

# Environmental Protection

Environmental Management

Land Use and Biodiversity

Emissions, Effluents, and Waste

Climate Change

Water Pollution Prevention and Control

Energy Management

At Silvercorp, we understand that our operations have an impact on the environment and that it is our duty to mitigate, minimize, and prevent the risks and impacts associated with our operations, and invest in sustainable development initiatives that will last beyond the life of our mines. Our approach to our environmental goals is rooted in strong management and standards that guide our efforts at all levels of our company. In Fiscal 2021, the Company's total investment in environmental protection stood at US\$750,701; US\$498,451 and US\$252,250 for the Ying Mining District and GC Mine respectively.

- 0 Tailings safety incidents
- 0 Spills
- US **\$750,701** invested in environmental protection initiatives
- Sustainability Committee formation approved



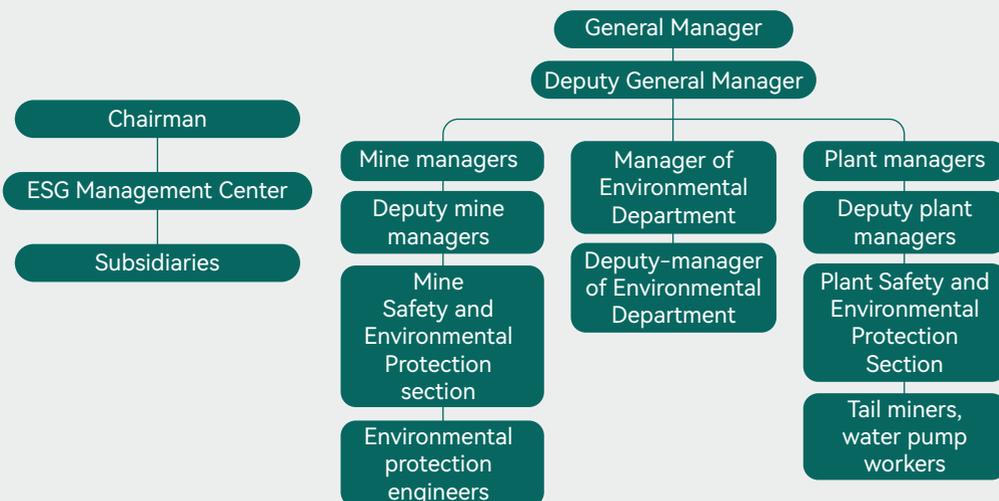
# Environmental Management

At Silvercorp, we believe that strong management is the key to lasting success. This past year, in an effort to further illustrate our commitment to strengthening our management team and improving upon our disclosure, both our Ying Mining District and GC Mine submitted applications for the environmental management system ISO 14001 certification and were approved in August and September 2021, respectively.

Additionally, we also established the ESG Management Center and issued the Silvercorp ESG Work Management Measures in Fiscal 2021, putting senior management directly in charge of decision-making. The ESG Management Center supervises, identifies, and mitigates the environmental risks of our mining districts and works with our subsidiaries to implement environmental management systems across the organization.

To strengthen our environmental accountability, we regularly conduct environmental protection training and have instituted environmental emergency response plans at all mining operations. During these sessions, we carry out emergency drills to improve the environmental awareness of all employees and their ability to deal with accidents effectively and efficiently.

## Management structure



## Environmental Protection Training

Environmental Protection Training	Fiscal 2021		
	Ying	GC	Total
Participants in environmental protection training(h)	819	315	1,134
Investment in environmental protection training(\$)	5,753	2,950	8,703
Total hours of environmental protection training provided(h)	45	13	58

## Environmental Compliance

Silvercorp and its subsidiaries abide by all municipal, provincial, and national environmental laws and regulations at all operations. In China, further efforts have been made with regards to environmental compliance within the mining sector in the form of the "Green Mine" certification program. In 2010, the Ministry of Land and Resources issued the Guiding Opinions of the Ministry of Land and Resources on Implementing the National Mineral Resources Planning, Developing Green Mining, and Building Green Mines, setting forth a call to action to the industry and outlining the necessary steps for mining companies to take with the hopes of inspiring more innovative, efficient, collaborative, and sustainable mining operations country wide. In 2015, Silvercorp's SGX mine was recognized as a "National Green Mine", one of the first mines in China to achieve such recognition, and in fiscal 2021, three Silvercorp mines, namely the HPG Silver-Lead Mine, the TLP-LM Silver-Lead Mine, and the GC Lead-Zinc Mine, received the Chinese "National Green Mine" certification.

Mines	Progress of Green Mine Construction
Ying Mining District, Henan Province, China – SGX-HZG Silver-Lead-Zinc Mine	Named Chinese “National Green Mine” in November, 2015
Ying Mining District, Henan Province, China – TLP-LM Silver-Lead Mine	Selected into the National Green Mine List in September, 2020
Ying Mining District, Henan Province, China – HPG Silver-Lead Mine	Selected into the National Green Mine List in December, 2020
GC Lead-Zinc Mine, Guangdong Province, China	Selected into the National Green Mine List in December, 2020
Ying Mining District, Henan Province, China – DCG Gold-Silver Mine	Expected to complete the construction and approval as a provincial-level green mine by the end of 2021

In conjunction with the Chinese government's Environmental Protection Responsibility System, the Environmental Protection Management System, and the Occupation-based Operation Regulations, among others, we have developed a comprehensive Environmental plan detailing our approach to managing potential environmental hazards and risks and the associated emergency response measures. Our plan incorporates an accident reporting and handling system in accordance with the Environmental Protection Law of the People's Republic of China, in which we classify and grade potential environmental accidents that could potentially harm the surrounding biodiversity and ecology. Should any accidents occur, our plan stipulates that the appropriate stakeholders, such as the appropriate management teams and local environmental protection administrative departments, be notified through the government monitoring platform. Our plan allows for us to operate respectfully, transparently, and in harmony with our environment and stakeholders while managing the risks associated with our business. This supports our mission to achieve sustainable development.

## Risk Matrix

Identifying the environmental risks associated with our business is crucial for our management teams and operations, and for developing emergency response plans. Our risk identification system is based on four key principles: identification, management, prevention, education. The following categories have been identified as potential environmental risks.

Types of Environmental Risks	Description	Coping Measures
<b>Environmental compliance risk</b>	The Chinese government continues to advance the Pollution Prevention and Control. In April 2020, it updated the Law of the People's Republic of China on the Prevention and Control of Solid Waste Pollution. Given other laws and regulations already in effect, such as the Environmental Protection Law of People's Republic of China and the Law of the People's Republic of China on the Prevention and Control of Water Pollution, more stringent and binding environmental requirements and standards may be expected in the future, in terms of solid waste discharge and utilization, wastewater and waste gas discharge, environmental management of construction projects, pollution permits, etc.	<ul style="list-style-type: none"> <li>• Being mindful of whether a project meets the requirements for local planning, ecological protection red line tests, etc. during exploration and development.</li> <li>• Regularly checking for environmental safety hazards in the mining area every month and rectifying them as soon as possible.</li> <li>• Formulating the Environmental Protection Management System and Penalty Standards, incorporating environmental compliance into the performance appraisal of management and linking it to their compensation; reflecting major environmental violations depending on the severity.</li> </ul>

Types of Environmental Risks	Description	Coping Measures
Environmental emergencies	Tailings management facilities ("TMF") are a major environmental and safety hazard. Insufficient day-to-day management may sow the seeds for emergencies. For instance, a dam collapse could pose a serious threat to downstream residents, infrastructure, and ecological environment, in addition to potentially causing injury or property damage.	<ul style="list-style-type: none"> <li>• Tailings discharge and dam construction are carried out in strict accordance with design requirements, operations planning, and relevant specifications to ensure the safe and stable operations of the TMFs.</li> <li>• Instituting the emergency shift system, increasing patrol inspections, and promptly checking for and eliminating hazards such as piping and dam landslides during the flood season.</li> <li>• Improving planning for environmental emergencies at the TMFs; organizing emergency drills and ensuring quick arrival of needed personnel, real-time monitoring, and a scientific approach when an emergency occurs.</li> </ul>
Secondary risks of accidents and disasters	Flammables, explosives, and hazardous chemicals such as cyanide (not currently used in our operations) are sometimes used during mining or ore processing. In the event of a major production safety accident or extreme weather event such as a typhoon or flood, the resulting fires, explosions, or leaks can easily cause secondary environmental pollution.	<ul style="list-style-type: none"> <li>• Standardizing the storage and use of hazardous chemicals and creating a management ledger to prevent leakage resulting from improper management or irregular operations.</li> <li>• Innovating technical processes such as exploration and ore processing and reducing the use of hazardous chemicals in an organized way.</li> </ul>
Fresh water withdrawal and underground water	<p>The Chinese government limits total water use and water use intensity in regional river basins, expands the scope of water resource tax reform pilots, and strictly controls the intensity of water resource development and utilization, which may affect the Company's water withdrawal quota or cause water costs to go up.</p> <p>Once the water table is breached in the mining process, the circulation of groundwater may be changed, which could easily cause it to be mixed with elements contained in the host rock, thus changing the water quality.</p>	<ul style="list-style-type: none"> <li>• Communicating the Company's water demand and water usage with the local government and community and preventing disputes over water resources.</li> <li>• Improving the water supply metering system and online water monitoring system; performing monthly analysis of water balance data to increase the recycle rate of processing backwater and mine water inflow; reducing the withdrawal of fresh water.</li> <li>• Using selective mining methods and other mining techniques that reduce the impact of mines on underground water resources.</li> <li>• Reinforcing TMFs with anti-seepage treatment and preventing the seepage and leachate from polluting the groundwater.</li> </ul>
Biodiversity risk	The Company's mining and prospecting licenses may overlap with ecologically sensitive areas. If development is carried out within those areas, it may adversely impact the local ecosystem and cause biodiversity loss.	<ul style="list-style-type: none"> <li>• Strictly implementing relevant national ecological protection requirements and formulating and enforcing ecological protection plans in accordance with the requirements for project construction, operation, and decommissioning (relocation).</li> <li>• Laying down specific requirements for biodiversity protection in the project feasibility study and environmental impact assessment and carrying out biodiversity assessment before entering a new production area.</li> <li>• Avoiding the use of large-scale operation equipment when it is not necessary to do so, to reduce impacts on the surrounding forestland and biodiversity.</li> <li>• Undertaking restoration of the ecological environment and improving the habitat conditions around the mining areas.</li> </ul>
Environmental risk in supply chain	Due to the differences in the environmental management performance of different companies, there are risks of environmental pollution and violations, which will affect the stability of the Company's supply chain and potentially bring reputational risks.	<ul style="list-style-type: none"> <li>• Incorporating suppliers' environmental compliance performance into procurement standards and precluding suppliers with major environmental risks.</li> <li>• Regularly carrying out supplier environmental risk assessments to foster suppliers' environmental awareness and encourage them to fulfill their responsibilities in environmental protection.</li> </ul>

# Land Use and Biodiversity

The effective management of land use and the protection of biodiversity by a mining company is integral to its success, for doing so can reduce and or mitigate regulatory costs and risks and protect relationships with local communities and governments. Our approach to land use and biodiversity is centred around generating economic, ecological, and social benefits, while operating safely, efficiently, and sustainably with our communities and environment.

## Closure and Reclamation

At Silvercorp, we believe that environmental responsibility should start at the exploration phase and last beyond mine closure. We incorporate environmental protection planning and land reclamation initiatives, in compliance with the national ecological protection requirements, into our mine planning at early stages to reduce our impact on the environment, preserve the biodiversity, and establish strong plans and practices for mine closure and reclamation activities. Our Mine Geological Environment Restoration and Mitigation Plan and Land Reclamation Plan governs our reclamation and closure actions and activities, and our Geological Environment Restoration and Mitigation Management Institution oversees their implementation and related restoration and mitigation work in the mining area.

In Fiscal 2021, the Ying Mining District completed the Mine Environment Restoration and Land Reclamation Scheme and the Land Reclamation Scheme of our #2 TMF for the four mining areas of SGX & HZG, HPG, TLP-LM, and DCG. In June 2020, they passed the expert review and documentation organized by Henan Provincial Department of Natural Resources and signed the Land Reclamation Tripartite Supervision Agreement. The GC Mine has also completed the commissioned preparation and documentation of the Plan Table for Land Reclamation adjacent to New Core Storage Facilities, signed the fund supervision agreement, and made a deposit of reclamation funds.

Land Reclamation	Fiscal 2021		
	Ying	GC	Total
Reclaimed land (hectares)	5.15	0.88	6.03
Investment in land reclamation and environmental mitigation (\$)	498,495	67,886	566,381



Re-greening in Ying Mining District

## Biodiversity Impacts

We recognize that mining operations have the potential to disrupt the natural landscape and biodiversity in both direct and indirect ways, as the development of mining infrastructure such as processing plants and tailings, can have a large effect on surrounding ecosystems. We recognize the importance of our diverse biodiversity and are committed to managing our impact on our environment with conservation and sustainability in mind. Through strong conservation efforts and mitigation plans, we aim to build long-term sustainable practices and systems that enable us to operate sustainably whilst aiding in the reclamation of the surrounding biodiversity through various strategic initiatives and adhering to all relevant legislation.

We comply with the Environmental Protection Law of People's Republic of China and the Convention on Biological Diversity and continue to improve our biodiversity protection system and management rules, as well as our ecological protection management system. Our system identifies all ecological protection requirements for each stage of construction, all environmentally sensitive targets, and all development-prohibited ecological areas. We understand that our commitment to biodiversity begins in the early stages of the mine lifecycle and lasts beyond reclamation and closure, it is an evolving process and one that requires diligent planning and systems to impact change. In fiscal 2021, there were no major impacts to biodiversity at Silvercorp.



Planning stage

We collaborate with professional institutions to carry out environmental impact assessments and strictly avoid ecological protection red lines and ecologically sensitive areas; we include an ecological protection measure and feasibility analysis in the project feasibility report to fully assess the environmental background value around the mining areas and take targeted protection measures.



Construction stage

We fully consider and evaluate the risk of biodiversity damage during the actual construction and mining processes; we adopt applicable technologies to reduce disturbance to farmland, vegetation, forestland, and other parts of the ecological environment; and prohibit the active disturbance of wildlife by operators.



Mine closure stage

We re-evaluate the biodiversity in and around the mining areas to inform biodiversity compensation plans to compensate for the residual adverse impact of the projects and improve biodiversity.

The Company ensures that development, construction, and environmental mitigation, including slope restoration, vegetation, and geological monitoring, are conducted simultaneously to restore the ecological environment surrounding our mining areas while continuing to operate our business. The greening process is designed to match the characteristics of surrounding habitats, and utilizes/incorporates local, adaptable, biomass-rich, and fast-growing tree species and plants and avoids invasive plant species.



Re-greening in GC Mine

Mining Districts	Regreening	Main Tree Species
Ying Mining District	Planting 37 kinds of saplings, totaling 57,752	Chinese rose, large leaf privet, large leaf boxwood, bamboo, photinia, juniper, willow, cattail, reed, etc.
	Sowing 12 kinds of grass seeds, totaling 2,336 kg	Lawn seed, Ophiopogon seed, Cosmos, sweet chrysanthemum, locust seed, rose seed, clover, lavender seed, etc.
GC Mine	Planting 6 kinds of saplings, totaling 9,380	Ivy, dragon boat flower, rose, gold leaf, big red flower, big leaf crape myrtle, etc.
	Sowing 12 kinds of grass seeds, totaling 36 kg	Grass seed (ryegrass), grass seed (bluegrass), Gesang flower seed, Chrysanthemum flower seed, purple leaf pulp seed, etc.

### Case Helping Luoning Become "Home to Green Bamboo"

In April 2020, the Luoning County government launched the "Home to Green Bamboo" project to reforest the surrounding areas. Bamboo saplings were planted in Jingyang Town, Luoning County, Henan Province, in an area of 3,350 square meters, and contribute to building a green Luoning. Our subsidiary, Henan Found, donated US \$33,191 towards the project.



Bamboo grove in Luoning County

### Case Water Reservoir Biodiversity Protection Initiative

The Ying Ming District in Henan Province is adjacent to the Guxian Reservoir in Luoyang City and has been used by Silvercorp for many years for transportation. With a volume of 1.2 billion cubic meters, the reservoir not only caters to the drinking water demand of nearly 2 million people in Luoyang City, but is also one of the places where rare fish species from the Aquatic Germplasm Bank of Henan Province are stocked. In November 2020, we stopped utilizing the reservoir for transportation to protect the ecological environment of the reservoir, and set up observation stations nearby to monitor the rare fish, waterfowl, and other birds of the Yellow River basin.



Biodiversity of the Guxian Reservoir



# Emissions, Effluents, and Waste

The responsible management of mineral and non-mineral waste is essential in protecting our environment, communities, and people. We are committed to ensuring our waste management practices are inline with global and national tailings and safety standards.

## Tailings

Tailings are the non-economic materials generated during mineral processing. There are many ways to store tailings once they have been generated, but the most important element is that the tailings are stored correctly and safely. At the end of Fiscal 2021, the Ying Mining District and GC Mine operated three Tailings Management Facilities (TMFs); two wet TMFs located at the Ying Mining District in Henan Province and one dry stack TMF at the GC Mine in Guangdong Province. In Fiscal 2021, we had zero safety accidents at our TMFs.

## Risks and Challenges

The collapse or breach of a TMF can be catastrophic for nearby populations, infrastructure, and the environment. To ensure top-tier safety management, we place a heightened focus on the safety and environmental risks of our TMFs, prioritize the safety of our people, and work closely with the government and regulators to monitor/check for hazards at our TMFs.

<b>Flooding</b>	During the flood season, heavy rains pour into the TMFs, which, when coupled with inadequate drainage facilities, could cause flooding and then the collapse of the TMFs.
<b>Landslides</b>	A landslide begins with a small crack in the TMFs, which slowly grows before finally causing a landslide and dam failure.
<b>Seepage failures</b>	Ongoing seepage can accelerate the formation of TMFs dry beaches and the solidification of tailings, making the dam more stable and safer. However, in the case of a poorly designed and constructed dam body or an aging drainage system, the infiltration line of the dam body can become high enough to cause a dam collapse.
<b>Piping</b>	As the water level rises, the gushing water also carries with it more sand and soil. If the sand layer under the dam is hollowed out, it will cause the dam to suddenly fall and even collapse.
<b>Cracking in dam body</b>	Partial collapse or cracking in the dam body resulting from insufficient bearing capacity, improper design of the dam slope, or undesirable cross-sectional size can all cause cracks to develop in the dam body and become a channel for concentrated leakage.

## Coping Strategies

Silvercorp follows the Global Industry Standard on Tailings Management. The Company is careful that the tailings disposal and dam construction are compliant with relevant design requirements, operations planning, and technical specifications and that there is proper control over water level, flooding, and seepage. A monitoring system is in place to track the main technical data of the TMFs in real time, combined with regular inspections for safety hazards. We also have a sound emergency management system to maintain safe and stable operations at our TMFs.

## Systems and regulations

Silvercorp has developed a number of systems and regulations on TMFs, including:

- Flood Control Measures and Flood Drainage Facility Safety Regulations
- Environmental Monitoring Regulations
- Regulations on Seepage Control and Drainage Facility Safety
- Water Level Control Safety Regulations
- Regulations on Seismic Resistance and Safety of TMFs
- TMF Production Safety Accident Investigation and Management Regulations
- Safety Regulations on Tailings Transportation, Dam Construction, and Discharge
- Dry Stack TMF Safety Regulations
- Dry Stack TMF Safety Inspection Regulations
- 24-hour Monitoring and Shift System for Dry Stack TMF

<p><b>Emergency planning</b></p>	<p>Silvercorp develops emergency plans to enhance the response and preparedness for emergencies and disasters at the TMFs, including the Comprehensive Emergency Plan for Production Safety Accidents in Dry Stack TMF, the Special Emergency Plan for Production Safety Accidents in Dry Stack TMF, the On-site Rescue Plan for Dry Stack TMF, and the Emergency Rescue Plan for Production Safety Accidents.</p>
<p><b>Online monitoring</b></p>	<p>An online monitoring system is set up in the two major mining areas, informing scientific decision-making by supporting real-time monitoring of the safety status at the TMFs and enabling predictions and early warning.</p> <ul style="list-style-type: none"> <li>● GC Mine: Obtains critical real-time data from the online monitoring system in the dry stack tailings area, such as the infiltration line, the internal displacement, the surface displacement, and the precipitation. The data are synchronized to the Sky Eye and Earth Eye safety risk early warning and prediction system for non-coal mine TMF of the Department of Emergency Management of Guangdong Province, subject to government supervision.</li> <li>● Ying Mining District: The online TMF monitoring system and the key operational data are integrated into the Emergency Management System of Luoyang City, Henan Province and will be connected to the national monitoring platform as required in the future.</li> </ul>
<p><b>Periodic evaluations</b></p>	<p>We have designated personnel for production safety, with each subsidiary appointing a safety engineer responsible for identifying, preventing, and managing TMF risks. There is also a multi-level TMF safety evaluation mechanism for ensuring the stability of the TMF dams.</p> <ul style="list-style-type: none"> <li>● Conducting a TMF safety status evaluation every three years and a dam stability analysis when the tailings dam reaches a specified height (which is 1/2 to 2/3 of the final design height for Grade III TMF (or lower) and 1/3 to 1/2 of the final design height for Grade I and Grade II TMFs).</li> <li>● Reviewing our emergency response plans every three years.</li> <li>● Performing flood routing and a dam stability assessment every year before the arrival of extreme weather events such as heavy rains during the flood season.</li> </ul>
<p><b>Accident reporting</b></p>	<p>We utilize a system that provides an open and transparent channel for reporting production safety accidents while keeping the information of the reporters strictly confidential.</p>
<p><b>Public disclosure</b></p>	<p>Silvercorp is committed to transparency through disclosure of TMFs management in its annual sustainability reports, on its website, and via the media.</p>



Carry out training on TMF management



Experts inspect the online monitoring system of TMFs



Inspection of tailings dam



TMF anti-seepage reinforcement and dam regreening



Conduct emergency drill against flood and dam collapse at the TMF

## Waste Management

China's most recently implemented 5-year plan is a call to action for a country wide transition to a low-carbon industrial society. The plan calls for the reduction of emissions, pollutants, and waste through the implementation of sustainable initiatives, development, and technology in order to cap carbon emissions and eventually reach carbon neutrality. For mining companies, this transition will bring with it the establishment of sustainable waste management practices and economic systems, as well as the necessary maximization of their resources.

A billion tonnes of tailings and waste rock are generated each year in China and produce a series of environmental issues, such as land usage, vegetation destruction, and air pollution. The mining activities at the Ying Mining District have historically produced volumes of waste rock that require a substantial amount of land for storage. Through the use of a treatment plant, waste rock can be converted to sand and gravel aggregate thereby reducing the consumption of primary resources, land, environmental risks, and overall costs.

In April 2020, Silvercorp, in conjunction with Luoning City Investment Company, commenced construction of a one million tonne per year aggregate waste rock treatment plant. The plant was designed to reduce the Ying Mining District's surface waste rock impoundments on-site and maximize the recovery and recycling processes. Silvercorp provided approximately USD\$4.4 million to construct the plant and will recoup its capital costs prior to the plant's profits being distributed to the partners, providing an additional economic benefit to the local community through the commercialization of the sand and gravel for the construction industry of Luoning County and neighbouring areas. The aggregate production line was officially commissioned in April 2021.

The development of a low-carbon system that reduces waste, land use, and costs was a key consideration in improving the waste rock management practices at the Ying Mining District. Adherence to high national and provincial standards for emissions guided the construction and design of the plant. As a result, the Company is pleased to report that the plant will be classified as an "ultra-low emission" facility. In building the plant, the main goal was to maximize the recovery and recycling processes through efficient development. Key processes of the plant include: a vertical shaft impact crusher, an automated PLC production control system, and a fully enclosed production line.

At Silvercorp's GC Mine in Guangdong Province, waste rock recycling processes have been in place since the mine's construction. The GC mine has not accumulated any waste rock in surface stockpiles, as over 90% of the waste rock produced is donated to the local community for processing at their aggregate production facilities, with the balance being used as backfill. Silvercorp has also purchased the end products for its construction projects periodically. In addition, in Q3 Fiscal 2021, Silvercorp completed the construction of a paste backfill plant at the GC mine at a cost of USD\$1.5 million, where approximately 40% of the mine's dewatered tailings are mixed with cement and pumped underground to fill mined out stopes, with the balance stored in a dry stack TMF. This investment enables the GC mine to return a significant portion of the tailings back underground as fill for mined out areas, which is expected to reduce the future costs and risks associated with the operation of above ground tailings facilities. In Guangdong Province, the waste rock generated by the GC Mine is transported and processed by the Gaocun Town Development Corporation and used for infrastructure construction in the mining area and local social construction. The comprehensive utilization rate of the waste rock reached 90.4% in Fiscal 2021.

Overburden, Rock, and Tailings	Fiscal 2021		
	Ying	GC	Total
Total amount of tailings (tonnes)	595,638	271,442	867,080
Total amount of waste rock (tonnes)	716,541 <sup>Note1</sup>	239,099	955,640
Tailings used as backfill (tonnes)	-	65,625	65,625
Waste rock recycled (tonnes)	232,115	216,130	448,245
Tailings not used as backfill (tonnes)	595,638	205,817	801,455
Waste rock not recycled or used as backfill (tonnes)	484,426	22,969	507,395

Note 1: The amount of waste rock is the waste rock accumulated during the construction of the Hongfa Building Material Factory from April 2020 to December 2020. Since the factory was put into operation, the waste rock has been reused as a raw material for production.

The ore mining and milling processes produce a large volume of tailings, waste rock, and other solid wastes, which not only occupy land but also reduce the comprehensive utilization rate of mineral resources. In compliance with the Law of the People's Republic of China on the Prevention and Control of Solid Waste Pollution (revised in 2020), the Directory of National Hazardous Wastes, the Standard for pollution control on the non-hazardous industrial solid waste storage and landfill (GB18599-2020) and the Standard for Pollution Control on Hazardous Waste Storage (GB18597-2001), we have formulated the Stationary Waste Management Regulations. We classify wastes generated during production and operations and explore the comprehensive utilization of solid wastes based the principle of "unified collection, classified disposal, and elimination of hazards" to achieve the goal of waste reduction, recycling, and safe disposal.



Domestic waste classification

Waste Discharge and Disposal	Fiscal 2021		
	Ying	GC	Total
Hazardous waste (tonnes)	21.08	1.80	22.88
Including: Waste oil (tonnes)	1.16	1.80	2.96
Waste batteries (tonnes)	19.92	0	19.92
Non-hazardous waste (tonnes) <sup>Note 1</sup>	1,080,358	228,919	1,309,277
Including: Tailings not used as backfill (tonnes)	595,638	205,817	801,455
Waste rock not recycled or used as backfill (tonnes)	484,426	22,969	507,395
Other non-hazardous waste(tonnes) <sup>Note 2</sup>	294	133	427
Domestic waste to landfill (tonnes)	740	51	791

Note 1: According to Identification Standards for Solid Wastes General Rules (GB34330-2017), tailings and mining waste rock are non-hazardous wastes. In fiscal 2021 sustainability report, we included tailings and mining waste rock as non-hazardous waste indicators. The relevant data is subject to the fiscal 2021 sustainability report.

Note 2: Including waste tires, steel and other production materials. This indicator is in line with the indicator Non-hazardous Waste disclosed in the fiscal 2020 sustainability report.

## Noise Management

The main sources of noise from our mining processes include: mine blasting, ventilation equipment, processing plant crushing, screening equipment operations, and motor vehicle engines. Our overall approach to managing noise pollution is governed by the Law of the People's Republic of China on the Prevention and Control of Ambient Noise Pollution; we implement the three standards set in the Emission Standard for Industrial Enterprises Noise at Boundary (GB12348-2008) and carry out quarterly noise monitoring in the production plants. To mitigate the noise created by our operations, we purchase low-noise equipment whenever possible and incorporate shock absorption and isolation into production equipment such as crushers, ball mills, and flotation machines to reduce noise at the source, and minimize nighttime operations and transportation so that neighboring residents are not disturbed at night. We also provide workers with PPE such as ear plugs, ear protectors, and other protective equipment, in addition to providing annual occupational health examinations and institute a rotation system for posts exposed to serious noise to keep our frontline workers safe.

# Climate Change

In 2020, the Chinese government pledged to peak carbon emissions by 2030 and to become fully carbon neutral by 2060. As a responsible miner with operations in China, we acknowledge the importance of transitioning to a low carbon economy and the government's pledge to implement efficient sustainable practices to address global warming. The mining industry is necessary in the transition to carbon neutrality for metals and minerals will play a substantial role in the construction of the infrastructure and technology needed to reduce emissions. At our operations, we aim to be highly efficient, produce low emissions, and implement innovative technology to find sustainable strategies to help reduce our carbon footprint.

In an effort to further our commitment to reducing our emissions, we have identified the main transitional and physical risks and opportunities climate change could pose on our business, based on recommendations by the Task Force on Climate-related Financial Disclosures (TCFD). We are committed to developing an ESG-related action plan/framework to address the outlined climate risks, and where possible, to establish mitigation strategies, in line with the TCFD's recommendations.

Types	Description
Physical risk	<p><b>Short-term risk</b></p> <p>The increased frequency of extreme weather events, such as torrential rains, floods, and typhoons, can lead to the interruption of operations or even the closure of mines, the washing out of roads, and dam failures due to rising water levels in TMFs. It could cause the Company's production capacity to decline, cause injury to employees/contractors, or bring environmental problems.</p>
	<p><b>Long-term risk</b></p> <p>Changes in precipitation and extreme fluctuations in weather patterns can lead to higher infrastructure costs (e.g., extended construction periods, damage to equipment) and higher insurance costs for equipment and personnel.</p>
Transitional risk	<p><b>Policy and law</b></p> <p>China will introduce a quota system for carbon emissions, which could increase compliance costs if companies are included in the national carbon trading market as key emitters.</p>
	<p><b>Reputation</b></p> <p>Stakeholders are paying more attention to the Company's response to climate change, natural resource consumption, etc., and if the efforts do not meet expectations, it may have a negative impact on the Company's reputation.</p>
	<p><b>Market</b></p> <p>If downstream customers investigate the carbon emission intensity of unit products, it will increase the uncertainty of the Company's business sales and cause corresponding market risks.</p>

## Formulating Energy Conservation and Emission Reduction Strategies

We have adjusted and improved our carbon emission management system to incorporate recent developments in worldwide climate change policies. Our management system outlines our reduction goals and the key tasks that will help us operate as a low-carbon, energy efficient, and low-emission business.

- Continuing to improve the energy management system, setting targets for total energy consumption and intensity, and including them in the assessment of departments and management.
- Creating a digital, automated, and intelligent mining process and energy management system, and achieving energy saving and consumption reduction through refined management.

Improved energy management

Improved energy structure

- Carrying out demonstration and pilot programs for new energy use; effectively improving the energy structure by setting up distributed PV power generation facilities in mining areas and using renewable and clean energy, such as wind, solar, and hydropower.
- Enabling electrical automation of mining, tunneling, transportation, and other equipment and eliminating the use of coal.
- Gradually replacing fuel-burning transportation vehicles and commuter buses with new energy vehicles.

- Realizing large-scale optimal utilization of solid waste resources in a regulated way through underground backfilling, comprehensive utilization of waste rock and tailings, etc., improving the efficiency and benefits of resources.

Comprehensive utilization of resources

Strategic industrial investment

- Further expanding strategic minerals related to new energy and new materials and investing in clean energy projects such as wind power and PV, relying on existing mining advantages to achieve new growth under the peak carbon emissions and carbon neutrality strategy.

- Developing and applying low energy intensity production and mineral processing techniques and phasing out outdated processes and equipment to realize clean production and reduce the intensity of pollutants and carbon emissions.
- Promoting green mining and reducing the amount of mining and development to minimize the associated consumption of explosives and their impact on the ecological environment.

Technological optimization and upgrades

Carbon reduction

- Creating carbon sinks and contributing to carbon neutrality by increasing land reclamation and greening projects at production sites.

## GHG Emissions and Air Pollution

Silvercorp follows all relevant policies, regulations, and standards for preventing and mitigating air pollution. We continue to improve our performance in this regard and fully evaluate our air pollutant emissions to ensure they meet applicable standards. Our approach is based on a circular economic model that promotes high utilization, low emissions, and efficient resource recycling. We constantly optimize our energy consumption structure and encourage the use of new energy and technology to limit our use of fossil fuels and in hopes of eventually establishing a system in which they are non-essential.

GHG Emissions <sup>Note1</sup>	Fiscal 2021	Fiscal 2020	Fiscal 2019
Direct (Scope 1) GHG emissions	1,803	1,535	2,032
Including: Diesel (tonnes CO <sub>2</sub> -eq)	1,559	1,335	1,824
Gasoline (tonnes CO <sub>2</sub> -eq)	244	200	208
Coal (tonnes CO <sub>2</sub> -eq) <sup>Note2</sup>	0	0	0
Liquified petroleum gas (LGP) (tonnes CO <sub>2</sub> -eq) <sup>Note3</sup>	0	0	0
Indirect (Scope 2) GHG emissions	63,120	57,962	56,240
Including: Electricity (tonnes CO <sub>2</sub> -eq)	63,120	57,962	56,240
Total (Scope 1 and Scope 2) GHG emissions (tonnes CO <sub>2</sub> -eq)	64,922	59,498	58,272

Note 1: According to China Energy Statistical Yearbook 2020 edition and Guide to Accounting Methods and Reporting of GREENHOUSE Gas Emissions of Mining Enterprises, we have adjusted the conversion factors of greenhouse gas emissions. See page 106 for more details about calculation.

Note 2: Silvercorp replaced coal-fired boilers with electric boilers at all its mines in 2018, so coal is no longer used.

Note 3: Silvercorp replaced all liquified gas stoves with electric stoves in all its mines in 2018, so LGP is no longer used.

## Dust Pollution Reduction

The Company formulates a targeted plan for dust prevention and treatment, and keeps dust-producing parts and equipment enclosed to control dust at the source. We strengthen dust prevention measures during production and transportation and promote the modernization of dust control systems and capabilities.

Sources of Dust	Dust Control Methods
Waste rock	Reducing dust with dust nets and water-spraying.
Transportation roads	Regularly cleaning the transportation roads, covering up the transportation vehicles, and automatically cleaning vehicles entering and exiting our plants.
Ore stockpiles	Paving the ore storage facilities and spraying water to reduce dust
Industrial sites	Using wet dust removal equipment and bag filters in the processing plant; installing dust collection facilities and water spraying at the dust production points.

Ying Mining District

- Formulating the Company Dust Prevention and Control Implementation Plan to fully standardize the dust control measures for each operating process.
- Invested over US \$696,268 paving roads and ore storage facilities in the mining area; invested US \$54,580 on new sprinklers and spraying water on mine transportation roads and the processing plant twice a day to reduce dust, benefitting more than 160 nearby households.

GC Mine

- Using sprinklers to reduce dust; invested about US \$8,851 installing water spray devices along mine roads and spraying water twice a day to reduce dust.
- Signed a commissioned inspection agreement with a third party, which undertakes inspections of the dust collector exhaust outlets at the processing plants quarterly in accordance with the Grade II Standard of the second period of the Guangdong Province Air Pollutant Emission Limits (DB44/27-2001).



Fog cannon dust suppression system

Flue Gas Treatment

Beginning in 2018, the Company has replaced all coal-fired boilers with electric boilers, thus eliminating the emission of sulphur oxides. Certain nitrogen oxides and ammonia nitrogen compounds however, are still being emitted as a result of blasting and ore transportation.

Air Pollutant Emissions	Fiscal 2021	Fiscal 2020	Fiscal 2019
Sulphur oxides (SOx) (tonnes) <sup>Note1</sup>	0	0	0
Nitrous oxides (NOx) (tonnes) <sup>Note2</sup>	464.06	458.31	407.94
Ammonia nitrogen (NH) (tonnes)	0.53	0.5	0.23

Note 1: Our mines have replaced all coal-fired boilers with electric boilers, no sulfide emissions are produced.

Note 2: Includes nitrous oxides from mine blasting and diesel, gasoline combustion.



Truck flushing to reduce dust carry

# Water Pollution Prevention and Control

Water management is an important aspect of our overall environmental management, and we have created operation specific water management systems that outline specific processes that will aid in reducing our consumption of water, and in the recycling and repurposing of our treated wastewater. The Company recycles and integrates treated water from its mines for use in its processing plants, dust suppression, landscaping, agriculture, and irrigation, to meet its goal of reducing freshwater consumption. We also implement innovative technology to improve efficiency and improve the monitoring of discharged pollutants.

**Ying Mining District**

Formulating the Environmental Protection Management System and Penalty Standards to regulate and supervise water resource management in terms of sewage discharge, utilization of wastewater from processing plants, reuse of mine water inflow, supervision of mine water inflow treatment facilities, and the protection of household drinking water sources.

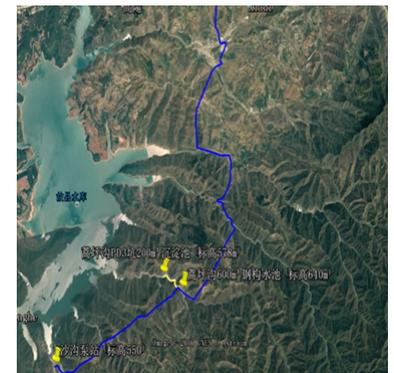
**GC Mine**

Establishing a comprehensive water pollution identification mechanism that has identified 18 environmental factors corresponding to the five operating areas of underground water pump drainage, household sewage treatment, mine water inflow treatment, tailings dewatering process, and tailings dry stacking process; classifying those factors according to their scale, severity, and frequency of environmental impacts, formulating mitigation measures, and regularly assessing the effectiveness of those measures.

Silvercorp's water sources are mainly the reuse of mine water inflow and withdrawal of fresh surface water. In Fiscal 2021, the Company's fresh water withdrawal stood at 823,127 cubic metres. We strive to replace our freshwater usage with mine water inflow and recycled wastewater from ore processing, making every effort to optimize the water use structure and improve water efficiency.

## Case Ying Mining District: Maximizing Utilization of Mine Water Inflow

The Ying Mining District invested nearly US\$737,572 in a comprehensive mine water inflow utilization project. Mine water inflow treatment facilities have been installed and put to use at the TLP PD820 and LMW PD924 mining systems. After treatment, the water inflow meets the Standard III of the Environmental quality standards for surface water (GB2002-3838). In September 2020, we further applied the facilities in the SGX Mine. As of the end of Fiscal 2021, the project in the Ying Mining District, Henan Province had reduced the discharge of mine water inflow, COD (Chemical Oxygen Demand) emissions, and nitrogen ammonia emissions by 250,000 tonnes, 1.2 tonnes, and 0.04 tonnes respectively.

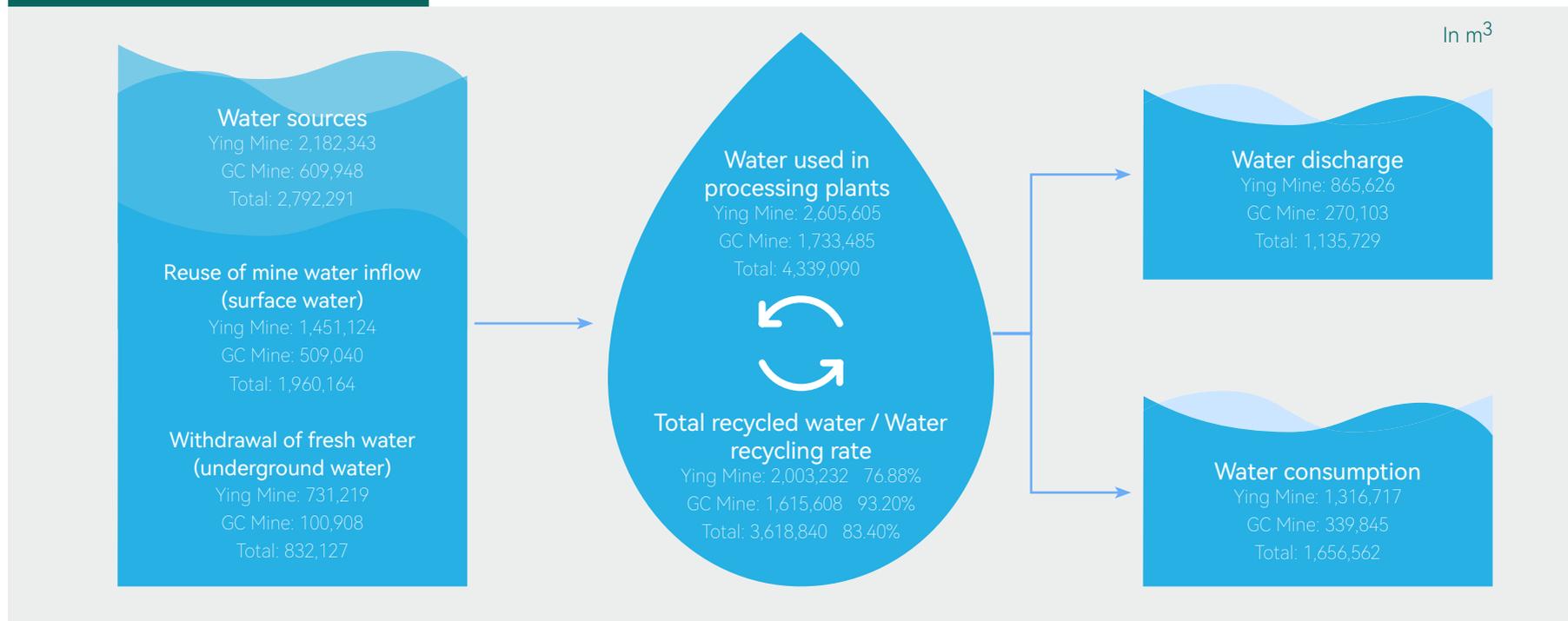


Satellite image of mine gushing water reuse pipeline

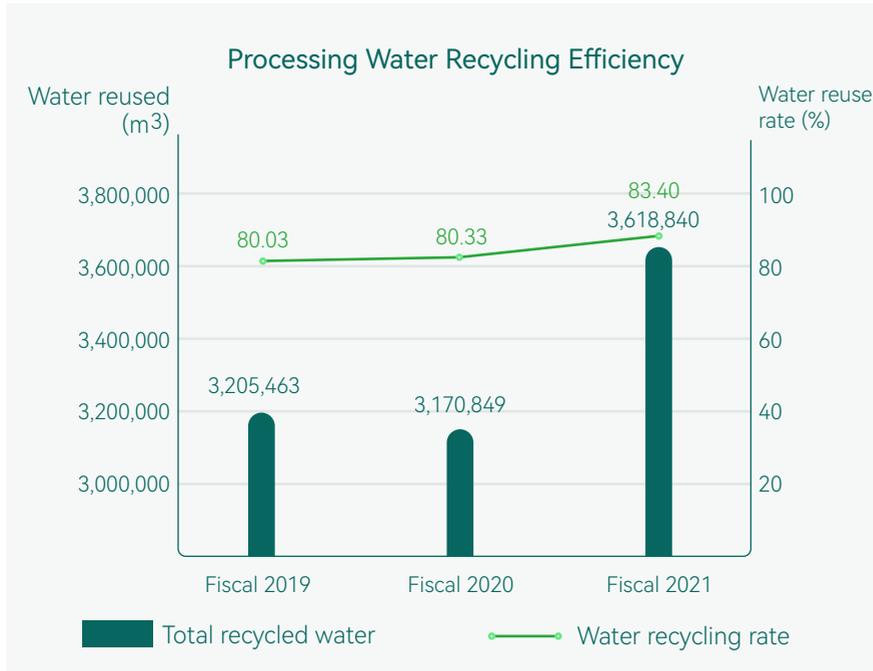


Farmland irrigation planning

## Water Usage in Fiscal 2021



Types of Sewage	Main Sources	Measures
Mining wastewater	Mine water inflow from underground mining	We reuse or discharge the mine water inflow after treating it in the mine water treatment plant so that it meets the Class III of the Environmental quality standards for surface water (GB3838-2002). It is mainly reused in underground mining or for ore processing.
Ore processing wastewater	Concentrate dewatering and tailings backwater	Water from concentrate dewatering is transported to the high-level backwater tank through the return pump pipeline in the plant area and tailings backwater is transported to the high-level backwater tank through the pumping station pipeline in the plant area, achieving zero tailings water discharge into the environment and 100% water recycling rate.
Household sewage	Daily life of employees	After centralized treatment in the biochemical sewage treatment system, the sewage meets required standards and the water is used for dust reduction in the mining area and in greening initiatives in the surrounding forestland.



Rainwater and process water diversion system at the GC mine

#### Rainwater and process water diversion

We have implemented rainwater and process water diversion systems in both mining districts to collect and transport rainwater and process water separately, which allows for the rainwater to be directly discharged, thus improving the efficiency of the treatment plant.



Inflow water pump room

Sedimentation basin

#### Anti-seepage solutions at TMFs

Our TMF dam, anti-seepage systems, and planning are supported by scientific technology and are built in compliance with relevant technical standards. We conduct regular quality inspections on the TMF dam, the anti-seepage membranes, etc., strengthen the daily inspection and observation of the TMFs, and take immediate measures if any safety hazards are identified, and report them.

# Energy Management

We continue to find new and innovative ways to increase the efficiency of our energy management systems. Based on comprehensive calculations of energy consumption, such as electricity and oil, we carry out a comparative analysis of our energy efficiency, which influences our energy management targets and improvement plans. We aim to implement innovative energy-saving technologies to drive continuous improvement in our energy performance.

## Electricity analysis

We carry out a monthly analysis, calculating monthly electricity consumption and evaluating the implementation of a smoothed electricity use approach, and report problems to the plants and mines for timely rectification.

## Direct electricity purchases

We participate in direct electricity transactions and achieve the optimal allocation of power resources by signing long-term cooperation agreements. In Fiscal 2021, the Ying Mining District purchased in 94.6 million kWh directly, saving US \$444,018 in electricity charges; for the GC Mine, those figures were 30.1 million kWh and US \$168,166 respectively.



Electricity consumption analysis meeting

Electricity Consumption	Fiscal 2021	
	Ying	GC
Year-on-year change in peak electricity consumption (%)	-0.03	+0.28
Year-on-year change in electricity consumption during flat period (%)	-0.34	-0.10
Year-on-year change in electricity consumption during valley period (%)	+0.47	-0.18
Direct electricity supply transactions (10,000 kWh)	9,456.98	3,006.49
Electric charge savings from direct supply (\$)	444,018	168,166

Energy Consumption	Fiscal 2021	Fiscal 2020	Fiscal 2019
Diesel (m <sup>3</sup> )	592	507	693
Gasoline (m <sup>3</sup> )	107	88	91
Coal (tonnes)	0	0	0
Liquefied Petroleum Gas (LPG) (m <sup>3</sup> )	0	0	0
Electricity (MWh)	119,988	110,185	106,913
Total energy consumption (tonnes of standard coal equivalent)	15,603	14,271	14,103
Total energy consumption (GJ)	457,119	418,011	413,074

We continue to optimize our energy structure in step with the global energy transition trend. We no longer use any coal, have been exploring the use of new energy sources, and have been gradually introducing new energy equipment in lighting, transportation, heating, cooling, and other areas. We have phased out outdated processes and equipment over time based on energy efficiency monitoring and assessment to improve our energy efficiency. A few of the ways we have done this include eliminating the use mining vehicles below the National IV Standard and switching to LED lights for underground lighting.

### Case Replacing High Energy-consuming Equipment and "Going Green"

In Fiscal 2021, Ying Mining District phased out nine second-level energy-consuming air compressors and replaced them with new first-level energy-consuming frequency conversion screw air compressors. Given the same air supply and pressure, the power is reduced from 132KW to 95KW, saving over 28% of energy. GC Mine replaced one air compressor, effectively reducing the use of power and improving efficiency.