



Global Mining Development Report

2020-2021

International Mining Research Center, China Geological Survey

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Global Mining Development Report 2020–2021

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Global Mining Sector under the Influence of the COVID-19 Pandemic

(Foreword)

The world today is undergoing profound transformation unseen in a century, and the global political and economic landscape is witnessing profound changes. The supply and demand of mineral resources are being reshaped at a faster speed. Changes took place faster in the world's economic, resource, and industrial pattern due to the COVID-19 pandemic, which exerts a severe impact on the supply chain and industrial chain, poses unprecedented challenges to the mining industry, and will have a profound influence on the global resource governance system.

I. The world economy has taken a hit. Overall demand for energy resources has shrunk, with differentiated structures. Total energy consumption fell by 4.5%, consumption of bulk minerals dipped slightly, and consumption of new energy minerals increased apace. Since the pandemic broke out, the world economy has been plunged into a deep recession. In 2020, the global economy contracted by 3.1%, with a decrease of 4.5% in developed economies, and a decrease of 2.1% in developing economies. China is the world's only major power that registered positive economic growth. The global economic structure is being adjusted. The sharp economic slowdown has restrained the demand for resources. In 2020, the global consumption of mineral resources declined as a whole, and the structure was obviously differentiated. Total energy consumption decreased by 4.5%, the largest drop since World War II. Consumption of fossil energy nosedived, with a

decrease of 9.5%, 3.9%, and 2.1% for oil, coal, and natural gas respectively. Consumption of renewable energy sources such as wind power, hydropower, and solar energy increased by 9.7%. The consumption of some bulk metal minerals dipped slightly, with a decline of 0.2% and 0.7% for iron and aluminum respectively. The consumption of minerals required for the new energy sector maintained fast growth, with an increase of 6.2%, 15.3%, and 7.3% for copper, lithium, and cobalt respectively.

II. The global resource supply capacity has been damaged, the output of mineral products fell by 3.7% overall, and the fragile resource supply chain was laid bare. The pandemic has had a great impact on mine production worldwide. According to incomplete statistics, 36 countries or regions shut down 276 mines, and over 1,600 mining projects were hit by the pandemic. As pandemic prevention and control measures are being implemented, mining production activities worldwide have gradually recovered, but still fail to reach the pre-pandemic level. In 2020, the total global output of major mineral products was down by 3.7% from 2019. The output of energy, metal and non-metallic mineral products was down by 5.1%, 1.4% and 0.5% year-on-year, respectively. The decline in energy and mineral product output was higher than the decline in consumption. The international geopolitical game has intensified, and unilateralism and opposition to globalization have reared their heads, affecting the international trading in mineral products and seriously compromising the security and stability of the global mineral resources supply chain.

III. The prices of major minerals worldwide rebounded in the shape of “∨”, investment in exploration and the mining industry plunged and then gradually rebounded, and investment in gold and lithium mines boomed. When the pandemic just broke out, there was a sharp decline in global investment in exploration, mineral product prices, investment in the mining industry, etc. Starting from April 2020, the prices of major mineral products rebounded rapidly and fluctuated at a high level. The prices of gold, copper, iron, and other mineral products hit all-time highs, and the market's investment expectations for precious metals and emerging minerals increased substantially. In 2020, the total investment in the mineral exploration and mining sector worldwide reached about USD 8.3 billion and USD 290 billion, respectively, down by 11% and 13% from 2019. In 2021, these are expected to return to the level in 2019.

IV. The global financial landscape is adjusted at a faster rate, and the mining capital market declined first and then increased. Since the outbreak of the pandemic, major developed economies implemented expansionary fiscal policies and unconventional easy monetary policy with low interest rates, amplifying the spillover effect of quantitative easing. The global debt leverage ratio rose to an unprecedented level. Emerging economies adopted prudent fiscal and monetary policies and focused on preventing financial risks such as imported inflation while stepping up efforts to reform the finance sector. Since the outbreak of the epidemic, mineral products have played an important role in terms of financial attributes. The futures have a greater impact on the pricing of mineral products, and the global mining sector shows new characteristics of resource financialization. The global mining capital market saw a decrease and then increase. The mining sector has received remarkably increased attention from the capital market. In 2020, the number and amount of financing for global mining projects increased by 17% and 25% year-on-year, respectively. In the first half of 2021, the trend of “increase in the quantity and amount” continued, with year-on-year growth of 12% and 261% respectively.

V. Major countries and regions successively adjusted mining policies, resulting in a differentiated investment environment for mining. Challenge and opportunity coexist. Due to a host of factors such as economic recession, geopolitics, international trade, blocked investment, global investment in mining faces three major risks, namely, increased political and security risks characterized by regime change and social turbulence; increased protectionism characterized by tax hikes and nationalization; and greater barrier to mining investment characterized by increased security reviews. Meanwhile, since the pandemic broke out, some mining countries, such as those in Southeast Asia and Latin America, experienced greater financial difficulties and a widening gap between the rich and the poor. Their national economies become more dependent on the mining sector. Efforts are made to deregulate mining and attract international investment in order to promote the development of the mining industry and spur economic recovery.

VI. Mining companies make active efforts in response to the pandemic, leading to differentiated performance and overall strength. Greater efforts are made to develop new energy

minerals. After the outbreak of the pandemic, large mining companies have tightened management of the capital chain and achieved stable operation overall. Some companies experience a worsening financial crisis. The profits of oil and gas companies have nosedived, while large mining companies which operate the main business of solid minerals see steady profits. In particular, mining companies with gold and iron ore as the main business are star performers. Large-scale mining companies with diversified business, a low asset-liability ratio, abundant cash flow, and control over global quality mineral resources are affected by the pandemic to a small extent. Since the second half of 2020, mining companies generally see a performance improvement, with rising revenue and market capitalization. In the first half of 2021, the total market capitalization of mining companies worldwide reached USD 2.31 trillion, the highest level since 2012. The total market capitalization of the world's top 50 mining companies reached USD 1.47 trillion, hitting an all-time high. Mining giants have further improved the overall strength. Scientific and technological innovation is reinforced constantly, construction for smart mining system is at a rapid pace, and plans for new energy minerals, such as copper, lithium, cobalt, and nickel, are also put into practice.

VII. Climate change promotes a transition to low-carbon production and life for humans, and major changes will take place in the global supply and demand structure for mineral resources and the mining landscape. As the low-carbon revolution progresses, the development of high-carbon heavy chemical industries such as smelting and chemical engineering has been inhibited. Industries such as coal power, iron and steel, and aluminum smelting face huge pressure in terms of carbon emissions, and major adjustments will take place in the industrial scale and modes of production. New energy, new materials, high-end equipment and other sectors will develop at a faster clip, becoming the focus of the global industrial investment. Major changes in the industrial structure in the context of the low-carbon economy will dampen the demand for traditional mineral resources, and the demand for clean energy and strategic emerging minerals will grow apace. The supplier countries of traditional energy resources such as coal, petroleum, iron, and manganese will decline. In contrast, the status of supplier countries of strategic emerging minerals such as lithium, cobalt, and nickel will rise.

VIII. China participates in global cooperation in mining, driving the recovery of

the global mining market. China swiftly brought the pandemic under control and realized a rapid economic recovery, playing its role as the engine of the world economy. China has stimulated the demand for energy and resource consumption. In 2020, as the global demand for mineral resources contracted, China bucked the trend, and its consumption of oil, iron, copper, and aluminum increased by 2.0%, 9.1%, 17.1%, and 6.4% year-on-year, and the import volume increased by 7.3%, 9.5%, 33% and 10.9%, playing an important role in stabilizing the global mining market. Through mutually beneficial international cooperation in mining, China has forged bilateral relations for the development and trade in mineral resources with countries worldwide, maintained the normal order of international trading in mineral products, and fostered open cooperation and common development of the global mining sector.

Looking ahead, we believe that the world economy will develop in an uncertain and imbalanced manner due to the complex and volatile international geopolitical situation and the imbalance in COVID-19 pandemic prevention and control. In the short term, Market demand rebounded rapidly after the pandemic, the expectations for the withdrawal of large-scale quantitative easing policies in major developed economies grow, and the supply chain and industrial chain of mineral resources show a differentiated structure, leading to the uncertain development of the global mining sector. The sustained adjustment of the mining market will become the norm. In the medium and long term, global demand for mineral resources will diversify. Demand for strategic emerging minerals will grow at a faster rate, and the demand for mineral resources in emerging economies such as China will remain high, which will facilitate sustainable development and structural change in the global mining sector.



Global mining development trend since the outbreak of the COVID-19 pandemic

- Report compilation team

Since the global spread of the COVID-19 pandemic, the world economy has plunged into a deep recession, and the global demand for mineral resources has decreased, the largest drop since World War II. Due to the economic recession and the response to climate change, the global consumption of fossil energy and bulk minerals has fallen significantly. The demand for clean energy and new energy minerals has increased. The pandemic played havoc with the world's mining activities. In 2020, the total global output of mineral products fell sharply, with a faster decline than that of consumption. Overall, there is a short supply. When the pandemic broke out, the prices of mineral products and the market capitalization of mining companies worldwide saw a panic decline. Various countries successively introduced quantitative easing policies. Especially after the pandemic was brought under control in China, the price of mineral products and the market capitalization of mining companies rebounded rapidly, and the mineral products and mining market worldwide changed in the shape of “√” through fluctuations. In the future, the developed economies will generally see slow economic growth, China will maintain fast economic growth, the COVID-19 pandemic and the trade war among major powers will persist for some time, the pressure of climate change will mount, and the total global demand for mineral resources will increase, but at a slow rate. Global demand for fossil energy and bulk minerals will peak successively. The demand for clean energy and new energy minerals will grow fast. The global mining sector will face structural adjustment.

I. Global demand for mineral resources fell, and demand for strategic emerging minerals increased in 2020

(I) In 2020, the world economy contracted sharply, and China was the only major power to register economic growth

The COVID-19 pandemic wrought havoc on the global economy. In 2020, the growth rate of the world economy decreased by 3.1%. According to data from the International Monetary Fund (IMF), in 2020, the economic growth rate of developed economies fell by 4.5%. The economic growth rate fell by 3.4% in the United States, by 6.3% in the European Union, by 4.6% in Japan, and by 9.8% in the UK. The economic growth rate of emerging markets and developing economies fell by 2.1%. The economic growth rate fell by 3.0% in Russia, and 7.3% in India. There was a significant decline in global commodity trade, international investment, and cross-border M&As. In 2020, global merchandise trade was down by 8.5%, second only to that in the 2007–2009 global financial crisis. Global foreign direct investment (FDI) fell by 35%, which was 20% lower than that when the global financial crisis reached the bottom. China is the world's only major power to achieve economic growth, and its GDP grew by 2.3%, playing an important role in maintaining global economic stability.

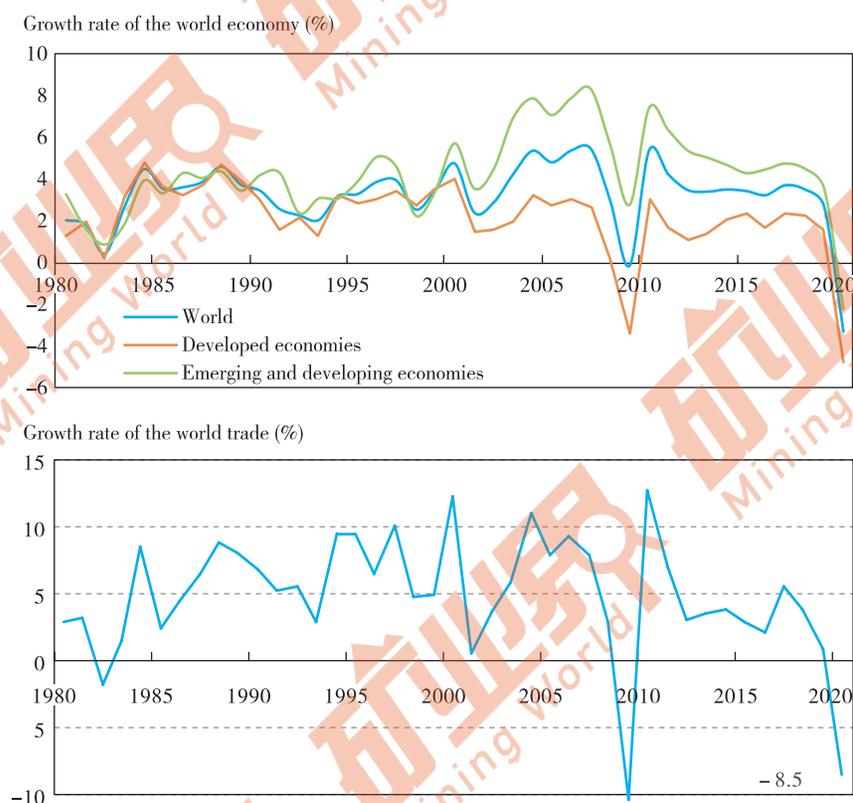


Figure 1 Growth rate of world economy and trade from 1980 to 2020

Source: IMF

(II) Global energy consumption decreased significantly, but renewable energy grew in 2020

In 2020, global energy consumption reached 13.35 billion metric tons of oil equivalent, down by 4.5% from 2019, the largest drop since 1945 and much higher than the decrease of 1.5% in the global financial crisis. The consumption of fossil energy nosedived. Global oil consumption stood at 4.01 billion metric tons, down by 9.7% year-on-year; coal consumption was 7.2 billion metric tons, down by 4.2% year-on-year; natural gas consumption was 3.82 trillion cubic meters, down by 2.3% year-on-year. However, consumption of renewable energy rose, with a year-on-year increase of 9.7%.

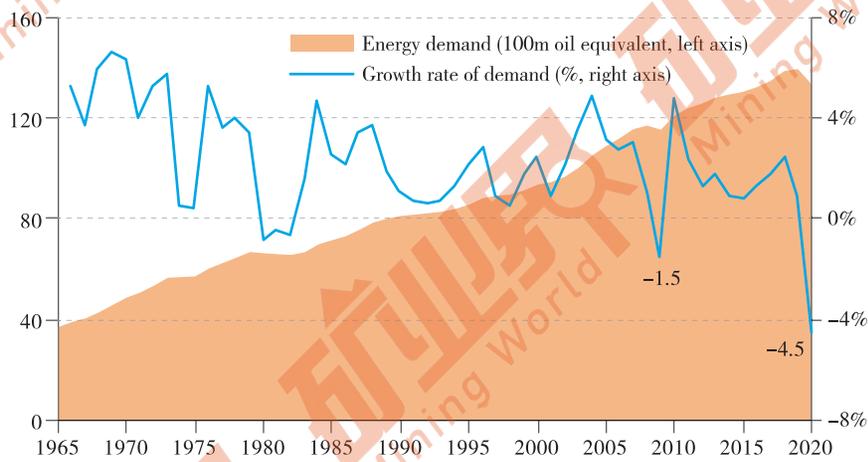


Figure 2 Global energy consumption and growth rate since 1965

Source: BP

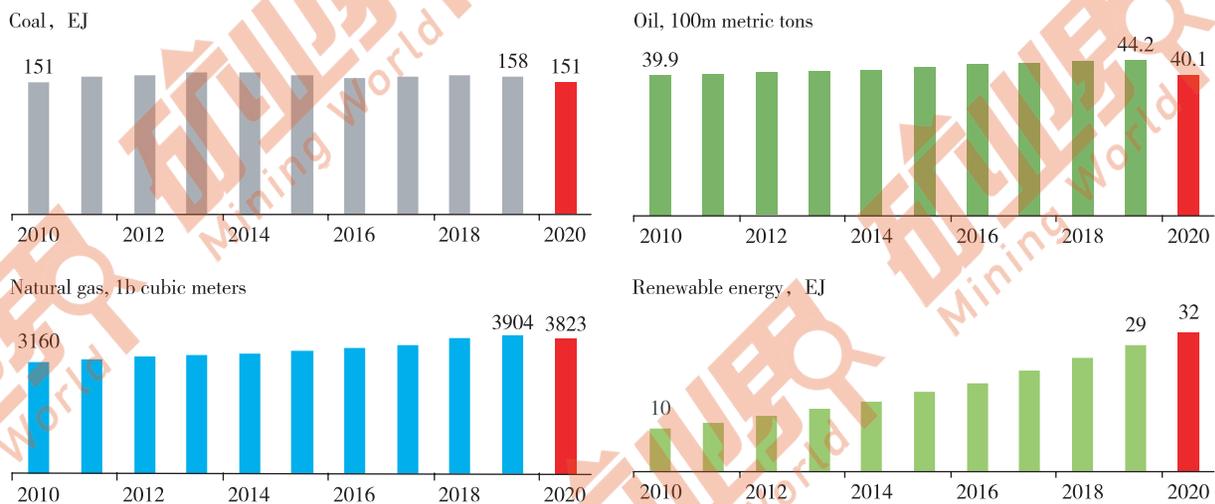


Figure 3 Previous global consumption of coal, oil, natural gas and renewable energy

Source: BP

(III) The overall demand for metal minerals declined, but new energy minerals grew against the trend

The global economic downturn had a negative impact on traditional industries, and the consumption of iron, manganese, aluminum and other bulk minerals decreased. In 2020, the global consumption of crude steel and aluminum was 1.885 billion metric tons and 64.77 million metric tons, down by 0.2%

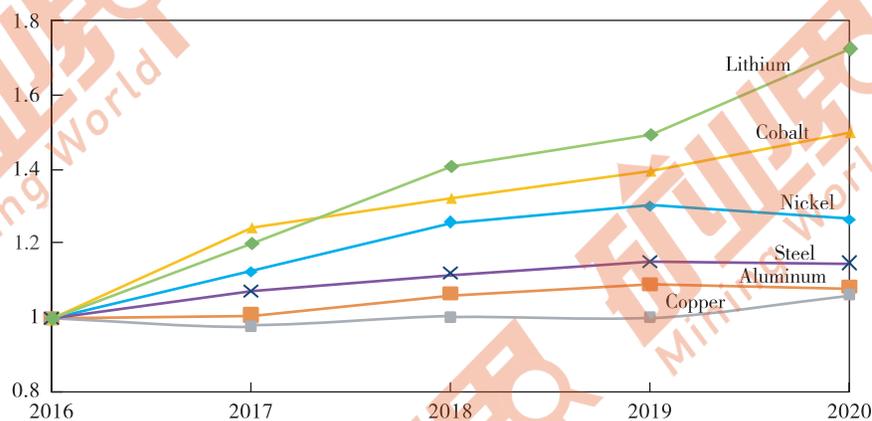


Figure 4 Global major metal consumption index from 2016 to 2020
Sources: worldsteel, WBMS

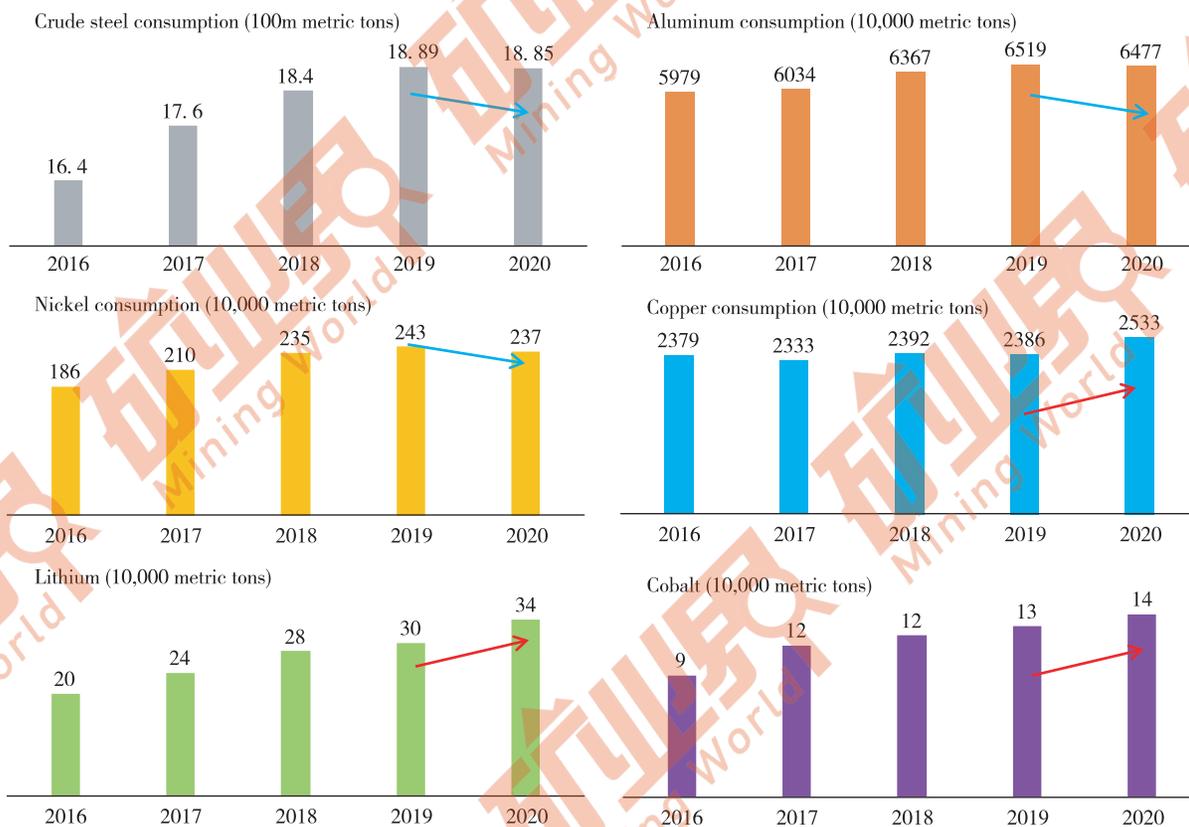


Figure 5 Global consumption of major metals from 2016 to 2020
Sources: worldsteel, WBMS



and 0.7% year-on-year. The new energy and new material sectors grew against the trend. As a result, consumption of copper, lithium, cobalt and other new energy minerals increased at a fast rate; in 2020, their respective consumption was 25.33 million metric tons, 340,000 metric tons (lithium carbonate) and 140,000 metric tons, up by 6.2%, 15.3% and 7.3% year-on-year respectively.

(IV) Consumption of mineral resources in developed countries generally declined, while consumption in China grew against the trend

In 2020, energy consumption in developed countries and regions such as the United States, the EU, and Japan decreased significantly, with a year-on-year decline of 7.7%, 8.5% and 7.5%. Energy consumption in China rose by 2.1%, and its global share increased from 24% in 2019 to 26% in 2020.

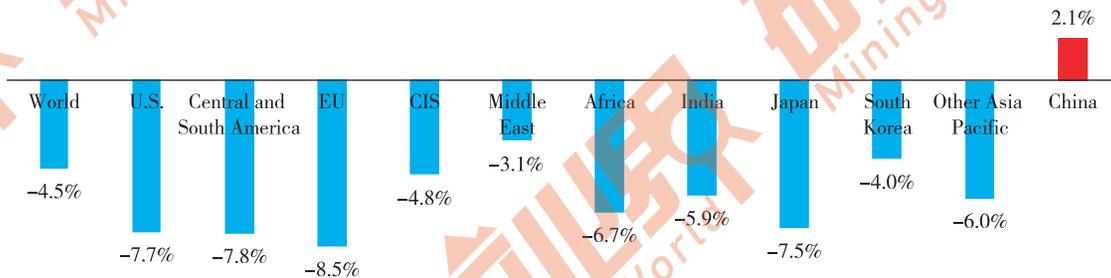


Figure 6 Growth rates of energy consumption in major countries and regions in 2020
Source: BP

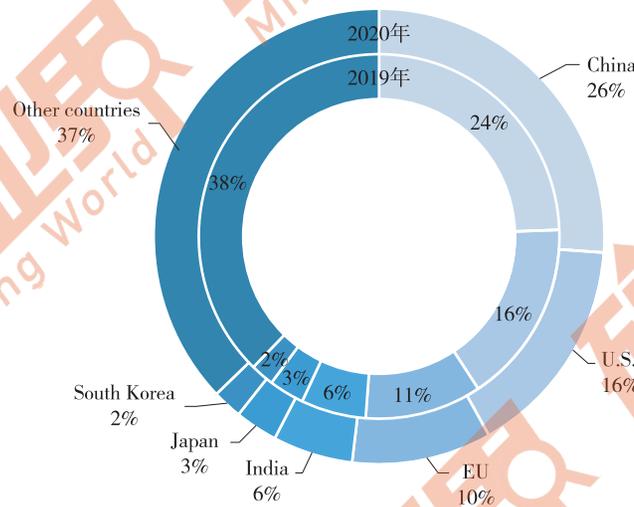


Figure 7 Proportion of energy consumption in major countries and regions in global consumption in 2019 and 2020
Source: BP

In 2020, steel consumption in major economies decreased substantially, including the United States (-18%), the EU (-11.3%), Japan (-16.8%), South Korea (-7.9%), and India (-13.7%).

Consumption in China grew by 9.1% against the trend. The consumption of non-ferrous metals such as copper, aluminum, and nickel in major economies also decreased substantially, and the consumption of lithium and cobalt increased slightly. China’s consumption of copper and aluminum, and new energy minerals such as cobalt, lithium, and nickel increased rapidly overall, with a year-on-year increase of 17.1%, 6.4%, 11.1%, 23.3%, and 0.4% in 2020.

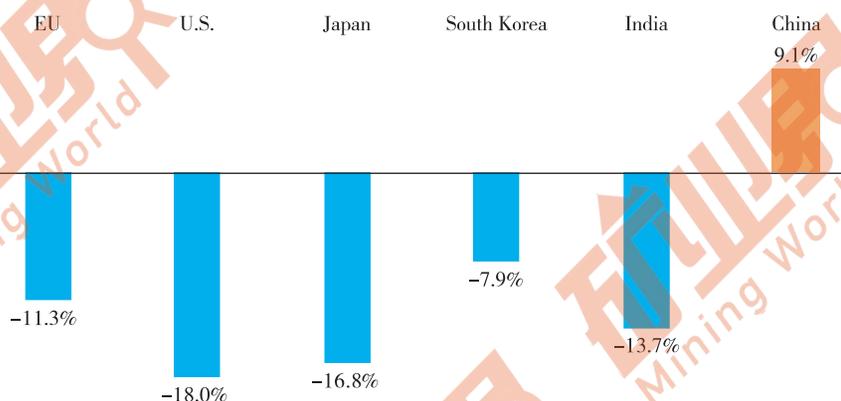


Figure 8 The growth rate of steel consumption in major countries and regions in 2020
Source: worldsteel



Figure 9 The growth rate of consumption of new energy minerals in China and other countries in 2020
Source: WBMS

II. The global mining sector took a hit, and the output of mineral products decreased significantly

(I) The global mining sector suffered a hammer blow, and investment in exploration and development declined in 2020

In 2020, the COVID-19 pandemic spread globally, exerting a huge impact on global

mining production. Various countries have introduced a slew of measures to beat the pandemic, suspending unnecessary mining activities such as exploration, closing down mines, putting a moratorium on new mining projects, cutting mine output, or putting mines under maintenance status. Over 1,600 mining projects were affected by the pandemic. Meanwhile, companies cut down expenses, reduce personnel activities, and lay off employees. In 2020, the global investment in the exploration of solid minerals was some USD 8.3 billion, a year-on-year decrease of 11%. The total investment in the global mining sector was about USD 290 billion, a year-on-year decrease of 13%, the lowest level in the past 14 years.

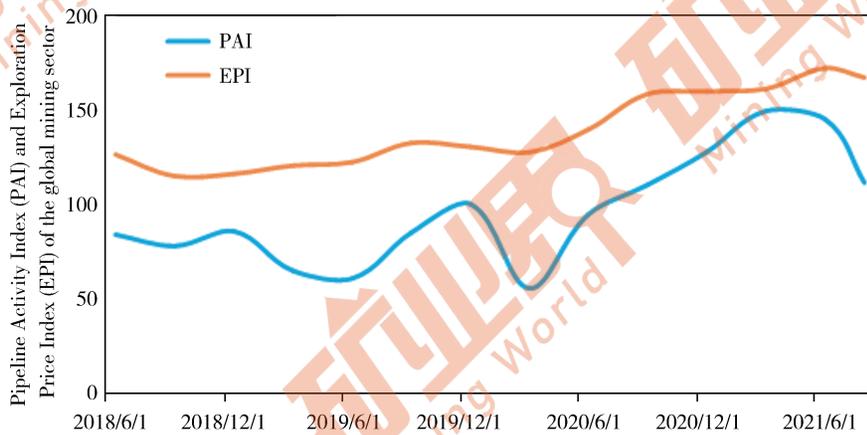


Figure 10 Pipeline Activity Index (PAI) and Exploration Price Index (EPI) of the global mining sector
Source: S&P Global Market Intelligence

(II) Production in most mining countries was affected, and the output of most mineral products decreased

Compared to 2019, the output of mineral products such as coal, iron ore, copper, and gold in Australia decreased in 2020; the output of mineral products such as coal, oil, natural gas, gold, and platinum family products in Russia declined; the output of mineral products such as iron ore and gold in Brazil decreased; the output of copper, gold, lead, and zinc in Peru decreased; the output of copper in Chile fell; the output of iron, manganese, gold, platinum family products and other mineral products in South Africa decreased.



Figure 11 The output index of competitive mineral products in major mining countries since 2016 (output in 2016 as 1)
Source: S&P Global Market Intelligence, USGS

(III) The total global output of mineral products in 2020 was 21.8 billion metric tons, a year-on-year decrease of 3.7%

In 2020, the global output of major mineral products totaled 21.8 billion metric tons, a year-on-year decrease of 3.7%. The output of energy, metal and non-metal stood at 14.74 billion metric tons, 1.67 billion metric tons and 5.67 billion metric tons, down by 5.1%, 1.4% and 0.5% year-on-year. The decline in output was higher than the decline in consumption, and there was a short supply as a whole.

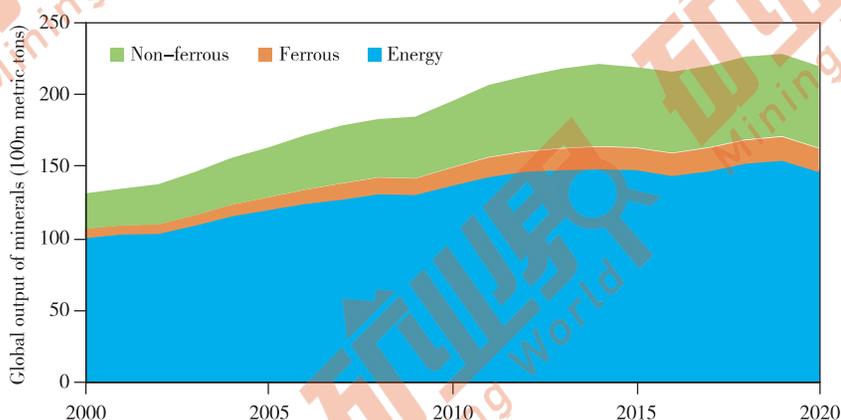


Figure 12 Global output of mineral products
Sources: BP, USGS, WBMS

(IV) The global output of energy and precious metals fell significantly, and the output of ferrous and non-ferrous metals dipped slightly

In 2020, the global output saw a year-on-year decrease of 4.9% for coal, 7.0% for oil, 3.1% for natural gas, 3.0% for gold, 5.7% for silver, 8.0% for platinum family metals, 2.0% for iron, 5.6% for manganese, and 2.0% for copper, but bauxite output increased by 2.3% against the trend.

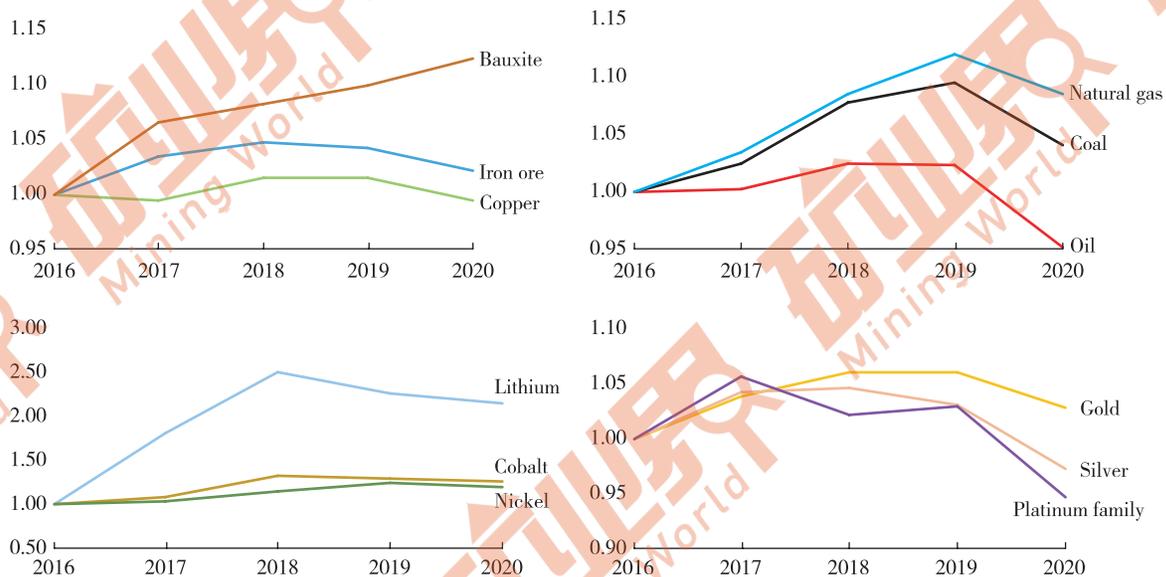


Figure 13 The output index of various mineral products since 2016 (the output in 2016 as 1)

Sources: BP, USGS

(V) Large-scale mining companies were affected by the pandemic only to a small extent, and production resumed quickly

When the pandemic broke out in early 2020, major mining companies worldwide were affected by the pandemic to varying degrees in their production and operations. As the global mining production and operation were restored in the second half of 2020 and the prices of precious metals and bulk minerals increased continuously, mining companies seized the opportunity to restore or even scale up their production. For the whole year, there were small changes to the output for large copper mining companies and large iron mining companies. Their production and operation were better than those of large gold mining companies and large lithium mining companies.

As most of the world's large iron mine areas are open-pit mines, they are affected by the pandemic only to a small extent. In 2020, large iron ore companies in the world basically maintained stable production, and the changes in annual output of large iron ore companies mostly fluctuated by $\pm 5\%$. The combined output of the top ten iron mining companies was basically the same as that in 2019.

Companies that had increased output mainly benefited from the commissioning and expansion of new projects, while companies with lower output suffered natural disasters, etc.

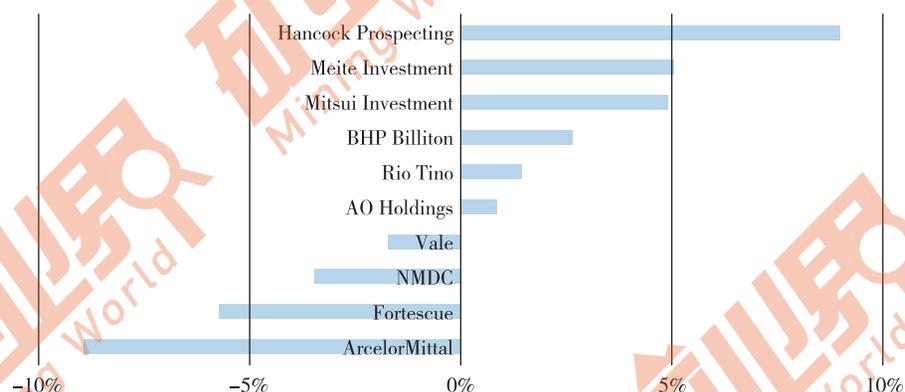


Figure 14 Year-on-year changes in the output of top ten iron mining companies in 2020

In 2020, the world’s large copper mining companies performed well in terms of production and operation, even if the pandemic caused the large-scale suspension of production in the first half of the year. The aggregate annual output of the top ten copper mining companies rose by 1% compared to 2019, and seven of the companies had increased output. Thanks to the increase in copper prices, some of the idle capacity of companies such as First Quantum, Glencore and Anglo American was brought into play, and the annual output of copper mines increased significantly. Due to strikes and adverse factors such as slow project progress, the companies such as BHP Billiton and Rio Tinto saw a decline in output.

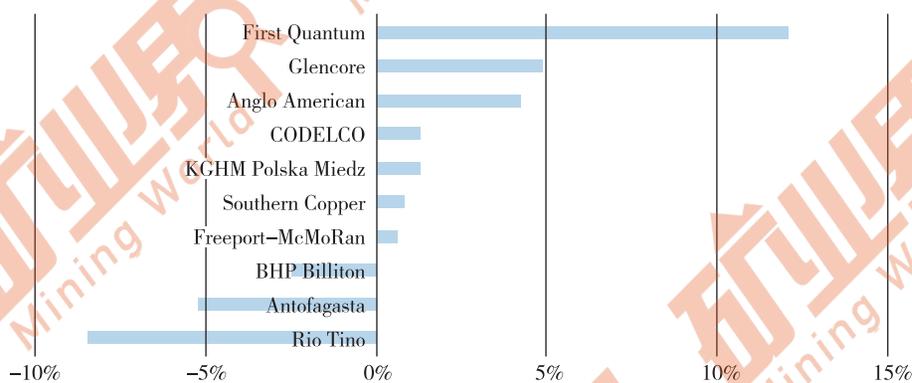


Figure 15 Year-on-year changes in the output of the top ten copper mining companies in 2020

In 2020, large gold mining companies were most obviously affected by the pandemic in terms of production and operations. Eight of the top ten gold mining companies saw a sharp decline in output, and the output of the top three gold mining companies decreased by over 10%. The decrease was more than 17% for AngloGold Ashanti. The pandemic and sluggish market demand are the main contributors to the decline in the output of large gold mining companies.

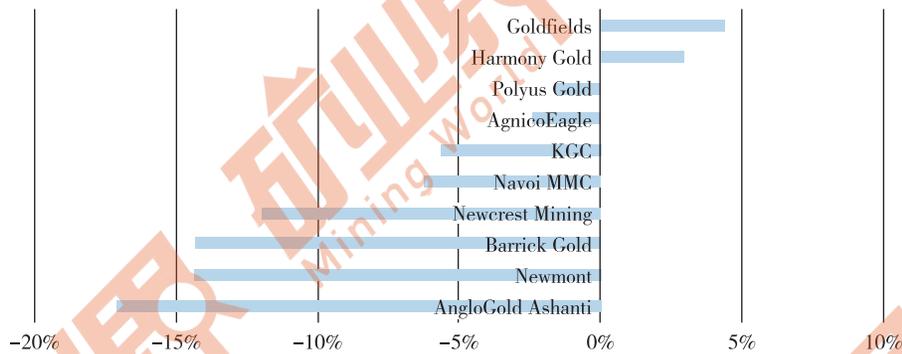


Figure 16 Year-on-year changes in the output of the top ten gold mining companies in 2020

In 2020, the output of the world’s large lithium mining companies changed greatly (mainly due to the integration of projects), but the combined output of the top ten companies basically remained stable. Moreover, large lithium mining companies gradually increased their market share through industrial consolidation. The world’s top ten lithium mining companies had a market share of up to 93% in 2020, up by 7% compared to 2019.



Figure 17 Year-on-year changes in the output of the top ten lithium mining companies in 2020

III. The global mineral products and mining markets fluctuated in the shape of “√” since the outbreak of the pandemic

(I) The prices of mineral products suffered a panic decline when the pandemic broke out, and rose sharply since May 2020

When the pandemic broke out, the mineral product prices worldwide fell sharply. After the pandemic was brought under control in China, work and production were resumed fast, driving the

global demand for resources. There was a severe pandemic in mining countries such as South Africa and Peru, resulting in a short supply of many minerals such as coal, iron, and copper. Meanwhile, developed countries such as the United States introduced quantitative monetary easing policies to ease the downward pressure on the economy, with a depreciation in the dollar. Due to the global short supply of mineral resources as well as factors such as the depreciation of the dollar and market speculation, the prices of some minerals rose sharply. The global price of thermal coal hit USD 160 per metric ton, and the price of iron ore was up to USD 230 per metric ton, both all-time highs.

(II) The market capitalization of mining companies rapidly rebounded after a sharp decline, close to the high level in 2012

When the pandemic just broke out, the market capitalization of global mining companies was nosedived. As the mineral prices rose sharply after May 2020, mining companies had far better profitability than other industries, and the stock prices of mining companies rose sharply. In May 2021, the market capitalization of global mining companies reached USD 2.31 trillion, the highest level since 2012. After that, the stock prices of mining companies returned to normal and showed a slow downward trend.

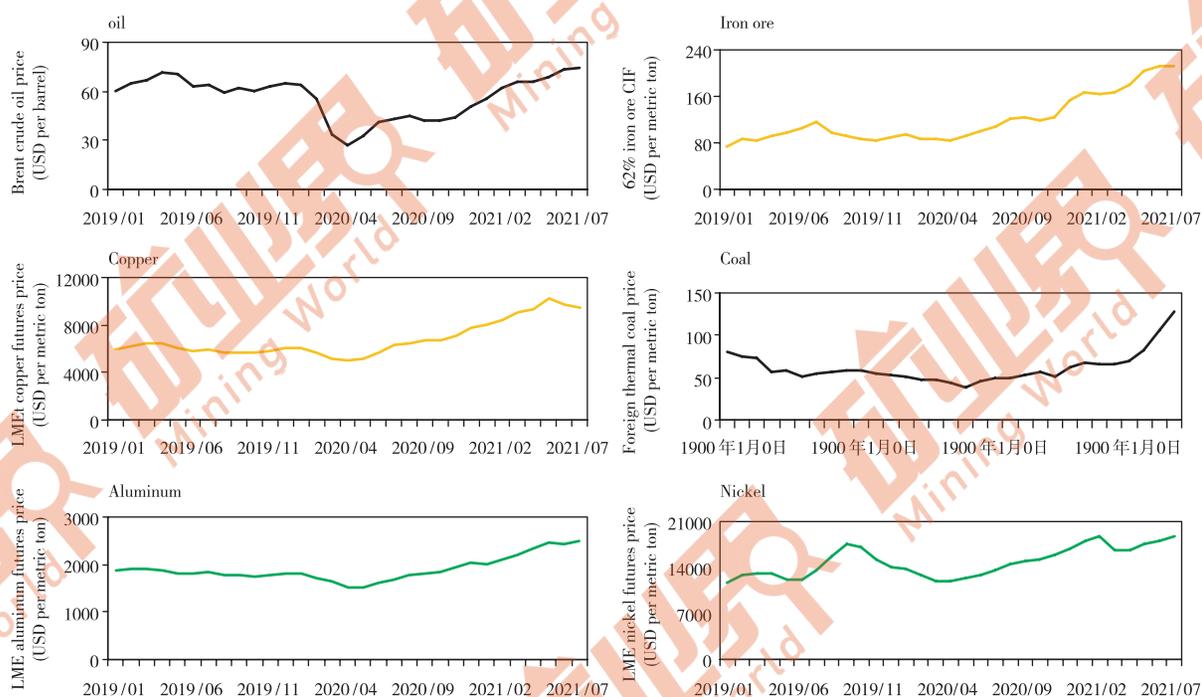


Figure 18 Prices of major mineral products since 2019

Source: Wind

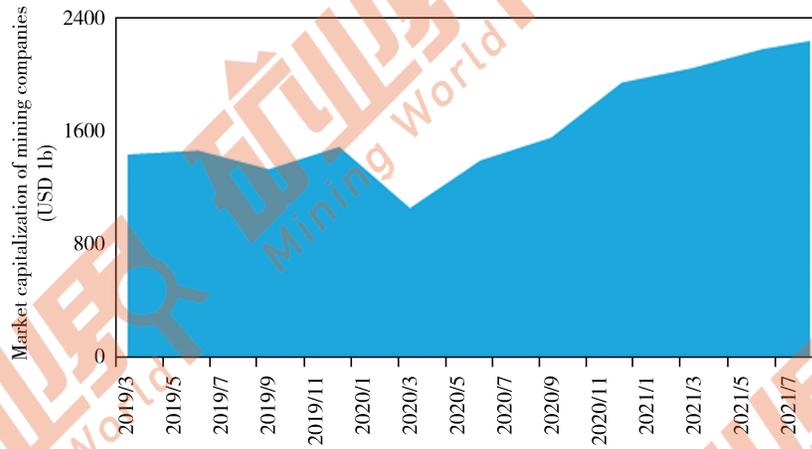


Figure 19 Market capitalization of major global large-scale non-oil and gas mining companies

Source: S&P Global Market Intelligence

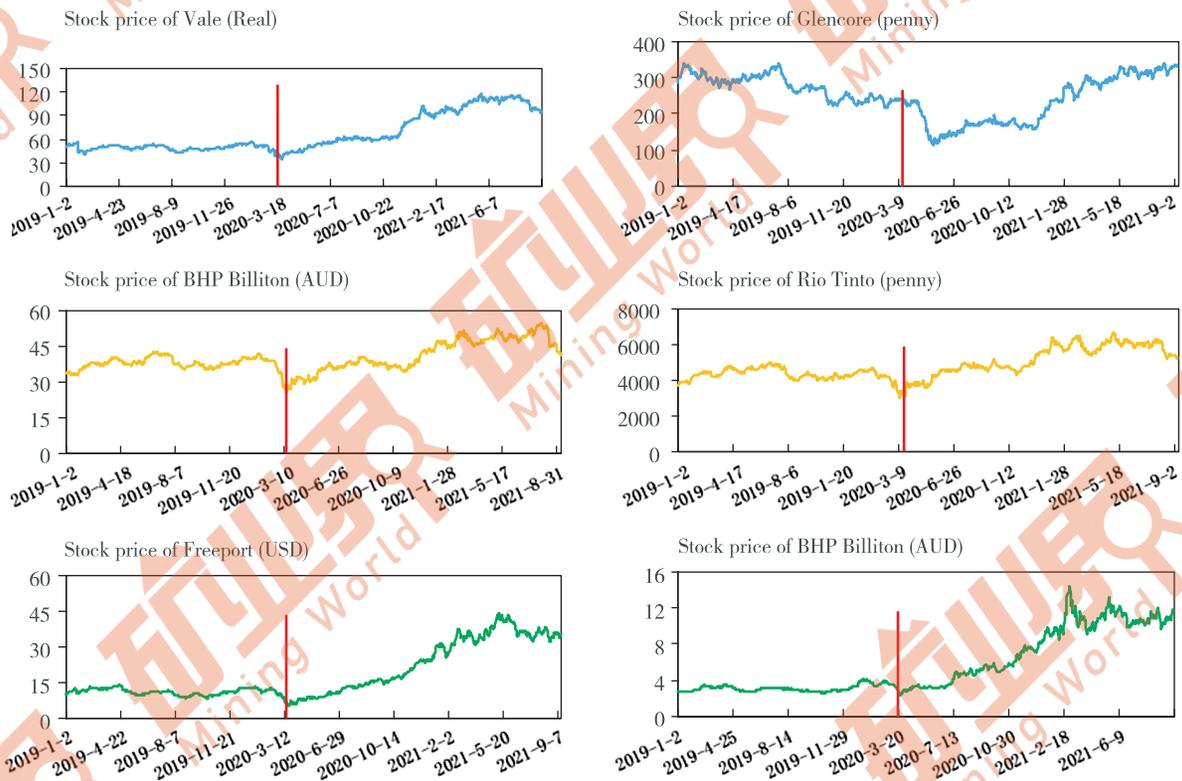


Figure 20 Changes in share prices of major global mining companies since 2019

Source: S&P Global Market Intelligence

(III) Global investment in mining exploration declined in 2020, and is expected to increase in 2021

To prevent risks and reduce venture exploration activities, exploration companies reduced the global budget for exploration of solid minerals to some USD 8.3 billion in 2020, a year-on-year decrease of 11%,

which is the second-lowest level in the past 10 years. As mineral prices pick up and the mining sector recover, global exploration investment in solid minerals in 2021 is expected to return to the level in 2019.

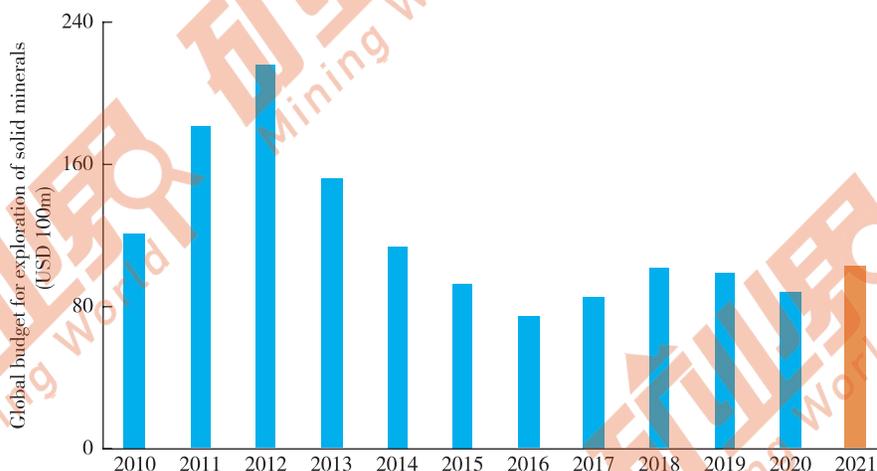


Figure 21 The trend of the global budget for mineral exploration since 2010
Source: S&P Global Market Intelligence

Due to risk aversion, exploration investment in copper, lead, zinc and other non-ferrous metal mineral fell sharply in 2020, and investment in gold exploration increased by 1.2%, accounting for over 50% of global investment in the exploration of solid minerals. Due to the rapid development of the new energy sector, investment in the exploration of lithium, cobalt, nickel, etc. increased substantially. Investment in the exploration of most minerals is expected to pick up in 2021.

In the past 10 years or so, investment in the primary exploration stage fell from 34% to 24%, investment in the detailed survey stage fell from 43% to 35%, and investment in the exploration stage jumped from 24% to 42%. In 2020, investment in the primary exploration stage declined sharply, investment in the detailed survey stage dipped slightly, and the proportion of the exploration investment in the exploration stage increased substantially due to the impact of the pandemic.

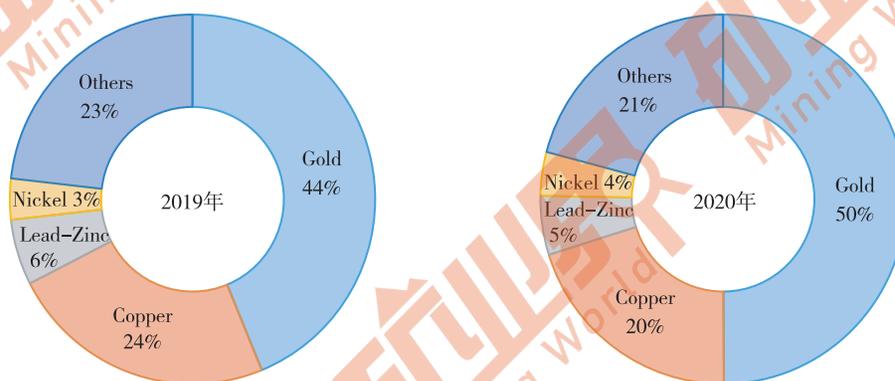


Figure 22 Proportion of global investment in the exploration of solid minerals in 2019 (left) and 2020 (right)
Source: S&P Global Market Intelligence

Global mining development trend since the outbreak of the COVID-19 pandemic

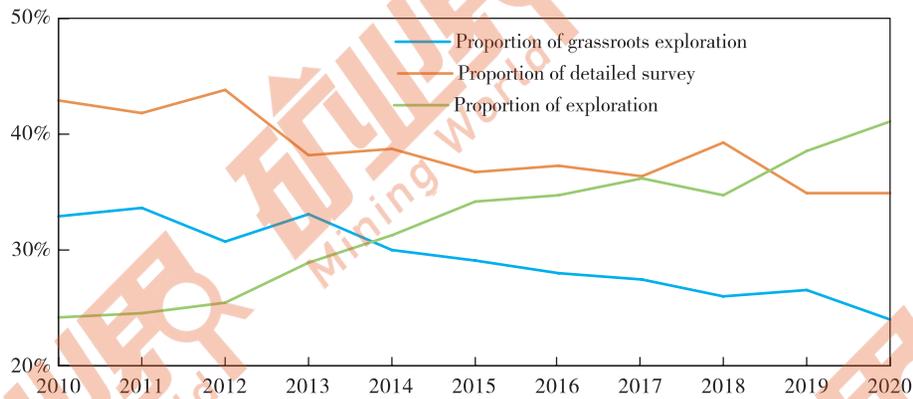


Figure 23 Proportions of investment in different exploration stages since 2010
Source: S&P Global Market Intelligence

In 2020, investment in the exploration of solid minerals in the world generally declined, but the extent of decline varied significantly. The year-on-year decrease was 21% in Latin America, over 15% in the Asia-Pacific region, nearly 10% in Australia, African countries and other countries and regions, and less than 2% in the United States, Canada and other developed countries. The pandemic has a more significant impact on exploration investment in Latin America and the Asia-Pacific region than in the United States and Canada.

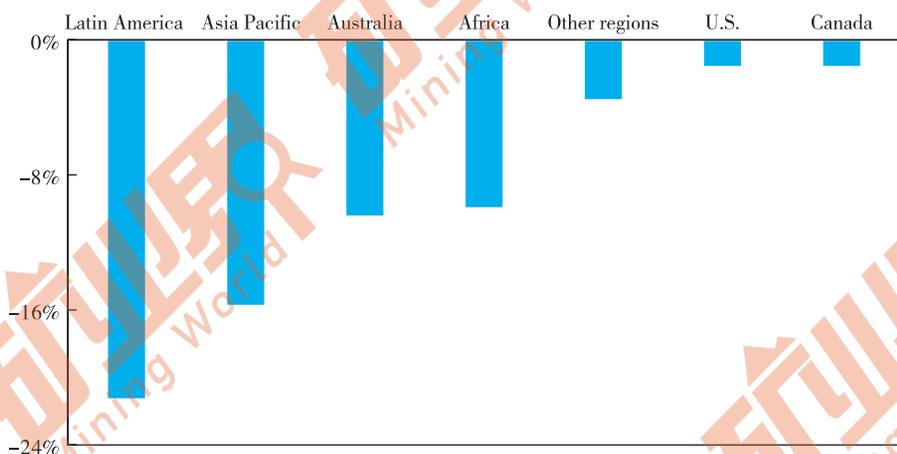


Figure 24 Year-on-year changes in the exploration budget in various countries and regions in 2020
Source: S&P Global Market Intelligence

(IV) Investment in global mining projects fell by 13% in 2020, which seriously affected the production of mineral resources

The cumulative investment in the global mining sector in 2020 was some USD 290 billion, down by 13% from 2019, the lowest level in the past 14 years. The construction of a wealth of mining projects was postponed or suspended. According to the survey data from industry information companies, over

1,600 mining projects were affected by the pandemic, which severely affected the production of mineral resources. It is an important reason for the short supply of mineral resources and the sharp rise in prices since 2020.

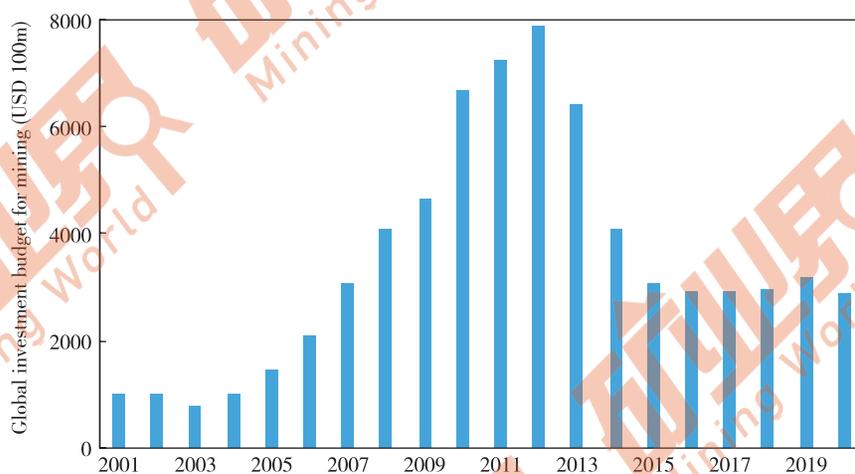


Figure 25 Global investment budget for mining projects

Sources: BP, USGS, WBMS

IV. The global mining sector recovered through fluctuation due to factors such as the pandemic and the international economic situation

(1) Due to the pandemic, global economic cycle, international trade disputes, etc., the world economy will see an anemic recovery in an uncertain and imbalanced manner

Most institutions and organizations such as the IMF and the World Bank held that the global economy will grow by 5% to 6% in 2021, with a growth rate of 4% to 5% in 2022. However, it is also believed that the growth rate of the global economy in 2022 will still be 2% lower than before the pandemic. Due to the imbalance in economic development and the pandemic prevention, the time for economic recovery varies greatly according to different countries, and the imbalance in development and the gap between the rich and the poor worldwide will widen. Recently, the pandemic broke out again in North America, Southeast Asia, South Asia and other regions. In the future, the global economy will recover slowly at a time of volatility and uncertainty.

(II) Demand for major mineral resources gradually recovers, and demand for new energy mineral resources is growing faster

As work and production are resumed in various countries, global demand for energy, steel, and aluminum will gradually recover. In the first half of 2021, demand for energy and steel in the United States, the EU, Japan and other countries and regions gradually returned to the pre-pandemic levels. According to a forecast by the International Energy Agency, global demand for energy will grow by 4.6% in 2021. However, due to the pandemic, in conjunction with the greater global efforts for carbon neutrality, the global oil demand will recover slower than other energy sources. After the demand for coal reaches a certain level, it will have a slow decline in the long term. With the global implementation of policies on carbon neutrality and the rapid development of new energy vehicles and new energy sectors, the demand for copper, lithium, cobalt, nickel and other metals will maintain rapid growth.

(III) Mining activities begin to recover, but it is hard to return to pre-pandemic level in the short term

Thanks to experience in pandemic prevention, major mining countries have basically restored the order of mining production, and large mining companies have even scaled up their productivity to meet the growing demand. The impact of the pandemic on mining activities will weaken, and fixed asset investment in the mining industry and the exploration investment will gradually pick up. However, as the impact of the pandemic remains, there are significant restrictions on international activities, international investment, cross-border trade, etc. Regions with weak capabilities for pandemic prevention, such as Africa and Latin America, may see more turmoil and uncertainty due to the pandemic. Global investment in mining projects will be limited, and it will be difficult to recover in the short run.

(IV) Major mining countries encourage mining development to spur the economy, and the window of opportunities for investment appears

On the one hand, the pandemic hit hard the economies in Africa, Southeast Asia, Latin America and other regions. As the pandemic is being brought under control, these countries will introduce a slew of policies to stimulate economic development and step up efforts to attract investment to the mining sector. On the other hand, as mining investment decreased during the pandemic, new mining projects

find it hard to meet the growing demand, and the mining sector will promise a high return on investment. The near future may become an important period of opportunity for investment in mining.

(V) Prices of bulk mineral products will gradually return to normal, and there is room for the increase in the prices of new energy minerals

As mining activities resume, the short supply of major mineral resources will be eased. Developed countries will adopt relatively tight monetary policies after the pandemic is being brought under control and the economy stabilizes. Therefore, the prices of coal, iron ore, etc., which rose too fast but lack demand, are expected to fall, and oil prices are unlikely to see a significant increase. The prices of copper, aluminum and new energy minerals such as cobalt, lithium, and nickel will remain high due to sustained strong demand.

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