


Encouraging foreign businesses to make investment in exploration and exploitation of other mineral resources. China issued the "Opinions on Further Encouraging Foreign Businesses to Make Investment in Exploring and Exploiting Mineral Resources Other Than Oil and Gas" in October 2000, thus further opening the prospecting and mining rights market to allow foreign businesses to start prospecting ventures with exclusive capital or in cooperation with Chinese partners, and guarantees their legal priority rights in exploiting the mineral resources of workable economic value in the zones explored. Foreign businesses which invest in exploiting and recovering paragenous (associated) minerals, utilizing tailings, raising the rate of multipurpose utilization and exploration and exploitation of mineral resources in the western regions shall be entitled to reduction of or exemption from mineral resources compensation fees under a preferential policy. Foreign businesses which make exclusive investment or set up joint ventures or cooperate with Chinese enterprises in exploiting mineral resources, the exploitation of which is encouraged in the "Directory of Industries for Foreign Investment," shall be exempted from mineral resources compensation fees for five years. It is stipulated that governments at all levels shall not start joint ventures or enter into cooperation with foreign investors in running mines, and in no way should they make irrational economic demands on foreign investors, make irrational inspections, requisition donations arbitrarily or collect charges other than those stipulated in the laws and regulations.

Further improving the environment for investment in exploring and exploiting domestic mineral resources. The Chinese government sticks to the protocol on its accession to the WTO and other relevant commitments by annulling the administrative statutes and departmental rules incompatible with the WTO rules and gives national treatment to foreign investors in prospecting and exploitation. The Central Government shall guarantee the consistent implementation of the policies, laws and regulations of the state regarding mineral resources exploration and exploitation in all parts of the country, and standardize the behavior of governments at all levels in exercising management over foreign investment in running mines. China has revised the rules for the management of geological data according to the WTO's principle of transparency, broadened the scope of geological data to be released to the public, and established an open information service system on mineral resources to ensure the availability of public geological data for foreign investors. It has clarified, simplified and standardized the approval procedure for foreign investment in mineral resources prospecting and exploitation.

Changing the import mechanism and operation mode. In the course of taking the new road to industrialization and attracting foreign investors to make investment in mineral resources prospecting and exploitation, efforts will be made to lift from laying emphasis on importing funds only to placing equal emphasis on importing funds, technology, modern management and people with expertise, from the mere emphasis on bringing in foreign funds in prospecting and exploitation to the establishment of joint ventures and cooperation in the development of services and trade in the mining industry, and dependence chiefly on foreign loans and direct foreign investment to the direct use of the international mining capital market.

China will continue to strive for mutual supplement with other countries in mineral commodities and promote the development of foreign trade in mineral products by expanding its international trade in mineral commodities according to the principle of reciprocity and mutual benefit. The Chinese government shall formulate a unified policy on the import and export of mineral products in accordance with the WTO rules and its commitments on its accession to the WTO, coordinate,
A unified way, the export of its dominant mineral products and the import of mineral products in short supply, adjust the import and export mix of mineral products, improve the economic results, and encourage the export of deep-processed mineral products with high added value and the import of primary mineral products. Direct import of mineral products will remain the chief way by which China utilizes foreign mineral resources for a fairly long time to come. The Chinese government shall gradually change the situation in which the proportion of the spot trade in mineral commodities, including crude oil, is too big at present, encourage the signing of long-term supply contracts with foreign companies, and import minerals from diversified sources. With regard to mineral resources in which China has advantages, such as tungsten, tin, antimony, rare earths, fluorspar and barite, the government will improve the export structure, increase the added value of export products, standardize the order of export business, and actively urge the trade intermediary organizations to improve trade coordination and self-discipline, and promote the healthy development of the trade in domestic and foreign mineral products.

The Chinese government encourages domestic enterprises to take part in international cooperation in the sphere of mineral resources, and in exploration, exploitation and utilization of foreign mineral resources. It will promote and protect investments in mineral resources prospecting and exploitation outside China, and standardize the investment and business operation behavior in accordance with international practices. It will actively develop cooperation with foreign companies in geological survey and mineral resources prospecting and exploitation, and promote bilateral and multilateral exchanges and cooperation in the relevant scientific and technological fields.

V. Achieving the Coordinated Development of Mineral Resources Exploitation and Environmental Protection

Mineral resources prospecting and exploitation will change and affect the ecological environment around the mining areas. The Chinese government attaches great importance to environmental protection and the prevention and control of pollution in the course of exploiting and utilizing mineral resources, and strives for simultaneous development in mineral resources exploitation and environmental protection and pollution control. Environmental protection, pollution control and land rehabilitation in mining areas are explicitly stipulated in laws and regulations China has published and implemented. The Chinese government will continue to improve environmental protection in mining areas, and strengthen the work in the following aspects:

Continuing to adhere to the principle of placing equal stress on the exploitation and utilization of mineral resources and the protection of the ecological environment, by putting prevention first and combining prevention with control. We shall strictly adhere to the system of environmental impact evaluation reporting, the system of land rehabilitation and the system of collecting fees for pollutant discharge in mining areas. We shall strictly adhere to the system whereby the construction of mines goes hand in hand with the designing, constructing and commissioning of environmental protection facilities. Active guidance will be given to enterprises in organizing clean and safe production in the course of mineral resources prospecting and exploitation.

Restricting the exploitation of mineral resources that produce considerable negative impacts on the ecological environment. Strict control will be enforced on prospecting and exploitation in national conservation and other areas where ecological conditions are weak. Mineral resources exploitation is forbidden in national conservation, important scenic areas and important geological protection areas, and mineral resources exploitation in ecological protection areas is strictly restricted. We shall strictly prohibit coking, metal refining and smelting, sulfur and vanadium refineries with indigenous methods. We shall restrict the building or rebuilding of mines producing coal with a sulfur content exceeding 1.5%, and prohibit the building of mines producing coal with a sulfur content exceeding 3%. We shall restrict the exploitation of mineral resources in areas liable to geological disasters, and prohibit the exploitation of mineral resources in areas with real danger of geological disasters. Unauthorized exploitation of mineral resources within a given distance on both sides of railway lines and major highways is forbidden.

Evaluating the impact on the ecological environment before starting a new mineral resources exploitation project. Measures shall be taken to protect the ecological environment, avoid or reduce adverse effects or damage caused to the air, water, farmland, grasslands, forests and seas. A program for the exploitation and utilization of mineral resources shall include a plan for the protection of water and soil, a plan for land rehabilitation, a plan for the prevention and control of geological pollution, and a plan for the exploitation of mineral resources. Comprehensive geological surveys shall be conducted before and after the mining, the results of the surveys shall be evaluated before exploitation, and environmental protection facilities shall be designed, construction, operating and commissioned in accordance with international practices. The government shall require comprehensive geological surveys and environmental protection facilities for all kinds of mineral resources exploitation projects, the government shall strengthen the implementation of the system of environmental impact evaluation reporting, and coordinate and supervise the implementation of the system of land rehabilitation. The government shall strictly adhere to the system of environmental impact evaluation reporting, the system of land rehabilitation and the system of collecting fees for pollutant discharge in mining areas. The government shall strictly adhere to the system whereby the construction of mines goes hand in hand with the designing, constructing and commissioning of environmental protection facilities.
Disasters in mining areas and an evaluation report on geological environmental impacts. These documents shall be submitted for approval as stipulated. We shall exercise stricter supervision and management over the control of the "three wastes" in mines, and strictly control the discharge of waste gas in accordance with the criteria stipulated by the state. We shall strengthen the control of poisonous and harmful waste water and other pollutants produced in mines, and offenders shall be severely dealt with.

Strengthening the investigation and monitoring of the environment and the prevention and control of disasters in mining areas. The government shall organize nationwide investigations and evaluations of the ecological environment in mining areas. Mining enterprises shall strengthen investigation, monitoring, forecasting and early warning of disasters possibly induced in the course of the development of mines, promptly take effective measures to prevent and control them, and submit monitoring reports to the competent departments of the local governments. An information network shall be established and emergency anti-disaster plans shall be worked out to prevent sudden disasters at the maximum.

Setting up a multi-source investment mechanism for environmental protection in mining areas. We shall establish an agreement-honoring system for environmental protection and land rehabilitation in mining areas, and adopt government guidance and market operation to ensure the effective restoration and improvement of the environment there. With regard to abandoned mines and old mines, the state will strengthen the restoration and improvement of the ecological environment on the basis of demonstration projects, and encourage investment in this regard from society at large. We shall set up an investment mechanism for environmental control in mines still in production, with the mining enterprises playing the leading role. The enterprises shall provide the funds for environmental protection in new mines.

VI. Improving the Management of Mineral Resources

In the past five decades and more since the founding of the People's Republic, China has gradually improved the management of its mineral resources, putting it on legal, standardized and scientific tracks.

Enacting and gradually improving the laws and regulations on mineral resources management. China has put in place a legal system for its mineral resources, consisting of the "Mineral Resources Law" and other relevant laws and regulations, with the Constitution as its foundation. Since 1982, China has successively promulgated the "Mineral Resources Law," "Land Administration Law," "Coal Law," "Law on Safety in Mines," "Environmental Protection Law," "Marine Environmental Protection Law" and "Law on the Use and Management of Sea Areas." The Chinese government has also issued more than 20 supplementary statutes and regulations, including the "Detailed Rules for the Implementation of the Mineral Resources Law," "Regulations on the Exploitation of Offshore Oil Resources in Cooperation with Foreign Enterprises," "Regulations on the Exploitation of Onshore Oil Resources by Foreign Enterprises," "Measures Governing the Registration and Management of Reas for Surveying Mineral Resources," "Measures Governing the Registration and Management of Mineral Resources," "Measures Governing Administration of the Transfer of Prospecting and Mining Rights," "Provisions on the Administration of the Collection of Mineral Resources Compensation Fees," "Interim Measures on the Supervision and Control of Mineral Resources," and "Regulations on the Management of Geological Data." The various provinces, autonomous regions and municipalities directly under the Central Government have, in addition, formulated relevant local statutes. These laws and regulations have put in place China's basic legal system for the management of its mineral resources, and provided legal guarantee for exercising administration, managing mineral resources and operating mines according to law.

Deepening the reform of the mineral resources management system. To constantly meet the requirements for economic restructuring, China has reformed the mineral resources management system, changed and strengthened government functions from enterprise and institution management. From 1950 to 1981, the former Ministry of Geology and other relevant industrial administration departments exercised management over the country's mineral resources. The geological departments chiefly performed the functions of organizing nationwide geological survey and prospecting, managing the reserves of mineral resources and controlling the collection and exchange of geological data, while the relevant industrial administration departments were responsible for the management of mineral resources exploitation. In 1982, the Ministry of Geology changed its name to the Ministry of Geology and Mineral Resources, and became responsible for the supervision and management of mineral resources exploitation as well as the industrial management of geological survey and prospecting. When the government was reorganized in 1988 and 1993, it made further
ear the four basic functions of the Ministry of Geology and Mineral Resources - exercising comprehensive management of mineral resources, exercising industrial management of geological survey and prospecting, exercising supervision and management of the rational exploitation, utilization and protection of mineral resources, and exercising management of the monitoring, evaluation and supervision work regarding the geological environment. The National Mineral Resources Commission was established in January 1996 to strengthen the centralized management function of the Central Government over mineral resources and safeguard the rights and interests of the state as the owner of the country's mineral resources. The government was restructured again in 1998, and the functions of mineral resources management belonging to the State Planning Commission and the coal and metallurgical industrial departments were transferred to the Ministry of Land and Resources, to achieve the centralized management of mineral resources of the whole country. At present, over 90% of the country's prefectures and cities, and more than 80% of the counties have set up land and mineral resources administration organs.

Strengthening the management of mineral resources planning. The plan regarding mineral resources is the guiding document for the survey, exploitation and utilization of the country's mineral resources and the basis for exercising macro control. The Chinese government is further strengthening mineral resources planning, improving the planning system, fixing strict planning responsibility, check-up, announcement, revision and compilation and supervision systems, strengthening public work concerning the plans, and setting up a system for ensuring the implementation of the plans and information feedbacks, to guarantee the fulfillment of the planned targets.

Reforming the management system for mineral resources prospecting and mining rights. The Constitution and the Mineral Resources Law" of China explicitly state that "mineral resources are owned by the state." The State Council exercises state ownership of the mineral resources. At the same time, China has reformed the management system for mineral resources prospecting and mining rights, clearly defined the property right attribute of the prospecting and mining rights, and established the system of acquisition of the prospecting and mining rights with compensation and the transfer of them according to law. China has established a legal system whereby the holder of the prospecting right enjoys priority in acquiring the mining right in the area explored, and strengthened the exclusiveness of the prospecting and mining rights. It has changed the limits of authority regarding giving approval to mineral resources prospecting and exploitation and issuing the prospecting and mining licenses. The prospecting and mining rights can be obtained with compensation by such means as competition through bidding, auction and listing. The transfer of prospecting or mining rights shall follow the market rules, be subject to approval from government departments, and go through the procedure for transfer according to law. The Chinese government will continue to cultivate and standardize the prospecting and mining rights market, and exercise stricter supervision and control over the operation of the market in accordance with the requirements of clearly defined ownership, complete rules, effective regulation and control, and standard operation.

Improving the system of compensation for the use of mineral resources. China's "Mineral Resources Law" clearly provides for the system of compensation for the use of mineral resources. The Chinese government started levying compensation fees for mineral resources from the holders of mining rights in 1994, thus terminating the history of compensation-free mining in China. The collection of the compensation fees for mineral resources (fees for the use of mining areas in cooperative development of petroleum resources offshore or onshore) embodies the rights and interests of the state as the owner of the mineral resources, and is conducive to establishing an economic incentive mechanism to promote the protection and rational utilization of mineral resources. The compensation fees for mineral resources collected by the Chinese government are included in the state budget; they are specially managed and used chiefly in mineral resources prospecting. holders of mining rights who conform to the stipulations of the laws and statutes shall have their compensation fees remitted or reduced. The Chinese government has stipulated that, beginning in 1998, it will collect fees for the use of prospecting and mining rights, and the costs for the prospecting and mining rights formed in the course of prospecting with state investment on the holders of the prospecting and mining rights. Fees and costs for the use of prospecting and mining rights shall be remitted or reduced for mineral resources exploration and exploitation, which meet the requirements, in the western regions, regions inhabited by ethnic minorities, remote and poor regions designated by the government, and offshore areas.

Rectifying and standardizing the order of mineral resources management. Good order in the mineral resources management is a prerequisite for the protection and rational utilization of mineral resources. Since the "Mineral Resources Law" was promulgated in 1986, Chinese legislative organs have organized examinations on law enforcement on many
occasions. Since 1995, the Chinese government has rectified the order of mineral resources management on a large scale throughout the country, resulting in some improvement in the order of mineral resources management. The Chinese government will continue to intensify supervision over the enforcement of the law, rectify and standardize the order of mineral resources management, strengthen supervision over production safety, safeguard the rights and interests of the state as the owner of mineral resources and the legitimate rights and interests of the holders of prospecting and mining rights.

Improving the services of the government departments. It is necessary to improve the style of service and make the appropriate administrative affairs known in accordance with the requirements of being open, transparent, standardized and highly efficient. Mineral resources administrative departments at all levels shall announce to the general public on their work system, matters for approval, important documents, standards and time limits, and subject themselves to public supervision. They shall establish systems for internal joint hearings, handling procedures or documents at windows, and ascertaining administrative responsibilities. They shall establish a communiqué system, release information on the mineral reserves and the progress in mineral resources exploration and exploitation, and gradually make the geological data and information known to the general public. They shall establish a system for access to information so that the general public can promptly inquire about the state plan, policies, laws and statutes concerning mineral resources, and criteria for the classification of the reserves of the resources, seek information on the registration of prospected areas, on registration of exploitation, and rates of compensation fees for mineral resources and ways of payment. At the same time, they shall make great efforts to apply information technology, raise their work efficiency and improve their services.

China is a developing country with a large population and a relative shortage of resources. China will continue to deepen the reform, widen the opening-up, develop the socialist market economy unswervingly, take the road of sustainable development, and rationally use and protect its resources. China will, as usual, take an active part in international cooperation for the development of resources and environment protection, and join hands with all other countries in the world in advancing boldly to achieve the sustainable development of human society.