

CHAPTER



03

Strategy

The Molybdenum Industry

Molybdenum is a byproduct of the processing of other minerals and is thus not found in a pure state in nature.

In order to obtain molybdenum, molybdenum concentrate—also known as molybdenite—must be produced. This is done essentially as a derivative of copper extraction, currently the main origin of processed molybdenum in the world.

Companies like MolyMet subject mineral concentrates to various processes, especially cleaning and roasting. This allows them to chemically transform the metals and obtain molybdenum oxide, which is the basis for the development of a wide range of products, especially steel alloys.

Rhenium is not found in a pure state in nature either. It is obtained from two sources: primarily from the metallurgy process and secondarily from recycling. The main source of primary rhenium extraction is the molybdenite roasting procedure—which is in turn a byproduct of copper—and the cleaning and treatment of molybdenum concentrates. The resulting product is mainly sold as metallic rhenium and ammonium perrhenate.

The world's rhenium reserves are found in Chile (the top rhenium producer), the United States, Russia, Kazakhstan and Armenia.

2020
Global Supply

598

million pounds
of Mo

8.69
US\$/lb

average annual
Mo price

MolyMet's main business activities in 2020 reflected the impact of the global COVID-19 pandemic, with a drop in demand for molybdenum and rhenium, lower average prices, and smaller sales margins.

The international molybdenum oxide price fell from US\$11.35 per pound in December 2019 to US\$8.69 per pound during the same month in 2020, which represents a 23.44% decline. This was mainly due to a significant decrease in the demand for metal in global consumer markets (the automotive, construction, oil and aerospace industries) due to the impact of the health crisis.



Our Businesses

Molymet has developed a wide range of molybdenum and rhenium solutions for the metallurgy, chemical and metal industries.

60%

of the volume sold in 2020 was through direct sales.

Business Lines

Direct Sales

Molymet buys molybdenum concentrates (molybdenite) and uses its own technology to treat and process the concentrate and produce a wide range of molybdenum products (from molybdenum oxide to pure products) that it then sells on the global market.

Processing

Mining companies give Molymet molybdenite to process and return as a product with commercial value.

Byproducts

The roasting and oxidation processes used on molybdenum generate byproducts, which Molymet then sells. These include rhenium, copper cathodes and sulfuric acid.

Products and Services

Molymet obtains the following final products from molybdenum concentrate:

- Pure and technical grade molybdenum oxide
- Ferro molybdenum
- Molybdenum salts
- Metallic molybdenum
- Molybdenum dioxide
- Metallic rhenium
- Ammonium perrhenate
- Perrhenic acid

It also produces the following as derivatives of its environmental control processes:

- Sulfuric acid
- Copper cement
- Copper cathodes

The company provides the following services:

- Roasting and leaching (tolling)
- Purchase of molybdenum concentrates

Markets

The company's main customers are located in Europe, Asia and North America and operate in the following industries:

- Steel making
- Chemicals
- Aerospace
- Electronics
- Automotive



Competition

Based on its molybdenum roasting capacity, Molymet's main competitors in the market are Jinzhou China Dragon Moly Co. Ltd. (JNCD), Jinduicheng Molybdenum Co., Ltd. (JDC), Freeport-McMoRan Inc. and Thompson Creek Metals Company Inc.—both based in the US—and Sociedad de Procesamiento de Molibdeno Ltda., (Molyb), a Codelco subsidiary located in Mejillones, Chile.

Main Uses of Our Products

Use	Technical oxide	FeMo	Pure Mo	Metallic Mo	Rhenium
Stainless steel					
Fertilizers					
Catalysts					
Cast iron					
High-speed steels					
Super alloys					
Construction steels					
Lubricants					



Priorities

The following elements further Molymet's strategy and are thus priorities in its decision-making process:

People

People are essential to Molymet and are at the center of everything the company does.

Excellence

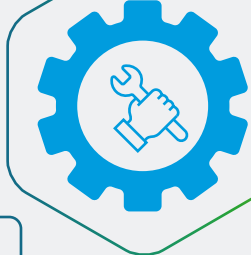
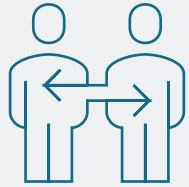
This characteristic defines our team and the way we work.

Innovation

Molymet continually researches ways to provide solutions for people's daily lives.

Sustainability

Molymet approaches its business activities through this lens. Its relationship with the environment is the basis for its future plans.





People

The work of Molymet's Vice President of Corporate HR and Communications is coordinated around strategic challenges related to attracting, developing and retaining talent; employee alignment with and commitment to the company; and prevention and Occupational Health and Safety (OHS) strategies, which were particularly relevant during 2020.

All Occupational Health and Safety programs were adjusted to address both the social crisis in Chile and the impacts of the COVID-19 pandemic and a multi-pronged contingency plan was implemented to address the public health emergency. This was done to minimize risks of contagion among the various teams, and especially among employees considered high-risk. We also took steps to ensure that administrative employees working from home had the tools they needed to do their job.

The company thus complied with its Corporate OHS Policy, which is based on the principles of leadership, legality, prevention, training, operational safety, continuous improvement, participation and consultation. The policy's goal is to ensure the safety and security of our employees, which is a fundamental requirement for achieving the company's purpose of "generating value for the advancement of humanity through products developed by people who believe in the wellbeing of our planet."

Building Leaders

Following the formal launch of the corporate purpose, 70 Molymet leaders participated in a training activity run by Haley Rushing of The Purpose Institute. The activity was designed to give them guidance about how to incorporate this statement into their daily decision-making, the challenges that their areas face and performance and talent management. The course was distributed over four virtual modules.

Measures to Address COVID-19

The Corporate Coronavirus Crisis Committee, led by the Vice President of Americas Operations, met periodically to evaluate the situation and support the CEO's analysis and decision-making processes, which were then communicated to the leaders and employees of all subsidiaries. As a result of the committee's efforts, we applied a global prevention strategy that included several measures, such as:

Employee Health and Safety

Adapting travel policies

- Isolating employees with symptoms or who had been in contact with people who visited high-risk countries (14-day quarantine at home).
- Reducing the maximum number of people transported in shuttles.

Protection and Prevention

- Creating the Corporate Coronavirus Crisis Committee, led by the Vice President of Americas Operations. It met periodically to evaluate the situation, make decisions and communicate them to leaders and employees in all areas and subsidiaries.
- Applying measures mandated by officials and in-house protocols for protecting health and ensuring operational continuity.
- Communicating protocols to external staff.
- Applying a prevention survey at the beginning of each shift.
- Suspending all in-person group activities.
- Advising on legal and financial aspects and providing psychological support through the Molymet Employee Assistance Program.

New Work Methods

- Creating a home office approach for several activities based on the minimum staff required by each area to sustain operational continuity.
- Strengthening information security systems.
- Supplying all equipment necessary to work remotely.
- Providing in-person and remote support to users through help desk.

Internal Communications

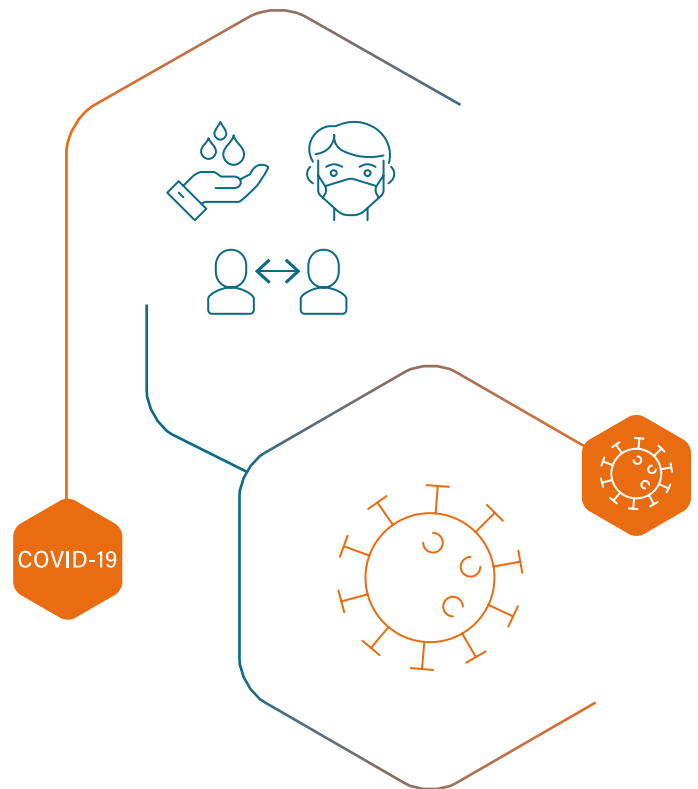
Delivering information through various channels.

- Appointing executive-level point person from the Crisis Committee with organization-wide impact to provide information to employees.
- Sending communications from the CEO and subsidiary general managers.
- Implementing the "Molymet Cares" Campaign
- Creating an intranet section with updated information on COVID-19 and the measures that the company is implementing.
- Staying in constant communication with union leadership.
- Reinforcing the corporate purpose.

Educating Leaders and Employees

Supporting leaders in modeling changes and containing their teams

- Adapting information and instructions on COVID-19 to Molymet.
- Providing recommendations and advice for supporting employees and their families.
- Supplying tools for remote team management, task organization and building connections with employees.



Operational Excellence

Molymet adopted the principles of the LEAN philosophy in an effort to maximize customer service through an exclusive focus on activities that add value. This is one of the strategic objectives and a key component of the operational excellence policy.

In 2019, the Corporate Operational Excellence Unit was created with a mandate to design and execute management guidelines based on the LEAN methodology.

It focused on two areas in 2020:

1. Introducing executives to LEAN concepts; and
2. Applying the philosophy in MolymetNos in order to turn their progress into a model to be followed by all production units.

The transformation of Molynor and Molymex began in 2020, and we expect all subsidiaries that report to the Vice President of Americas Operations to have implemented the LEAN system by 2023. To that end, the progress made on the strategic agenda and adoption of the methodology is reviewed every three months both overall and in regard to specific aspects at the various plants. Subsidiaries also conduct periodic internal assessments of their progress.

Molymex has engaged in a retraining and updating process related to the LEAN methodology because the subsidiary introduced this philosophy in its operations in 2014 and had experience in this area. This unit's value flow map has been updated.

Digital Transformation

The efforts made to maximize Molymet's operational excellence have also drawn on the synergies from progress achieved in digital transformation, conceived of as an ongoing process designed to generate production and back office efficiencies.

The company's Corporate Digital Transformation Department has designed a road map based on five programs that it expects to develop in the coming years in order to boost returns on investments made.

1. Integrated Operations Center
2. Center for Maintenance Excellence
3. Traceability and Monitoring Program
4. Process Automation Program
5. Data Management Program

Each of these programs also has different tactical agendas that link the projects to their respective areas of action, with specific objectives that are evaluated based on gains in the area of efficiency and their contribution to sustainability. This may include, for example, decreased energy consumption, better use of facilities, increased life cycle of machinery and general equipment. The innovations involving the processes that are part of the main business have led to improved product quality and indirect sustainability-related benefits due to a reduced water and energy footprint.

The digital transformation process presents a cultural challenge in the organization in regard to moving towards a new way of thinking and doing things. This evolution also requires a robust technological platform. Molymet took on this challenge by implementing world-class solutions in the past years that give it reliable tools and incorporate best practices into the organization.

Industrial Information Management System

This software monitors variables of production processes in real time (such as pressure, temperature or flow), stores them and adds them to a central repository, allowing personnel to make operational decisions online, analyze historical data trends and calculate and present indicators. It also provides information for other industrial processes including maintenance, supply and sustainability.

Active Business Management System

This program is used in the operational management of the life cycle of industrial assets with an emphasis on maintenance processes. It helps reduce downtime and costs; minimize equipment failures and maximize the use of industrial resources.

Business Intelligence System

This business intelligence software generates focused data models that facilitate decision-making in various areas of the company.

Laboratory Information Management System

This comprehensive laboratory process management program allows the company to manage the life cycle of samples of material obtained from production processes, automate work flows in the laboratory and integrate analysis instruments, while maintaining data integrity and traceability for product quality control.

Access and Attendance Control System

This process manages access and attendance at company facilities using authentication of biometric data (facial recognition) for internal and external employees and visitors. It provides key information for industrial security management, limiting unauthorized access and facilitating evacuations, among other actions.

Human Capital Management System

This system covers key human resources management processes, such as payroll, compensation (integrated with SAP ERP), performance evaluations, professional development and succession plans.

4

webinars
conducted to disseminate the LEAN philosophy in the company

87

employees
were designated change agents

Innovation

Molymet conducts R+D programs designed to generate processes that improve the company's productivity, expand the company's product portfolio and develop digital technologies that improve data capture and management.

The company's innovation processes are developed under the auspices of the Innovation and Digitalization Committee, which is presided over by the Vice President of Strategic Management, Technologies and DX and comprised of executives from various areas of the company; the Vice President of Engineering, who is responsible for implementing major changes or technology at industrial scale; and the Research and Development Department, which reports directly to the CEO and is staffed by 17 professionals charged with conducting projects that have a greater level of uncertainty in their results.

In addition, each operations area has groups that focus on applying solutions designed in laboratory or pilot processes (incremental innovation), to determine the feasibility of applying them on a larger scale.

During 2019 and 2020, Molymet mainly made progress on the design and implementation of two pilot projects: the first to take practical measurements under conditions similar to those of a production process and at a more industrial scale for procedures for removing arsenic from copper concentrate, and the second to develop high purity lithium products. This progress could lead to the construction of plants to commercially develop both activities.

The company is also working on a solid waste reduction project to process a significant part

of the slag and turn it into byproducts that could be consumed by our company or sold instead of discarded.

During this period, the agile management methodology was introduced. This system seeks to manage research activities that have a high level of uncertainty in order to prevent that situation from impeding project progress, thus achieving greater efficiencies in shorter timeframes. This is a new way of working that will be implemented in three phases, the first during the last quarter of 2020. The second and third stages will take place over the course of 2021.

During 2020, the company implemented a Virtual Laboratory to simulate production processes and thus anticipate behaviors, for example, related to energy and water consumption.

Contribution to the Circular Economy

Innovations involving core business processes help improve the quality of Molymet products and indirectly generate sustainability-related benefits due to a reduced water and energy footprint.

3

local and international
patent applications
filed by Molymet since 2017.

An average of

MUS\$1.2

is invested annually
by Molymet in R+D



Sustainability

Molymet's corporate sustainability strategy is implemented through four policies and six focus areas that address the most important topics for its economic, social and environmental performance.

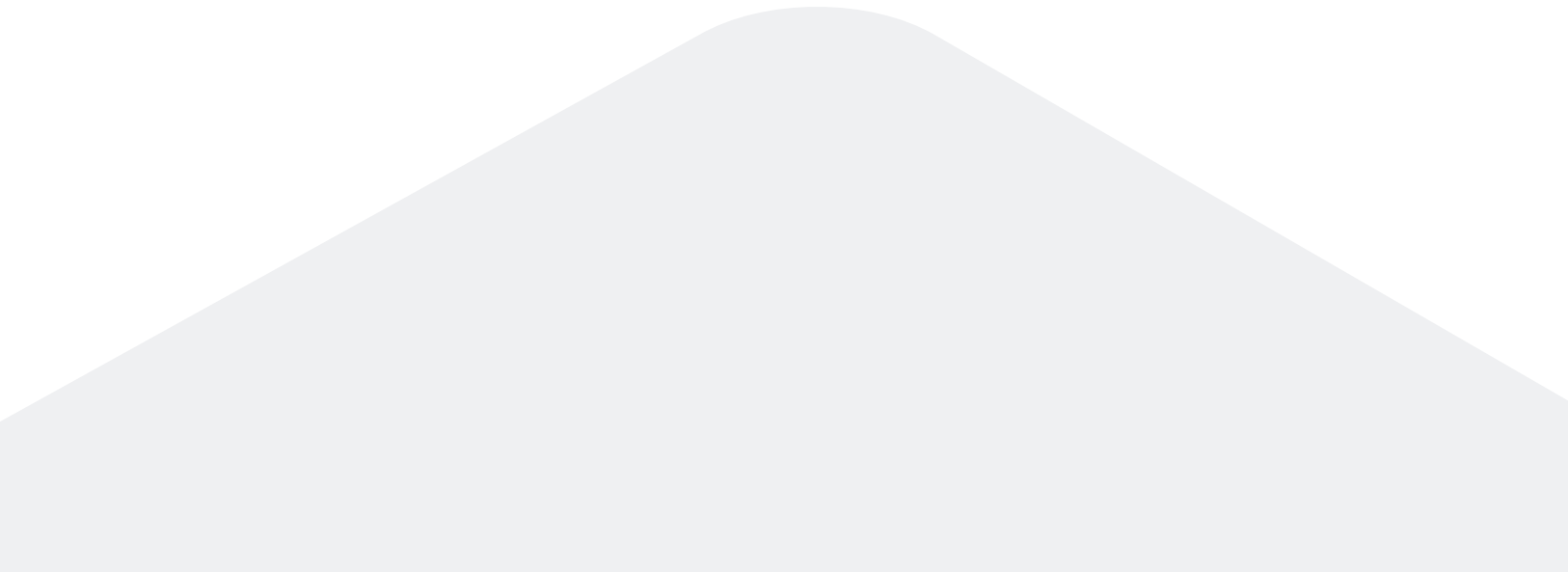
Molymet's sustainability strategy was designed using a process to identify and prioritize the organization's material aspects considering all stakeholders (shareholders, suppliers, customers, the environment, community, regulators and employees), sustainable management and governance.

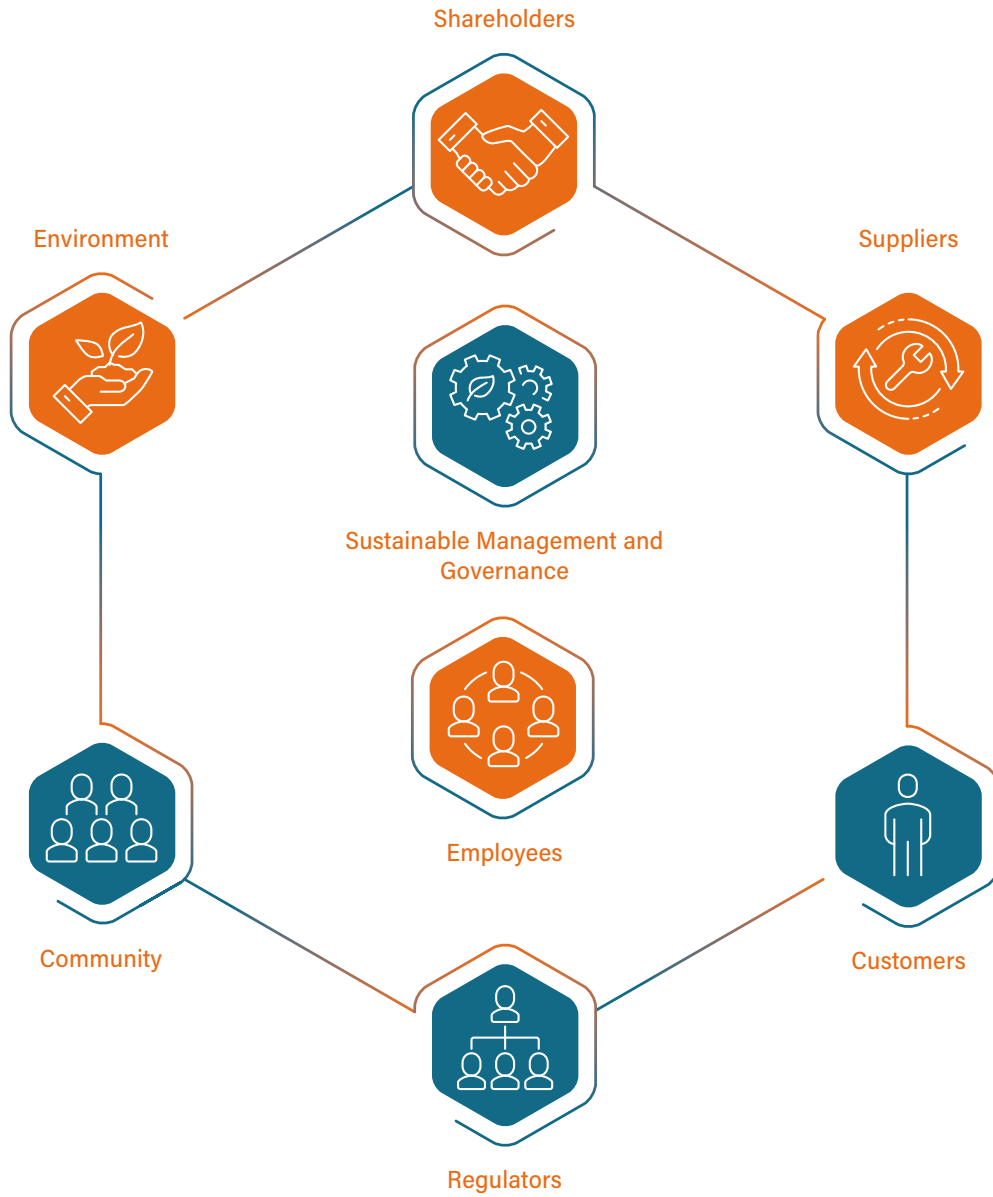
The sustainability strategy is based on the 17 Sustainable Development Goals (SDG) of the United Nations (UN) 2030 Agenda and also incorporates the guidelines set out by the Dow Jones Sustainability Index, the Global Reporting Initiative, the Mining Council Principles, ISO 26000 and The Great Place to Work methodology, among others.

Corporate Sustainability Strategy Policies

1. Corporate Stakeholder Engagement Policy
2. Corporate Occupational Health and Safety (OHS) Policy
3. Corporate Supplier Policy
4. Corporate Work-related Accidents Policy

The policies associated with this strategy are managed by the Corporate Sustainability Department based on plans and programs with specific topics, proposing the actions that the company should take in the short- and medium-terms.





Material Topics for Molymet Sustainability

- Ethical Management
- Innovation and Development
- Investments and Projects
- Employment
- Training and Education
- Gender Equity
- Health and Safety
- Labor Relations
- Supplier Assessment
- Community Engagement
- Biodiversity
- Energy
- Water
- Effluents
- Emissions
- Raw Materials, Materials, Reuse and Recycling



Management Progress 2020

Six focus areas guide Molymet's economic, social and environmental performance.

People

- Strengthening topics related to occupational health and safety to address the health emergency
- Defining labor strategies
- Developing an inclusion strategy

Community Involvement

- Defining the Community Engagement Policy
- Collaborating with and contributing to stakeholders during the health emergency (helping firefighters and the Red Cross, among others).

Governance and Ethics Management

- Updating the Code of Ethics
- Identifying structural risks and defining action plans

Sustainable Value Chain

- Developing a Corporate Supplier Policy, prioritizing topics such as sustainable payment and billing, support for micro and small business and development of local suppliers.

Solidity and Trust

- Developing a Corporate Stakeholder Policy

Care and Respect for the Environment

- Starting to draft an Environmental Accident Prevention Policy
- Defining zero peak Co₂ concentration targets
- Submitting a proposal to modernize and strengthen MolymetNos gas cleaning and treatment systems to the environmental evaluation system
- Recovering and adding value to ferro chloride waste at the Molynor S.A. Industrial Complex