



## ABOUT THIS REPORT

The 2022 Sustainability Report from Korea Zinc provides a qualitative overview of our performance in environmental, societal, and governance aspects, in line with our sustainability-centric management approach. Its annex, the ESG Data Book, presents quantitative performance data.

This report enhances our materiality analysis by examining the significant issues that Korea Zinc confronts through the lens of double materiality, considering multiple perspectives. We analyze both domestic and international trends using international indicators and industry benchmarking. Additionally, we incorporate the views of our stakeholders in various ways to ensure the transparent and accurate disclosure of ESG data.

### Reporting Principles and Standards

This sustainability report has been compiled in line with the 2021 Global Reporting Initiative (GRI) Standards. The financial data contained within this report adheres to the consolidation standard of the Korean version of the International Financial Reporting Standards (K-IFRS). Furthermore, Korea Zinc has taken into account the industry standards set by the Sustainability Accounting Standards Board (SASB) in order to identify material issues relevant to our sector. We have also incorporated the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD).

### Scope and Boundaries

This report encompasses the period from January to December 2022, and also includes some significant developments from the first half of 2023. It covers activities at our headquarters and Onsan Refinery. Additionally, it partially includes content related to climate change from KZ Green Tech Co., Ltd., a subsidiary, and Sun Metals Holdings Ltd. (SMC), an international business location. Where the scope of the report varies, this is clearly indicated in the report's footnotes.

### Report Assurance

This report has been independently verified by the Korea Productivity Center, an independent assurance organization, to guarantee both independence and reliability. The verification was conducted in line with Type 1 assurance (at a moderate level, as per the AA1000AS (2008)\* assurance standard). Additionally, Type 2 assurance was applied to eight key issues. The Korea Foundation for Quality has verified the Scope 1 and 2 emissions, while the Korea Standards Association has verified the Scope 3 emissions.

### Report Distribution and Stakeholder Inquiries

This report can be downloaded from the Korea Zinc website. If stakeholders have any opinions or feedback, they are encouraged to contact us using the information provided below.

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Korea Zinc presents a roadmap for future value through Troika Drive.

# CHAIRMAN'S MESSAGE



## Dear valued stakeholders and partners of Korea Zinc,

Over the past half-century, Korea Zinc has surged forward with unwavering innovation, solidifying its position as the global leader in the non-ferrous metals industry, as the world's largest and most efficient single smelter. As we forge ahead, we are aligning ourselves with the evolving era that emphasizes greenhouse gas reduction and sustainable operations, aiming to create value that contributes to society. In pursuit of this objective, we present to you the vision of "Troika Drive."

Troika Drive embodies our aspiration to transform our traditional non-ferrous metals refining business into an enterprise that harmonizes with the environment and moves in sync with our community. It serves as the driving force propelling Korea Zinc's growth in the next half-century, with a focus on renewable energy and green hydrogen, EV battery materials, and circular economy. We are already actively engaged in projects such as the Sun HQ pilot initiative, producing green hydrogen through solar-powered electrolysis, and investing in ammonia cracking technology to establish a clean ammonia supply chain for effective green hydrogen utilization. Furthermore, we are producing copper foil, a

## For bountiful future for all humanities, Korea Zinc refines today and prepares for tomorrow

critical material for secondary battery cathodes, using refined copper from our smelting by-products, and recycling e-scrap and spent batteries from the vast expanse of the Americas achieved through our acquisition of a resource circulation company, thereby continually enhancing our processes.

Driven by our commitment to becoming an eco-friendlier industry and a more sustainable member of the world community, we prioritize fundamental aspects of safety and governance, ensuring transparency in our operations and advancing human rights management and supply chain systems.

### Enhancing Safety Measures

The safety and well-being of our employees and stakeholders have always been our top priority. The Safety Innovation Committee facilitates discussions on matters related to the well-being of both Korea Zinc employees, contractors, and other stakeholders. Beyond mere legal compliance, we strive to proactively address safety concerns by analyzing the working environment to systematically improve conditions. We remain steadfast in conducting our operations with a mindset that prioritizes the safety of all stakeholders.

### Advancing Governance

Effective governance forms the cornerstone of our ESG management strategy. In 2022, the establishment of the Sustainable Management Committee, consisting of independent directors with expertise in ESG areas, along with executive directors responsible for environment, safety, and ESG matters, has laid a strong foundation for advancing governance. This committee provides a platform for regular discussions on various sustainable management agendas. Additionally, the creation of the Compensation Committee and Internal Transactions Committee underscores our leadership's commitment to enhancing governance transparency. We are pleased to share with all stakeholders the significant achievement of Korea Zinc in establishing a transparent foundation for ethical business standards.

### Establishing a Human Rights Management System

Furthermore, in our efforts to strengthen communication with our involved parties, we conducted a human rights survey. Recognizing the paramount importance of human rights, we gathered insights and opinions to internalize this value within our business activities. The results of this human rights management survey will be transparently published in this report, and these insights will guide us in playing an active role in building a more sustainable society.

### Building a Robust Supply Chain Management System

Lastly, we have established the foundation for supply chain management to ensure that our pursuit of sustainability extends beyond our own efforts. This interconnected world—encompassing humans, society, and the environment—underscores our commitment to care for the sustainability of our supply chain together, as a collective effort.

Since the declaration of Troika Drive in 2021, our efforts are gradually bearing fruit. Our aspiration for a new world of resource circulation and renewable energy guides Korea Zinc toward Green Metal provider, a more tangible destination. Through the sweat and toil of the past, we envision a future fueled by ambitions higher than ever before. We will continue to strive for these ambitions by producing essential minerals with clean energy sources, establishing an environmentally friendly production base using waste materials, and advancing our journey towards a healthier and happier world. We kindly request your attention and support as we embark on Korea Zinc's sincere voyage toward a sustainable future.

Korea Zinc refines today to shape the value of a tomorrow.

Thank you.

Jun. 2023

Yun B. Choi

Executive Chairman and Chief Executive Officer  
of Korea Zinc

# KOREA ZINC



## About Us

Since its inception in 1974, Korea Zinc has evolved into a leading nonferrous metal refining company, producing not only precious and rare metals, but also sulfuric acid and base metals such as zinc, lead, and copper. Leveraging nearly 50 years of experience and expertise in the refining industry, Korea Zinc is now pioneering a sustainable future by expanding its operations into the green energy and materials sector.

Category	Content	Category	Content
Name of the Company	Korea Zinc Co., Ltd.	Headquarters	542, Gangnam-daero, Gangnam-gu, Seoul, Republic of Korea
Foundation	August 1st, 1974	Onsan Refinery	139, Ijin-ro, Onsan-eup, Ulju-gun, Ulsan
CEO	Yun B. Choi, Ki D. Park	Industry	Total non-ferrous metal smelting
No. of Employees	1,742 <sup>1)</sup>	Website	www.koreazinc.co.kr

1) Number of employees, including 18 retirees and 4 named executives, at Korea Zinc as of December 31, 2022 (last day of the year).

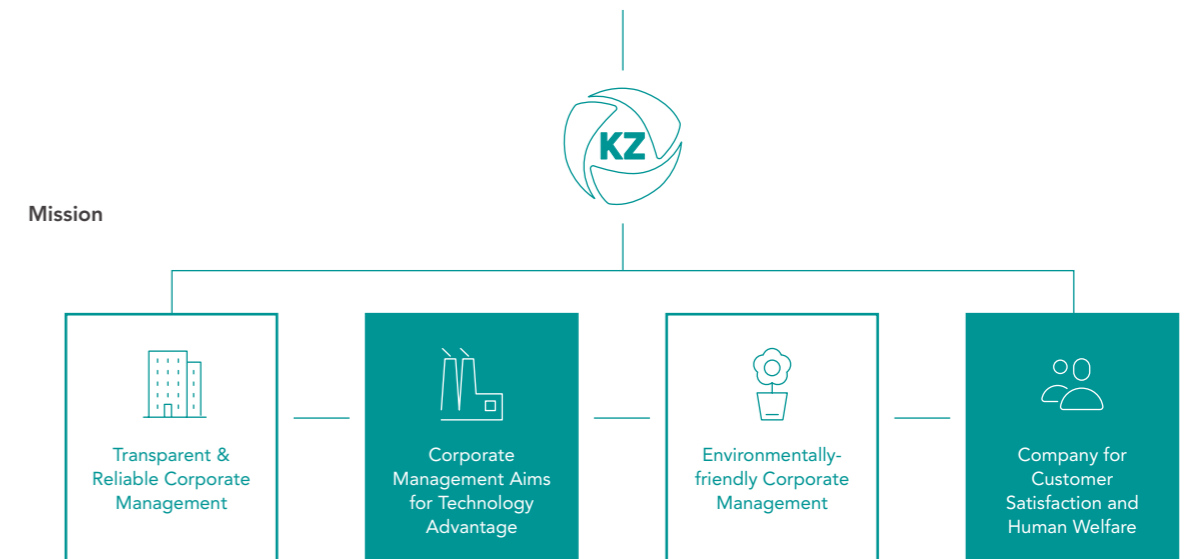
## Overview

### Management Philosophy & Vision

Korea Zinc is committed to enhancing the environment, society, and human welfare through our technological superiority and customer trust. We strive to coexist as a responsible corporate citizen in a future where everyone thrives. This is achieved by identifying and fostering future industrial drivers, including renewable energy, hydrogen infrastructure, and the circular economy.

### Management Philosophy

Korea Zinc, through innovation, discovering and nurturing growth engines for the future, is raising our corporate value.



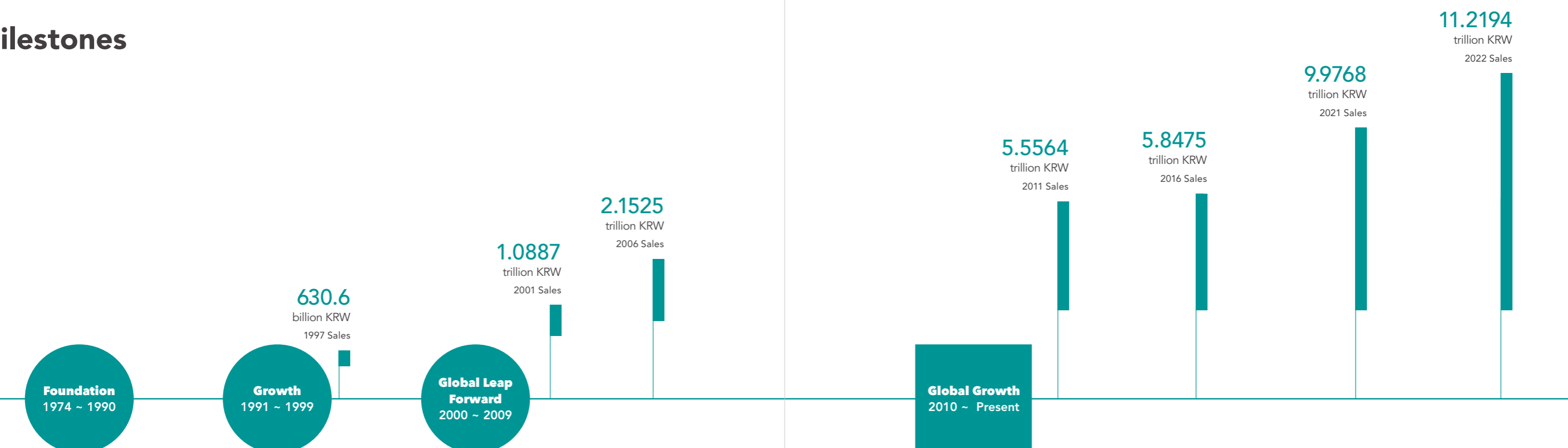
### External Performance in 2022

In 2022, Korea Zinc received recognition for its efforts and accomplishments in ESG management, earning a place in the Dow Jones Sustainability Indices Korea (DJSI Korea) for the first time within the metal mining sector. Additionally, Korea Zinc was honored with the Grand Prize in the “Greenhouse Gas Reduction” category at the Korea Environmental Awards. The company also received the Special Award for Carbon Management in the climate change division of the 2022 Carbon Disclosure Project (CDP) Korea Awards. Furthermore, at the 29th Corporate Innovation Awards, Korea Zinc was bestowed with the Prime Minister Awards for its development of technology aimed at solving environmental pollution issues.



1 Korea Environmental Awards  
 2 Carbon Disclosure Project (CDP) Korea Awards Ceremony  
 3 Corporate Innovation Awards Ceremony

# Milestones



## Foundation 1974 ~ 1990

- 1974**  
• Founded Korea Zinc Co., Ltd
- 1978**  
• Completed Construction of Zinc Refinery
- 1982**  
• Established R&D Center
- 1986**  
• Completed Construction of Lead Refinery



## Growth 1991 ~ 1999

- 1990**  
• Listed on the Stock Exchange
- 1992**  
• Completed Construction of Slag Fumer Plant
- 1993**  
• Completed Construction of Cogeneration Plant
- 1994**  
• Completed Construction of Direct Leaching Factory
- 1995**  
• Completed Construction of No.1 Onsan Fumer
- 1997**  
• Established Sun Metals Corp, Australia
- 1999**  
• Awarded '500 Million Dollar Export Tower'  
• Completed Expansion of Direct Leaching Factory



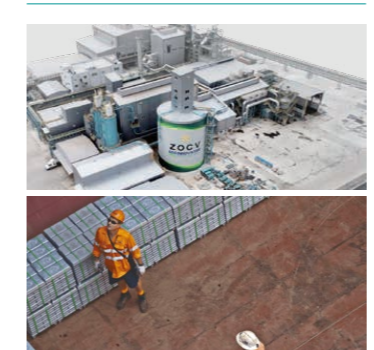
## Global Leap Forward 2000 ~ 2009

- 2000**  
• Awarded '700 Million Dollar Export Tower'  
• Completed Construction of TSL Plant
- 2003**  
• Completed Construction of No.2 Onsan Fumer
- 2004**  
• Completed Construction of Copper Plant  
• Completed Construction of Indium Plant
- 2005**  
• Awarded '800 Million Dollar Export Tower'  
• Gold Tower Order of Industrial Merit
- 2006**  
• Awarded 'Billion Dollar Export Tower'
- 2007**  
• Completed Construction of No.3 Onsan Fumer
- 2009**  
• Awarded 'Gold Tower Order of Industrial Service Merit'  
• Completed Construction of No.4 Onsan Fumer



## Global Growth 2010 ~ Present

- 2010**  
• Completed Construction of No.2 TSL Plant  
• Completed Construction of #8 Zinc Electrolysis Plant
- 2011**  
• Awarded '2 Billion Dollar Export Tower'  
• Completed Expansion of Lead Refinery and Precious Metal Factory
- 2012**  
• Completed Construction of No.5 Onsan Fumer
- 2013**  
• Awarded '3 Billion Dollar Export Tower'



- 2014**  
• Completed Construction of #9 Zinc Electrolysis Plant
- 2015**  
• Presidential Commendation  
• Completed Construction of the 2nd Non-Ferrous Metal Complex
- 2018**  
• Completed Construction of #10 Zinc Electrolysis Plant  
• Established Energy Storage System
- 2019**  
• Facility Investment of Zinc Preparation Process Rationalization



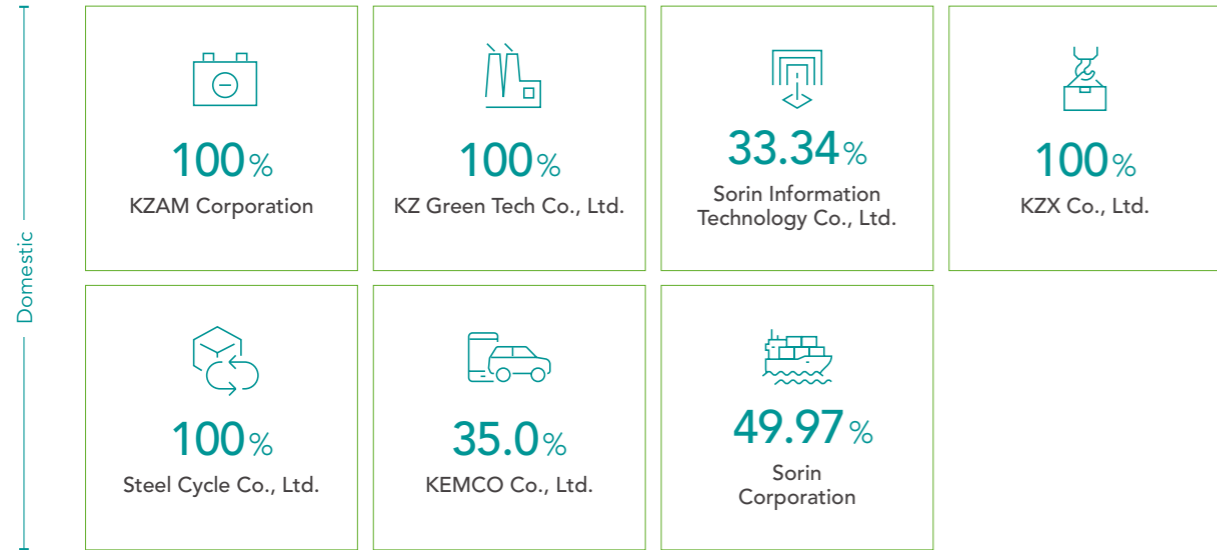
- 2020**  
• Established KZAM, a battery material company (manufacturing electrolytic copper foil)
- 2021**  
• Declared Troika Drive Management  
• Established Ark Energy in Australia  
• Established Pedal Point Holdings  
• Acquired Steel Cycle SC (previously GSDK) (steel dust recycling)
- 2022**  
• Acquired Epuron, a renewable energy developer  
• Launched Korea-Australia H<sub>2</sub> Consortium



# Equity Structure

Equity Structure as of Dec 31st, 2022

● Subsidiary ● Sub-subsidiary



## KOREA ZINC CO., LTD.

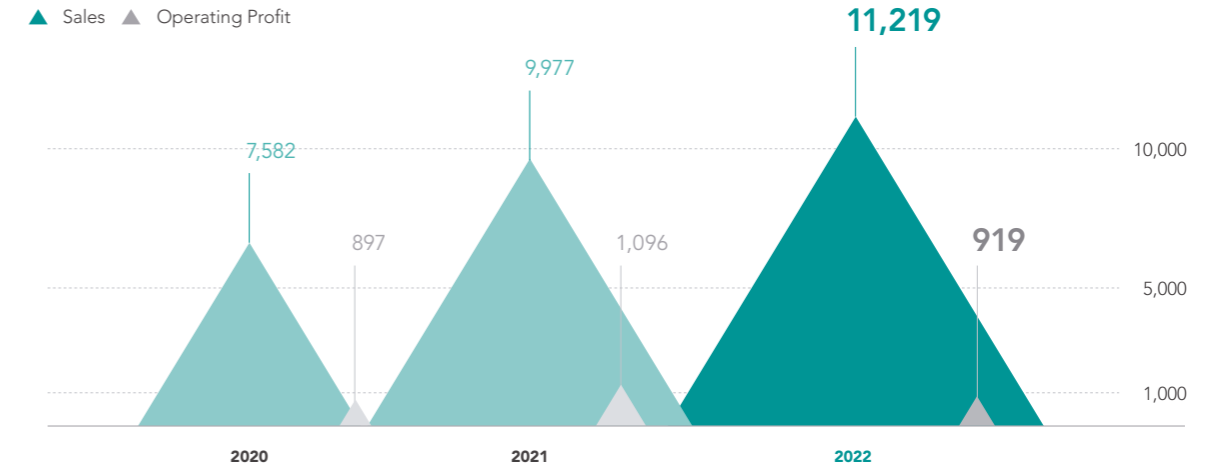


※ Percentage under each company represents equity share held by Korea Zinc.  
 ※ For overseas affiliates, significant sub-subsidiaries are also included.  
 ※ Companies have been selected based on their relevance to ESG management at Korea Zinc. For the complete list of subsidiaries, please refer to our Annual Report.

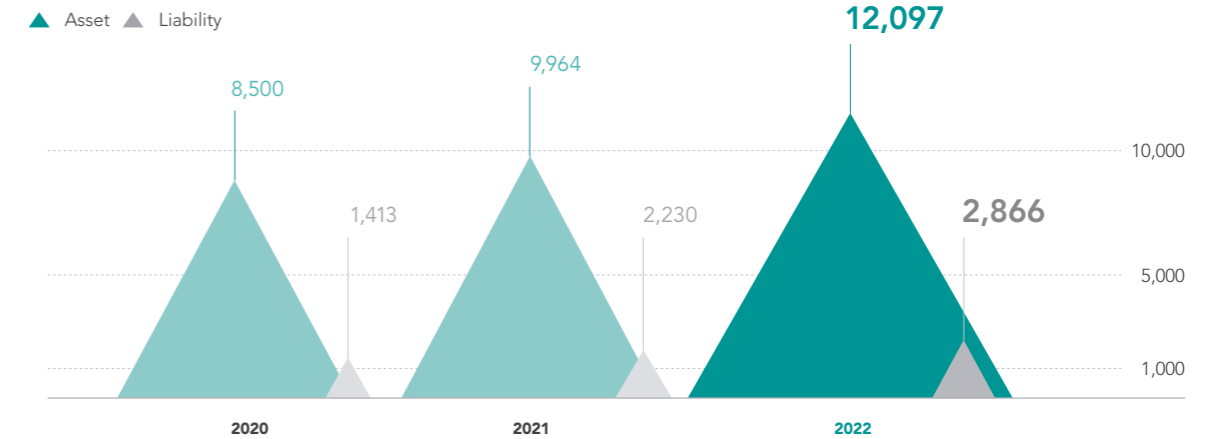
# Financial Performance

[Annual Report](#)

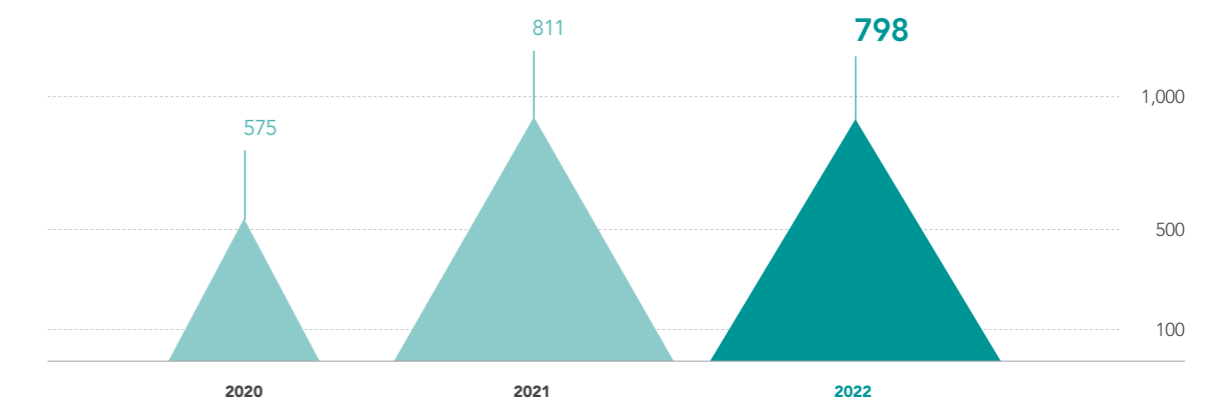
Sales / Operating Profit (billion KRW)



Asset / Liability (billion KRW)

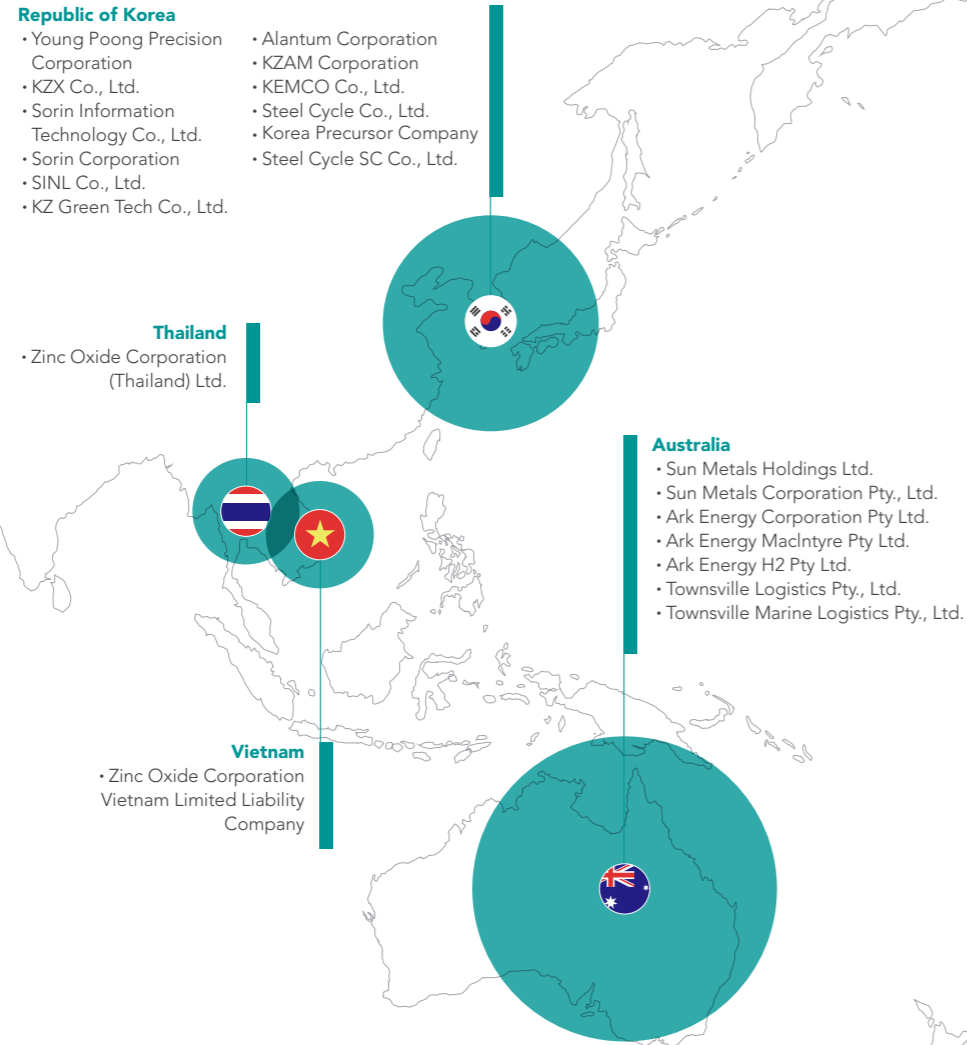


Net Income (billion KRW)



# Global Network

Korea Zinc consistently generates value through its subsidiaries in Australia, the United States, and Vietnam, as well as in Korea. Beyond our foundational nonferrous metal refining business, we are at the forefront of the market. We create value by proactively adapting to the rapidly evolving global business landscape. This is achieved through our seamless expansion into the renewable energy sector, resource recycling, and secondary battery material business, and the effective integration of these industries.



## Domestic

### Refining Business

- Sorin Corporation**  
Trade and wholesale/retail of nonferrous metals
- Sorin Information Technology Co., Ltd.**  
Network, SI, IT solution, software, and hardware supply services
- Young Poong Precision Corporation**  
Design and production of acid-resistant pump, steel structures/design, production, and trade of general industrial machinery

- KZX Co., Ltd.**  
Freight and port transportation services
- KZ Green Tech Co., Ltd.**  
Construction and O&M of cogeneration power plant/energy diagnosis service
- SINL Co., Ltd.**  
Logistics facility rental and logistics services

### Resource Recycling Business

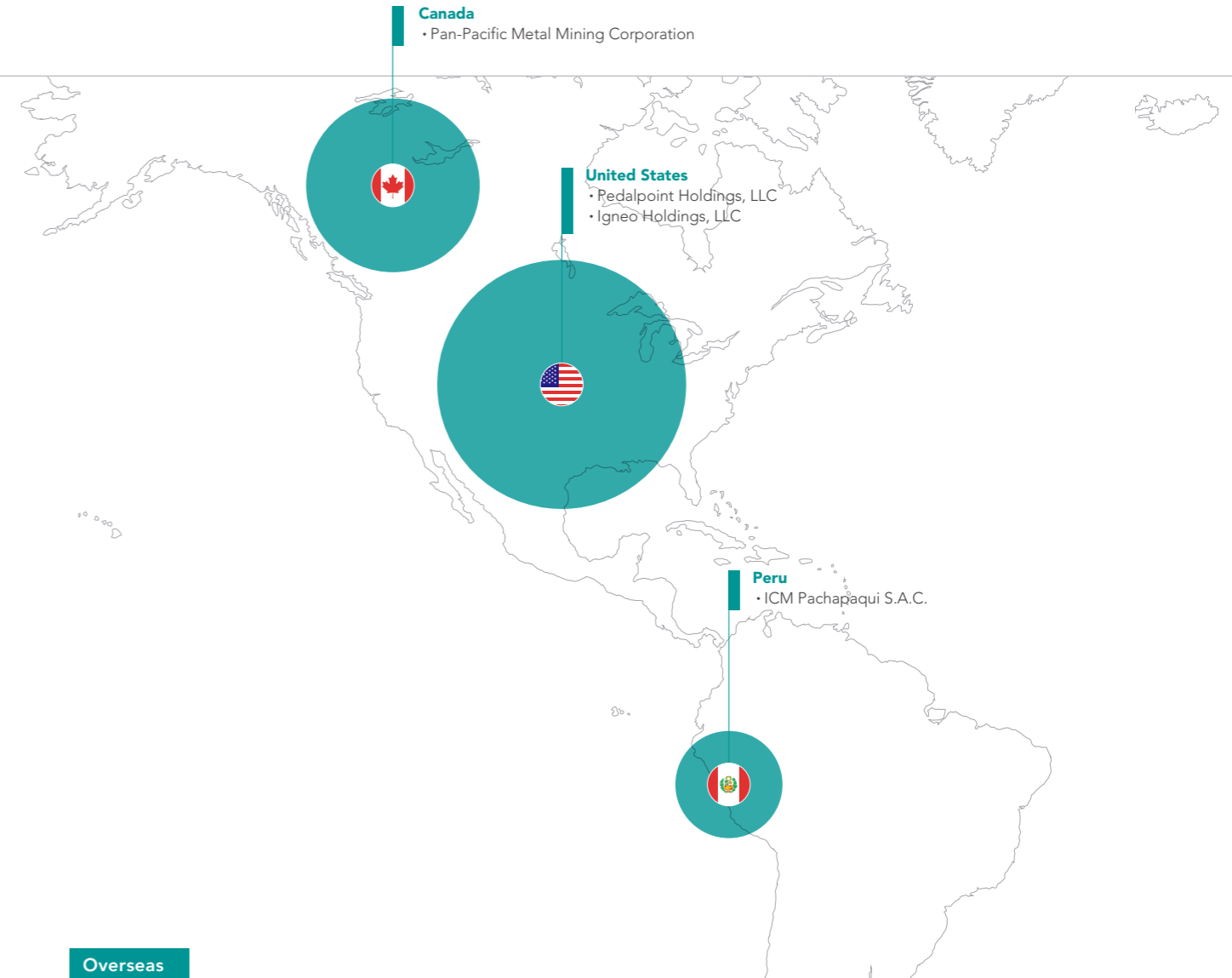
- Zinc Oxide Corporation**  
Manufacturing of crude zinc oxide and iron oxide
- Steel Cycle Co., Ltd.**  
Manufacturing of crude zinc oxide
- Steel Cycle SC Co., Ltd.**  
Manufacturing of crude zinc oxide

### Secondary Battery Business

- KEMCO Co., Ltd.**  
Manufacturing and sales of nickel sulfate and secondary batteries
- KZAM Corporation**  
Manufacturing and sales of copper foil for secondary battery materials
- Korea Precursor Company**  
Manufacturing of precursors

### Other

- Alantum Corporation**  
Manufacturing and sales of particulate filters



## Overseas

### Refining Business

- Canada Pan Pacific Metal Mining Corp.**  
Mine development
- Australia Sun Metals Holdings Ltd.**  
Refining, manufacturing and sales of zinc and sulfuric acid
- Australia Sun Metals Corporation Pty., Ltd.**  
Refining, manufacturing and sales of zinc and sulfuric acid

- Australia Townsville Logistics Pty., Ltd.**  
Zinc and zinc concentrate transportation service
- Australia Townsville Marine Logistics Pty., Ltd.**  
Zinc and zinc concentrate transportation service
- Peru ICM Pachapaqui S.A.C.**  
Mine development

### Resource Recycling Business

- Pedalpoint Holdings, LLC**  
Resource recycling business
- Igneo Holdings, LLC**  
E-waste recycling business
- Zinc Oxide Corp. Thailand Ltd.**  
Import and export of secondary raw materials
- Zinc Oxide Corp. Vietnam, LLC**  
Manufacturing of crude zinc oxide

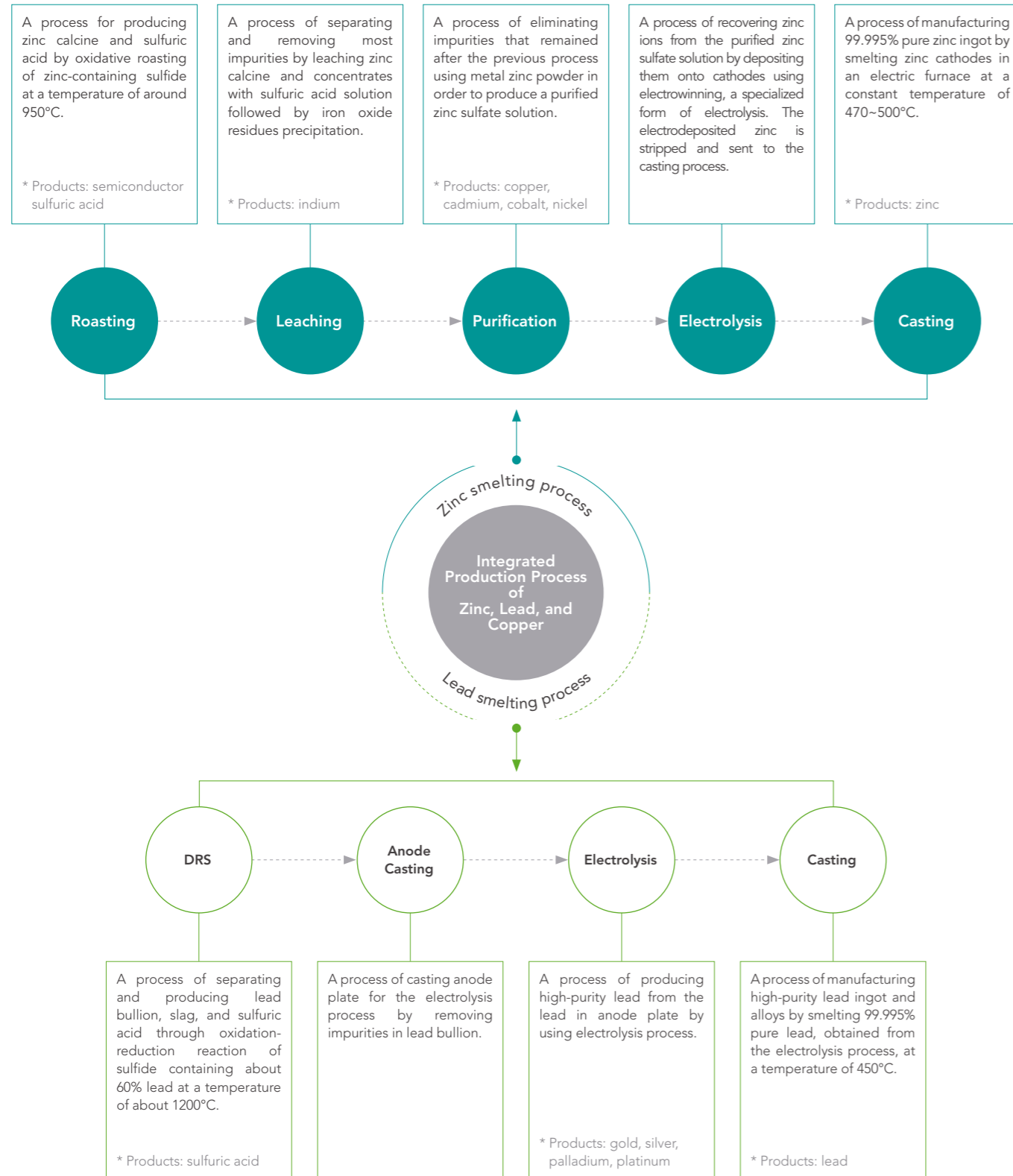
### Renewable Energy and Hydrogen Business

- Ark Energy Corporation Pty Ltd.**  
Renewable energy development – Hydrogen energy and electricity generation
- Ark Energy Macintyre Pty Ltd.**  
Renewable energy - Wind energy
- Ark Energy H2 Pty Ltd.**  
Renewable energy development – Hydrogen energy and electricity generation

※ As of March 2022, Korea Zinc has 6 listed and 22 unlisted affiliates in South Korea, and 55 unlisted affiliates overseas. The reporting scope of this report is based on their relevance to ESG management at Korea Zinc. For information about our listed affiliates, please refer to our Annual Report.

# Business Overview

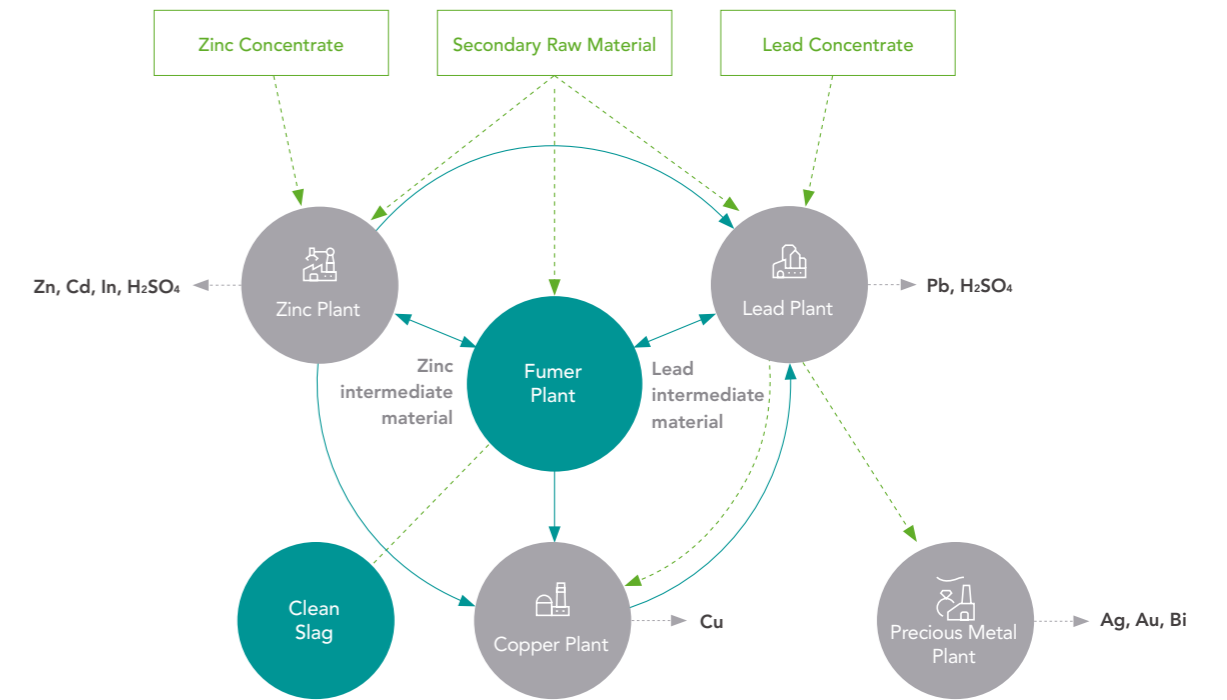
## Production Process



## Integrated Zinc, Lead and Copper Production Process

Since its foundation on, Korea Zinc has been applying electrowinning electrolysis to refine the purest Zinc. In 2000, Top Submerged Lance (TSL) technique was introduced, a nonferrous refining residual processing method extracting valuable metals and other by products, achieving successful resource development and minimizing environmental impact. The DRS method, first commercialized globally by Korea Zinc in 2018, has also proven energy conservation and pollution prevention effects.

### Integrated Production Process Model for Zinc, Lead and Copper



#### Zinc Concentrate Direct Leaching Method

The direct leaching method of zinc concentrate improves productivity and reduces costs by eliminating the existing roasting process, which was previously essential for zinc manufacturing. This method enables raw materials to be directly dissolved in sulfuric acid.

#### Korea Zinc Copper Process (KCP) Method

An original technique developed by Korea Zinc, KCP produces electric copper of high purity over 99.9935%. Copper products manufactured using the KCP method are highly ductile and are widely used in various industries including machine parts, construction materials, wires, etc.

#### Direct Redox Smelter (DRS) Method

Commercialized by Korea Zinc for the first time, DRS technology combines the two previous processes (oxidation-reduction) into one furnace, thereby reducing energy and pollution. DRS can be used for various raw materials.

#### Top Submerged Lance (TSL) Method

It recover valuable metals (zinc, lead, copper, silver, indium. etc.) from residues or cakes that are inevitably produced when refining nonferrous metals or from wastes coming from other industries, and reproduces the final residue into an eco-friendly slag, to be used as aggregates with reduced environmental impact. Tackling the common concern of refineries all over the world, TSL technology was certified as new Korea Technology (KT) and new Environmental Technology (ET) by the Ministry of Science and ICT and the Ministry of Environment.

#### Rotary Hearth Furnace (RHF) Method

The RHF method produces direct reduced iron (DRI) and crude zinc oxide (HZO) using electric arc furnace dust (EAFD) generated during the steelmaking process. It boasts the eco-friendly and cost effective regeneration technology of EAFD, which is classified as designated waste and handled at a high cost.



# Business Review

## 2022 Production Performance

### Production Performance and Use

Among the primary products offered by Korea Zinc, zinc is utilized for plating purposes to safeguard steel plates and iron structures. Lead, another key product, is consistently in demand across various industries for the production of batteries, as well as waterproofing and soundproofing materials. Korea Zinc also markets gold, which is extracted during the smelting process of zinc and lead. This gold is sold in 1 kg bars with a purity exceeding 99.99%, and finds use in the creation of jewelry, medical equipment, and displays. Silver, boasting a high purity of over 99.99%, is another product offered by Korea Zinc. It is widely used in diverse industries, including the solar energy sector, semiconductors, and the production of conductive electronic components.

\*Production Volume in 2022

Base Metals

Zinc  
**640,067** tonnes

Zinc Plates / Machine Parts,  
 Brass (Copper) / Pigment /  
 Tire Additives / etc.



Lead  
**414,432** tonnes

Storage Batteries / Wire  
 Sheaths / Radiation Shields /  
 etc.



Copper  
**26,419** tonnes

Wires / Elecfoils /  
 Copper Pipes / Liquid  
 Crystals / ICs / Coins /  
 Instruments / etc.



Precious Metals

Gold  
**11.89** tonnes

Jewelry / Electronic  
 Device Materials /  
 Tableware / etc.



Silver  
**2,075** tonnes

Jewelry / Solar Panel Production  
 / Electronic Batteries / Camera  
 Film Rolls / etc.



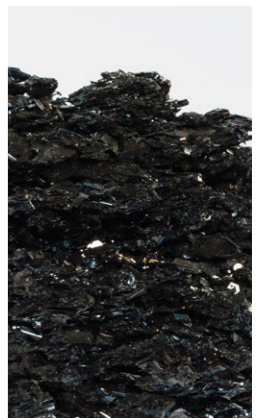
Cadmium  
**5,054** tonnes

Batteries / Alloy



Bismuth  
**866** tonnes

Medical Devices /  
 Cosmetics



Indium  
**79** tonnes

Displays / Electronics /  
 Devices / Solar Cells



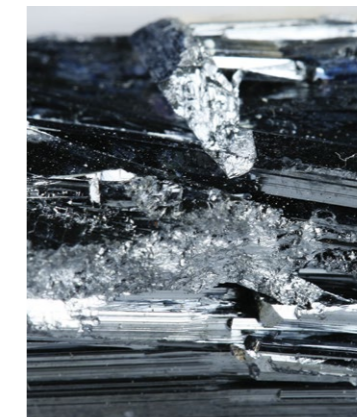
Tellurium  
**133** tonnes

Storage Batteries / Thermometers /  
 Thermoelectric Devices



Antimony  
**3,108** tonnes

Flame Retardants /  
 Batteries / Medicine



Semiconductor  
 Sulfuric Acid  
**193,320** tonnes

Metal Refining /  
 Semiconductor Cleaner /  
 Dyes / Explosives / etc.



Others

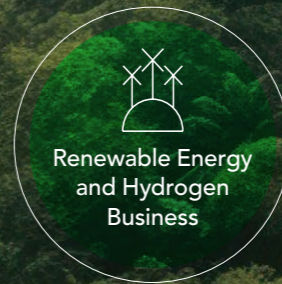
Rare Metals

# DRIVE, TO THE FUTURE

## CHAPTER



· Korea Zinc New Growth Strategy,  
The Troika Drive



In 2022, Korea Zinc has been advancing its new growth strategy for sustainable business operations and management activities. We are championing the generation of renewable energy and the production of green hydrogen as part of our transition to a green portfolio. Furthermore, we are spearheading green sourcing by bolstering our secondary battery material business. We also aim to create a system for recycling secondary raw materials, as well as electronic and metal scrap, to guarantee stable material supplies and ultimately achieve green management.

**470** billion KRW

Attraction of Renewable Energy  
Business Partnership Investment  
(Hanwha Impact)

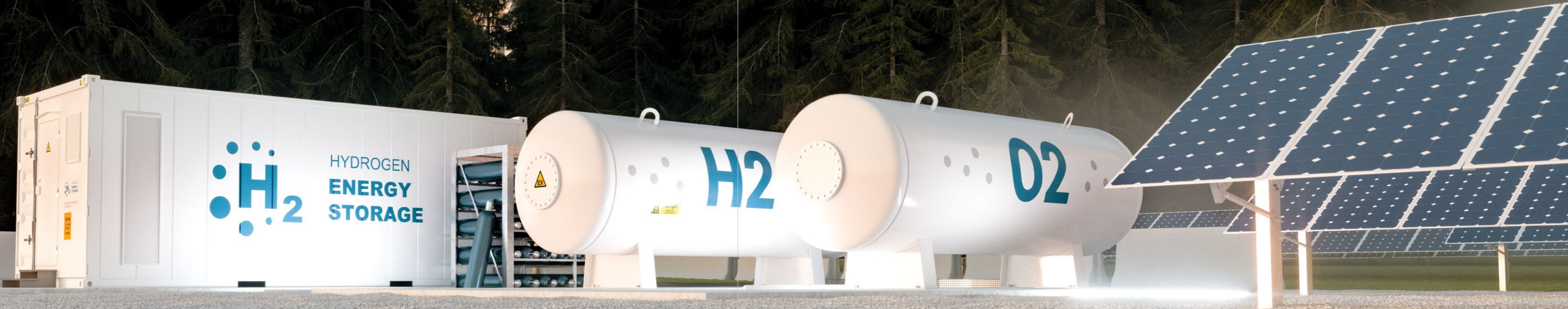
**20,000** tonnes per year

New Establishment Plan for a Precursor Production Plant  
(Korea Precursor Company)

**Drive,  
to**

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**Renewable  
Energy and  
Green Hydrogen  
Business**



## Renewable Energy and Hydrogen Businesses

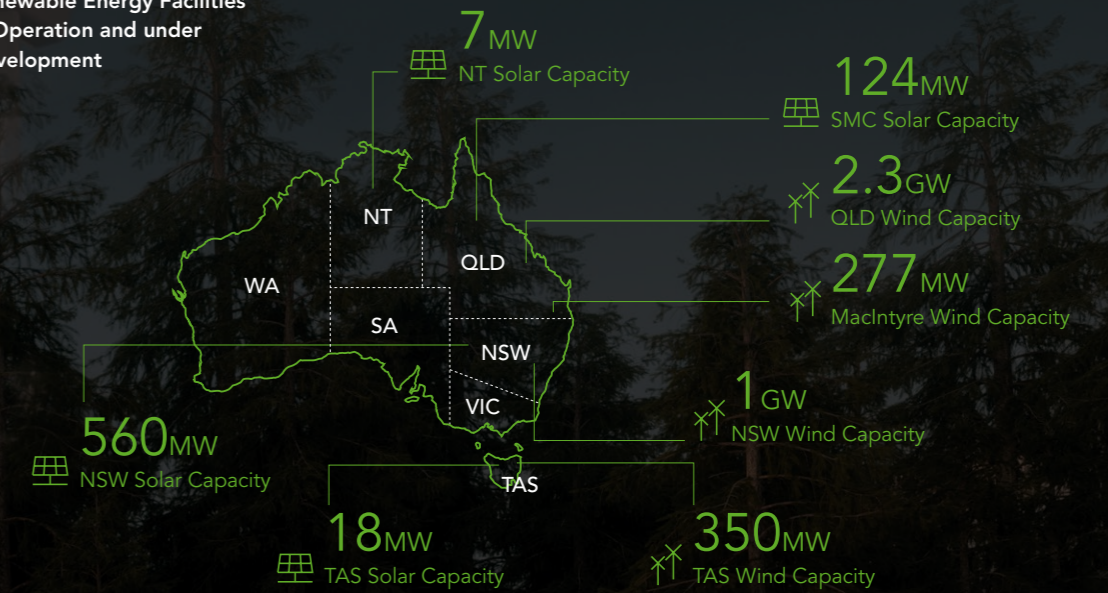
### Realizing RE100 Carbon Neutrality

Sun Metals Corporation (SMC), a subsidiary of Korea Zinc, has announced its commitment to RE100, making it the first refinery worldwide to do so. Currently, approximately 25% of our power demand is met by solar power plants. We have also secured a 30% investment qualification for the MacIntyre wind farm in Australia, in 2021. Our company is at the forefront of achieving carbon neutrality through the use of solar, hydrogen, and wind energy. In Korea, we were the first refinery business to commit to RE100. By introducing green hydrogen produced in Australia to Korea, our objective is to make a significant contribution not only toward achieving RE100 and attaining carbon neutrality, but also towards revitalizing the hydrogen economy and strengthening energy security.

### Expanding Renewable Energy and Green Hydrogen Business

Korea Zinc first focused on solar power within the domain of renewable energy; then, it established Ark Energy in 2021 to expand Korea Zinc's role in the renewable energy sector, and acquired Epuron in 2022, Australia's largest renewable energy developing company, through Ark Energy. We have currently successively secured and are in the process of developing actively involved in the development of a total of 9 GW of renewable energy facilities. This comprises consisting of 4.2 GW of facilities upon land acquisition obtained through land acquisition and 4.8 GW of assets currently under development.

#### Renewable Energy Facilities in Operation and under Development



### Building a Green Hydrogen Value Chain

Hydrogen has been recognized as the energy source that will drive the future of the energy industry. Korea Zinc is constructing a value chain rooted in renewable energy, which encompasses the production, storage, transportation, and export of hydrogen. The company is striving to generate new demand and penetrate new markets.

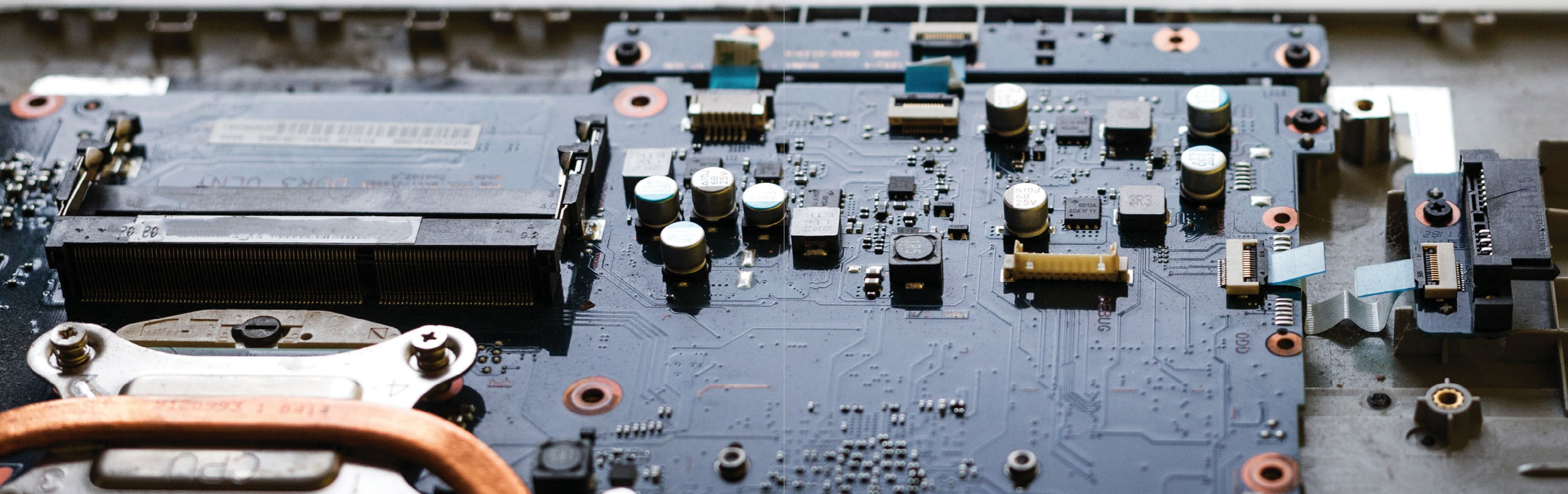
#### Green Hydrogen Value Chain



**Drive,  
to**

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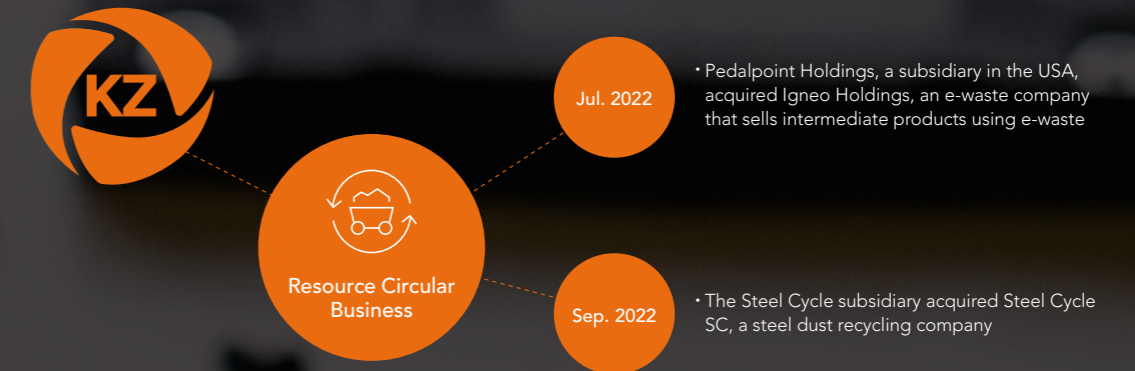
**Resource  
Recycling  
Business**



## Resource Recycling Business

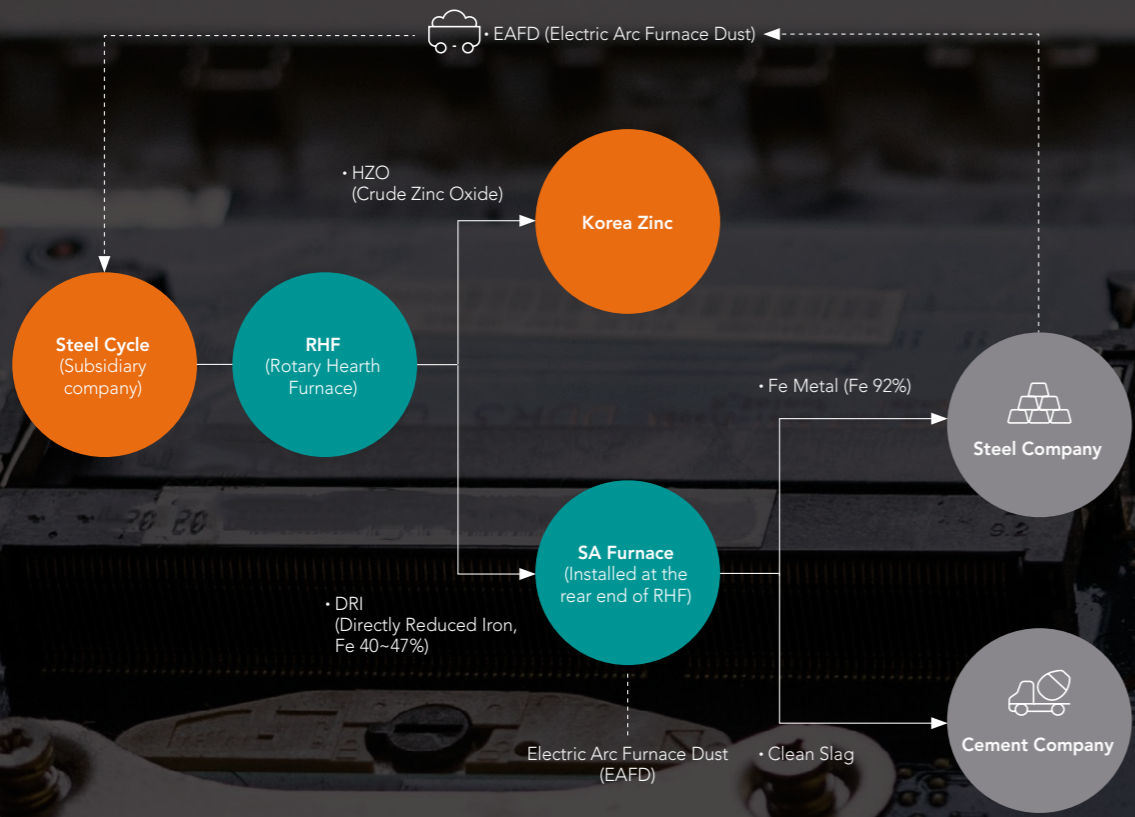
### Expanding Business Related to Resource Circulation

Korea Zinc established Pedalpoint Holdings (USA) and expanded its resource cycle business by acquiring the electronic waste recycling company, Igneo Holdings (USA), and the steel dust recycling company, Global Steeldust Korea (GSDK). GSDK subsequently changed its company name to Steel Cycle SC, further solidifying its foundation in the circular business industry.



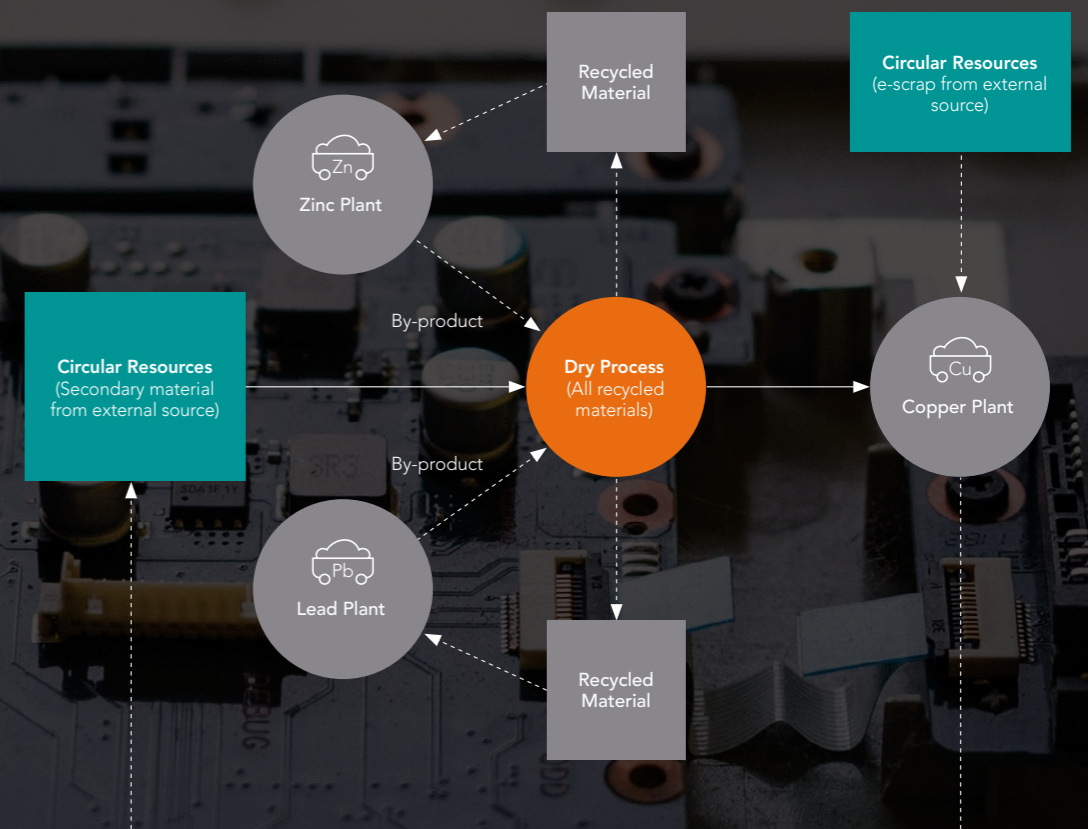
### Steel Dust Recycling Technology

Creating an environmentally-friendly resource cycle system that eliminates landfill by-products by facilitating resource exchange between industries (steel to refinery to steel)



### Circular Resources

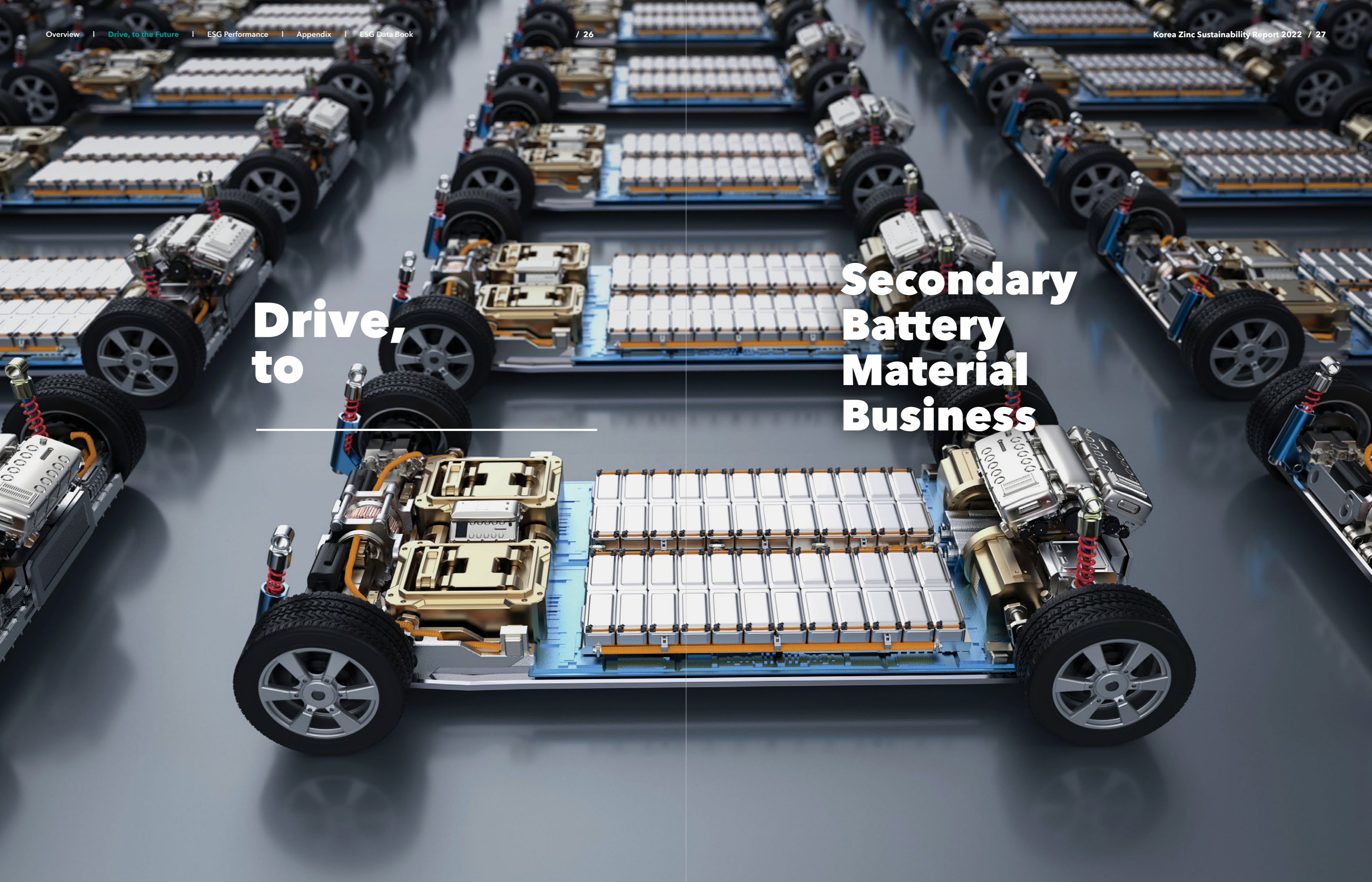
Extracting and recycling organic metals such as zinc, lead, copper, gold, silver, and palladium by processing scrap such as residual, slag, and e-scrap (waste electrical and electronics) recycling



**Drive,  
to**

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**Secondary  
Battery  
Material  
Business**

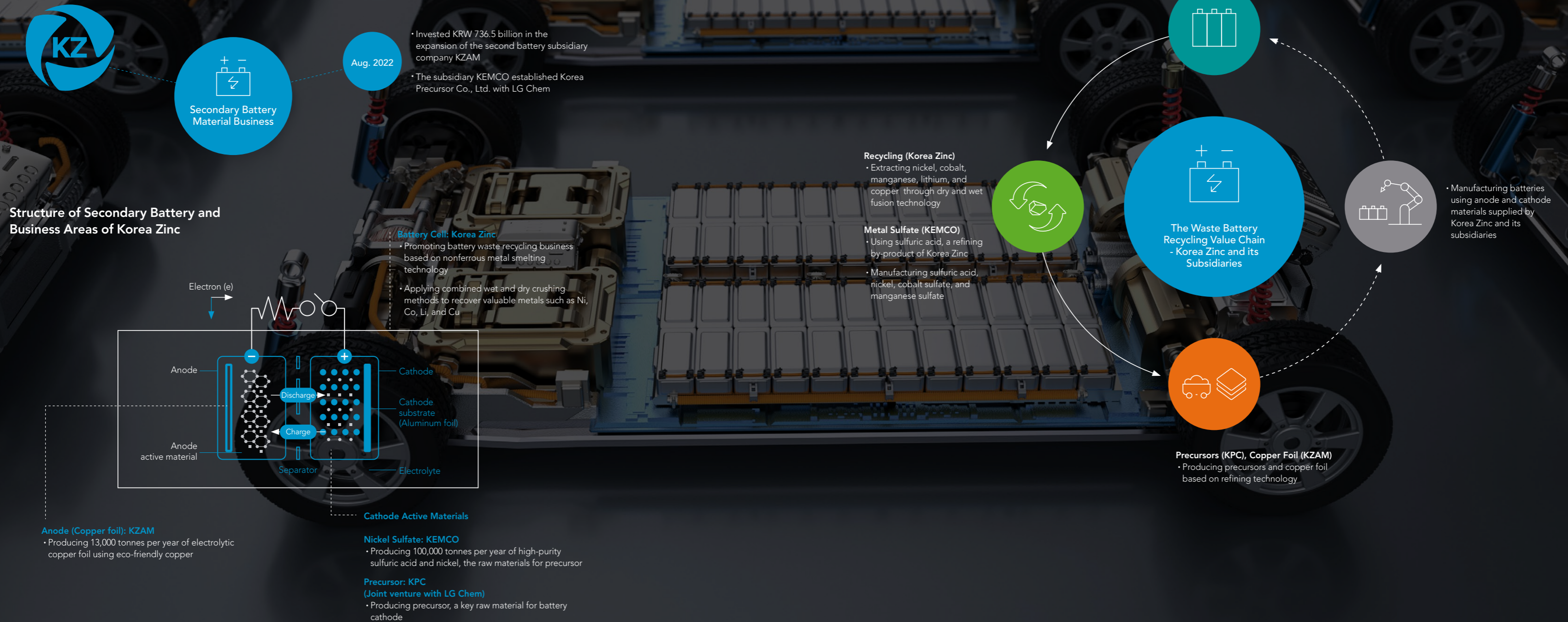


## Secondary Battery Material Business

### Building a Value Chain for Producing Secondary Battery Core Materials

The secondary battery plays a crucial role in the manufacture of eco-friendly electric vehicles. Korea Zinc aims to establish a comprehensive value chain to ensure a stable supply of crucial materials for secondary battery cells. To achieve this objective, the company plans to utilize waste batteries to produce sulfate metal, precursors, and copper foil. In line with this strategy, Korea Zinc is actively promoting the expansion of its facilities to increase the production rates of KZAM's copper foil. Furthermore, Korea Zinc is collaborating with LG Chem to establish the Korea Precursor Company (KPC), which seeks to achieve an annual production target of 20,000 tonnes of precursors by 2024.

### Production Value Chain for Secondary Battery Core Material





# ESG PERFORMANCE

## CHAPTER

# 2

- Double Materiality
- Environmental
- Social
- Governance

The UN Sustainable Development Goals (UN SDGs) are a set of 17 objectives that the global community is committed to achieving by 2030, with the aim of fostering universal development and promoting a harmonious balance between human activity and nature. Korea Zinc has expressed its support for these goals by integrating ESG management with its efforts to achieve the SDGs. This approach helps to minimize the negative social and environmental impacts of our business operations, thereby contributing to the successful realization of these goals.

Korea Zinc has integrated the UN SDGs into its sustainability management strategy, thereby broadening its role as a corporate citizen. This approach allows the company to conduct business activities that benefit the global community.

Improving Corporate Sustainability Value and the Foundation for ESG Management



Identifying Future Business Opportunities and Market Leadership

Strengthening Stakeholder Engagement

Stabilizing Society and Markets

Maintaining Pace with Policy Development

# DOUBLE MATERIALITY

## Assessment Process

### Double Materiality Assessment Process

In 2022, Korea Zinc adopted the concept of double materiality to identify key issues from an ESG management standpoint. This approach involved an analysis of both internal and external environmental factors. Korea Zinc carried out this analysis through the lenses of “financial materiality” and “socio-environmental materiality,” using the pool of identified issues. “Financial materiality” pertains to the influence of the external environment on the company’s business operations and financial health. Conversely, “socio-environmental materiality” refers to the effect of the company’s business operations on the external environment, or society at large. By employing these two perspectives, Korea Zinc was able to determine the direction and key issues of its comprehensive ESG management, taking into account a variety of stakeholders, relevant indicators, and policies.

### 01. Formation of the ESG Issue Pool

A total of 20 issues identified through an analysis of internal and external environments

#### Internal Environmental Analysis

- Review of key management strategies and risk issues
- Analysis of ESG management status

#### External Environmental Analysis

- Major ESG initiatives in Korea and internationally
- Benchmarking of ESG-leading companies within the same industry
- Identification of relevant and impactful news articles from 2022

### 02. Assessment of Importance

Evaluation of financial materiality and socio-environmental materiality for the 20 identified issues

#### Financial Materiality

- Analysis of major ESG assessment indicators in Korea and internationally
- Analysis of ESG regulations, policies, and trends
- Analysis of external organization responses
- Analysis of opinions from dedicated ESG team
- Analysis of stakeholder survey responses  
- Duration: March 30, 2023, to April 14, 2023

#### Socio-Environmental Materiality

- Analysis of major ESG disclosure initiatives in Korea and internationally
- Extraction and analysis of relevant and impactful news articles from 2022
- Analysis of material issues reported by 10 domestic and global ESG-leading companies within the same industry
- Analysis of opinions from dedicated ESG team
- Analysis of stakeholder survey responses  
- Duration: March 30, 2023 to April 14, 2023

### 03. Selection of Key Issues

Determined key ESG issues by internal experts’ review, after prioritizing the rankings for each issue by integrating the results of financial and socio-environmental materiality

## Findings

Korea Zinc has articulated the level of ongoing management and response needed for the top eight issues. This report offers an in-depth disclosure of the company’s management status and performance for each of these issues. The outcomes of the double materiality assessment have been finalized after a review conducted by the Sustainable Management Committee and the Board of Directors that assessed the appropriateness of the analysis process, as well as its alignment with Korea Zinc’s future management and business strategies.









● High Impact ● Medium Impact ○ Low Impact

ESG	Issues	Materiality		Stakeholders				
		Financial	Socio-Environmental	Employees	Affiliates	Suppliers	Customers	Others
Environmental	Environmental Risk Management	●	●	●	●	●	●	●
	Minimization of Environmental Impact (input)	●	○	○	○	○	○	○
	Minimization of Environmental Impact (output)	●	●	●	●	○	●	●
	Response to Climate Change	●	●	●	○	●	○	●
Social	Establishment of a Human rights Management System and Human Rights Protection	●	●	○	○	○	○	●
	Employee Development and Compensation	●	●	●	●	○	●	○
	Workplace Safety and Employee Health Management	●	●	●	●	●	●	●
	Expansion of Social Contribution Activities and Community Engagement	○	●	○	○	●	○	○
Governance	Enhancement of Ethical and Compliance Management in Corporate Governance	○	●	●	○	○	○	●

\* Low / Medium / High Impact scoring criteria: 1~3, 4~6, 7~10

# DOUBLE MATERIALITY

## Managing and Reporting Key Issues

Key Issue	Responses	Key Activities Described in the Report	Goals/Plans
<b>1</b> Response to Climate Change 	Stakeholders view the response to climate change as a crucial factor, both from financial and socio-environmental perspectives. Consequently, Korea Zinc perceives climate change as a long-term opportunity and is committed to enhancing the environmental friendliness of its business portfolio, while also focusing on the expansion of renewable energy projects.	<p><b>(pp.42~43)</b> Advancements in renewable energy development in accordance with global trends in the response to climate change (including regulations). This is in line with the declaration and implementation of carbon neutrality by 2050.</p> <p><b>(pp.44~46)</b> Financial assessment of climate change risks and opportunities based on TCFD recommendations</p>	<ul style="list-style-type: none"> <li>• Green metal production</li> <li>• Carbon neutrality by 2050</li> </ul>
<b>2</b> Minimization of Environmental Impact 	Stakeholders acknowledge the importance of minimizing the environmental impact caused by Korea Zinc's business operations within the socio-environmental context. Korea Zinc is committed to improving its environmental facilities and implementing advanced internal standards. This is to lessen the environmental impact resulting from the utilization of resources (such as raw materials and energy) in its business operations, as well as the subsequent environmental effects (like chemical emissions and waste disposal).	<p><b>(p.38)</b> Establishment of an environmental impact management system for green refining operations, operation and monitoring of enhanced internal environmental standards to maintain integrated environmental permits, and improvements in resource efficiency.</p> <p><b>(pp.39~41)</b> Systems to prevent the release of chemical substances that could cause significant environmental impacts, efforts to preserve the surrounding ecosystems of the refinery area.</p>	<ul style="list-style-type: none"> <li>• Establishment of a resource recycling system</li> <li>• Installation of gas sensors capable of detecting odors and SOx</li> <li>• Voluntary reduction target for fine dust emissions (voluntarily reducing 1,012 tonnes, equivalent to 36% of fine dust emissions in the reference year 2016, over a period of two years by 2024)</li> </ul>
<b>3</b> Environmental Risk Management 	Stakeholders acknowledge the management of environmental risks as a critical concern from a socio-environmental standpoint. Korea Zinc incorporates these environmental risks into its comprehensive risk management system. These risks, which can adversely affect not only its business operations but also the broader local community, include environmental pollution and natural disasters triggered by air pollutants. By treating environmental risks with the same importance as financial risks, Korea Zinc strives to improve the sustainability of its operations.	<p><b>(p.83)</b> Incorporation of environmental risks (regulatory risks, environmental accident risks, climate change risks) as part of non-financial risks within the company's overall risk management system, formulation of non-financial risk management policies, and encouragement of employee participation.</p>	<ul style="list-style-type: none"> <li>• Discussions on environmental risks through a minimum of four meetings per year by the Sustainable Management Committee</li> </ul>
<b>4</b> Workplace Safety and Employee Health Management 	Stakeholders recognize the high socio-environmental significance of workplace safety and employee health management. The effective and proactive management of various safety and health risks in the workplace, which pose threats to the lives and health of workers, is a critical element for the long-term growth of Korea Zinc. In line with this, Korea Zinc has set up a Safety Management Division at its Onsan Refinery and consistently invests in enhancing safety measures.	<p><b>(p.58)</b> Creation of a work environment focused on safety through the operation of a safety and health management system at Onsan Refinery, gathering opinions from the field through relevant forums/committees, and fostering a safety-oriented work environment.</p> <p><b>(p.59)</b> Public disclosure of the status of safety/health and facility investments for the operation of a safety and health management system, acquisition and maintenance of safety and health management system certification, and support for internal and contractor safety competencies through education and training.</p> <p><b>(p.61)</b> Specification of response measures for different types of accidents to prevent workplace accidents and providing health support for workers through the operation of health management facilities.</p>	<ul style="list-style-type: none"> <li>• Zero serious accidents occurred</li> </ul>
<b>5</b> Employee Development and Compensation 	Stakeholders acknowledge the significance of employee development and compensation, viewing it as a matter of considerable socio-environmental importance. Korea Zinc understands the crucial role of identifying and fostering key talents for the advancement of future businesses. To empower employees to enhance their skills within Korea Zinc, job roles are assigned based on individual abilities and interests. Furthermore, impartial performance assessments are carried out to guarantee the suitable distribution of the workforce.	<p><b>(p.53)</b> Efforts to recruit talents that align with the talent profile and disclosure of talent management directions.</p> <p><b>(pp.54~55)</b> Human resource management processes for talent development and fair performance evaluation/compensation, training for skill development.</p>	<ul style="list-style-type: none"> <li>• Annual ESG competency enhancement training for employees</li> <li>• (Long-term goal) Development of long-term ESG-related KPIs for management and provision of incentives</li> </ul>
<b>6</b> Establishment of a Human Rights Management System and Human Rights Protection 	Stakeholders recognize the establishment of a human rights management system as a matter of significant socio-environmental importance. Korea Zinc has carried out a human rights impact assessment to pinpoint potential human rights risks and avert any circumstances that could infringe upon the human rights of both internal and external stakeholders. Furthermore, we have identified groups of stakeholders who are particularly vulnerable and have developed response strategies for each critical issue to reduce risks.	<p><b>(pp.51~52)</b> Disclosure of human rights-related policies and performance of human rights impact assessments for the establishment of a human rights management system, identification of human rights risks and mitigation/response measures for stakeholders based on the results of the human rights impact assessment.</p>	<ul style="list-style-type: none"> <li>• Annual human rights impact assessment</li> </ul>
<b>7</b> Expansion of Social Contribution Activities and Community Engagement 	Stakeholders acknowledge the significance of social contribution activities and the broadening of community engagement, viewing them as matters of high socio-environmental importance. Korea Zinc is committed to enhancing direct interaction and communication with stakeholders. It aims to extend its positive influence through activities such as donations, employee volunteer work, and local community involvement, all of which serve to mitigate environmental impacts, including climate change.	<p><b>(pp.67-71)</b> Overview of Korea Zinc's social contribution system, key activities, and achievements in various areas in 2022, as well as plans for 2023.</p>	<ul style="list-style-type: none"> <li>• Development of social contribution activities tailored to the nature of the business</li> <li>• Community engagement in overseas locations (mines, etc.)</li> </ul>
<b>8</b> Enhancement of Ethical and Compliance Management in Corporate Governance 	Stakeholders recognize the improvement of ethical and compliance management as a matter of significant socio-environmental importance. Korea Zinc asserts that ethical management should underpin all business activities, and it carries out compliance checks primarily through compliance support staff. Furthermore, Korea Zinc operates based on fair trade principles, unequivocally stating its opposition to corruption. It also pays heed to the concerns of both internal and external whistleblowers by maintaining a corruption reporting channel.	<p><b>(pp.84~85)</b> Establishment of an ethical management system and related departments, addressing ethical risks through fair trade principles and audit systems, operation of the corruption reporting channel and disclosure of the complaint status and outcomes</p>	<ul style="list-style-type: none"> <li>• Strengthening internal control systems for overseas operations and subsidiaries</li> </ul>

# ENVIRONMENTAL

- Environmental Management
- Climate Change
- Green Purchasing
- Developing Green Products and Technology

Since the introduction of the Integrated Environmental Permit, Korea Zinc has been diligently working to reduce environmental impacts, such as fugitive dust, air pollutant emissions, odors, and water pollution. In response to climate change, we persistently invest in renewable energy projects. As a result, our Australian subsidiary, SMC, is projected to join RE85 by 2025. Furthermore, Korea Zinc mitigates the environmental impact of its business operations by incorporating hydrogen forklifts at Onsan Refinery and implementing an eco-friendly green metal certification plan through a Life Cycle Assessment (LCA). We are committed to achieving net-zero emissions by 2050.

MacIntyre Wind Farm Australia generation

**Secured 277 MW**

Waste intensity (base year 2020)

**Reduced by 33.8%**

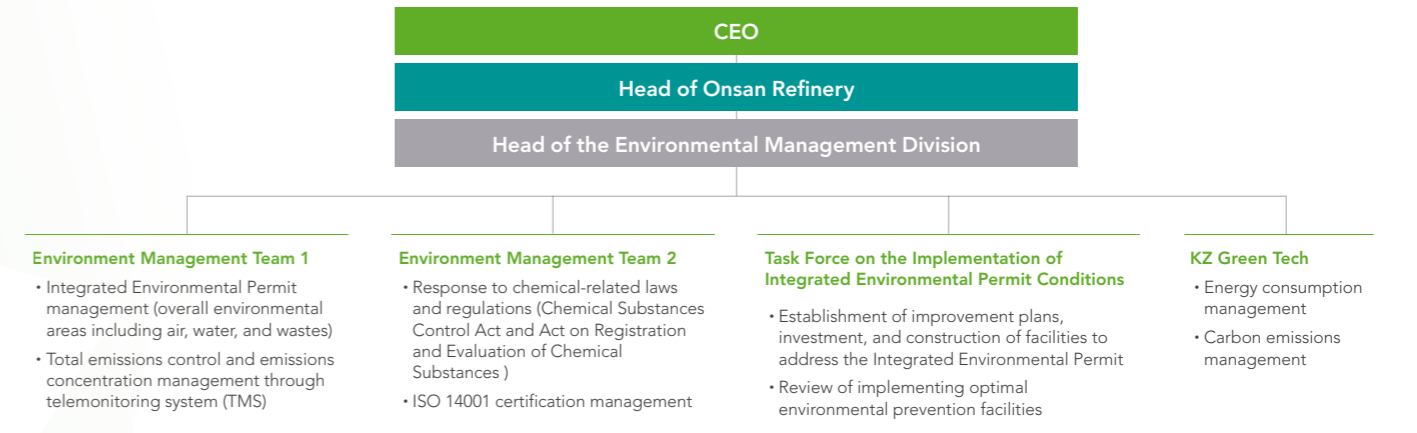
Total air pollutant emissions (year-on-year)

**Reduced 237.6 tonnes**

## Environmental Management

### Environmental Management Organization

Korea Zinc has established an Environment Management Division to oversee environmental impact and performance, as well as to comply with environmental laws in the countries where it conducts business. With the recent growth of new ventures, we have broadened the range of environmental information management and requisite environmental management strategies and policies. In response to this, Korea Zinc has staffed its environmental management organization and delineated their responsibilities to expertly handle issues in each respective field. Concurrently, we have restructured the organization so that the Environment Management Division now manages the duties of all departments within the refinery.



The Environmental Management Division is a department that reports directly to the head of Onsan Refinery. It is split into two teams, Environment Management Team 1 and 2, to ensure comprehensive cooperation in environmental management. This includes managing environmental issues and conducting assessments related to facility investments. Environment Management Team 1 oversees all environmental tasks, including air, water, and waste management. They also carry out assessments related to investments in environmental facilities. Meanwhile, Environmental Management Team 2 operates based on the accident prevention management plan. Its responsibilities include managing hazardous chemicals, preventing related accidents, and inspecting the proper handling and transportation of hazardous chemicals by facilities and workers. Furthermore, we appoint environmental managers in each production division to address various environmental issues in a legal and timely manner. In a separate initiative, Korea Zinc has established KZ Green Tech, an independent company specializing in energy management. KZ Green Tech monitors Korea Zinc's energy consumption and greenhouse gas emissions. They also devise strategies to reduce energy consumption and greenhouse gas emissions, as well as to increase the use of renewable energy.

### Environmental Management System

[Korea Zinc Website](#)  
Environmental Management



ISO 14001 Certificate

### Goals and Employee Engagement

Korea Zinc has established four environmental management objectives and encourages all employees to actively participate in achieving these goals. The company's environmental management guidelines mandate employee involvement in environmental enhancement efforts. To increase employee awareness of eco-friendly practices, environmental training is conducted. In 2022, Korea Zinc's employees demonstrated their commitment to environmental management by adopting 830 pet tree kits.

#### • Environmental Management Goals

- Implementation and compliance with internal environmental regulations to a greater extent than stipulated by the Clean Air Conservation Act and Water Environment Conservation Act
- Adoption of optimal pollution prevention facilities
- Expansion of clean fuel use
- Expansion of investment in environmental conservation and development

### ISO 14001 Certification

Onsan Refinery, a business site with environmental relevance, has secured and upheld the ISO 14001 certification, a global standard for environmental management systems. Korea Zinc regularly undergoes rigorous evaluations of its environmental management system by an independent expert agency, implementing improvements as necessary.

## Environmental Impact Management

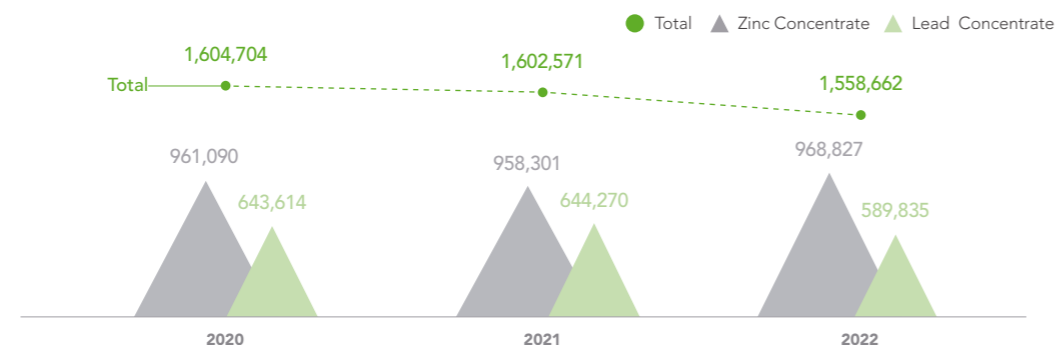
### Environmental Management for the Operation of a Green Refinery

Since obtaining an Integrated Environmental Permit in 2022, Korea Zinc has established a task force (TF) dedicated to regulatory compliance and the enhancement of environmental facilities. This TF is composed of eight experts from diverse fields such as environment, safety, machinery, and logistics, and is tasked with developing and implementing environmental improvement plans for the next five years. In 2023, the Integrated Environmental Permit TF is focusing on comprehensive facility improvements, which include the installation of air pollution prevention facilities to further reduce emissions and pollutant concentrations, as well as the upkeep of facilities to mitigate particulate matter emissions. Korea Zinc is committed to ongoing investments to improve environmental facilities in order to operate a cutting-edge, environmentally friendly green smelting plant.

### Resource Usage Management

As a nonferrous metal refining company that uses zinc and lead concentrates as raw materials, Korea Zinc is committed to managing resource usage efficiently. Since 2022, we have been vigorously advancing our resource circulation business, a component of the Troika Drive new business initiative. This involves recycling an estimated 120,000 to 130,000 tonnes of steelmaking dust each year to minimize the generation of landfill waste. Furthermore, Korea Zinc is strategizing to extract raw materials from waste resources, such as spent batteries, through our urban mining project. Our goal is to build the capability to recycle approximately 100,000 tonnes of PCB scrap or e-scrap from electronic waste on an annual basis, thereby further optimizing our use of raw materials.

#### Raw Material Usage by Year (tonne)



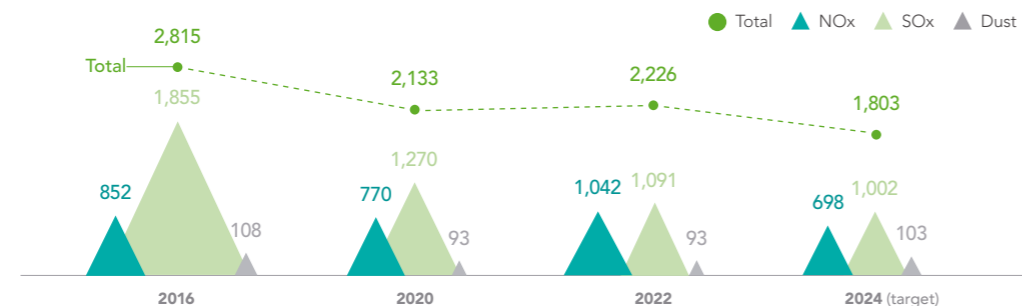
**155.8million tonnes**  
Total key raw material usage in 2022

Reduced by **44thousand tonnes** compared to the previous year

### Management of Air Pollutant Emissions

Korea Zinc has implemented internal regulations that exceed legal requirements to control the levels and quantities of air pollutant emissions. In managing emission concentrations, we adhere to a 70% emission concentration standard for particulate matter, sulfur oxides (SOx), nitrogen oxides (NOx), and carbon disulfide, following the acquisition of the integrated environmental permit. For other pollutants such as arsenic, nickel, cadmium, benzene, and lead, we enforce a 49% emission concentration standard.

#### Air Pollutant Emissions (tonne)



Reduced total air pollutant emissions by **21%** (compared to 2016)

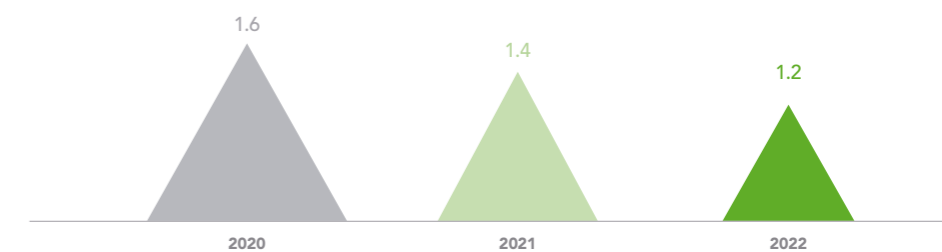
In anticipation of the Total Emission Management System (as stipulated by the Special Act on the Improvement of Air Quality in Air Control Zones), we proactively entered into a voluntary agreement in March 2023 to reduce fine dust emissions with the Nakdong River Area Environment Management Office in Changwon under the Ministry of Environment. As part of this agreement, Korea Zinc has committed to voluntarily reducing fine dust emissions by 36% by 2024, which equates to a reduction of 1,012 tonnes based on the 2016 baseline, over a two-year period. In addition to this, Korea Zinc employs selective non-catalytic reduction (SNCR) and ozone oxidation methods to treat air pollutants such as SOx and NOx, which are emitted during the production process. In 2023, we improved the accuracy of our emission measurements by installing 11 tele-monitoring systems (TMS) and eight composite odor and SOx measurement devices. Furthermore, we have implemented stricter controls on arsenic acid emissions by installing additional covers for stacks and local exhaust facilities.

### Water Resources Management

Korea Zinc collects and purifies rainwater for reuse, aiming to decrease non-point source pollution and conserve water. Meanwhile, we set an annual water consumption target for Onsan Refinery, which accounts for more than 99% of our total water consumption. Even with the surge in industrial water usage in 2022, driven by increased sales, we successfully reduced our water consumption by 25% per unit in 2022 compared to 2020, thanks to effective water usage management.

#### Industrial water usage at Onsan Refinery by Source (tonne / 1 billion KRW)

Industrial water usage by source  
**Reduced for three consecutive years**



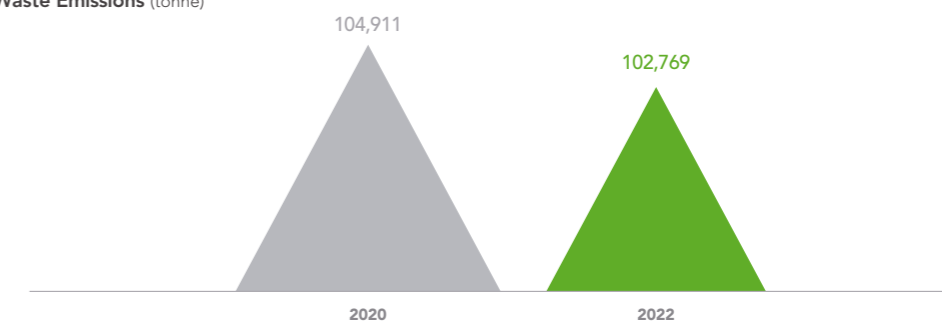
In response to the growing need for non-point source pollution control and water conservation, Korea Zinc is planning to increase its capacity. By 2027, the company aims to add two reverse osmosis filtration systems, each capable of purifying 500 tonnes of water daily. Additionally, a rainwater collection tank and a cleaning robot will be introduced. Beyond non-point source pollution control, we've taken steps such as installing covers and acid-resistant facilities on the lower floor to prevent leakage of process fluids used in the wet smelting process. Moreover, for wastewater treatment, we employ reverse osmosis systems at each stage to recycle wastewater as circulating water. Before being discharged, the wastewater undergoes physicochemical treatment to ensure it meets a water quality standard that is below 80% of the Korean legal standard. It is then released to Onsan Water Quality Improvement Plant.

### Waste Management and Recycling

Korea Zinc meticulously oversees waste disposal across all its facilities, diligently recording the handling specifics for each waste category via the Proper Waste Treatment System (ALLBARO). Korea Zinc is proactive in seeking recycling alternatives, including the sale of slag and other by-products to cement companies. Consequently, we anticipate a steady uptick in the waste recycling rate in the future. Korea Zinc is dedicated to the lawful disposal of waste. Moreover, we are working to increase our waste recycling rate with the ultimate goal of reducing waste production and discharge. This is all part of our commitment to minimize the environmental impact of our business operations and facilities.

General waste emissions  
**Decreased by 2%** compared to 2020

#### Waste Emissions (tonne)



1) International Council on Mining & Metals (ICMM): An international organization for safe and sustainable mining and metal industry operations, with major global mining and metal companies as members.

2) UN Principles of Responsible Investment (UN PRI)

3) The Global Industry Standard on Tailings Management (GISTM): An NGO aiming to reduce excessive impacts on people and the environment from mine tailings, providing guidelines to major mining companies.

### Mine Waste (Tailings)

Korea Zinc consistently evaluates its facilities and procedures related to mine waste, adhering to the guidelines set by the International Council on Mining and Metals (ICMM)<sup>1)</sup>, United Nations Environment Programme (UNEP), and the Principles for Responsible Investment (PRI)<sup>2)</sup>'s Global Industry Standard on Tailings Management (GISTM)<sup>3)</sup>. We have also independently developed management standards to safeguard the environment in the context of mine waste management and disposal. While Korea Zinc does own a mine in Peru, it is currently not operational, and thus, no mine waste is being produced. Nevertheless, we remain committed to diligent waste management practices, such as gathering data on waste rock and tailings generation, in anticipation of future operations.



### Chemical Substance Management

Korea Zinc adheres to all relevant regulations and provides transparent disclosure of our handling procedures to ensure the safe management of chemical substances. We abide by the Chemical Substances Control Act for all chemical products, including those of the same substance but with varying concentrations, and we disclose this handling information via the Comprehensive Chemical Substance Information System. Certain chemicals are managed under specific categories such as hazardous chemicals, hazardous agents, dangerous goods, and toxic gases. This is in accordance with the Chemical Substances Control Act, Occupational Safety and Health Act, Act on the Safety Control of Hazardous Substances, and High-Pressure Gas Safety Control Act. We annually report the intake, usage, and sales quantities of these chemicals. In addition, Korea Zinc reports the discharge of chemicals from our manufacturing processes to the Ministry of Environment. We categorize and report discharge and transfer quantities based on the final treatment areas, which include air, water, and soil. Furthermore, we publicly disclose Material Safety Data Sheets (MSDS) for the products we sell, in compliance with the Occupational Safety and Health Act, on the Korea Zinc website.

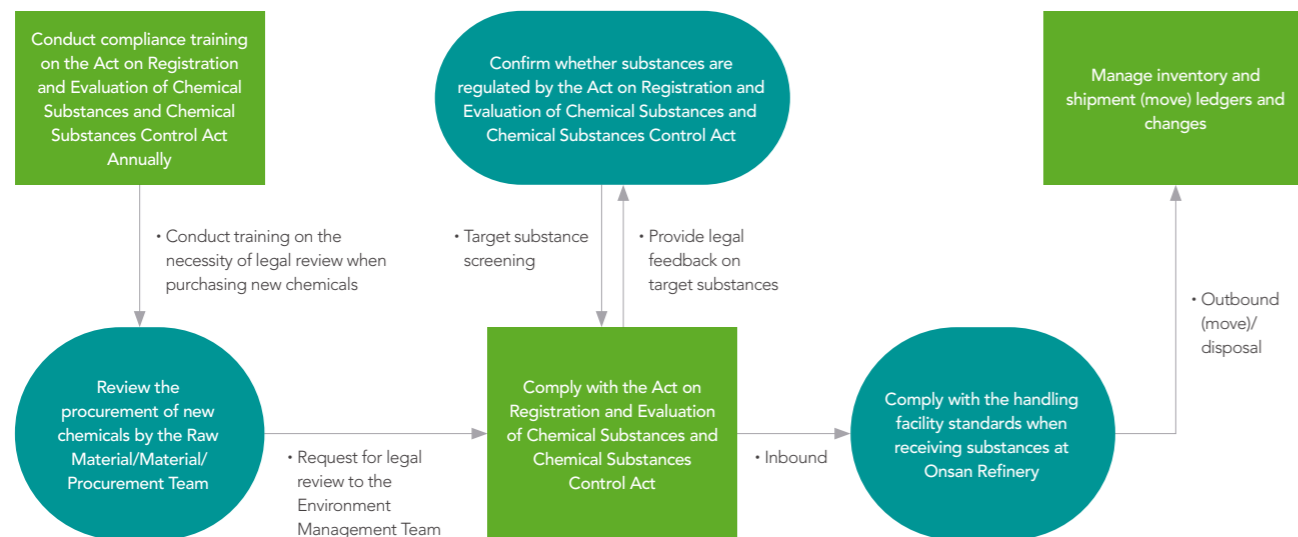
#### Chemical Substance Management System

Korea Zinc has implemented a robust management system for chemical substances, ensuring adherence to relevant regulations and carrying out ongoing monitoring. We have put in place internal procedures to comply with domestic regulations concerning chemical substances, such as the Act on Registration and Evaluation of Chemical Substance and the Chemical Substances Control Act. We also adhere to international standards, including EU REACH<sup>1)</sup>. Furthermore, we perform real-time monitoring of environmental measurements at our facilities and openly share consolidated environmental data with government bodies and local communities. The consolidated environmental measurement data gathered through real-time monitoring is relayed to the Ministry of Environment. In line with Article 23 of the Act on Registration and Evaluation of Chemical Substance, Korea Zinc annually informs local residents about the Chemical Accident Prevention and Management Plan. This plan outlines the potential risks of chemical accidents and the suggested actions in the event of accidents involving three chemical substances (hydrofluoric acid, hydrochloric acid, and sulfuric acid). These substances are associated with Korea Zinc's business activities and are among the 97 substances specified by the Ministry of Environment. Korea Zinc is committed to managing all chemical substances used in a safe and appropriate manner. We are continually striving to minimize environmental impacts within our facility and in the surrounding local community.

#### Chemical Substance Management Process

Korea Zinc strictly adheres to standard protocols throughout the entire process of procuring, accepting, and disposing of newly imported chemical substances, as part of their chemical substance management process. The Environment Management Team 2 scrutinizes legal prerequisites such as the Act on Registration and Evaluation of Chemical Substances and the Chemical Substances Control Act prior to making purchases. They also oversee facility standards during the acceptance process and uphold a management ledger, along with records of alterations during the release/disposal process.

1) EU REACH (Registration, Evaluation, Authorization and Restriction of Chemicals): A chemical substance management system that registers, evaluates, authorizes, and restricts (hazardous) chemicals manufactured within the EU or imported into the EU, for all chemicals with an annual volume of 1 tonne or more.



### Improving Chemical Management Competency

Korea Zinc routinely provides training for staff who handle hazardous chemicals, as well as for the relevant departments in charge of purchasing and subcontracting activities. The goal of these training sessions is to increase awareness of chemical substances and to boost management skills among both internal and external personnel.

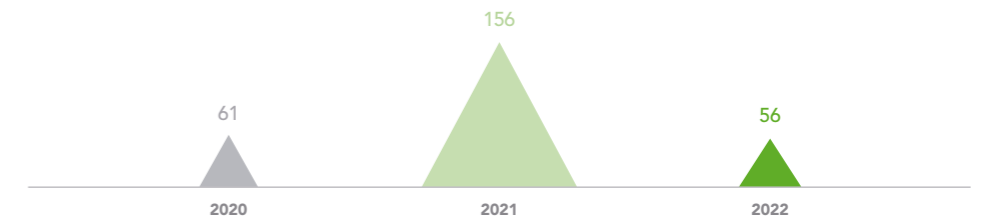
Training	Target Audience
Hazardous chemicals handler training	Korea Zinc and affiliated company handlers of hazardous chemicals
Compliance training on the Act on Registration and Evaluation of Chemical Substances and Chemical Substances Control Act	Raw Material Team, Purchasing Strategy Team, Resource Circulation Procurement Team at the headquarters
Invitation of external instructors for hazardous substance incident response training	
Regular environmental education (monthly, covering chemical incident response methods and proper use of personal protective equipment)	All subcontracting departments handling hazardous chemicals at Onsan Refinery
Regular education on the environment (chemical substances)	
Training for KZ environmental personnel on the Chemicals Control Act	
Training on reporting for subcontractor reporting companies	Subcontractor companies

### Soil Contaminants

#### Reduction of Soil Contaminant Levels

Korea Zinc routinely performs soil contamination evaluations every two years, in compliance with the Soil Environment Conservation Act, utilizing external organizations. In 2022, an assessment of soil contamination was conducted at the outdoor tank storage facility within Onsan Refinery.

#### Total Petroleum Hydrocarbon (TPH)<sup>2)</sup> Emissions (ppm)



2) Total petroleum hydrocarbon (TPH): A term referring to all hydrocarbon mixtures found in crude oil and a substance that is used to identify contamination by kerosene, diesel, jet oil, and bunker C oil.

Appendix  
Biodiversity  
Commitment Policy

### Biodiversity Protection

#### Biodiversity Protection and Risk Assessment

Korea Zinc has implemented biodiversity policies aimed at minimizing adverse effects on biodiversity near its facilities. We identify and evaluate the presence of various animal and plant species within the local ecosystem, including any endangered species. Additionally, we analyze the potential risks and their magnitude that may arise from smelting and mining operations. Korea Zinc consistently monitors and manages pollution levels in the vicinity of its facilities. When necessary, we plan to collaborate with specialized institutions to conduct investigations assessing the impact on biodiversity.

#### Ecological Protection Programs Near Facilities

As part of its commitment to environmentally friendly social contributions, Korea Zinc launched a "pet tree" campaign in Ulsan, home to Onsan Refinery. The campaign involved distributing seeds of domestically endangered native species and highlighting the importance of ecosystem protection. This significant initiative aimed to increase awareness about the conservation of biodiversity.

# Climate Change

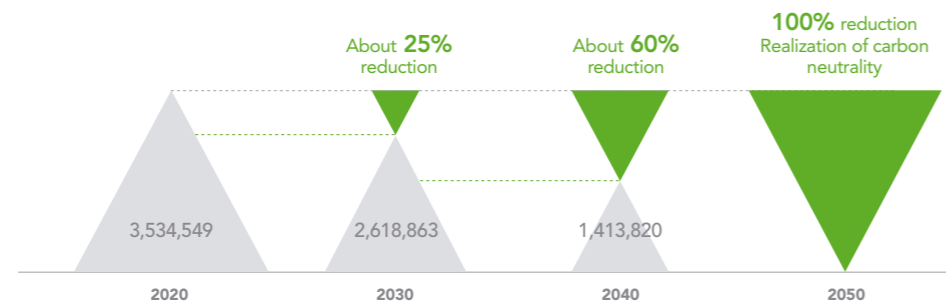
## Trends in Global Climate Change Responses

Since the Paris Agreement was adopted at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP-21) in 2015, there has been a global push to achieve carbon neutrality by 2050. This shift towards carbon neutrality and a low-carbon economy is being expedited through partnerships between governments and private sector companies across various nations. In 2023, the European Union (EU) intends to test the Carbon Border Adjustment Mechanism (CBAM), which levies carbon border taxes on industries that produce high carbon emissions during the manufacturing process of products such as steel including zinc-coated items, and aluminum. With the full implementation of CBAM projected for around 2026, discussions on carbon border taxes have become a significant topic in the steel and smelting industries.

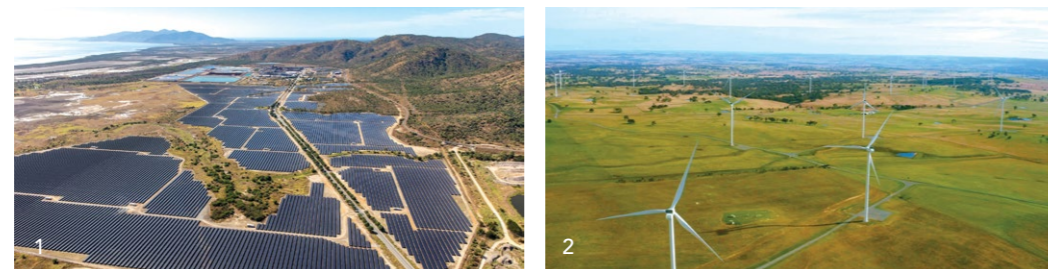
## 2050 Carbon Neutrality Declaration

Korea Zinc is proactively advancing eco-friendly initiatives that utilize renewable energy and hydrogen. This is in anticipation of the shift towards a low-carbon economy and impending changes in carbon emission regulations. The company's ultimate aim is to achieve carbon neutrality by 2050. To this end, Korea Zinc has pinpointed its primary sources of emissions and formulated strategies to reduce these emissions by 100% in Scope 1+2 (baseline year: 2020). The company's primary source of greenhouse gas emissions is the electricity used in the zinc product manufacturing process. To mitigate these indirect (Scope 2) emissions, Korea Zinc is making comprehensive efforts to source environmentally friendly electricity from renewable energy sources. The company's renewable energy generation and procurement initiatives are flourishing in Australia. For instance, its subsidiary SMC operates a 124MW solar power generation facility, which was the largest in Australia as of 2018. Moreover, the forthcoming MacIntyre Wind Farm, slated for completion in the first quarter of 2025, boasts a total capacity of 923 MW. Korea Zinc has secured a 277MW (30%) stake in this plant through equity investment. Leveraging the solar and wind power generation capabilities mentioned above, SMC aims to achieve 85% renewable energy (RE85) by 2025 and reach 100% renewable energy (RE100) by 2040.

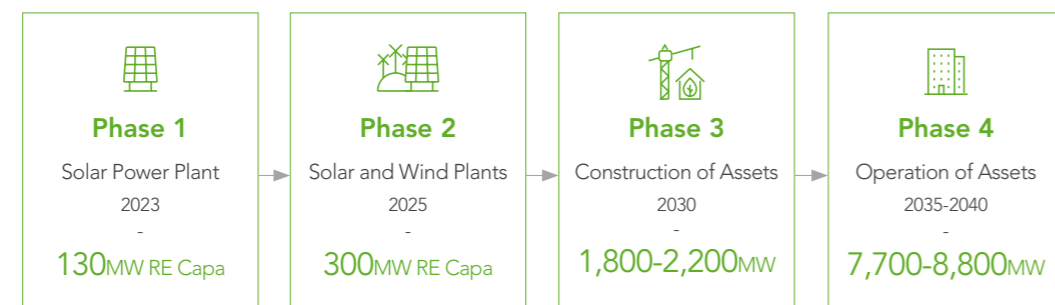
### · Roadmap for Carbon Neutralization (tCO<sub>2</sub>eq)



※ Greenhouse gas emissions reduction targets may change depending on greenhouse gas emissions and technology development.  
 ※※ Based on domestic greenhouse gas emissions (Korea Zinc)



1 SMC Solar Power Plant  
 2 MacIntyre Wind Farm



Increasing renewable energy generation inevitably brings about concerns regarding power grid stability. This has led to an increased demand for energy storage systems (ESS) as a potential solution. In February 2018, Korea Zinc set up and began operating an ESS with a power processing capacity of 150 MWh near Onsan Refinery. This was done to ensure a stable power supply and to cut down on electricity costs. Through its Australian subsidiary, Korea Zinc is actively seeking out projects to bring abundant renewable energy to the domestic market, with the ultimate goal of producing green hydrogen, a clean energy source. The green hydrogen value chain can be broken down into three stages: production, shipping and storage, and utilization. During the production stage, solar and wind energy are used, along with ESS for energy storage. Renewable energy is supplied to an electrolyzer to separate hydrogen from water. The separated hydrogen is then synthesized into ammonia, which is a suitable medium for shipping and storage. This synthesized ammonia is transported both domestically and internationally. In the utilization stage, it is converted back into hydrogen for use in hydrogen co-firing, hydrogen mobility, and green metal production. Since 2021, in partnership with the Australian government and SunHQ, Korea Zinc has been planning a green hydrogen production demonstration project, and this project is currently under construction. Korea Zinc aims to demonstrate the production and utilization of 140 tonnes of green hydrogen annually. Moreover, in order to establish green hydrogen hubs and encourage domestic adoption and utilization, Korea Zinc formed the Korea-Australia H2 Consortium in 2022. This was done in collaboration with Korean and Australian companies, the Australian Port Authority, and other public-private consultation bodies. As a result, we secured 2.4 million AUD in subsidies from the Australian government in the fourth quarter of 2022.

## TCFD Reporting

### Governance

#### Climate Change Decision-Making System

Korea Zinc integrates climate change risks into its comprehensive risk management system. The company's Sustainable Management Committee, an advisory group that reports directly to the CEO, aids in the response to climate change. This committee collects and communicates information on climate change strategies, activities, outcomes, and plans from the ESG Energy Team, Legal & Compliance Team, and ESG Management Team to the CEO. Additionally, the Sustainability Management Committee brings climate change-related issues to the attention of regular or special board meetings when these issues significantly affect business operations or necessitate decisions at the board level.






Strategy







Risks and Opportunities

Korea Zinc classifies risks and opportunities related to climate change in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). This involves distinguishing between physical risks and transition risks, identifying their financial implications, expected response timelines, and strategies for managing them. The company assesses climate change risks through qualitative scenarios. The primary physical risks encompass abnormal temperatures and frequent climate phenomena observed in Australia, where the company's subsidiaries are based. Korea Zinc also acknowledges the significant transition risks posed by environmental health and safety regulations and market volatility associated with greenhouse gas emissions allowances. The company is actively addressing these risks while striving for climate resilience. The financial impacts are generally divided into impacts on profit and loss, and impacts on the financial position. The company identifies the costs of compensation and recovery in the event of physical asset damage, water-related disasters, and increased operating expenses at smelters due to unusually high temperatures as key impacts on profit and loss. Regarding the financial position, the impairment of physical assets is seen as a significant impact.

Climate-related Opportunities

Opportunity	Opportunity Factor	Potential Financial Impact	Period	Planned or Implemented Responses
Energy Sources	Transition to low-carbon energy 	Reduction in annual energy-related costs through the conversion and adoption of low-carbon energy sources within the facility	Short-term Mid-term Long-term	<ul style="list-style-type: none"> <li>Korea Zinc is actively promoting the adoption of hydrogen forklifts to increase the utilization of renewable energy at Onsan Refinery. In pursuit of this goal, the company secured approval for the construction of a hydrogen refueling station in October 2022 and is now in the process of preparing the site for the station's establishment.</li> <li>In 2022, Korea Zinc generated 76 MWh (60 kW) of electricity through solar power generation. Furthermore, the company is considering the installation of 375 kW of solar power facilities for the newly constructed safety training center and parking building in 2023.</li> <li>Korea Zinc plans to achieve RE100 by 2050, fully transitioning all energy consumed in zinc product production and facility operations to low-carbon energy sources.</li> </ul>
	Low-carbon product manufacturing technology, diversification of business activities 	Increased revenue through responding to expanding customer demands for low-carbon economies	Mid-term Long-term	<ul style="list-style-type: none"> <li>Korea Zinc is actively pursuing renewable energy and green hydrogen businesses, including the construction of solar power plants and the establishment of a subsidiary, Ark Energy, in Australia.</li> <li>SMC aims to increase the power production of the MacIntyre Wind Farm to 923 MW by 2025. Furthermore, after 2030, SMC plans to export green hydrogen produced by the company to South Korea.</li> </ul>
Products and Services	Production of low-carbon products (green metals) 	Increased revenue through the production of essential low-carbon products (green metals)	Short-term Mid-term	<ul style="list-style-type: none"> <li>Korea Zinc plans to quantify carbon emissions from its green metals and aims to secure Carbon Footprint certification by 2023. To accomplish this, the company will implement carbon accounting, a system designed to measure carbon emissions throughout the entire product manufacturing process. This process will be extended to encompass all subsidiaries and affiliates of Korea Zinc, including SMC. By developing low-carbon products like green metals, Korea Zinc is committed to maintaining its competitiveness in an evolving market.</li> </ul>

Climate-related Risks

Risk	Risk Factor	Potential Financial Impact	Period	Planned or Implemented Responses
Physical Risks	Extreme climate events (floods, typhoons) due to climate change 	Restoration costs due to the failure in tailings management from natural disasters  Restoration costs due to the damage to facilities from natural disasters	Short-term	<ul style="list-style-type: none"> <li>Korea Zinc's mine in Peru is situated in a mountainous region at an elevation of 5,000 meters. This location makes it vulnerable to damage from heavy rainfall, landslides, and water shortages. To mitigate these physical risks, Korea Zinc conducts annual consultations with local residents to gather their insights and formulate response plans.</li> <li>Korea Zinc conducts tailings management in accordance with the standards set by GISTM. The company operates relevant facilities in accordance with its established mine waste management procedures.</li> <li>To ensure safe operation and monitoring of the mine, Korea Zinc utilizes monitoring systems such as GPS and piezometers and strives to establish a responsive system based on these monitoring systems.</li> </ul>
	Permanent environmental changes (temperature changes, droughts, sea-level rise) due to climate change 	Increased operating costs for smelters and other business operations in regions experiencing water stress	Long-term	<ul style="list-style-type: none"> <li>Korea Zinc aims to reduce operating costs through efforts to reduce water consumption at Onsan Refinery.</li> </ul>
Policy and Legislation	Environmental policy and legislative risks related to exports 	Carbon taxes on products exported by the company to the European market due to the implementation of Carbon Border Adjustment Mechanism (CBAM) in the European market (transition period from 2023 to 2025, full implementation from 2026)	Mid-term Long-term	<ul style="list-style-type: none"> <li>Korea Zinc is pursuing business operations that enable resource-efficient and environmentally friendly product manufacturing through the Troika Drive initiative.</li> <li>Korea Zinc responds to policy and legislative risks through the expansion of eco-friendly businesses and proactive regulatory compliance.</li> </ul>
Market	Fluctuations in carbon allowance prices 	Fluctuations in business and operational costs due to changes in greenhouse gas emission/carbon allowance market prices	Mid-term	<ul style="list-style-type: none"> <li>Korea Zinc, as a company subject to greenhouse gas emission allowance trading, reflects fluctuations in carbon allowance market prices in its environmental management practices.</li> </ul>
Technology	Increasing demand from customers requiring low-carbon processes and products to reduce Scope 3 emissions 	Long-term decreased revenue due to the failure to meet customer demands	Mid-term Long-term	<ul style="list-style-type: none"> <li>Korea Zinc plans to enhance the competitiveness of its low-carbon products through Carbon Footprint certification for its key products starting in 2023.</li> </ul>
	Potential failure in R&D investments in new technologies 	Increase in costs and loss of expected benefits due to R&D failures	Short-term Mid-term	<ul style="list-style-type: none"> <li>Korea Zinc minimizes the risk of R&amp;D failures through acquisitions of new companies, reducing R&amp;D time.</li> </ul>



## Risk Management

### Risk Management System

Korea Zinc manages climate change risks by integrating them into its company-wide risk management system. Climate change risks are identified as non-financial risks and are managed by dedicated organizations including the Sustainability Management Division, Strategies & Planning Division, and Environmental Management Division. In 2022, we established and piloted internal risk identification criteria based on the urgency of risks, and we are preparing for full-scale application in the second half of 2023 by improving and upgrading the identification criteria. In addition, departmental plans and performance of each department to reduce the impact of each risk are reported through the Sustainability Management Committee.

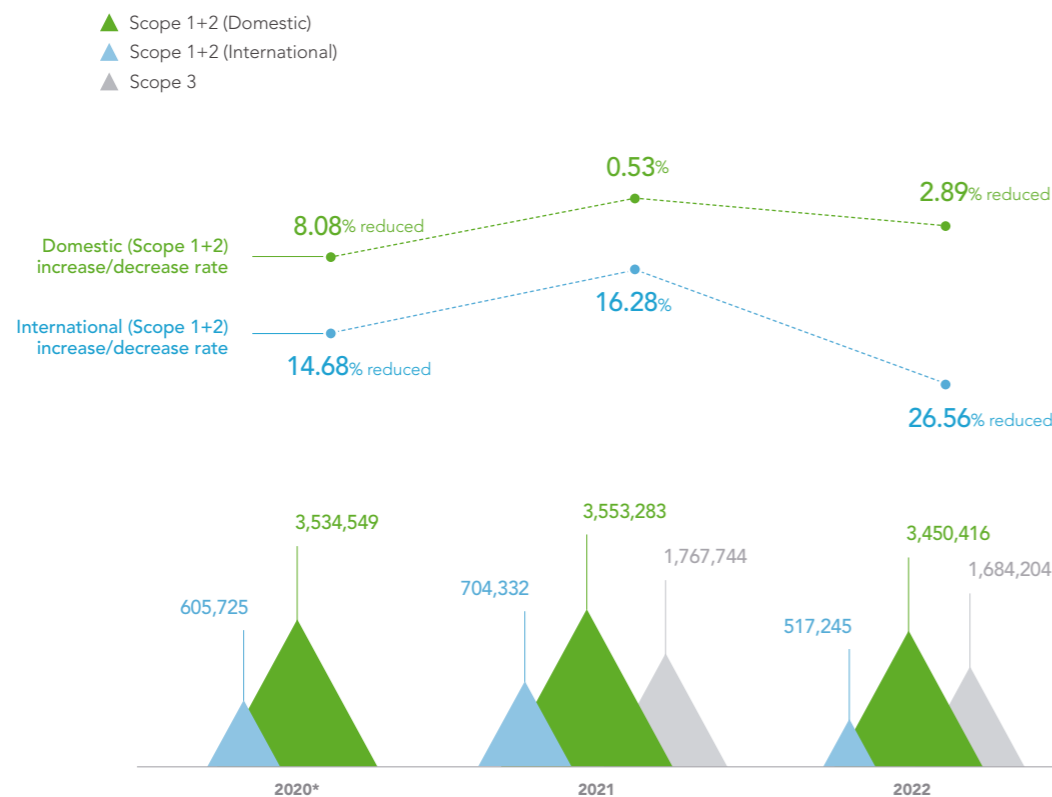
#### • Risk Identification Criteria by Period

Period	Identification criteria
Short-term (within 3 years)	• Risks that are currently impacting Korea Zinc's business and communities and are expected to have material impacts within three years
Mid-term (within 10 years)	• Risks that could significantly disrupt Korea Zinc's business operations or industry standing, and which may be challenging or time-consuming to recover from if not properly managed, are anticipated.
Long-term (after 20 to 30 years)	• Risks that are expected to occur in 20 to 30 years and are currently being closely monitored by related industries and companies. • Risks that are expected to have an irreversible impact on the sustainability of Korea Zinc's business and communities in which it operates, if long-term and consistent risk management measures fail to address them effectively.

### Greenhouse Gas Emissions

Since 2023, Korea Zinc has been verifying and disclosing its Scope 3 emissions, which encompass other indirect greenhouse gases, in addition to its existing Scope 1 and 2 greenhouse gas emissions. Scope 3 covers 10 of the 15 categories provided by the Carbon Disclosure Project (CDP). These categories include employee commuting, business travel(domestic and international business trips), and the transportation of raw materials. The management of these other indirect greenhouse gases, as measured by Scope 3, is crucial for achieving net-zero carbon neutrality.

#### • Greenhouse Gas Emissions by Year (tCO<sub>2</sub>e)



\* Scope 3 emissions have begun to be measured in 2021.

## Efforts to Respond to Climate Change

### Increasing clean production and introduction of clean energy

- Expanding renewable energy generation facilities such as solar and wind power production

### Expanding low carbon investment and enhancing technology development

- Reducing carbon emissions by recovering process heat during dry smelting

### Driving continuous facility and process improvement activities

- Implementing operational improvements in carbon emissions, emission reductions in facilities, equipment, and processes with high power consumption

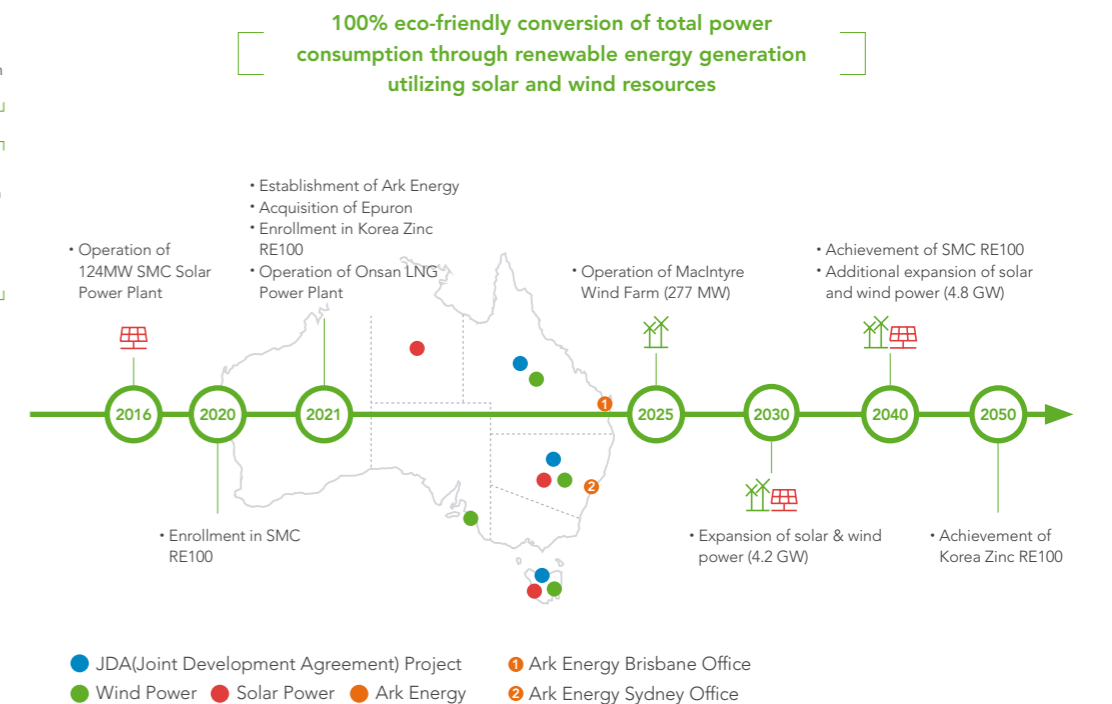
### Eco-friendly product development

- Catalyzing larger-scale reductions in carbon emissions through developing and diversifying key materials for the environment (electric vehicle key components)

Korea Zinc has selected the expansion of renewable energy usage by 2030, investment in facilities, and the development of environmentally friendly products (materials) as short-term projects. These are key initiatives aimed at achieving carbon neutrality by 2050. In the medium to long term, Korea Zinc also intends to develop hydrogen energy and technologies for carbon capture and conversion.

### Renewable Energy Conversion Goals

Korea Zinc is committed to achieving both RE100 and carbon neutrality by 2050, spearheading the shift towards renewable energy and hydrogen mobility. Specifically, Korea Zinc's carbon neutrality initiative is built on four pillars: the expansion of clean energy production and adoption, increased investment in low-carbon technologies and advancements, ongoing enhancements to facilities and processes, and the development of eco-friendly products. Central to Korea Zinc's renewable energy transition is the solar power plant constructed by SMC in Australia, along with the MacIntyre Wind Farm. For SMC, the objective is to reach 85% renewable energy (RE85) by 2030 and 100% (RE100) by 2050, leveraging renewable energy generation facilities.



### Activities to Implement the RE100 Roadmap



Plant 1 after the Completion of the Foundation Work



Installation Work and Progress of a Cooling Tower in Plant 1

In 2022, Korea Zinc generated 76 MWh (60 kW) of electricity via solar power. Furthermore, we have plans to construct an additional 375 kW of solar power facilities to augment our solar power capacity at the newly established Safety Training Center (75 kW) and the parking structure (300 kW). With the installation of these new solar power plants, we anticipate that the total solar power output of Korea Zinc will reach 108 MWh (60 kW + 75 kW) in 2023. In 2022, we made several facility investments at Onsan Refinery to mitigate greenhouse gas emissions. The first of these investments was the adoption of hydrogen mobility. Korea Zinc received sequential approval for investment in the construction of hydrogen refueling stations and for the review of research equipment starting in October 2022. The site designated for the hydrogen station is currently undergoing cleanup and construction is slated to commence in September 2023. The full-scale implementation of hydrogen forklifts will follow sequentially once the operation-related regulatory sandbox is in place. Secondly, we are constructing an integrated cooling tower at plant 1, which is projected to conserve 11,000 MWh of electricity annually. The cooling tower, which represents an investment of approximately KRW 27.6 billion, is currently in the process of integrating with the existing cooling water piping system. The commissioning of this project is scheduled for August 2023. Korea Zinc is also actively reducing carbon emissions through its secondary battery material business. In 2022, the company applied for and implemented the utility supply piping project of Korea Precursor Company, a joint venture with LG Chemical. This secondary battery material business is anticipated to showcase not only the waste reduction efforts of Korea Zinc, but also the decrease in carbon emissions resulting from scaled-down mining operations.

## Green Purchasing

### Promoting Green Purchases

Appendix  
Korea Zinc Green Purchasing Policy

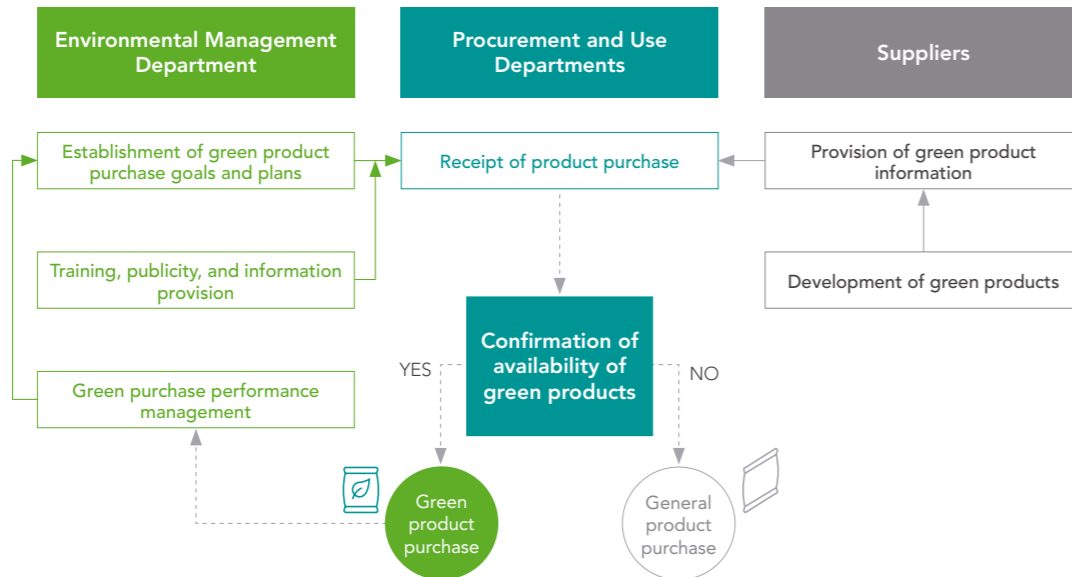
Korea Zinc's Supply Management Regulation, along with its more specific green purchasing policy, serve as environmental standards for all purchases related to Korea Zinc products. These standards apply to everything from product production to facility maintenance, forming the foundation for eco-friendly management. The green purchasing policy currently covers a wide range of goods, from subsidiary materials to business supplies (MRO, Maintenance, Repair and Operations), civil works, construction, electricity, and chemical facilities. As Korea Zinc continues to expand its green business, the application of this policy is expected to broaden.

### Scope of Green Purchasing Certification

Products identified as green purchases fall under Article 66-4 of the Framework Act on Carbon Neutrality and Green Growth for Addressing the Climate Crisis. These include products that have received Environmental Label Certification and Environmental Performance Certification, as well as low-carbon products and those marked as Good Recycled (GR). Foreign environmental certifications are evaluated and considered based on internal standards to determine their acceptance as green purchases.



### Green Procurement Process



## Developing Green Products and Technology

### Eco-friendly Products

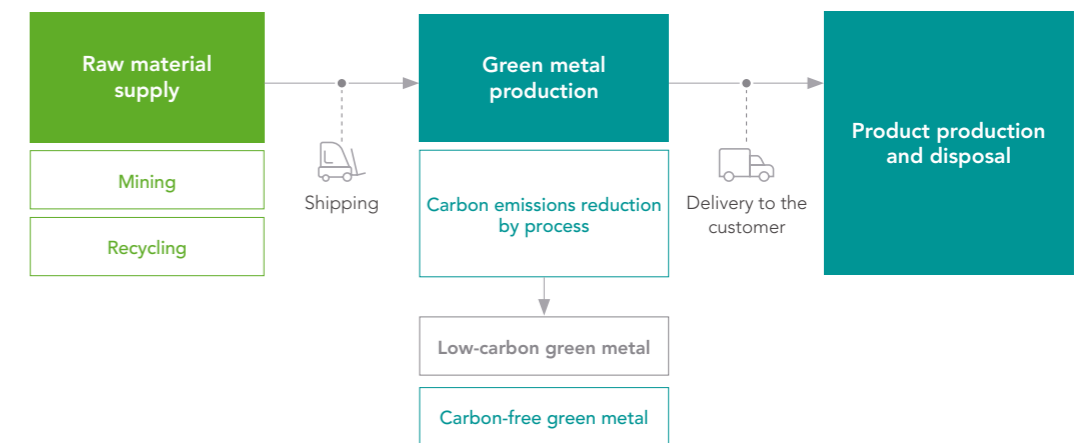
Korea Zinc is committed to developing and producing environmentally friendly products that reduce environmental impact during both the manufacturing and usage stages. In 2021, we were awarded an Environmental Certificate by the Ministry of Environment in Korea for our EL774. slag processing products, which are a type of soft slag aggregate used in concrete.

## Green Metal Production Roadmap

Zinc is a crucial mineral in energy conversion for carbon neutrality. It is utilized in the protection against metal corrosion, battery production, and large die castings for electric vehicle manufacturing. These characteristics have sparked a global increase in interest in zinc. Furthermore, customers' endeavors to decrease other indirect (Scope 3) emissions, with the goal of achieving 2050 Net-Zero, have necessitated the development of eco-friendly zinc. In response to this market demand, Korea Zinc has devised and executed a roadmap for the production of what is termed "green metal." This approach involves analyzing the entire life cycle of zinc production and minimizing its environmental impact.

### Green Metal Introduction

Korea Zinc categorizes green metal into two types: low-carbon green metal, which has minimized carbon emissions, and carbon-free green metal, which emits no carbon at all. Initially, Korea Zinc plans to manufacture low-carbon green metal by specifically reducing carbon emissions during the production process. Subsequently, as the green hydrogen business advances, it will produce carbon-free green metal throughout the entire product production lifecycle. The green metal produced in this manner is anticipated to substantially decrease the carbon footprint of the end consumer product.



### Green Metal Production Roadmap

Korea Zinc is advancing along a four-step roadmap for green metal production. In the first step, we aim to calculate carbon emissions by taking a Life Cycle Assessment (LCA) approach. In the second step, we intend to engage with government bodies, relevant ministries, institutions, and associations. Our goal is to gain recognition for Korea Zinc's low-carbon green metal in Korea by 2025. In the third and fourth steps, we plan to manufacture low-carbon green metal, leveraging our history of process-specific carbon emission reduction. Furthermore, we aim to produce carbon-free green metal using green hydrogen technology.

Phase	Objective	Key Activities
Phase 1	Calculating each product's carbon footprint	<ul style="list-style-type: none"> <li>Calculating product's carbon footprint by taking a life cycle assessment (LCA) approach</li> <li>Obtaining carbon footprint global certification for products</li> </ul>
Phase 2	Establishing a roadmap for carbon neutrality	<ul style="list-style-type: none"> <li>Deriving methods for reducing carbon emissions by reducing the energy consumption of each process</li> <li>Reviewing and confirming renewable energy business for Net Zero</li> </ul>
Phase 3	Improving process and expanding renewable energy application	<ul style="list-style-type: none"> <li>Reducing actual carbon emissions through process improvement and renewable energy use</li> <li>Obtaining low-carbon global certification</li> </ul>
Phase 4	Producing low-carbon and carbon-free metal	<ul style="list-style-type: none"> <li>Producing low-carbon and carbon-free green metal by reducing carbon emissions</li> </ul>

In 2023, Korea Zinc initiated a comprehensive roadmap for green metal production. The company is presently quantifying carbon footprints for three of its products: zinc, silver, and copper. The company intends to acquire a carbon footprint certification by 2023 through the quantification of carbon emissions throughout the entire production process, starting from the collection of raw materials to shipping and production. Furthermore, the aim is to obtain certification for the key products by 2025.

Customized Leadership Program  
**197 Employees Completed**

Cooperative Program by the  
 Occupational Safety and Health Agency  
**Received A rating**

Pet Tree Campaign  
**Distributed  
 1,170 kits**

In 2022, Korea Zinc established the supply chain management system and human rights management system. We conducted human rights impact assessment to inspect human rights status of internal and external stakeholders including suppliers, affiliates, and employees. We will reflect the collected data to our management policies and build capabilities to identify ESG risks that can occur within the supply chain in advance and preemptively respond to them.

- Safeguarding Human Rights and Employee Well-being
- Promoting a Culture of Workplace Safety
- Cybersecurity
- Supply Chain Sustainability
- Helping Our Partners Thrive
- Inclusive Growth
- Building Bridges with Our Stakeholders

**SOCIAL**

## Safeguarding Human Rights and Employee Well-being

### Building a Human Rights Management System

#### 9 Key Elements of the Human Rights

- Prohibition of Discrimination and Harassment
- Humanitarian Treatment
- Prohibition of Forced Labor
- Guarantee of the Freedom of Association and Collective Bargaining
- Guarantee of Industrial Safety
- Protection of Personal Information
- Regulation of Working Hours
- Assurance of Fair Wages and Benefits
- Protection of Women and Child Labor

### Human Rights Management System

#### Principles of Human Rights

Starting in 2022, Korea Zinc has publicly disclosed its fundamental principles on human rights to both employees and other stakeholders. These principles align with the Universal Declaration of Human Rights and the Guiding Principles on Business and Human Rights, and they serve as the foundation for our human rights management system. In collaboration with our Australian subsidiary, SMC, we have put into effect a policy that strictly forbids modern slavery. We are dedicated to safeguarding human rights and ensuring job stability, ranging from the prohibition of discrimination and harassment to the assurance of industrial safety, freedom of association, and the provision of fair wages and benefits. We plan to openly share the status of identified risks and improvements through an annual human rights impact assessment, with the aim of implementing these principles at all operational sites. As a result, we initiated this assessment process in 2022 and successfully completed our first assessment in 2023.

### Human Rights Impact Assessment

Korea Zinc has implemented a human rights impact assessment (HRIA) to identify and manage potential human rights risks and crucial management issues that could emerge both internally and externally. Our intention is to carry out surveys to identify potential human rights concerns and risks, as well as groups that may be vulnerable. Moreover, we aim to set up channels for grievances and conduct interviews for a comprehensive risk assessment. We also plan to uphold an efficient human rights management system by consistently reporting to the Sustainability Management Committee on the progress of human rights issue resolutions.

#### Human Rights Impact Assessment Process



In the first half of 2023, we carried out our inaugural HRIA to pinpoint both potential and actual human rights risks. We disseminated anonymous surveys to all internal stakeholders, which included our headquarters, Onsan Refinery, and research centers. External stakeholders, such as affiliates, partners, customers, and others, were also included in this survey distribution. The survey aimed to evaluate the awareness level of Korea Zinc's human rights management, identify key human rights issues and vulnerable groups, and ascertain the status of human rights cases and the responses to them.

**Results of Human Rights Impact Assessment**

The 2023 HRIA identified the primary human rights risks as employee safety and health, performance and reward compensation, and working hours. The stakeholder groups perceived as most susceptible to human rights issues were partners, employees, and affiliates, in that sequence. The preferred method for addressing human rights issues, as reported by 72.7% of employees and 100% of affiliates, was to “seek assistance from senior managers.” The most frequently cited reason for not responding to human rights issues, as stated by employees, affiliates, and partners, was the belief that they had “nothing to gain from taking responsive actions.”

• Results of Human Rights Impact Assessment

Item	Vulnerability	TOP 1	TOP 2	TOP 3
Human rights issues	Human rights	Employee safety and health (52.9%)	Performance and evaluation compensation (44.2%)	Working hours (31.7%)
	Stakeholders	Partners (53.8%)	Employees (38.9%)	Affiliates (22.6%)
Human rights impact groups	Employees	No difference (36.1%)	Women (29.8%)	Production/research (24.5%)
	Partners	In-house Partners (46.6%)	No difference (40.9%)	Suppliers (13.5%)

Item	Issue Management	Employees	Affiliates	Partners	Customers	Others
Human rights issues	Human rights issues	Almost none (36.5%)	Almost none (60.8%)	Almost none (45.5%)	None (100%)	Almost none (73.3%)
Experience in human rights issues	Major human rights Management requirements	Performance and evaluation compensation, safety and health (46.4%)	Performance and evaluation compensation (69.2%)	Shared growth (100%)	Negative impact on labor union activities and local community (100%)	-
	Response to human rights issues	Asking for help from senior managers (72.7%)	Asking for help from senior managers (100%)	-	-	-
	Reasons for not responding to human rights issues	Nothing to gain from taking responsive actions (46.7%)	Nothing to gain from taking responsive actions (33.3%)	Nothing to gain from taking responsive actions (100%)	The matter is not important (100%)	-

**Future Use of Human Rights Impact Assessment Results**

Based on the 2023 Human Rights Impact Assessment (HRIA), the most pressing human rights issues were identified and ranked in the following order: 1) employee safety and health, 2) performance and reward compensation, and 3) working hours. The stakeholder groups most susceptible to these issues were identified as partners, employees, and affiliates, respectively. Among employees, women and those in production and research roles were found to be the most vulnerable. Korea Zinc regards the issue of employee health and safety as paramount. As such, we strive to identify current challenges through our Safety and Health Committee and safety reporting system. Our goal is to uncover and integrate improvements into our occupational health and safety policies. In 2023, we plan to introduce a new evaluation system that assesses our performance and reward compensation. This system will consider how effectively we meet objectives established through dialogue with our employees. Additionally, we will tackle issues related to working hours by monitoring overtime and enhancing the efficiency of our work schedule. This will be achieved through the implementation of a flexible work scheme.


**Human Resources Recruitment**

[Korea Zinc Website](#)  
KZ Careers

**Talent Attraction and Retention**


Korea Zinc is committed to discovering and fostering talent that exhibits a high degree of involvement, an innovative mindset in pursuit of new values, and adaptability rooted in communication and collaboration, akin to the metal refining process. Korea Zinc provides a range of educational programs and family-friendly policies to establish an optimal working environment, enabling all employees to fully participate and enhance their innovation and adaptability.

**Korea Zinc Talent Profile**




**Engagement**

Being deeply engaged in even the smallest tasks and finding joy in overcoming challenges.



**Innovation**

Driving innovation through ongoing education and a fresh perspective.



**Flexibility**

Valuing diversity and striving to foster flexible communication and collaboration.

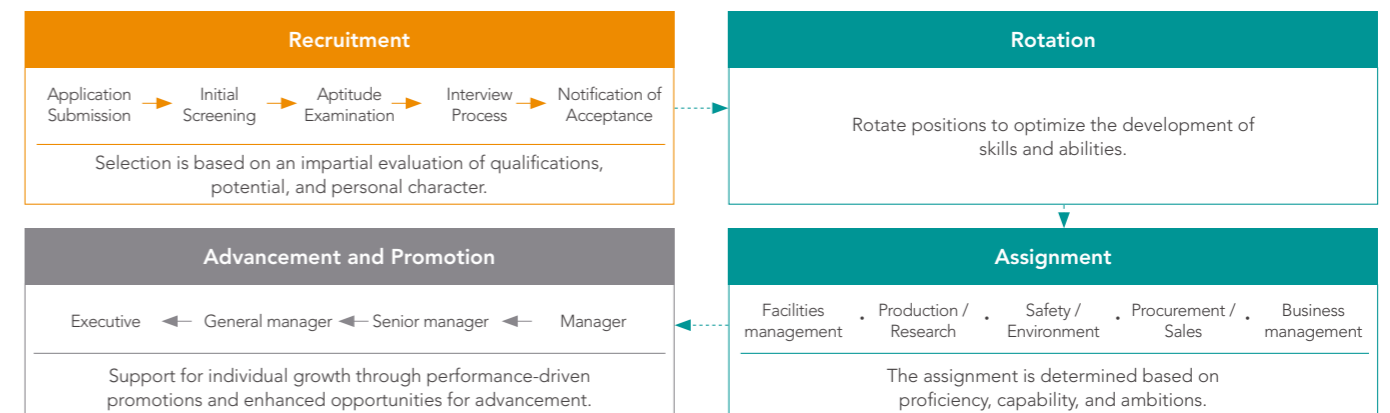
Korea Zinc has shown its dedication to attracting and retaining future talent through its 2023 management policy, which also promotes their development. This policy provides a roadmap for talent management, ensuring the company's ongoing growth. As a result, our goal is to nurture a corporate culture that encourages each employee who aligns with our ideal profile to expand their skills and promote mutual respect.

**Five Approaches to Talent Management**

- 1 Establish a mission that encapsulates the history, philosophy, and future vision of Korea Zinc and internalize the core values to passionately take on the challenges of the next half-century.
- 2 Foster a work culture that welcomes challenges associated with new ventures and future innovation. Also, implement a new human resources system that encourages the simultaneous growth of both the company and its employees.
- 3 Cultivate an organizational culture that promotes employee engagement and draws in exceptional talent by nurturing their growth and experience.
- 4 Promote a culture of mutual respect and bridge the generational divide through the implementation of horizontal leadership and transparent communication.
- 5 Foster an advanced culture of labor management by establishing a partnership based on mutual trust and respect.

**Fair Employee Promotion and Transfers**

Korea Zinc is committed to attracting exceptional talent from a range of fields through both open and targeted recruitment strategies. We use a competency-based approach to assess candidates, employing a comprehensive and multifaceted evaluation process that includes aptitude tests and structured interviews. We also uphold employment policies that prioritize socially disadvantaged groups, such as recipients of national merit awards and individuals with disabilities. This strategy not only safeguards their livelihood rights but also fosters diversity within our organization. When allocating employees to departments, we consider their skills, aptitudes, and career aspirations. We also promote skill development through job rotation. We ensure that all employees have equal opportunities for career progression and promotion, based on their competency and performance evaluations.





## Organizational Culture

1) The total amount was calculated based on the DB management amount, since it is difficult to accurately calculate the DC management amount as DC programs are managed by individual people.

### Group Insurance and Retirement Pensions

Korea Zinc has enrolled in group insurance to safeguard against potential accidents that may occur while employees are carrying out their work duties. Furthermore, Korea Zinc has subscribed to both defined benefit (DB) and defined contribution (DC) retirement pensions, aiming to assist employees in maintaining a stable lifestyle post-retirement.

#### • The Status of Group Insurance and Retirement Pensions of 2022

Group Insurance	Retirement Pension Overview		
	Type	Scale (1 billion KRW)	No. of Subscribers
Support for compensation in the event of an accident, disease, or death occurred during the work	DB	253.3	1,533
	DC	Personal management	119
	Total	253.3 <sup>1)</sup>	1,652

### Achieving a Great Workplace (GWP)

#### Smart Office Construction

Korea Zinc has improved employees' concentration and job satisfaction by transforming our workspace into a smart office. We have enhanced employees' convenience by installing electronic motion desks in the office, allowing individuals to adjust the desk height to suit their personal needs and work conditions. We have also expanded and renovated our meeting rooms. Furthermore, we have established a collaborative environment that transcends geographical boundaries, facilitated by the latest remote systems, such as smart monitors. This ensures seamless collaboration, even across international borders.

#### Creating Pleasant and Vibrant Organizational Culture

In 2022, Korea Zinc carried out an employee satisfaction survey and initiated various internal campaigns to foster a pleasant and vibrant organizational culture. Since last year, we have been striving to enhance the work environment, guided by the happiness index derived from the survey results. Furthermore, we have been promoting camaraderie among employees and spreading positive energy through campaigns such as "Say hello first," "Dawn greeting and sharing breakfast," and "Say 'be safe' as a substitute for hello" to prevent safety accidents at Onsan Refinery, affiliates, and suppliers.



Safety Campaign Poster



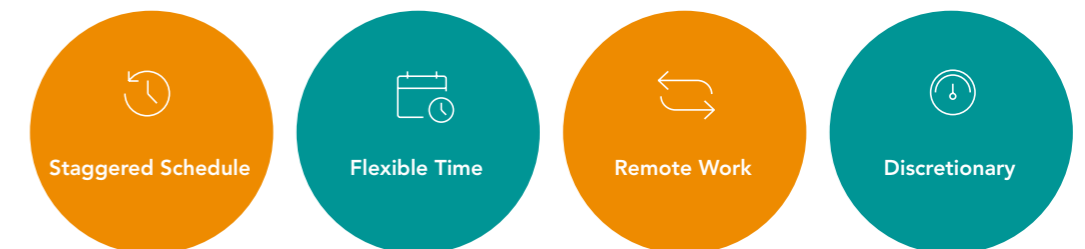
Smart Office Construction

## Employee Well-being

Korea Zinc implements a variety of policies and programs aimed at ensuring that all employees can enjoy a fulfilling and prosperous life with their families or as individuals. This is based on the belief that a balanced family and personal life serves as the greatest motivation for our employees.

#### Flextime

Korea Zinc has implemented a flextime system, enabling employees to enhance their work efficiency by self-regulating their work hours and methods. We offer four types of flextime: staggered schedules, flexible hours, remote work, and discretionary work. This system empowers employees to tailor their work style to their personal circumstances and preferences.



#### Family-friendly Policies

Korea Zinc values its employees' work-life balance and strives to foster a family-friendly corporate culture by offering benefits that cater to different life stages. We facilitate maternity leave, parental leave, leave for miscarriage or stillbirth, and reduced work hours during pregnancy and childcare. Notably, our male employees are also encouraged to take advantage of parental leave. Furthermore, we support both childbirth and childcare by operating a top-notch daycare center, equipped with excellent facilities and an enriching educational environment, located in Onsan company housing.



Daycare Center at Korea Zinc

#### Scholarship Support

Korea Zinc provides tuition assistance not only for its employees but also for their children. If employees choose to pursue further education, we offer a set amount of tuition support for their graduate school courses to aid in self-development and skill enhancement. We also cover educational costs such as childcare allowances, celebratory funds for school admissions, and tuition fees for their children, from kindergarten through university. Furthermore, we implement a fair welfare policy concerning scholarships by subsidizing early employment training costs for the children of employees who opt not to attend university.



Scholarship Support

#### Medical Expenses

Korea Zinc offers medical expense coverage to promote the health and well-being of its employees and their families, including spouses and children. Additionally, comprehensive medical check-ups are provided every two years for employees and their spouses who are aged 30 and above.

#### Specialized Counseling Service (EAP, Employee Assistance Program) Support

Korea Zinc provides counseling services for our employees and their families, facilitated by specialized counselors. These services aim to address any issues they may encounter in their daily lives and at work. We strive to assist the families of Korea Zinc employees in achieving emotional stability and happiness. This is accomplished through open discussions on a range of topics, from work-related stress and interpersonal relationships, to mental health issues such as depression and anxiety. We also offer guidance on family and child-related matters, as well as financial and legal advice.



EAP Poster

#### Support for Leisure Life

Korea Zinc offers membership discounts at affiliated resort facilities, as well as free access to summer resorts, to enhance the leisure life of our employees and their families. Furthermore, we encourage our employees to enjoy quality time with their families away from work. To facilitate this, we provide a weekend farmland (3,001.65 m<sup>2</sup>) to 200 employees annually, where they can cultivate fruits and vegetables.

#### Company Housing and Dormitories

Korea Zinc manages company-provided housing and dormitories in Onsan and Seoul, where our primary business locations are situated. This is to alleviate the housing cost burden for our employees. We have developed company housing for Onsan Refinery, which is a residential commercial complex, accommodating a total of 762 households with convenient facilities such as a gym, childcare and welfare centers. In Seoul, our company manages housing for 25 households in both Gangseo-gu and Nowon-gu. We also offer self-improvement programs, such as pottery and yoga classes, for our employees living in Onsan company housing.



Company Housing

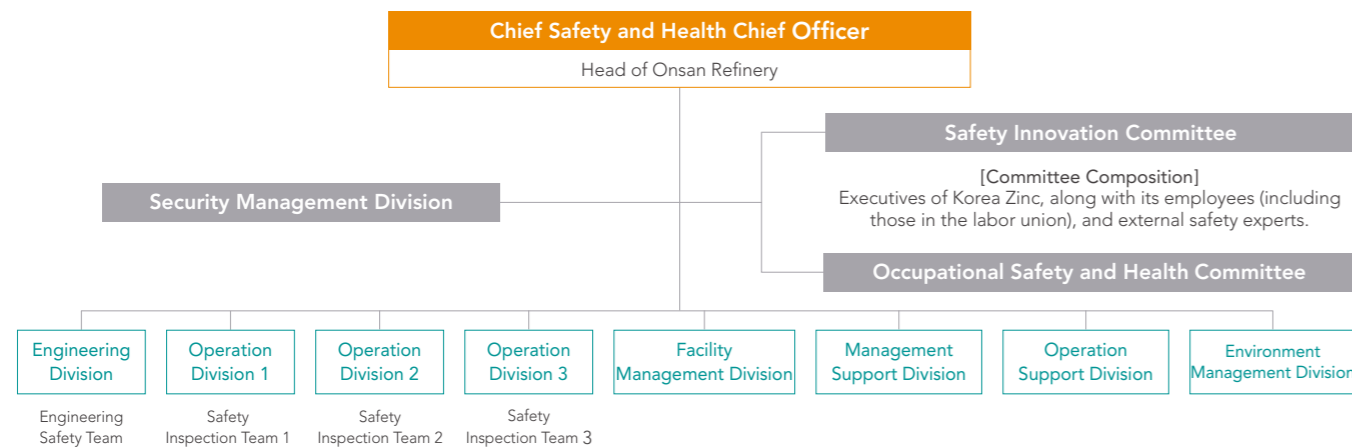
# Promoting a Culture of Workplace Safety

## System for Managing Health and Safety

### The Safety and Health Management System at Onsan Refinery

#### Health and Safety Management Organization

The head of Onsan Refinery, who also serves as the company-wide safety and health chief executive officer, is responsible for establishing a safe work environment. This includes investing in the expansion and establishment of a safety culture, overseeing a range of activities such as inspection, assessment, and improvement of safety management within the refinery, and receiving reports from related organizations and committees, including the Safety Management Division and Safety Innovation Committee. The Safety Management Division, as the safety management organization responsible for Onsan Refinery, carries out various tasks. These include operating the P-D-C-A (Plan-Do-Check-Act) cycle, establishing safety-related strategies, and managing performance. The Safety Inspection Team, a safety management organization within each production division, is tasked with identifying and eliminating hazards in the workplace. They also guide workers in maintaining safety standards. Furthermore, the safety officer, who carries out safety-related tasks for each team, is dedicated to ensuring the safety of all employees at both the headquarters and Onsan Refinery.



Labor-Management Joint Safety Campaign

#### Safety-related Council

To eliminate serious accidents in 2021, Korea Zinc has formed Safety Innovation Committee. This committee reports directly to the refinery head and is tasked with developing mid- to long-term strategies across 44 categories. In 2022, we are persistently striving to foster a safety-first work environment. This is achieved by conducting 12 meetings annually to review the implementation of these strategies, engaging in discussions with safety managers, and analyzing the causes of any accidents. We conduct monthly meetings with our labor-management safety work group to promptly address and incorporate the opinions and improvement suggestions of our field workers.

#### Significant Outcomes of Mid- to Long-term Strategy Implementation

Expanding Employee Safety Culture	Enhancing the Health and Safety Organization	Enhancing Work Safety Regulations	Enhancing the Safety of Equipment and Facilities
<ul style="list-style-type: none"> <li>Strengthening safety training</li> <li>Implementing qualification training</li> <li>Implementing technical / emotional group training for all workers (Nov. 2021 to Dec. 2022)</li> <li>Publishing monthly reports on near-miss accident cases (from October 2021 to December 2022, 15 issues in total)</li> </ul>	<ul style="list-style-type: none"> <li>Increasing the number of safety management personnel from 26 to 131 individuals</li> <li>The establishment of the Sustainability Management Division (Dec. 2021)</li> <li>Overseeing and facilitating safety management</li> <li>Implementing safety management for regular/daily on-site maintenance through the operation of a safety monitoring team. This team, which consists of 12 individuals, has been operational since September 2021.</li> </ul>	<ul style="list-style-type: none"> <li>Mitigating the root cause of risk</li> <li>Successfully managing six companies and overseeing seven processes directly</li> <li>Undertaking a comprehensive revision of work permit regulations and enhancing computerization</li> <li>Elevating work standards</li> <li>Handling a total number of 1,866 cases, with ongoing efforts for establishment and revision being implemented</li> <li>Improving entry and exit management</li> <li>Streamlining budget planning (allocating separate accounts for safety and environment)</li> </ul>	<ul style="list-style-type: none"> <li>Construction for wireless control of fixed oxygen sensors in all plants</li> <li>Accelerating smart factory</li> <li>Introducing a digital platform, which includes Digital Twin, handover, and documentation, in a pilot plant</li> <li>Increasing investment in all factories</li> <li>Introducing intelligent CCTV</li> <li>Allocating funds towards the implementation of artificial intelligence safety control for Plant 4, specifically designed for low-light conditions.</li> <li>Designing an integrated safety control and health center</li> <li>Supplying all factories with intelligent wireless terminals</li> </ul>

#### The Current Status and Future Plans for the Safety and Health Budget (10 billion KRW)



#### Investment in Safety and Health

Korea Zinc is making substantial investments to manage and enhance the safety and health system that directly impacts the lives and safety of its employees. In 2022, Korea Zinc allocated approximately 30 billion KRW towards improving safety and health, which included 13 billion KRW in net investments and additional costs for instructional training and equipment. The company expended roughly 53 billion KRW, inclusive of facility investment costs, and plans to significantly increase this investment to approximately 95 billion KRW in 2023. Based on this investment plan, we have outlined a strategy to establish an integrated safety control center at Onsan Refinery in 2022, and to enhance the safety education center and disaster prevention facilities for hazardous chemicals. In 2023, we aim to establish a smart factory and a CCTV control system to minimize safety blind spots.

#### Safety and Health Management System Certification



Onsan Refinery, which constitutes 88.8% of all Korea Zinc operations, is renowned for its superior safety and health management capabilities. It upholds the ISO 45001, a global standard for safety and health management systems, as well as the Occupational Health and Safety Management System (KOSHA-MS), a leading standard in Korea. Leveraging a sophisticated safety and health management system, Korea Zinc fosters a work environment that prioritizes the health and safety of all employees and subcontract workers, proactively mitigating safety and health risks. Since 2021, Onsan Refinery has been presenting its annual safety and health performance and plans to the Board of Directors for approval, demonstrating a commitment to effectively implementing the safety and health management system across the entire company.

#### Process Safety Management (PSM)

The significance of process safety management is increasing due to the implementation of the Serious Accident Punishment Act in 2022 and various process-related accidents (such as fires, explosions, and leaks) both domestically and internationally. In order to adhere to the process safety management (PSM) system mandated by local laws and regulations, Korea Zinc has been enhancing its management system. This includes not only processes targeted by PSM, but also those not specifically targeted. The PSM system has been primarily concerned with ensuring worker safety, and Korea Zinc's commitment to maintaining worker safety will persist into the future.

#### The 12 Elements of Process Safety Management (PSM)

- 1. Process Safety Information**  
**Definition:** The fundamental data required to operate the process.  
**Purpose:** To systematically manage safety process data, including design drawings and documents, in order to guarantee safe operations and work practices based on this data.
- 2. Process Hazard Analysis**  
**Definition:** The process of identifying and eliminating risk factors.  
**Purpose:** To minimize the potential for hazards by evaluating and enhancing safety measures during work tasks and equipment operation.
- 3. Operating Procedures**  
**Definition:** Comprehensive guidelines for the safe execution of the process.  
**Purpose:** To guarantee efficient and secure functioning across various modes, including normal and abnormal operations, shutdown, and startup.
- 4. Mechanical Integrity**  
**Definition:** Procedures for inspection, testing, and maintenance designed to guarantee the safety of a facility.  
**Purpose:** The aim is to document the methods and standards for managing facilities, to categorize facilities based on their significance, and to guarantee that repairs and maintenance are carried out according to the plan.
- 5. Safety Work Permit**  
**Definition:** A permit system is designed to identify and eliminate hazardous factors in the workplace.  
**Purpose:** To implement, verify, and approve safety measures designed to protect workers and facilities before undertaking hazardous work involving fire, confinement, or electricity.
- 6. Contractors**  
**Definition:** Ensuring the safety of contractors at a level equivalent to that of Korea Zinc.  
**Purpose:** To ensure that the operations of the guide company are as safe as the original building's safety standards, thereby maintaining a consistent level of safety management.
- 7. Training**  
**Definition:** General training is designed to ensure the safe work performance of employees.  
**Purpose:** To mitigate the risk of procedural mishaps, we aim to develop and execute comprehensive training programs for all staff members engaged in the Process Safety Management (PSM) system.
- 8. Pre-Startup Safety Review**  
**Definition:** The process of identifying and eliminating potential hazards prior to the operation of facilities.  
**Purpose:** To ensure the safe operation of the equipment following the installation of new components or changes in the process, it is necessary to conduct checks before operating the equipment.
- 9. Management of Change**  
**Definition:** A preliminary risk assessment for potential changes.  
**Purpose:** To ensure safe operation and management of the process, we aim to review the necessary procedures and data in advance. This proactive approach helps to eliminate additional risks when changes occur.
- 10. Compliance Audits**  
**Definition:** Self-assessment of the PSM implementation status.  
**Purpose:** To perpetually enhance the PSM system by independently assessing and verifying if each component of the PSM system is being implemented in strict accordance with the guidelines.
- 11. Incident Investigation**  
**Definition:** The process of identifying the cause of an accident and establishing measures to prevent its recurrence.  
**Purpose:** To prevent similar or identical accidents by swiftly conducting investigations to identify causes and implement countermeasures, thereby averting larger accidents.
- 12. Emergency Planning and Response**  
**Definition:** The swift response and safeguarding of individuals and property during an emergency situation.  
**Purpose:** To swiftly respond in emergency situations with the aim of reducing human, material, and environmental harm.

### Creating a Secure Work Environment and Enhancing In-house Safety Skills

Korea Zinc releases incident reports (IRs) and limits workplace access to workers who have been found in violation. Instances that warrant the issuance of an IR include improper use of safety protection devices, failure to complete safety training, and the use of mobile phones while in motion. Korea Zinc offers comprehensive training to all staff members, including new hires, on the various types of hazardous chemicals, internal handling facilities, and associated risks. We are thoroughly prepared for the top 10 potential accidents. Our preparation includes not only education on preventative measures for chemical accidents, but also instructions on how to react and evacuate in the event of an incident. In 2022, we established a safety training center to enhance our employees' ability to prevent accidents. We aim to boost the effectiveness of our safety education by promoting experiential learning. In April 2022, Korea Zinc launched the "KZ Yieum" application, designed to enhance safety reporting and IR accessibility for both employees and suppliers. Consequently, Korea Zinc is promoting awareness among internal and external stakeholders to report safety issues promptly. Additionally, the company is bolstering its safety competencies through a range of training programs.

### Health and Safety Support for Suppliers

Korea Zinc is diligently working to establish a safe working environment for all personnel, encompassing not just employees but also internal and external suppliers. In 2022, we organized a co-prosperity seminar, which saw participation from a total of 88 companies, aimed at promoting voluntary safety practices. We enhanced safety and health management capabilities by acknowledging KOSHA-MS for subcontract workers and providing support for subsequent management. Additionally, we took part in a cooperative program facilitated by the Occupational Safety and Health Agency, for which we received an A rating.

### Health Management

Korea Zinc is actively engaged in health management activities, focusing not only on industrial accidents and injuries but also on the overall health of its employees. All areas of Onsan Refinery have been designated as non-smoking zones, and a total of 54 sites have been equipped with automated external defibrillators (AEDs). Furthermore, we conducted a survey on the Legal Risk Assessment of Musculoskeletal Disorders(MSDs), involving a total of 2,155 individuals, including our suppliers. We also run a program to assist workers returning from industrial accidents, supporting the entire process from accident prevention to treatment and recovery (return to work). Korea Zinc is enhancing the availability of medical aid for both its employees and subcontract workers by establishing healthcare centers on a factory-by-factory basis.



1 KZ-Yieum  
 2 Co-prosperity Seminar with Suppliers  
 3 No Smoking Campaign Poster

#### Three Safety Commandments

- 1 Safety is "more" important than production, profits, and anything else.
- 2 Doubt aggressively and share everything transparently.
- 3 Keeping myself and my colleagues safe is the highest duty and responsibility.

### Prevention of Workplace Safety Incidents

Korea Zinc classifies the various types of accidents that frequently occur in the workplace and is actively addressing each type. Throughout the process of product manufacturing and facility management, we prioritize the lives and safety of our employees and partners above all else, ensuring their protection.

#### Top 10 Accident Types and Countermeasures

Top 10 Accident Types and Countermeasures		
1 Jamming	5 Hitting	8 Disaster resulting from excessive force/motion
2 Exposure to and contact with abnormal temperatures	6 Exposure to and contact with hazardous substances	9 Disease
3 Bumping	7 Falling	10 Explosion
4 Tripping		

#### Top 10 Steps to Take Following an Accident

- 1 We implement preventive measures to avoid jamming accidents by installing protective devices on various equipment. Additionally, we establish a standard operating procedure to halt operations during maintenance, repair, or cleaning of equipment.
- 2 In response to potential exposure to and contact with abnormal temperatures, we are implementing safety measures. These include isolating flammable materials, assigning a designated work conductor for monitoring, and ensuring workers wear appropriate protective equipment.
- 3 The prevention of collisions is achieved by monitoring the safe operation of vehicles in the workplace, adhering to work regulations in teams, positioning guides, and observing safety rules.
- 4 In order to prevent tripping, electrical wiring is strategically installed in areas that do not interfere with pedestrian walkways. Additionally, mirrors are placed in blind spots to enhance pedestrian safety.
- 5 The term "hitting" refers to incidents where workers are struck by moving objects in the workplace. To prevent such accidents, we mandate the daily use of safety gear by all employees. This not only aims to minimize the occurrence of accidents but also to lessen the severity of injuries should an emergency arise.
- 6 In an effort to prevent accidents and ensure worker safety, we are educating all employees, including new hires, about the dangers of hazardous chemicals. We provide detailed guidelines for each step of the pipe replacement process to minimize risk. Additionally, we enforce the use of appropriate protective equipment when handling these substances.
- 7 In the event of a fall, we have implemented unmanned and automated systems to eliminate the need for high-altitude aerial work. If working at heights is unavoidable, we provide preventative and protective measures to guard against falls.
- 8 Accidents resulting from excessive force or movement are closely tied to the worker's physical condition. Therefore, they can be prevented by enhancing the worker's posture and encouraging stretching exercises before commencing work.
- 9 It is advisable for workers to minimize their total exposure time to noise and to utilize protective gear such as earplugs. Furthermore, we administer routine hearing examinations to ascertain the health status of our workers and to facilitate early intervention.
- 10 In the event of an explosion, it is necessary to consistently monitor the readings displayed by the working instrument. If work is being conducted in confined spaces or involves firearms, a monitor who has completed the Korea Zinc qualification training must be assigned. Furthermore, continuous ventilation is employed to mitigate the risk of an explosion.



Training Materials on Chemical Substances and the Environment



## Cybersecurity

### Information Protection Systems

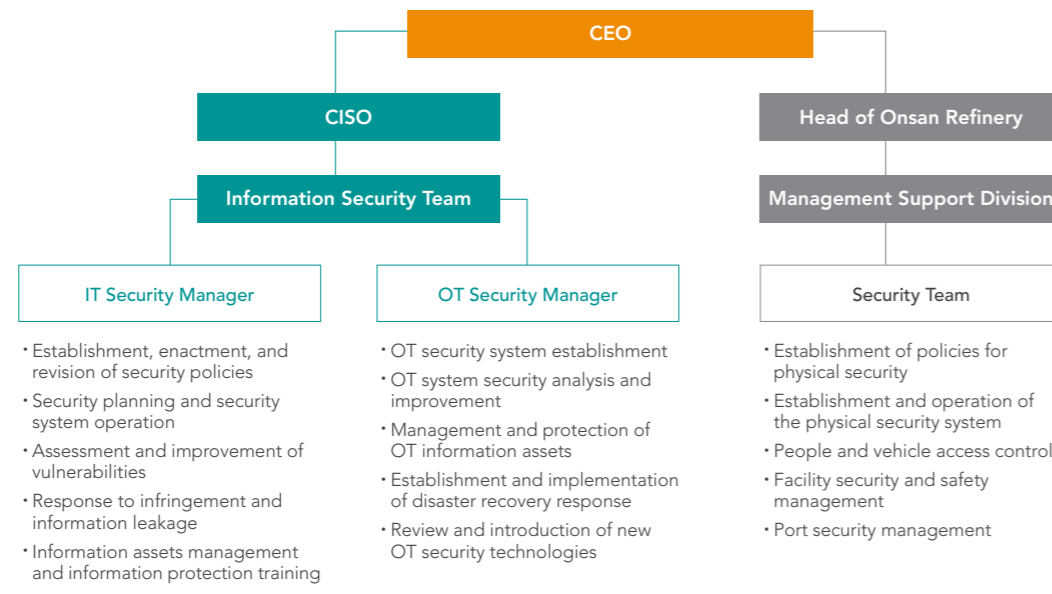


Korea Zinc conducts information security disclosure<sup>1)</sup> to enhance the transparency of information protection management and to earn the trust of customers and society.

1) Information Security Disclosure: A system that discloses the enterprise's status of information security, such as the status of investment in information security and relevant human resources, according to Article 13, Act on the Promotion of Information Security Industry.

#### Information Protection Organization

Korea Zinc's information protection is managed by a cyber and physical security organization that reports directly to the CEO. The CISO and the Information Security Team, which falls under the CISO's jurisdiction, are responsible for the implementation and maintenance of enterprise security solutions. Meanwhile, the Security Team under the head of Onsan Refinery oversees the safety of the facility and the physical security of the refinery. To foster trust among internal and external stakeholders, including customers, Korea Zinc openly shares details about the structure and activities of the information protection organization, as well as relevant certifications and evaluations.



- Establishment, enactment, and revision of security policies
- Security planning and security system operation
- Assessment and improvement of vulnerabilities
- Response to infringement and information leakage
- Information assets management and information protection training

- OT security system establishment
- OT system security analysis and improvement
- Management and protection of OT information assets
- Establishment and implementation of disaster recovery response
- Review and introduction of new OT security technologies

- Establishment of policies for physical security
- Establishment and operation of the physical security system
- People and vehicle access control
- Facility security and safety management
- Port security management

### Activities for Strengthening Information Protection Capacity

#### Strengthening Cyber and Physical Security

The information protection team at the headquarters is actively managing the cybersecurity of both the headquarters and Onsan Refinery. They are utilizing an endpoint response solution (EDR) to monitor and respond to potential threats in real time, thereby safeguarding the key IT assets of our employees from a range of internal and external risks. In the first half of 2023, we conducted an enterprise email simulation exercise using three different scenarios to prepare for potential malicious emails. The Security Team at Onsan Refinery enforces stringent access control for those entering the facility, utilizing an advanced access control system and electronic access cards. Furthermore, CCTVs are installed throughout the workplace, providing 24-hour surveillance from the security control center. This comprehensive monitoring system not only helps prevent safety and security incidents but also ensures a swift response during emergencies.

#### Security Vulnerability Audit and Improvement Activities

Korea Zinc has implemented a security review process that evaluates security measures at every phase of both new system development and existing system enhancement. This process proactively addresses potential security vulnerabilities. Furthermore, ongoing efforts to strengthen security are undertaken, including identifying key system improvements via simulated hacking conducted by external experts.

#### Activities for Enhancing Employees' Information Security

Korea Zinc carries out an email simulation exercise for all employees, instructing them to report any suspicious emails to the Information Protection Team. Additionally, we create our own training materials for information protection. These materials include the most recent security issues and crucial security guidelines for the company. We also conduct information protection training for our employees at least once a year.

### Future Plans for Information Protection

Korea Zinc is pursuing TISAX<sup>2)</sup> AL3 certification for its head office, data center, and Onsan (KZAM) facilities. TISAX is a globally recognized information security certification specifically designed for the automotive industry, and it is based on the ISO27001 standard. As part of our strategy to successfully secure new business opportunities, we are proactively working to obtain TISAX certification, which we anticipate will be a requirement from our clients and suppliers in the EU. Our goal is to complete this certification process by 2023.

2) TISAX: ISO 27001-based international certification for information security with added requirements for the automotive industry

## Supply Chain Sustainability

### Supply Chain Management System

We are in the process of implementing medium- to long-term plans for the establishment of a supply chain management system. Our approach involves setting criteria for supplier classification, which will help us define the scope of the management system. We will then conduct systematic and consistent management of the supply chains for supplier that have been classified through self-assessment and surveys.

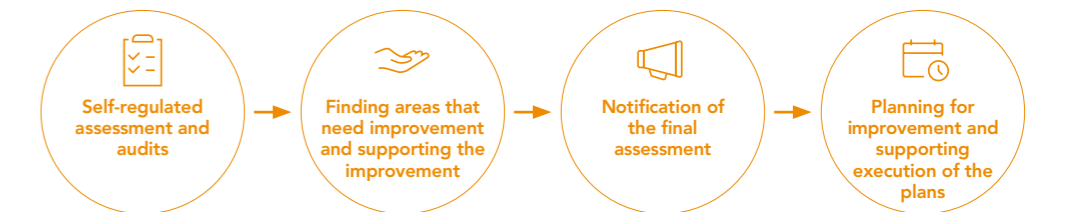
#### Supplier Identification and Categorization

In 2022, we initiated the first step of our management system by identifying and categorizing our supplier into different tiers. Among the first-tier supplier, those with a turnover exceeding 30 million KRW were designated as Tier 1. Furthermore, partners with purchases amounting to 5 billion KRW or more, those deemed irreplaceable, those with a history of medium to long-term purchases, and those chosen based on the internal consensus of the purchasing department were classified as critical Tier 1 suppliers.

	No. of Companies	Proportion of Purchases(%)
Tier 1 Supplier	1,628	61.25
Critical Tier 1 Suppliers	193	47.39

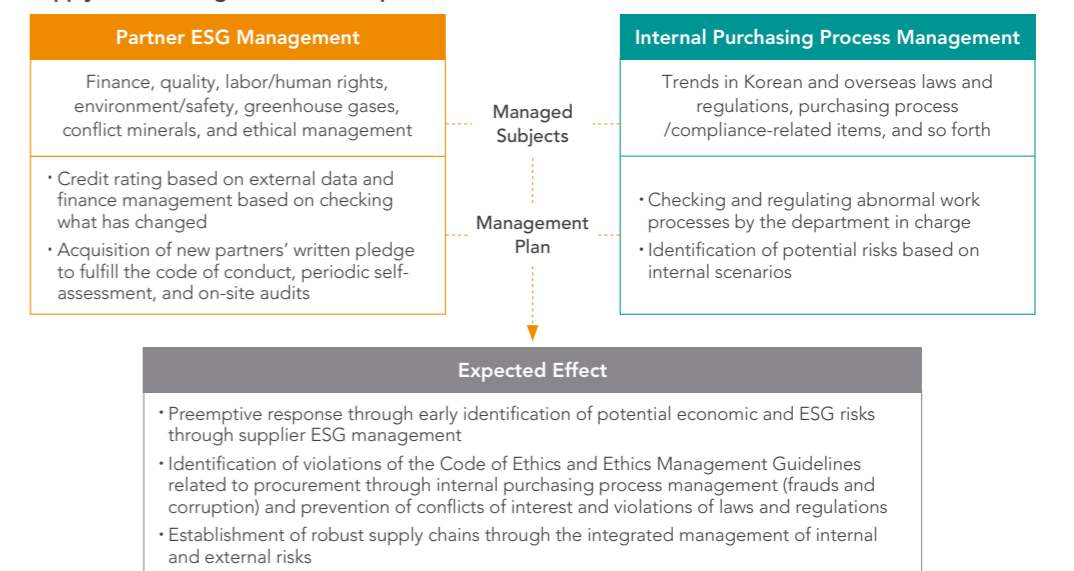
#### Advancement of the Supply Chain Management System Plans (Self-diagnosis and Audits of Suppliers)

We regularly assess whether our suppliers and key associates adhere to the company's ethical guidelines. Additionally, we are establishing risk management systems pertaining to supply chains. We intend to carry out self-assessments and preliminary audits to identify areas requiring enhancement, and to devise strategies to support these improvement measures.



We will categorize supply chain risks identified through self-assessment and on-site audits into two types: partner (external) risks and purchasing process (internal) risks, based on the management objective and monitoring approach. To identify early-stage risks related to finance, labor/human rights, environment/safety, partners, and raw materials like conflict minerals supplied by partners, and to implement timely interventions, we will employ monitoring methods such as credit rating, self-evaluation, surveys, and third-party verification. Risks related to regulations concerning the internal purchasing process will be managed through system control and on-site assessments.

#### Supply Chain Management Plan (Proposal)



**Partner ESG Management**

Finance, quality, labor/human rights, environment/safety, greenhouse gases, conflict minerals, and ethical management

- Credit rating based on external data and finance management based on checking what has changed
- Acquisition of new partners' written pledge to fulfill the code of conduct, periodic self-assessment, and on-site audits

**Internal Purchasing Process Management**

Trends in Korean and overseas laws and regulations, purchasing process /compliance-related items, and so forth

- Checking and regulating abnormal work processes by the department in charge
- Identification of potential risks based on internal scenarios

**Expected Effect**

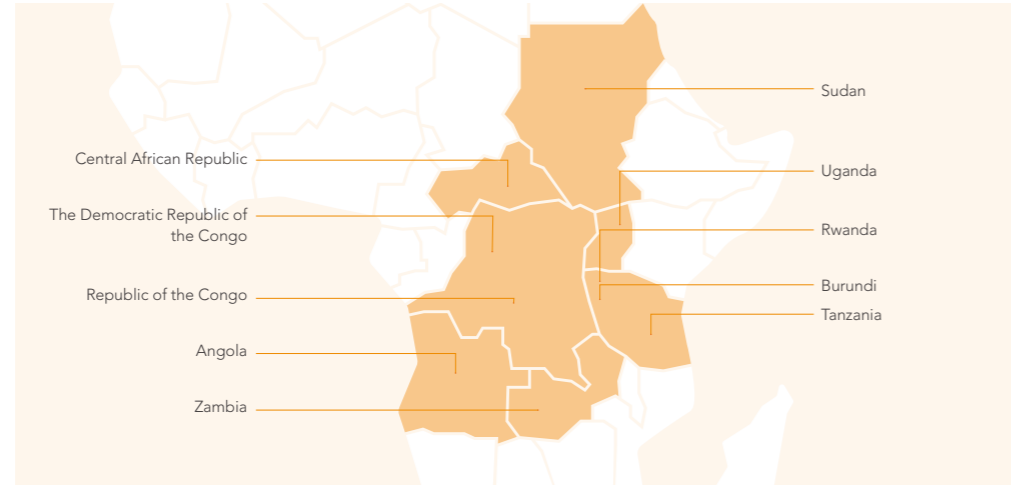
- Preemptive response through early identification of potential economic and ESG risks through supplier ESG management
- Identification of violations of the Code of Ethics and Ethics Management Guidelines related to procurement through internal purchasing process management (frauds and corruption) and prevention of conflicts of interest and violations of laws and regulations
- Establishment of robust supply chains through the integrated management of internal and external risks

## Management of Conflict Minerals

In the procurement phase, we ensure that we do not use conflict minerals and we monitor our manufactured products to verify that they do not contain these minerals. We manage the use of conflict minerals in line with the Due Diligence Guidance proposed by the OECD. Additionally, as a member of the Korean Association of Urban Mines, we actively participate in discussions within the Korean industry regarding regulations on conflict minerals.

### Managed Conflict Minerals

Korea Zinc oversees the management of several minerals, including silver and the four minerals known as the 3TGs—tin, tantalum, tungsten, gold, and silver. These are extracted from conflict-ridden regions in Africa.



### Danger Areas to Be Managed

According to the OECD guidelines, we identify certain regions in Africa (including the Central African Republic, Democratic Republic of the Congo, Republic of the Congo, Angola, Zambia, Sudan, Uganda, Rwanda, Burundi, and Tanzania) as areas of concern. These regions are frequently plagued by social issues such as conflicts, child labor, human rights violations, armed conflicts, terrorism, and money laundering. As such, we regard these areas as high-risk and in need of management.

### Conflict Mineral Policy

We have implemented policies to communicate the scope of conflict minerals under our management, as well as our commitment to managing these minerals, to both internal and external stakeholders. We pledge not to engage in business with suppliers who fail to adhere to our conflict minerals policies. As evidence of our compliance with these policies, we will provide information about our due diligence investigations. We comply with the following policies in accordance with the standards from OECD Guidance Annex 2.

1. We strictly refrain from using conflict minerals that have been produced, transported, or traded through processes involving inhumane practices such as child labor and human rights violations.
2. We categorically avoid utilizing conflict minerals that are linked to non-state armed groups, terrorism, and any form of organization directly or indirectly associated with supporting terrorism.
3. We maintain a strong commitment to both preventing money laundering and avoiding tax evasion. Furthermore, we make diligent efforts to combat the laundering of funds associated with conflict minerals.
4. We uphold a zero-tolerance policy towards any form of direct or indirect bribery and corruption. Our adherence to anti-bribery and anti-corruption regulations is unwavering.
5. In our rigorous management of the conflict mineral supply chain, we conduct comprehensive Due Diligence Surveys and employ a consistent procedure to assess the reliability and identify potential risks of our suppliers, especially when sourcing raw materials from conflict and high-risk regions.

### Conflict Mineral Management System and Process

We have implemented a conflict mineral management process, guided by the vision of “producing products using legally and ethically sourced minerals, and managing the supply chains accordingly.” We promote awareness of conflict minerals by engaging in dialogue with our partners, examining the present state of these minerals, and carrying out investigations or validations based on our findings. We devise strategies to mitigate the risks identified during this process and share pertinent information with our customers and external stakeholders.



### Accomplishments

Korea Zinc is committed to acknowledging the environmental and human rights concerns that may arise when mining minerals from specific countries and establishing a responsible supply chain. Every year, we produce a due diligence report for gold via the “Responsible Minerals Assurance Program” from the Responsible Mineral Initiative (RMI). Additionally, we undergo an audit every three years. The London Bullion Market Association (LBMA) provides assurance for our silver through their Responsible Silver Guidance.



RMAP Assessment Certificate

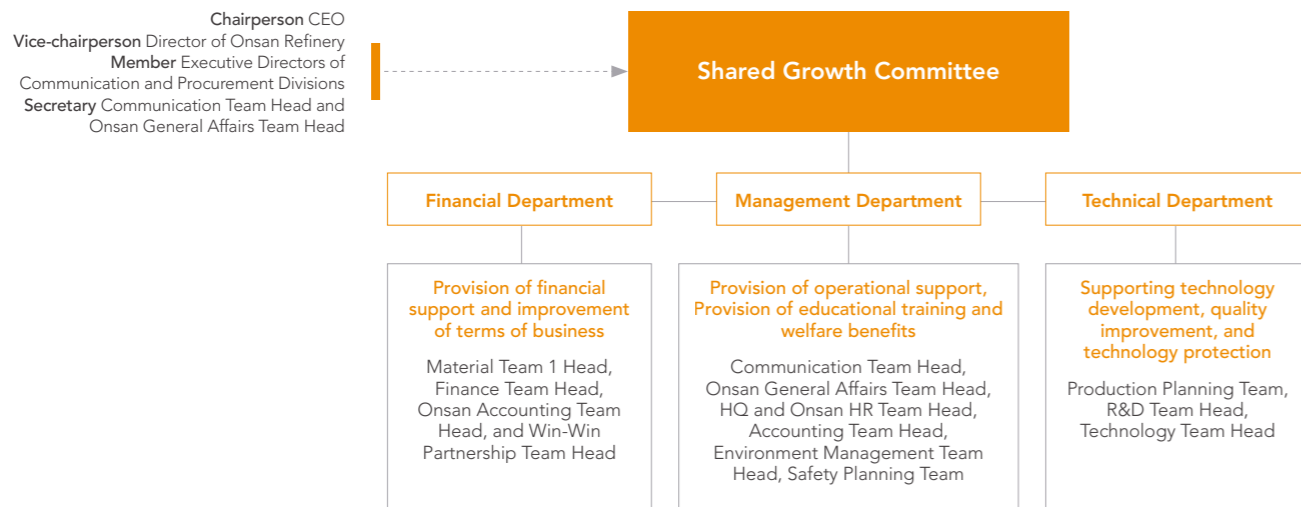


LBMA Assessment Certificate

## Helping Our Partners Thrive

### Shared Growth System

Our impressive expansion over the past half-century is a testament to our symbiotic growth with our partners. We persist in offering multifaceted support to enhance the concept of shared growth and mutually beneficial cooperation. This is achieved by consistently and systematically promoting supportive activities through our shared growth management system. We have also instituted the Shared Growth Committee, an organization chaired by our CEO. This committee carries out a range of activities, facilitated by professionals from the financial, management, and technical fields.



### Major Activities of Shared Growth

In 2021, we entered into a shared growth agreement with 82 partners. This was followed by the addition of two more companies in 2022. We have offered education in areas such as environment, safety, health, and total productive maintenance (TPM). To foster a win-win relationship with our partners, we have equipped them with KOSHA-MS occupational health and safety management system certification. We also provide follow-up management. In May 2022, we held the “Business Support Agreement Ceremony for Win-win Cooperation for Shared Growth”. This event was designed to offer labor and legal consultation services, in addition to the existing occupational health and safety management. In November 2022, we conducted the Agreement Ceremony for Shared Growth with Self-regulated Safety. This event was held with our partners to bolster their management stability. These partners had previously received incentives for achieving a record of zero hazards. We have offered financial support and improved business terms to promote effective shared growth. Furthermore, we support the development of technology and quality improvement to safeguard our partners’ technologies.

- Provision of financial support and improvement of terms of business**
  - Establishment of a KRW 40 billion win-win collaborative fund with low-interest loans for partners (in partnership with financial institutions)
  - Full payment in cash and early payments for holidays (Seollal and Chuseok)
  - Exemption of excellent partners from contract performance securities and defect performance securities
  - Reflection of the increase in raw material prices in the delivery unit price and support of management stability through signing long-term supply contracts
- Supporting technology development, quality improvement, and technology protection**
  - Improvement of the technology independence of partners by using parts manufactured in Korea
  - Supporting partners in acquiring ISO certification and provision of consultation regarding the establishment of a quality management system
  - Supporting the development of new technologies, process improvement, automation, and cost reduction
  - Allowing access to Korea Zinc R&D facilities
- Provision of educational training and welfare benefits**
  - Providing the employees of partners with capacity enhancement programs
  - Provision of education in environment, safety, health, and TPM
  - Providing the workers of partners with welfare benefits, such as office accommodation and welfare centers

## Inclusive Growth

### Korea Zinc Shared Management System

[Korea Zinc Website](#)  
Social Contribution



Areas of Shared Management (KZ Clover)

Korea Zinc implements shared management practices to fulfill its Corporate Social Responsibilities (CSR) in various regions, not just in Onsan, where the refinery is located. This approach supports the members of local communities. In 2022, Korea Zinc formulated strategies for social contributions and introduced the social contribution brand, KZ Clover, which will lay the groundwork for our future sustainable management plans. KZ Clover will spearhead our initiatives to foster happiness and prosperity among stakeholders in local communities through our socially and environmentally responsible activities.

#### Talent Development

As Korea Zinc has evolved into a globally recognized leader in nonferrous metal refining, we attribute this success to our talented team. We firmly believe in the transformative power of education, which offers individuals opportunities for growth. Consequently, we are concentrating our efforts on educational social contribution activities.

#### Philanthropy and Volunteer Work

Korea Zinc holds the belief that “growing together” is the key to unlocking future possibilities. We can only truly reach our potential when we recognize that our lives are intertwined with others. To this end, Korea Zinc employees are enthusiastically engaged in a variety of social responsibility initiatives, all aimed at fostering this sense of collective growth.

#### Culture and Arts

The diverse materials produced by Korea Zinc enhance the quality of our lives. In a continued effort to support a better and more fulfilling lifestyle, Korea Zinc sponsors cultural events and arts programs.

#### Environment

Korea Zinc is spearheading the shift towards environmentally friendly resource recycling, leveraging our world-class refining technology to expand our business. We are engaged in numerous social contribution initiatives, with the goal of utilizing natural benefits and recycling resources in a manner that does not harm humans or the environment.

### Shared Management Activities

In 2022, Korea Zinc initiated collaborative management activities in alignment with KZ Clover and its four strategic approaches. The company has expanded and improved upon existing activities, while also developing new ones, to foster a shared management approach that meets the needs of local communities and satisfies all stakeholders. Moving forward into 2023, we will persistently strive to consider matters from a sustainability management perspective and propagate positive societal impacts.

#### KZ Progress: Talent Development

**145 million KRW**  
Donation to the Ulsan Regional School Development Fund

#### Donation to the Ulsan Regional School Development Fund

Since 2008, Korea Zinc has been financially supporting schools in Ulsan to enhance the learning environment for students. This funding is facilitated through the Ulsan Metropolitan Office of Education. In 2022, we contributed 145 million KRW to various schools in Ulsan, including Deoksin Elementary School. These funds were allocated for student welfare, extracurricular activities, educational materials, books, and other academic pursuits.



Korea Zinc ‘Youth Vision Festival’

#### Support for Vulnerable Teenagers

Korea Zinc is committed to ensuring that vulnerable children do not abandon their dreams due to their living conditions. To this end, we provide funding for tuition fees and run the Dream Support program for teenagers. This program is designed to help children and teenagers nurture their talents and evolve into leaders within a healthy environment. As of 2023, we have been running this program for 11 years and have supported approximately 160 students.

#### Child Welfare Programs

Korea Zinc is committed to nurturing future generations through our child welfare initiatives. In collaboration with World Vision, Child Fund Korea, and local child protection agencies, we have played a significant role in preventing child abuse and safeguarding families in crisis. We have donated 134 million KRW, which has been used to acquire a total of 7,085 books for regional childcare centers. This funding has also been instrumental in preventing child abuse and providing temporary aid services.

#### Collaboration Between Industry and University to Address Regional Challenges

In 2022, Korea Zinc initiated collaborative projects with 50 students from Ulsan University, aimed at addressing local community issues. Our focus was on finding solutions to these regional problems, implementing projects that promoted recycling and eco-friendly consumption. This initiative significantly increased awareness of local environmental issues. Korea Zinc funded these projects and provided scholarships to the participating students.

**Approx. 50 Students**  
Participation in Collaboration Projects between Korea Zinc and Ulsan University

**KZ Together: Philanthropy and Volunteer Work**

**Social Welfare Initiatives in Collaboration with the Korean Red Cross**

Korea Zinc has collaborated with the Korea Red Cross, specifically its Northern Seoul and Ulsan branches, to carry out extensive social welfare activities. In 2022, we contributed 720 million KRW to charitable causes and donated an additional 290 million KRW for blood donation buses to the Korea Red Cross. Moreover, we provided support and sponsorship to families facing crises.



Donation of Korean Red Cross Blood Donation Bus

**Improving Housing Conditions and Distributing Winter Essentials for Vulnerable Populations**

Since 2015, Korea Zinc has annually partnered with the non-governmental organization, Habitat for Humanity Korea, to improve housing and distribute winter necessities for vulnerable individuals. The donations provided by Korea Zinc have been used to distribute winter essential kits, which include winter bedding, electric pads, food, winter gear, and other necessities. These funds have also been used to improve housing conditions for those living in substandard accommodations within local communities. In 2022, a total of 14 households benefited from the housing improvement program, and 100 households received winter essential kits.

**Assistance Programs for Individuals with Disabilities**

Every year, Korea Zinc operates support programs for individuals with disabilities in local communities. These programs are designed to enhance welfare and offer rehabilitation therapies. The funds we have donated are utilized to provide mental healthcare services as part of the Healing Program, along with a variety of other initiatives. These include support for smart lifestyle assistance devices, job training, and disability aid rental services, among others. Moving forward, Korea Zinc will persistently strive to develop and back various projects aimed at improving the welfare and rehabilitation of people with disabilities within our communities.

**PC Donations**

Korea Zinc has initiated a new social contribution project that donates IT assets, including PCs, monitors, and printers, to local communities. These assets, which are replaced every four years, are part of our commitment to ESG management. We aim to contribute to the sustainability of our resources by repurposing outdated PCs and other IT assets. This is made possible with the assistance of local social enterprises that help check their performance and repair them. These devices are then used to enhance accessibility for children in local childcare centers. As of 2022, we have delivered approximately 200 PCs to 56 local childcare centers.

**Plans for 2023**

In 2023, Korea Zinc is committed to actively engaging in the identification and resolution of local issues that have been neglected by local stakeholders due to budget constraints. This will be done in collaboration with the Ulsan Public-Private Partnership Center. Furthermore, we plan to broaden our philanthropic efforts and volunteer work by improving the ease of participation for our employees.

**KZ Happiness: Culture and Arts**

**Sponsoring Culture and Arts**

Korea Zinc initiated our patronage of culture and the arts as numerous artists were impacted by the COVID-19 pandemic, which led to a reduction in corporate sponsorships. We have committed to making annual donations to the National Museum of Modern and Contemporary Arts, beginning in 2021. As a leading global company in the nonferrous metal industry, we have proudly sponsored the "Metal Crafts of the Year" award for the past 11 years. In 2023, the esteemed recipients of the Metal Crafts of the Year award were Jae Sun, Won and So Won, Joo. Each was honored with a prize of 10 million KRW and a commemorative plaque.

**11 Years of Sponsorship**  
"Metal Crafts of the Year"



2023 Metal Crafts of the Year Awards

**KZ Sustainability: Environment**

**Carbon Neutral Forest Creation Agreement**

In May 2022, Korea Zinc signed the "Carbon Neutral Forest Creation Agreement" with Tree Planet, KOR12, and author Eui Dong, Jeong. This agreement aims to restore forests in Hongcheon, located on the eastern coast of Korea, which were damaged by a forest fire. Korea Zinc contributed 300 million KRW towards the purchase of seedlings and planting materials, which will serve as the foundation for reforestation efforts. Tree Planet prepared a plot for planting and provided pet trees for students and the employees at Korea Zinc. KOR12 was involved in planning global ESG collaboration campaigns. Author Eui Dong, Jeong enhanced the promotion of these campaigns by creating a model of an owl, a species severely impacted by the wildfire.

**300 million KRW**  
Costs Associated with Seedlings and Planting Materials



Support for Seedling Production and Planting Costs

**1,170 Units Delivered**  
Pet Tree Kits and Owl Figure



Pet Tree Kits and Owl Figure

**Pet Tree Campaign**

In October 2022, Korea Zinc launched a follow-up project to the Carbon Neutral Forest Creation Agreement, known as the "Pet Tree Campaign." As part of this initiative, we distributed pet tree kits and 1,170 owl figurines to students at Deoksin Elementary School in Ulsan. The pet tree included in the kit is Asplenium antiquum, a native Korean species currently listed as endangered. By distributing this particular tree, Korea Zinc underscored the importance of forest and ecosystem preservation. The containers housing the trees, referred to as "SMIM," are constructed from recycled PET bottles and discarded mask materials from factories. This approach helped to communicate the significance of carbon neutrality to the students. Additionally, the students had the chance to learn about owls, another endangered species, and the importance of protecting such animals. This was achieved through a coloring activity involving the owl figurines. Korea Zinc is committed to continuing the development of a range of eco-friendly campaigns. Our aim is to educate future generations about the importance of sustainability, which encompasses aspects such as biodiversity and carbon neutrality.

**MOU for Creating a "Forest of Connection"**

Korea Zinc has entered into a memorandum of understanding (MOU) with KOR12 and Tree Planet to establish the "Forest of Connection" in Lombok, Indonesia. Following Samcheok in Uljin, Lombok is the second location chosen for this forest creation initiative. This region, which has suffered from disasters and landslides due to climate change, requires international attention and support. Unfortunately, some local residents resort to illegal habitation and destruction of forestland as a means of survival. In order to preserve biodiversity and achieve carbon neutrality through forest creation in Lombok, it is crucial to provide alternative income sources. Without these, locals may continue to exploit and damage the forests for their livelihood. As such, we have initiated a mutually beneficial partnership with local communities, government agencies, and companies, including KOR12, Tree Planet, and various Indonesian civil organizations. This partnership aims to create a campaign that positively impacts the lives of the local population. Through this collaboration, we will focus on fostering a sustainable community.

**Plans for 2023**

In April, Korea Zinc has showcased its dedication to fostering growth alongside local communities by spearheading the "Forest of Connection" project. This initiative aims to establish carbon-neutral forests in Uljin, an area previously devastated by wildfires. We have planted yellow poplar trees to cultivate a local ecosystem that benefits the residents. In this vein, Korea Zinc is committed to advancing eco-friendly shared management activities. This will enable all our employees and labor unions to participate in and contribute to the creation of sustainable forests.



MOU to Create Forest of Connection

**2022 Shared Management Calender of Korea Zinc**

**January**

- Sponsored the Korea Red Cross Activity called "Sharing Dishes for Love" (HQ)
- Awarded a Sponsored Special Scholarship from the Scholarship Society of the Commerce Department at Seoul University (HQ)
- Sponsored the Bright Youth Huddling Youth Choir Festival (HQ)
- Donated to the Korean Red Cross for Blood Donation Buses (Onsan)

**Jan.**

**February**

- Donated to the Fund to Support the Social Welfare of Onsan, Ulju-gun (Onsan)

**Feb.**

**March**

- Donated to the Hope Bridge fund for the Uljin and Samcheok Wildfire Damage Recovery (HQ)
- Donated to the Fund for Yearly Subscription Fees for Executives in the Ministry of Justice Teenager Crime Prevention Ulsan Committee (Onsan)
- Ceremony for 500 Million KRW Social Welfare Donation to Ulju-gun

**Mar.**

**April**

- Sponsored Habitat Korea's Residential Environment Improvement Program (HQ)
- Sponsored the Gyeongnam Migrant Labor Welfare Center's Online Festival "MAMF" (HQ)
- Sponsored the UN Academic Impact World Citizenship Education Project (HQ)
- Sponsored the Open Culture Association (Onsan)
- Donated to the Fund to Support the Social Welfare of Jung-gu, Ulsan (Onsan)
- Donated to the Fund to the Korea Red Cross Ulsan Branch for Educating Teenagers from Families in Crisis (Onsan)

**Apr.**



**May**

- Sponsored the Dongmyeong Children's Welfare Center (HQ)
- Donated to the Fund to the National Museum of Modern and Contemporary Art Development Sponsorship Committee (HQ)
- Sponsored the Campaign for Creating Carbon-neutral Forests by the Work Together Foundation (HQ)
- Sponsored the "Metal Crafts of the Year Award" (HQ)

**May.**

**June**

- Sponsored Summer / Winter Items for the Vulnerable (HQ)
- Sponsored Gloria Opera Company (HQ)
- Sponsored the Military (1 Company-1 Army Barracks Match) (HQ)



**Jun.**



**July**

- Sponsored the Asan Foundation (HQ)
- Sponsored the Samsung Seoul Hospital (HQ)
- Sponsored 2022 Nowon Vision Festival for Teenagers (HQ)
- Shared Samgyetang (chicken soup) and Cool Boxes with the Korean Red Cross (HQ)
- Donated Electric Buses to the Ulsan City Hall (Onsan)

**Jul.**

**August**

- Donated to the Fund for Flooding Management (HQ)
- Shared Samgyetang (Onsan)
- Shared Songpyeon for 2022 Chuseok with the Korean Red Cross (HQ)



**Aug.**

**September**

- Sponsored the Day of Hanji by the Hanji Preservation and Utilization Foundation (HQ)
- Sponsored the Korean Society Event (HQ)
- Donated to the Development Fund for Local Schools in Ulsan (Onsan)



**Sep.**

**October**

- Volunteer Cleaning Work in Dongmyeong Children's Welfare Center (HQ)
- Donated to the School Development Fund for Youngnam University (Onsan)
- Supported Crime Victims in Ulsan with the Ulsan Metropolitan Police Agency Crime Victim Support Center (Onsan)
- Sponsored the Ulsan Sports Association for the Korean National Sports Festival (Onsan)
- Delivered Pet Trees at Deoksin and Onsan Elementary School (Onsan)



**Oct.**

**November**

- Sponsored Kimjang (making Kimchi) Event and Winter Bedding Sharing Event (HQ)
- Sponsored 2022 Warm Winter Coal Briquette Sharing with the Korea Red Cross (HQ)
- Sponsored the Korea Invention Promotion Association's Campus Patent Strategy Universiade Event (HQ)
- Donated to the Fund to the Yeol Foundation for the "Night of Sponsorship Event" (HQ)
- Sponsored the Teen Harmony's Food Truck Purchases (HQ)
- Sponsored Book Purchases by the Child Fund Korea for Local Children's Centers (Onsan)
- Sponsored the World Vision's Regional Dream Designers for Teenagers (Onsan)

**Nov.**

**December**

- Sponsored the 2023 Campaign of Sharing Hope by the Community Chest of Korea (HQ, Onsan)
- Donated to the Fund to the Life World (HQ)
- Sponsored the Children of Seum Prisoners (HQ)
- Ceremony for Donation to the Ulsan Metropolitan Police Agency for Crime Victims (Onsan)



**Dec.**

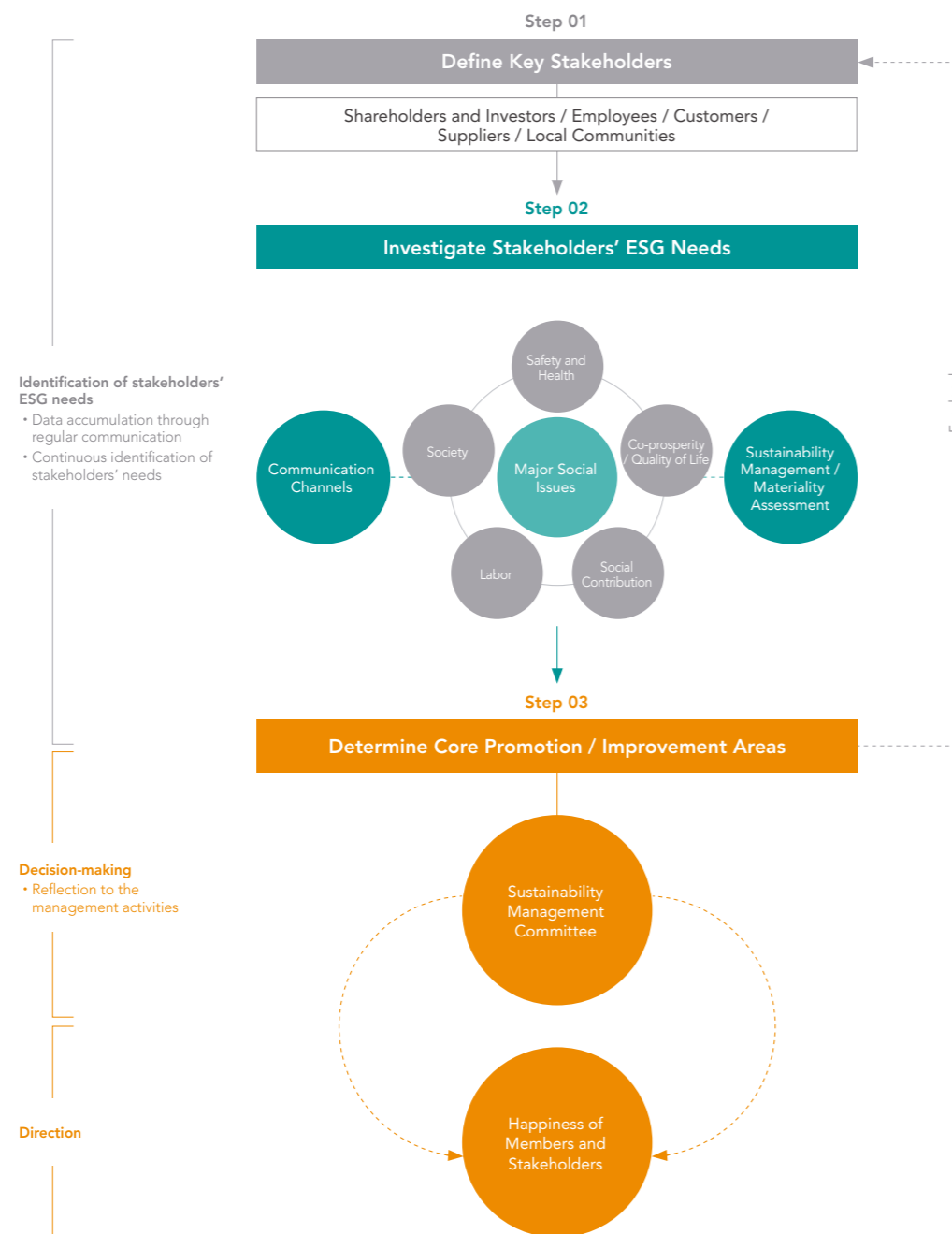
# Building Bridges with Our Stakeholders

## Stakeholder Communication

### Stakeholder-facing Strategy

In addition to our employees, we recognize a variety of external stakeholders, including affiliates, partners, customers, shareholders/investors, communities, and NGOs, as key contributors. We manage these relationships accordingly. Furthermore, we regularly monitor the potential positive and negative impacts our management activities may have on these stakeholders. We operate various communication channels, including websites, regional social gatherings, and conferences, to gather the views of our stakeholders. We also publicize the company's key activities, performance, and future plans through our website, integrated reports, and social media platforms. We place great importance on our stakeholders' perspectives regarding the advancement of management activities and are committed to exemplifying the essence of sustainability management through ongoing dialogue with our stakeholders via diverse communication avenues.

### Stakeholder Identification and Communication Processes



Korea Zinc Youtube Channel, "Korea Zinc TV"

### Communication Channels for Different Stakeholders

We are continually exploring diverse methods to enhance our communication with stakeholders. In 2022, we revamped our website and launched our YouTube channel, "Korea Zinc TV." Through these efforts, we have amplified our stakeholders' access to company news and ESG content by refining our existing communication platforms and establishing new ones. Furthermore, the board of directors and associated committees incorporate the feedback gathered from each communication channel into the company's management activities.

Stakeholder	Main Interest	Communication Channel	Common	Frequency of Management
Shareholders/ Investors	<ul style="list-style-type: none"> <li>Highest decision-making structure</li> <li>Management strategy and investment plans</li> <li>Compliance</li> <li>Financial and non-financial performance</li> <li>Risk management</li> </ul>	General meeting of stockholders	Website (www.koreazinc.co.kr) Sustainability Report Social medial channels (www.Instagram.com/koreazinc)	Regular
		IR (Investors Relation)		Regular
		Public notice		Ad hoc
Employees	<ul style="list-style-type: none"> <li>Work-life balance</li> <li>Labor-management relations</li> <li>Benefits package</li> <li>Assessment and rewards</li> <li>Capacity enhancement</li> </ul>	Labor-Management Council	Website (www.koreazinc.co.kr) Sustainability Report Social medial channels (www.Instagram.com/koreazinc)	Ad hoc
		Happiness Index survey within the organization		Everyday
Customers	<ul style="list-style-type: none"> <li>Product quality and safety</li> <li>Competitiveness of product prices</li> <li>Terms of contracts for products</li> <li>Brand reputation</li> </ul>	Customer satisfaction survey	Website (www.koreazinc.co.kr) Sustainability Report Social medial channels (www.Instagram.com/koreazinc)	At any time
		Voice of Customers (www.koreazinc.co.kr)		Regular
Partners	<ul style="list-style-type: none"> <li>Fair trade</li> <li>Shared growth</li> <li>Win-win collaboration</li> <li>Supply chain management policies</li> </ul>	Shared growth	Website (www.koreazinc.co.kr) Sustainability Report Social medial channels (www.Instagram.com/koreazinc)	Regular / Ad hoc
		Seminars/education		Ad hoc
Local Communities	<ul style="list-style-type: none"> <li>Effects on local communities</li> <li>Social contributions (donations and sponsorship)</li> <li>Responses to climate change</li> <li>Participation in government policies</li> <li>Activation of industrial ecosystems</li> </ul>	Local governments in communities (economics/social welfare, volunteer activities, and education)	Website (www.koreazinc.co.kr) Sustainability Report Social medial channels (www.Instagram.com/koreazinc)	At any time
		Institutions/ organizations (Sustainable Development Council, RE100 Council)		At any time

### Five Core Values

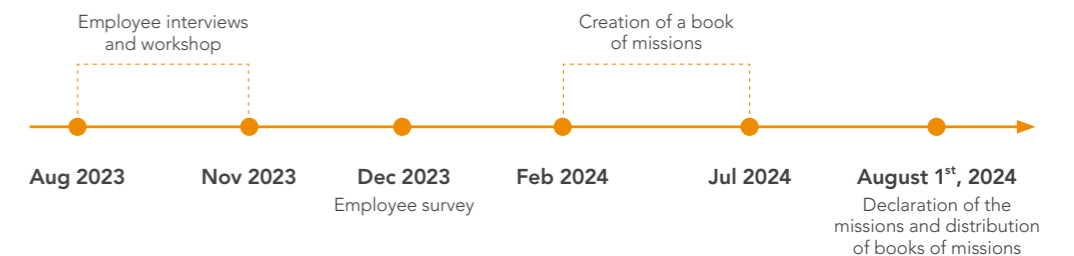
- Environmental Friendliness and Sustainability**  
We pursue sustainable growth
- Safety**  
We build the safest refineries in the world
- New Businesses /Future Orientation /Pursuit of Changes**  
Korea Zinc prepares for the second takeoff
- Growth /Self-enrichment**  
We bring innovations to everyday lives
- Talent -centered /Organizational Culture**  
We pursue an organizational culture where we respect each other's differences

### Communication with Local Communities

We employ individuals directly in the countries where we operate, and indirectly through our suppliers in those same regions. Furthermore, we invest in training local staff and strive to maintain consistent communication with the local communities.

### Communication between Employees and Big Question Project

We are currently engaged in the "Big Question Project," a collaborative effort to explore the essence of Korea Zinc and establish our key missions. Through employee surveys, we have identified five core values: safety, environmental friendliness, Talent-centered/organizational culture, the pursuit of new businesses and future-oriented changes, and personal growth and self-enrichment. Recognizing the need to incorporate a fresh vision, "Troika Drive," and to embody the values we've identified, we intend to delve deeper into defining our mission and core values in the second half of 2023. We aim to publicly announce our refined missions and core values by August 2024.



# GOVERNANCE

- Management with a Focus on Sustainability
- Sophisticated Governance Structures
- Research and Development (R&D)
- Risk Management
- Ethical Business Conduct
- Transparent Taxation

To strengthen the independence of the Board of Directors, Korea Zinc enforces a maximum tenure of 6 years for independent directors. Moreover, the Board's effectiveness is augmented by the operation of the Internal Transaction Committee and the Remuneration Committee. We remain steadfast in our pursuit of sustainable corporate value through risk management, ethical management, research and development, and tax transparency.

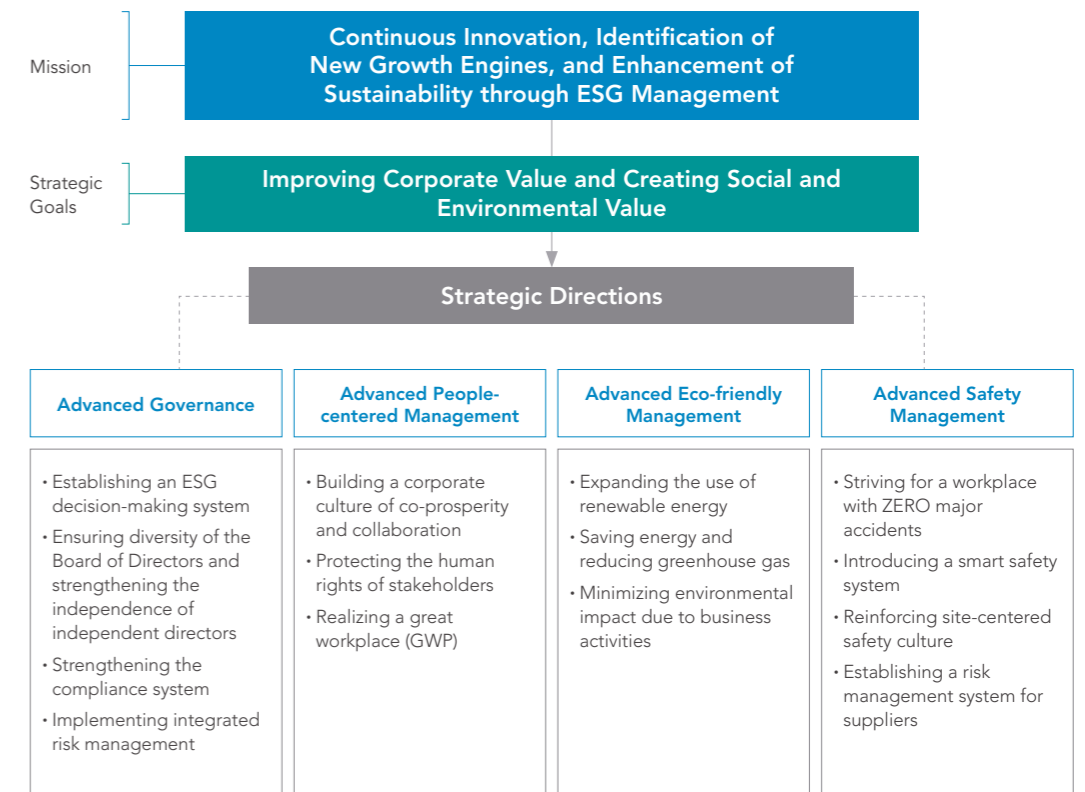
Service period of independent directors: **less than 6 years**

Operation of the **Internal Transaction Committee** and the **Remuneration Committee**

## Management with a Focus on Sustainability

### Strategies

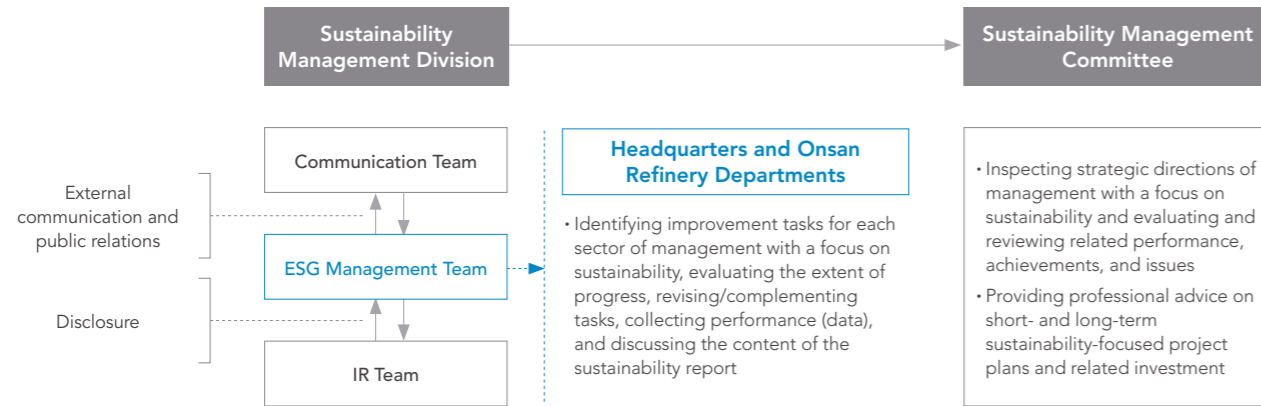
Korea Zinc has established strategic directions under the mission of "Continuous Innovation, Identification of New Growth Engines, and Enhancement of Sustainability through ESG Management." The four strategic directions are "Advanced governance," "Advanced people-centered management," "Advanced eco-friendly management," and "Advanced safety management." The company strives to generate positive social and environmental value, as well as to improve corporate value. To accomplish company-wide strategies and objectives, Korea Zinc has established goals and action plans for management with a focus on sustainability by 2023. Korea Zinc aims to advance management with a focus on sustainability by enhancing corporate value, laying the groundwork for green metal production, fostering collaborative prosperity with suppliers, achieving customer satisfaction, and strengthening mutual trust.



2023 Goals	Action Plans
Enhancing corporate value	Proactive response to global ESG initiatives and responsible social contribution
Laying the groundwork for green metal	Carbon footprint certification and effective management of clean energy
Fostering collaborative prosperity with suppliers	Establishment of supply chain management and data system for purchasing raw materials and products
Achieving customer satisfaction, and strengthening mutual trust	Friendly and responsive customer service that attentively listens to customers' voices

### System

The Sustainability Management Division consists of the ESG Management Team, Communication Team, and IR Team. The ESG Management Team oversees all aspects of the company's sustainability-related tasks, activities, and performance, with a focus on executing sustainability management responsibilities. The activities of the Sustainability Management Division are routinely reported to the Sustainability Management Committee, an advisory board that operates directly under the CEO.



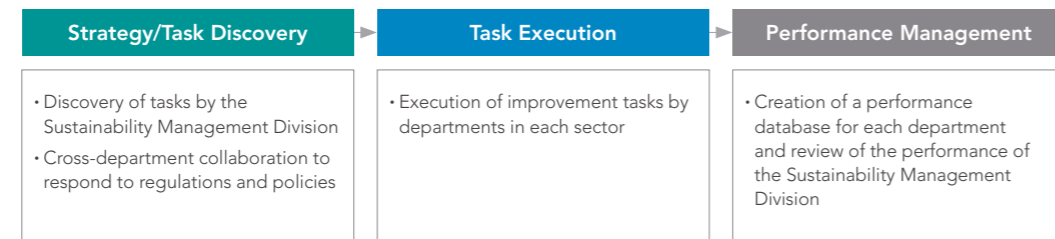
#### Sustainability Management Committee

In 2022, the Sustainability Management Committee convened three times to discuss the status of Korea Zinc's management with a focus on sustainability, direction inspection, and company-wide eco-friendly initiatives, including the RE100 program and Troika Drive. During the first half of 2023, the committee also evaluated the suitability of double-materiality assessment results and their non-financial impacts.

Sessions	Agenda	Date
1st	1. Sharing the status of management with a focus on sustainability 2. Future initiatives of management with a focus on sustainability	Feb. 22, 2022
2nd	1. RE100 initiatives 2. Seeking ways to strengthen sustainability activities	Jun. 8, 2022
3rd	1. Understanding the connection between the Troika Drive and management with a focus on sustainability 2. Analyzing ESG performance including environmental and energy performance	Sep. 28, 2022

#### System for Management with a Focus on Sustainability

Korea Zinc's system for management with a focus on sustainability consists of three stages: Strategy / Task Discovery, Task Execution, and Performance Management.

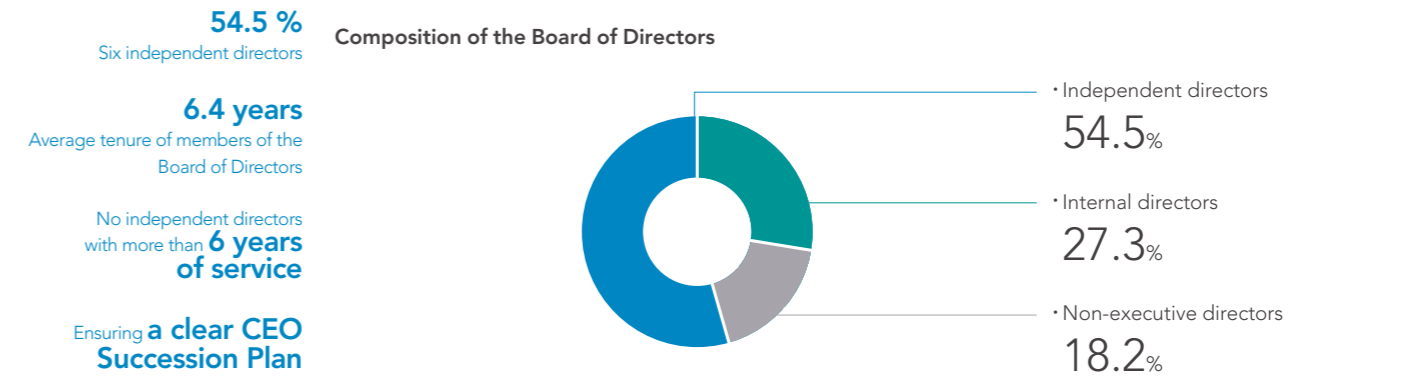


In the Strategy/Task Discovery stage, Korea Zinc identifies strategies and enhancements to adapt to both domestic and international trends and regulatory shifts concerning sustainability. To achieve this, each team within the Sustainability Management Division collaborates across departments to address regulations and systems, while also striving to engage with stakeholders effectively. During the Task Execution stage, each specialized department focuses on making improvements within their respective sectors and gauges the level of progress through collaboration. In the final stage, Performance Management, the performance and accomplishments of each improvement task are assessed and incorporated into a database (DB). This performance data within the DB is then utilized for providing feedback through data analysis and determining improvement tasks for the upcoming year.

## Sophisticated Governance Structures

### Composition and Roles of the Board of Directors

The Korea Zinc Board of Directors is composed of three internal directors, six independent directors, and two non-executive directors, with independent directors making up more than half (54.5%) of the board members. At the general shareholders' meeting in March 2023, CEO Ki D. Park and Vice CEO Ki W. Park were appointed as internal directors, while new independent directors, such as Dae W. Suh, CEO of BnH Tax Accounting Corporation, and Soon B. Kwon, a lawyer, were also appointed.



#### Current Board of Directors

(As of Mar. 2023)

Type	Name	Position	Gender	Age	Term Endpoint	Initial Appointment Date	Career Highlights	Expertise	Concurrent Position
Internal Directors	Yun B. Choi	Executive Chairman and Chief Executive Officer of Korea Zinc, Chairperson of the Board of Directors, Chairperson of Independent Director Recommendation Committee	Male	48	Mar 23, 2024	Mar 23, 2007	Vice Chairperson of Korea Zinc President of SMC Australia	Business management	KZAM Corp., Yoo Mi Development Corp.
	Ki D. Park	CEO of Korea Zinc, Remuneration Committee member	Male	54	Mar 17, 2025	Mar 23, 2017	CFO of SMC Australia Executive Director of Korea Zinc	Business management	KZAM Corp.
	Ki W. Park	Vice CEO of Korea Zinc	Male	52	Mar 17, 2025	Mar 23, 2017	CEO of SMC Australia, overall management of Onsan Refinery, Chief Safety Officer	Safety and health	
Independent Directors	Yong R. Sung	Chairperson of Audit Committee, Independent Director Recommendation Committee member, Chairperson of Internal Transaction Committee	Male	64	Mar 23, 2024	Mar 20, 2020	Acting Chairperson of the Board of Audit and Advisor at Bae, Kim & Lee LLC (current)	Regulation and audit	Advisor at Bae, Kim & Lee LLC
	Do H. Kim	Audit Committee member, Internal Transaction Committee member, Remuneration Committee member	Male	52	Mar 23, 2024	Mar 20, 2020	Chairperson of Startup Alliance (current), Professor of Kookmin University College of Business Administration (current)	Consultation on internal process improvement	Professor of Kookmin University College of Business Administration
	Bo Y. Kim	Remuneration Committee member	Female	54	Mar 17, 2025	Mar 24, 2021	Professor, Hanyang University Business School (current), non-executive director of Korea Gas Technology Corporation	ESG-related consultation	Professor of Hanyang University Business School Independent director of GOWITH Corporation
	Min H. Lee	Internal Transaction Committee member	Male	58	Mar 23, 2024	Mar 23, 2022	Director of ESG Research Center of Yulchon LLC (current), Deputy Minister of Policy Planning at the Ministry of Environment	Environment (climate changes and ESG)	Director of ESG Research Center of Yulchon LLC Independent director of POSCO
	Dae W. Suh	Audit Committee member	Male	61	Mar 17, 2025	Mar 17, 2023	Deputy Commissioner of the National Tax Service of Korea, Chairperson of BnH Tax Accounting Cooperation (current)	Tax	Chairperson of BnH Tax Accounting Cooperation
	Soon B. Kwon	Independent Director Recommendation Committee member	Male	54	Mar 17, 2025	Mar 17, 2023	Chief Prosecutor of Daegu High Court, Representative Lawyer of SOL Law Firm (current)	Law	Lawyer of SOL Law Firm, Independent director of Lotte Capital Co., Ltd.
Non-executive Directors	Hyung J. Chang	Former Chairman of Young Poong	Male	76	Mar 23, 2024	March 12, 1993	CEO of Young Poong	Nonferrous metal industry	Sorin Corporation, Young Poong Precision Corp., CK Ltd. HC Ltd.
	Nae H. Choi	CEO of KEMCO Co., Ltd., Korea Nickel Corp., and Alantum Corp.	Male	52	Mar 17, 2025	Mar 17, 2023	CEO of KEMCO Co., Ltd., Korea Nickel Corp., Alantum Corp.(current)	Nonferrous metal industry	CEO of KEMCO Co., Ltd., Korea Nickel Corp., Alantum Corp.,Korea Precursor Company



## Operation of the Board of Directors

Korea Zinc holds regular board meetings every quarter and additional meetings as needed to address crucial matters. The Board of Directors convenes either through a formal convocation notice, as stipulated in the Articles of Corporation, or through oral notification in urgent situations. In 2022, a total of 22 board meetings took place, during which various agenda items were addressed, including the review of the internal accounting management system's operational status and the approval of acquiring the remaining shares of Igneo.

### Board Attendance

(As of the end of 2022)

Session Date	Agenda	Status	Independent Directors					Internal Directors					Non-executive Director
			Cheol S. Han	Yong R. Sung	Eui H. Kim	Jong K. Lee	Do H. Kim	Bo Y. Kim	Min H. Lee	Chang K. Choi	Yun B. Choi	Jin S. Rho	Soon H. Baek
2	2022. 02.21. (1) Convocation of the 48th general meeting of shareholders	Accepted	P	P	P	P	P	S	P	P	P	P	P
	(2) Retained profits (profits and dividends)	Accepted	P	P	P	P	P	S	P	P	P	P	P
	(3) Recommendation of candidates for director	Accepted	P	P	P	P	P	S	P	P	P	P	P
	(4) Recommendation of candidates for the Audit Committee member (independent director)	Accepted	P	P	P	P	P	S	P	P	P	P	P
	(5) Limit on director remuneration	Accepted	P	P	P	P	P	S	P	P	P	P	P
5	2022. 03.24. Investment in Pedalpoint, LLC, US	Accepted	P	P	P	T	P	A	P	P	P	P	P
7	2022. 03.30. Planning occupational safety and health in 2022	Accepted	P	P	P	T	P	A	P	P	P	P	P
8	2022. 04.08. Paid-in capital increase for Sun Metals Holdings (SMH) Australia	Accepted	P	P	P	T	P	A	P	P	P	P	P
20	2022. 11.23. (1) Exchange and disposition of treasury stocks	Accepted	P	P	P	T	P	P	P	P	P	P	P
	(2) Approval of fumer renovation project in Onsan refinery	Accepted	P	P	P	T	P	P	P	P	P	P	P
	(3) Approval of acquiring remaining shares of Igneo	Accepted	P	P	P	T	P	P	P	P	P	P	P

Ⓟ Present Ⓜ Absent Ⓞ N/A; term has not started yet Ⓣ N/A; term had been terminated

### Liability Insurance for Directors

To enable unhindered management activities for executives and reduce excessive legal responsibilities, Korea Zinc has enrolled all board members in liability insurance. This insurance allows Korea Zinc to cover the legal liability for financial harm inflicted upon shareholders and third parties as a result of unjust actions, such as breaches of duty or negligence by registered and executive officers.

### CEO Succession Process

While the company lacks a succession policy outlining the selection, development, and management of CEO candidate groups, an internal plan has been developed and implemented. In accordance with Article 389 of the Commercial Act, Article 30 of our Articles of Incorporation, and Article 10 of the Board of Directors Manual, the company has granted the Board the authority to appoint a CEO. The Board appoints a CEO after verifying his or her ability to effectively implement the company's fundamental principles and visions, with a primary focus on maximizing shareholder value.

## Independence, Expertise, and Diversity of the Board of Directors

Appendix  
Independence of Director Guidelines

### Board Independence

To enhance the effectiveness and accountability of Korea Zinc's management policies, internal director Yun B. Choi has been appointed as the Chairperson of the Board of Directors. As the Executive Chairman and Chief Executive Officer, the Chairperson of the Board of Directors is anticipated to oversee the comprehensive management and activities of the Board, including fostering collaboration among board members. To ensure independence of each director, Korea Zinc takes additional steps to confirm the qualifications of internal director candidates, who are experts in their respective fields, in accordance with relevant laws, including the Commercial Act. Korea Zinc has established criteria for independent directors, consisting of 10 items, and considers candidates who meet these 10 items as independent. The Independent Director Recommendation Committee, which operates under the Board of Directors, reviews the independence of candidates and makes recommendations to the Board. Independent directors are ultimately appointed following approval at a general meeting of shareholders. To strengthen independence of independent directors, Korea Zinc restricts their terms to 2 years and guarantees that no long-term independent directors are present. Furthermore, Korea Zinc mitigates conflicts of interest by examining if independent directors engage in transactions with the company or its affiliates, or hold concurrent positions.

### Board Expertise

#### Board Skills Matrix (BSM)

The Board of Directors of Korea Zinc consists of experts in various fields, including corporate management, nonferrous metals, finance and accounting, risk management, and ESG. To address the growing demand from stakeholders for verification of the board members' abilities to fulfill their roles, Korea Zinc creates and shares a BSM. This matrix offers a concise overview of the board members' expertise and career experiences.

(As of the end of 2022)

Area	Expertise	Details	Internal Directors*				Independent Directors					Non-executive Director	
			Chang K. Choi	Yun B. Choi	Jin S. Rho	Soon H. Baek	Cheol S. Han	Yong R. Sung	Eui H. Kim	Min H. Lee	Do H. Kim	Bo Y. Kim	Hyung J. Chang
Corporate management	Experience in corporate management		●	●									●
Finance and accounting	Experience in financial reporting and internal accounting management				●								
HR	Experience and degree in securing/managing human resources, organizational culture, and company-labor relations					●						●	
Nonferrous metal industry	Work experience <sup>1)</sup> in the same industry (according to GICS) and related degree		●	●	●						●		●
Global	Work experience in international companies or subsidiaries			●									
Risk management	Experience in risk diagnosis, management, and advisory roles related to management, legislation, taxation, and ethics			●			●	●	●		●		
ESG	Experience in ESG-related tasks and related degrees (i.e., environmental engineering)									●		●	

\* In March 2023, Korea Zinc appointed new internal directors: Yun B. Choi, Ki D. Park, and Ki W. Park. CEO Ki D. Park brings corporate experience, financial accounting expertise, and global capabilities, while Vice CEO Ki W. Park possesses management skills and expertise in the non-ferrous metal business.

Appendix  
Principles and Standards for Improving Board Diversity

### Board Diversity

#### Principles and Standards of Diversity

As a global company, Korea Zinc is committed to ensuring diversity within its Board of Directors and establishing guiding principles for board standards. To this end, Korea Zinc appoints directors solely based on their work experience and expertise, without discrimination regarding nationality, gender, education, or regional affiliations. At the 2021 regular general meeting of shareholders, Korea Zinc appointed a female independent director, Bo Y. Kim, enhancing gender diversity. Director Bo Y. Kim, reappointed during the 2023 regular general meeting of shareholders, will serve a total of four years, offering guidance on the direction and performance of Korea Zinc's ESG management.

<sup>1)</sup> Based on the GICS(Global Industry Classification Standard) Level 1, meaning the 'Materials Sector.'

## Executive Evaluation and Compensation

During the Annual General Meeting, the Board of Directors sets the maximum remuneration for its members, and each director's compensation is provided within this predetermined limit. In the 2022 AGM, the approved remuneration limit was set at 7 billion KRW, and the actual payments amounted to 6.3 billion KRW. Korea Zinc has consistently maintained transparency by disclosing the total and average remuneration for each director through its annual report. In 2023, Korea Zinc introduced the OKR (Objectives and Key Results) framework to enhance the fairness and consistency of directors' performance evaluations, with incentives that will be commensurate. When conducting performance reviews and determining the remuneration for C-level executives, Korea Zinc places utmost importance on transparency and objectivity. These evaluations are conducted with the approval of the Remuneration Committee, ensuring a robust and accountable process.

## Affiliated Committees

### Audit Committee

Korea Zinc has established and operates an Audit Committee in compliance with relevant regulations, including the Commercial Act. The committee is composed of three independent directors: Yong R. Sung, Dae W. Suh, Do H. Kim. Yong R. Sung, the Chairperson of the Audit Committee and an independent director, has previously worked at the Board of Audit and Inspection of Korea and is an expert in finance and accounting. In 2022, the Audit Committee held three meetings, during which all agenda items were approved, except for those related to reporting. The operational regulations of the Audit Committee, which outline the committee's roles and responsibilities, including the selection of external auditors, can be found on the Korea Zinc website. All members of the committee have completed training on the current status and issues related to the internal accounting management system, provided by the Korea Listed Companies Association in June 2022.

Session	Date	Agenda	Status	Attendance Rate (%)	Approval Rate (%)
1st	Feb 21, 2022	Submission of the audit report in 2022	Accepted	100	100
2nd	Mar 23, 2022	Appointment of the Chairperson of the Audit Committee: independent director Yong R. Sung	Accepted	100	100
3rd	Aug 25, 2022	Report on key management achievements in 2022	Reported	100	-

### Independent Director Recommendation Committee

The Independent Director Recommendation Committee operates under the Board of Directors and holds the authority to recommend independent director candidates to the general meeting of shareholders. In 2022, the committee, whose majority of directors are independent, recommended three independent director candidates.

Session	Date	Agenda	Status	Attendance Rate (%)	Approval Rate (%)
1st	Feb 21, 2022	Recommendation of independent director candidates - Candidates: Yong R. Sung, Do H. Kim, Min H. Lee	Accepted	100	100

### Remuneration Committee

Korea Zinc operates a Remuneration Committee to ensure transparency and rationality in the implementation of remuneration policies for its directors. In accordance with regulations, the committee is composed of at least two directors, with the chairperson and the majority of committee members being independent directors.

Board Composition	Name	Remarks
Independent Directors	Do H. Kim	Consultation on internal process improvement
	Bo Y. Kim	ESG-related consultation
Internal Director	Ki D. Park	Overall management

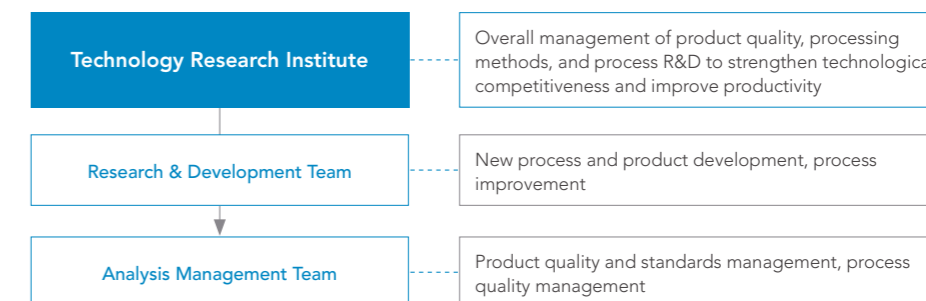
### Internal Transaction Committee

The Internal Transaction Committee adheres to autonomous fair trade practices and oversees significant internal transactions to improve management transparency. The committee is composed of at least three directors, with two-thirds or more of its members being independent directors, in compliance with the applicable regulations.

Board Composition	Name	Remarks
Independent Directors	Yong R. Sung	Regulations and audits
	Min H. Lee	ESG-related consultation
	Do H. Kim	Consultation on internal process improvement

## Research and Development (R&D)

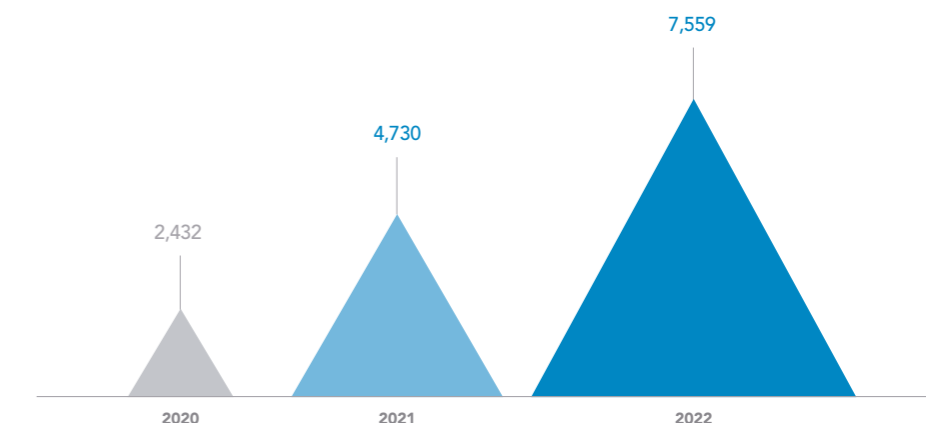
### Technology Research Institute



### R&D Performance

Over the past three years, Korea Zinc's R&D expenses have tripled, increasing from approximately 2.4 billion KRW in 2020 to 4.7 billion KRW in 2021, and reaching 7.5 billion KRW in 2022. This growth is a testament to our dedication to developing resource-efficient processes and innovative technologies. Moving forward, we will continue our efforts to develop and implement more environmentally friendly and advanced technologies.

R&D Expenses (1 million KRW)



### Investment in New Businesses

In 2021, Korea Zinc acquired a 100% stake in Epuron for 311.5 million USD, actively promoting new and renewable energy projects. Epuron is capable of handling all related tasks, including renewable energy development, engineering, procurement, construction (EPC), and performance monitoring, in a comprehensive one-stop approach. In November of the same year, Korea Zinc acquired the remaining stake in Igneo, an electronic waste (e-waste) recycling company. Following the acquisition, the company aims to establish a resource-recycling value chain to produce recycled copper foil.

### Intellectual Property Rights

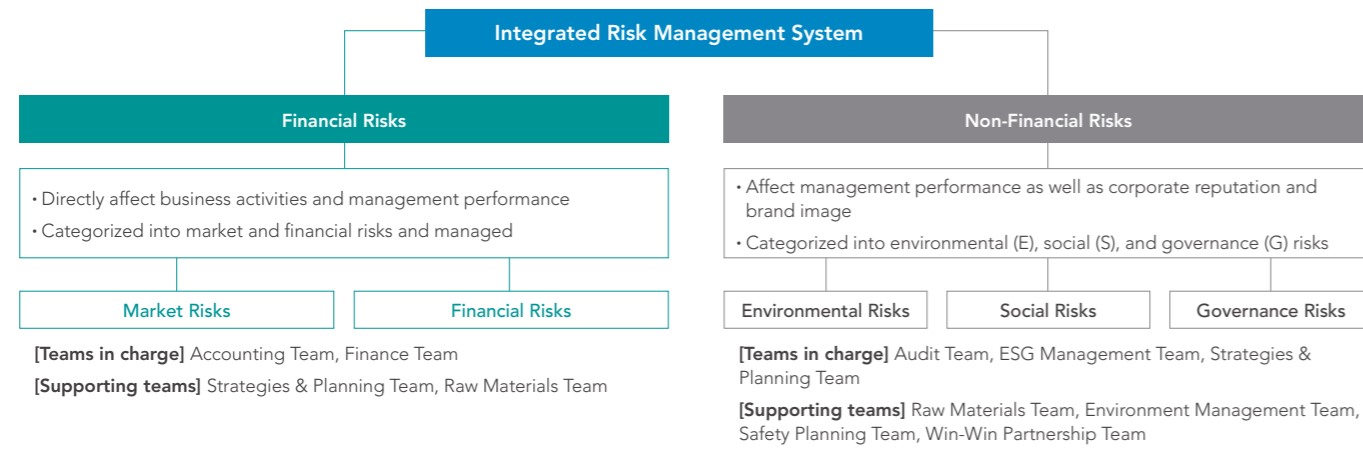
As of the end of 2022 (based on the registration date), Korea Zinc holds a total of 12 patents and seven trademark rights. Notably, the patent for the rationalization of the leaching process significantly enhances the efficiency of zinc refining, thereby ensuring price competitiveness. The company is committed to continually securing comprehensive intellectual property rights to prevent future patent infringements and maintain its competitive advantage.

# Risk Management

## Enterprise Risk Management

### Korea Zinc Integrated Risk Management

Korea Zinc effectively manages both financial risks and non-financial risks associated with environmental and social issues. The Accounting and Finance Teams are responsible for the comprehensive management of financial risks, while the Strategies & Planning Team and Raw Materials Team provide support in identifying and managing these risks. Given the diverse array of non-financial risks that the company encounters, Korea Zinc has established dedicated teams to effectively tackle each individual risk. The Audit Team, ESG Management Team, and Strategies & Planning Team are responsible for overseeing compliance and ethical management, comprehensive ESG-related tasks, and new business plans, respectively. Furthermore, the Raw Materials Team, Environment Management Team, Safety Planning Team, and Win-Win Partnership Team serve as supporting teams, providing assistance in addressing these issues.



### Internal Accounting Management System

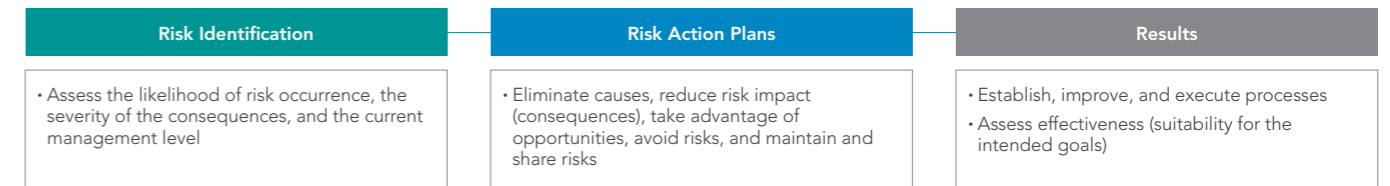
To ensure the reliability of financial reporting, Korea Zinc implements rigorous internal controls across the company and throughout various processes, following a systemic Risk Control Matrix (RCM). To this end, Korea Zinc has organized a dedicated team responsible for operating the Internal Accounting Management System, thereby enhancing the expertise in internal control activities. Also, the company is improving the reliability of its financial reporting by conducting annual evaluations of both the design and operating effectiveness, aligning them with global standards. In compliance with the Act on External Audit of Stock Companies, an external auditor assesses the sufficiency of the internal accounting management system, evaluates its operational status, and regularly reports the evaluation results to the general meeting of shareholders, the Board of Directors, and the Audit Committee. In 2023, Korea Zinc plans to establish an integrated internal accounting control system for its subsidiaries in response to the implementation of a consolidated internal accounting control system. As the company is expanding domestically and internationally, it will accordingly broaden the scope of its risk management system to proactively incorporate its subsidiaries.

Establishment of Control Activities	Evaluation of Design Effectiveness of Control Activities	Evaluation of Operating Effectiveness of Control Activities	Remediation of Deficiencies and Corrective Actions
<ul style="list-style-type: none"> <li>Identifying organizational changes</li> <li>Establishing the scope of control activities for significant accounts and processes</li> <li>Assigning employees to each process and communicating deadlines</li> </ul> <p>* Domestic and overseas subsidiaries included</p>	<ul style="list-style-type: none"> <li>Performing walkthroughs of key evidence from the start to the end of significant processes</li> <li>Evaluating the appropriateness of changes and the effectiveness of control design</li> </ul>	<ul style="list-style-type: none"> <li>Assessing the appropriateness of control activities performed by personnel in charge and control operators.</li> </ul> <p>* Applying a flexible approach in determining the tests by reviewing authorities and responsibilities defined at different levels, internal documents for approval of transactions, etc</p>	<ul style="list-style-type: none"> <li>Aggregating and evaluating deficiencies</li> <li>Establishing corrective actions and implementing them</li> <li>Re-evaluating after a certain period of time</li> </ul>

## Risk Management and Action Plans

### Risk Action Plans

Korea Zinc determines material risks by comprehensively evaluating the probability of risk occurrence, the severity of potential consequences, and the current management level. The company then develops and executes strategies to address these risks. The risks can be managed by eliminating causes, minimizing risk impacts, taking advantage of secure opportunities, avoiding risks, and maintaining and sharing risks. Korea Zinc, which has developed various action plans, implements investment, maintenance, and complementation plans in accordance with the 'Regulations on Review and Approval of Investment Plans' established in 2004. The aim is to minimize risk and maximize opportunities. The Investment Audit Committee, located at the headquarters and business sites, reviews investment plans, considering their purpose, economic analysis, and environmental impact analysis, and makes final decisions.



### Risk Management of the Board of Directors

Korea Zinc reports financial and non-financial risk management strategies, as well as potential responses to risks arising from its business activities, to the Board of Directors and the Audit Committee. Soon B. Kwon, an independent director, is an expert in legislation and offers guidance on the legal risks faced by Korea Zinc. The Sustainability Management Committee, an advisory board directly reporting to the CEO, identifies domestic and international ESG-related issues, evaluates and advises on Korea Zinc's ESG management, and addresses associated non-financial risks. In 2023, the committee deliberated on business and investment strategies, taking into account non-financial factors, such as a green metal production roadmap and environmental considerations.

## Financial Risk Management

### Response to Market Price Risks

Korea Zinc monitors trends in downstream industries and the global economy, which may pose risk factors for precious and rare metals such as gold, silver, and copper. Furthermore, Korea Zinc tracks the monthly price fluctuations of its primary products, zinc and lead, by linking them to the London Metal Exchange (LME) and exchange rates.

### Response to Exchange Rate Risks

International market prices, such as those from the LME and the London Bullion Market Association (LBMA), significantly influence the prices of Korea Zinc's products and are based in USD. To address the risks associated with exchange rate fluctuations, Korea Zinc conducts regular sensitivity analyses of these fluctuations and responds accordingly.

### Response to Price Risks

Korea Zinc mitigates price risks by employing a natural hedge structure that aligns raw material prices with product prices. This is achieved by applying the previous month's average LME price to product sales prices and using the month after month of arrival (MAMA) or prices two months later for raw material purchase prices.

## Non-financial Risk Management

Appendix  
 Principles to Managing Non-financial Risks

### Response to Non-financial Risks

Korea Zinc manages the impacts of non-financial risks on its business and financial conditions by implementing non-financial risk management principles. The company classifies non-financial risks into environmental, social, and governance categories and assigns dedicated management teams to each. Environmental risks can be classified into three categories: environmental regulatory risks, such as carbon emissions allowances; environmental accident risks, including hazardous substance spills; and climate change risks, which can be either physical or transitional. Social risks can also be divided into three categories: safety risks, which pertain to the safety of Korea Zinc's employees and partners; supply chain risks, which involve human rights or ESG issues; and impacts on communities, which are related to human rights. To address external regulatory changes, governance risks consist of regulatory risks, ethical and fraud-related risks, and risk management strategies to control and respond to these risks.



## Ethical Business Conduct

### Ethical Management System

Appendix  
 Ethical Management Guidelines (Employees, Company)

Korea Zinc strengthens its ethical management system by implementing an organizational structure that promotes ethical management and associated regulations. Established in 2003, the Code of Ethics serves as the foundation for the ethical management system and was updated in 2021 to accommodate social and legal developments. By employing the Code of Ethics and Ethical Management Guidelines, the company provides guidance that prohibits corruption, conflicts of interest, money laundering, and insider trading for both individual employees and the organization as a whole.



### Compliance Activities

Precautionary Principle	Monitoring	Post-management	Management System	Grievance Handling System
<ul style="list-style-type: none"> <li>Identifying regulatory trends</li> <li>Enactment and amendment of regulations</li> <li>Establishing manuals for guidance</li> <li>Employee training and campaign</li> <li>Self-assessment</li> </ul>	<ul style="list-style-type: none"> <li>Issue response and status management</li> <li>Reporting and risk management</li> </ul>	<ul style="list-style-type: none"> <li>Analysis and evaluation of issue response results</li> <li>Establishing improvement measures</li> <li>Evaluating implementation status</li> </ul>	<ul style="list-style-type: none"> <li>Contract management system</li> <li>Legal document management system</li> <li>Cybersecurity early warning system</li> <li>Risk management system</li> <li>Risk Management system</li> <li>Online training on ethics and Improper Solicitation and Graft Act</li> <li>Online training on sexual harassment and bullying</li> </ul>	<ul style="list-style-type: none"> <li>Operating a cyber audit office</li> <li>Operation of a hotline on the website</li> </ul>

### Fair Trade Principles

Appendix  
 The Four Actions of Fair Trade

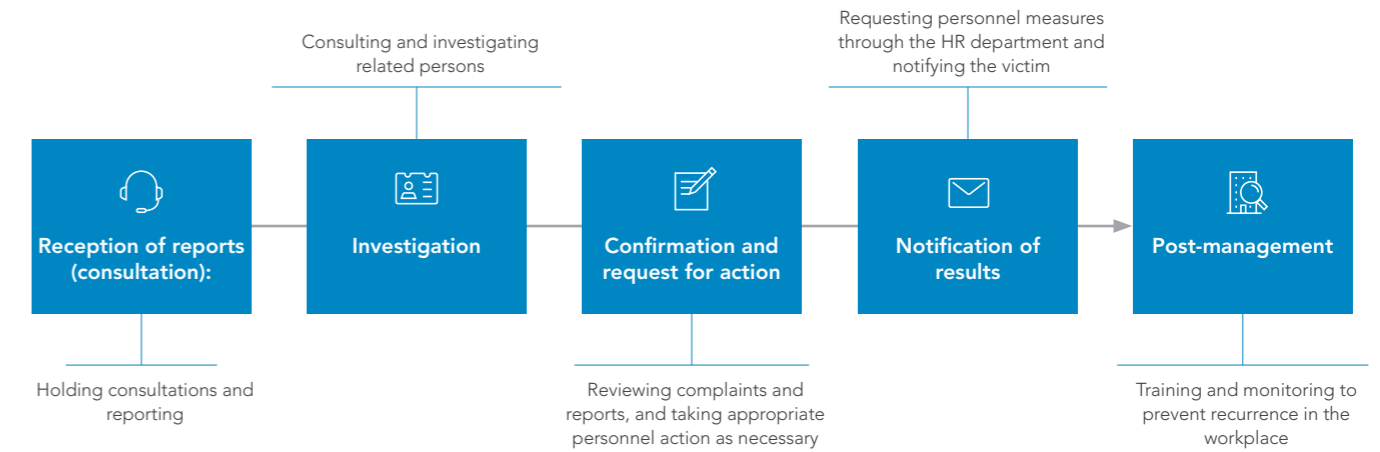
Korea Zinc has implemented and adheres to the Fair Trade Principles in order to enhance employee awareness of voluntary compliance with fair trade practices and to provide clear guidelines. These Fair Trade Principles encompass customers, partners, and competitors, and involve safeguarding the rights and interests of customers and partners, as well as promoting fair competition among competitors.

### Audits

The scope of our audits encompasses Korea Zinc's headquarters, Onsan Refinery, and affiliated entities to systematically uphold corporate ethics. We regularly conduct document audits and on-site audits using our established audit system, which covers a wide range of areas including, but not limited to, economic factors such as tasks and investment effectiveness, as well as environmental and safety aspects. Our goal is to identify and address major risks through the Audit Committee and maintain an open reporting channel via our homepage to receive input from various stakeholders at all times. Furthermore, when investigating and processing these reports, we guarantee the anonymity of whistleblowers and ensure transparency in our procedures to maintain our stakeholders' trust.

## Reporting Channels

### How Korea Zinc Processes Reports



### Ethics Investigations

The HR department at Korea Zinc conducts thorough investigations into reports of fraud received through official channels. When violations are identified, appropriate actions are taken in accordance with internal disciplinary regulations. Korea Zinc safeguards the identities and relevant information of whistleblowers, actively encouraging the reporting of any fraudulent activities.

Category	2020	2021	2022
Total no. of Personnel Committee Meetings Held	15	14	34
Total no. of Confirmed Persons	20	44	44

※ The disciplinary regulations and associated details have undergone revisions compared to last year's report. As a result, the number of cases reported for the previous three years, starting from 2022, has been adjusted.

## Transparent Taxation

### Tax Regulation Compliance and Risk Management

Appendix  
 Tax Policy

As a global company, Korea Zinc acknowledges the significance of tax compliance and risk management. Korea Zinc transparently shares its tax principles and standards, diligently adheres to tax laws in the countries where it conducts business, honestly pays taxes on profits, and systematically manages tax-related risks. The Chief Financial Officer (CFO) of Korea Zinc is responsible for managing all tax-related matters and reports any critical tax issues that significantly affect the company's operations to the Board of Directors.

# APPENDIX

## CHAPTER

# 3

- Financial Performance
- Independent Assurance Statement
- Memberships and Associations
- Greenhouse Gas Verification Statements
- Sustainability-related Policies and Standards

Korea Zinc attached assurance statements and policies to help its stakeholders understand the Sustainability Report.

## Consolidated Balance Sheet

Category	47th term	48th term	49th term
<b>Assets</b>			
<b>Current Assets</b>	4,912,869,202,998	5,689,044,210,643	6,071,090,869,900
Cash and Cash Equivalents	425,567,595,232	466,465,326,011	780,981,792,302
Short-term Financial Instruments	285,538,802,045	184,723,094,762	163,021,462,181
Account Receivables & Other Receivables	447,554,353,453	550,972,173,543	656,018,214,409
Short-term Investment Assets	1,455,214,350,232	1,393,377,994,326	1,401,790,361,789
Derivatives Financial Assets	7,521,174,561	58,823,991,403	42,934,301,652
Other Current Assets	41,439,199,763	125,572,746,529	200,899,842,846
Inventories	2,250,033,727,712	2,909,108,884,069	2,825,444,894,721
<b>Non-current Assets</b>	3,586,776,374,652	4,275,004,424,006	6,026,827,489,074
Long-term Financial Instruments	18,709,932	441,265,149	14,512,644,924
Long-term Account Receivable & Other Receivable	18,598,129,590	24,656,998,320	24,244,958,858
Long-term Investment Assets	188,399,145,462	436,578,735,174	751,367,810,131
Long-term Derivatives Financial Assets	5,901,752,052	12,682,228,631	5,368,928,642
Tangible Assets	3,194,054,886,097	3,458,986,060,811	3,694,368,563,148
Property Assets	16,365,507,602	13,353,529,572	11,822,778,867
Intangible Assets	90,898,558,956	123,332,181,049	851,334,580,927
Right of Use Assets	23,688,290,767	23,219,352,198	44,799,085,018
Investments in Associates or Joint Ventures	21,267,709,927	138,036,459,158	426,388,019,726
Deferred Income Tax Assets	19,368,637,353	23,226,937,243	101,270,291,574
Other Non-current Assets	-	4,361,442,092	40,906,763,612
Net Defined Benefit Assets	8,215,046,914	16,129,234,609	60,443,063,647
<b>Total Assets</b>	8,499,645,577,650	9,964,048,634,649	12,097,918,358,974
<b>Liabilities</b>			
<b>Current Liabilities</b>	1,118,415,592,360	1,770,527,531,625	2,319,116,608,598
Trade and Other Current Payables	801,010,462,175	1,168,161,012,999	1,116,740,232,371
Short-term Borrowings	115,420,078,569	295,537,449,491	791,579,162,799
Current Long-term Borrowings	916,108,800	954,387,300	3,126,421,980
Debentures of Current Portion	-	7,475,460,087	9,077,543,496
Current Tax Liabilities	141,915,577,909	195,200,955,613	343,234,620,479
Derivative Financial Liabilities	20,871,176,255	84,129,958,719	18,171,766,630
Provision for Liabilities	4,445,129,695	1,230,087,537	1,597,404,956
Other Current Liabilities	33,837,058,957	17,838,219,879	35,589,455,887
<b>Non-Current Liabilities</b>	294,201,298,978	459,286,640,200	547,069,633,828
Long-term Purchase Liabilities and Other Liabilities	22,638,095,220	36,714,331,662	82,644,457,024
Long-term Borrowings	4,719,649,600	126,084,743,272	205,532,274,287
Debentures	-	1,095,278,942	3,341,617,782
Net Defined Benefit Liability	-	1,376,813,244	455,300,444
Deferred Income Tax Liabilities	243,695,928,928	266,320,217,418	203,731,965,519
Long-term Derivatives Financial Liabilities	-	1,928,974,207	11,869,193,102
Provisional Liabilities	23,147,625,230	25,766,281,455	39,494,825,670
<b>Total Liabilities</b>	1,412,616,891,338	2,229,814,171,825	2,866,186,242,426

## Consolidated Statements of Comprehensive Income

Category	47th term	48th term	49th term
<b>Sales</b>	7,581,926,858,435	9,976,776,443,636	11,219,358,600,107
<b>Cost of Sales</b>	6,546,773,440,472	8,720,477,711,619	10,050,403,463,407
<b>Gross Profit</b>	1,035,153,417,963	1,256,298,732,017	1,168,955,136,700
<b>Selling, General and Administration</b>	137,765,648,760	160,152,388,324	249,784,005,878
<b>Operating Income (Loss)</b>	897,387,769,203	1,096,146,343,693	919,171,130,822
<b>Other Income (Expense)</b>	(2,594,620,902)	(6,207,814,963)	(33,370,658,055)
Other Income	112,290,726,661	119,587,050,902	181,847,044,647
Other Expense	(114,885,347,563)	(125,794,865,865)	(215,217,702,702)
<b>Financial Income (Cost)</b>	(81,845,230,004)	46,318,932,457	(34,513,095,692)
Financial Income	85,482,169,593	219,715,037,585	331,517,511,475
Financial Cost	(167,327,399,597)	(173,396,105,128)	(366,030,607,167)
<b>Profit and Loss of Equity Method</b>	(534,770,260)	2,822,686,496	30,193,373,424
Profit of Equity Method	293,144,004	4,680,035,267	35,169,337,658
Loss of Equity Method	(827,914,264)	(1,857,348,771)	(4,975,964,234)
<b>Net Income Before Income Tax Expense</b>	812,413,148,037	1,139,080,147,683	881,480,750,499
<b>Corporate Tax Expense</b>	237,584,477,205	327,974,118,539	83,216,363,084
<b>Net Profit</b>	574,828,670,832	811,106,029,144	798,264,387,415
Net Profit of Controlling Shareholder	572,955,740,914	806,794,888,407	780,610,169,416
Net Profit of Non-Controlling Shareholder	1,872,929,918	4,311,140,737	17,654,217,999
<b>Other Comprehensive Income</b>	(70,912,929,692)	96,472,326,395	(64,736,128,301)
Items Subsequently Reclassified as Profit or Loss	(75,443,448,472)	87,871,952,021	44,505,286,468
Profit (or Loss) on Valuation Financial Assets at Fair Value Through other Comprehensive Income	3,109,320	(174,094,779)	196,902,721
Loss on Valuation of Investment Stock Using The Equity Method	(25,714,271)	(545,101,207)	(1,407,715,412)
Derivatives Valuation Gain (Loss)	476,559,232	(632,338,674)	(6,897,223,046)
Gain or Loss on Overseas Operations Translation	(75,897,402,753)	89,223,486,681	52,613,322,205
Items Not Subsequently Reclassified as Profit Of Loss	4,530,518,780	8,600,374,374	(109,241,414,769)
Profit(or Loss) on Valuation Financial Assets at Fair Value Through Other Comprehensive Income	6,199,957,320	5,713,074,744	(118,212,412,957)
Remeasurement of The Net Defined Benefit Liability	(1,596,195,862)	3,040,434,208	8,922,418,199
Cumulative Effect of The Equity Method	(73,242,678)	(153,134,578)	48,579,989
<b>Total Comprehensive Income</b>	503,915,741,140	907,578,355,539	733,528,259,114
Comprehensive Income for Controlling Shareholders	501,794,342,616	902,253,050,975	716,552,305,772
Comprehensive Profit (Loss) of Non-Controlling Shareholders	2,121,398,524	5,325,304,564	16,975,953,342
<b>Earnings Per Share</b>			
<b>Basis Earnings Share (Loss)</b>	32,418	45,648	42,967



## Consolidated Statement of Changes in Equity \_ 2

Category	Equity				Equity			Non-controlling Interests	Total Equity
	Equity Attributable to Owners of the Controlling Company				Equity Attributable to Owners of the Controlling Company				
	Capital Stock	Capital Surplus	Capital Adjustment		Accumulated All Other Income	Retained Earning	Sum of Equity Attributable to Owners of the Controlling Company		
Subsidiaries Paid in Capital Increase		1,002,191,791					1,002,191,791	7,436,384,910	8,438,576,701
Sales of Treasury Stock									
Sales of Financial Assets Measured at Fair Value Through All Other Income					(34,160,753,860)	34,160,753,860			
Purchase of Shares in Subsidiaries		(236,099,718)					(236,099,718)	(1,676,344,526)	(1,912,444,244)
Changes in Consolidated Entities								10,627,768,516	10,627,768,516
Other									
Conversion of Subsidiary Convertible Bonds Held by the Controlling Company									
Capital Transfer of Derivative Liabilities of Subsidiaries									
Purchase of Subsidiaries									
Transactions with Non-controlling Interests									
Income Tax Effect Related to Convertible Bonds									
Sum of Equity Increase (Decrease)		766,092,073			58,449,439,374	578,690,011,601	637,905,543,048	9,300,233,464	647,205,776,512
2021.12.31 (Capital Stock at the End of the Year)	94,350,000,000	57,338,578,345	(53,508,694,647)		(8,860,906,556)	7,518,367,793,855	7,607,686,770,997	126,547,691,827	7,734,234,462,824
2022.01.01 (Capital Stock at the Beginning of the Year)	94,350,000,000	57,338,578,345	(53,508,694,647)		(8,860,906,556)	7,518,367,793,855	7,607,686,770,997	126,547,691,827	7,734,234,462,824
Net Income of the Year						780,610,169,416	780,610,169,416	17,654,217,999	798,264,387,415
All Other Income	Valuation Gain (Loss) of Financial Assets Measured at Fair Value Through All Other Income				(117,674,140,172)		(117,674,140,172)	(341,370,064)	(118,015,510,236)
	Derivative Valuation Gain (Loss)				(6,897,223,046)		(6,897,223,046)		(6,897,223,046)
	Other Reserves (Using The Equity Method)				(1,407,715,412)		(1,407,715,412)		(1,407,715,412)
	Profit or Loss from Foreign Business Translation				53,356,437,813		53,356,437,813	(743,115,608)	52,613,322,205
	Remeasurement of Newly Defined Benefit Liability (Assets)					8,516,197,184	8,516,197,184	406,221,015	8,922,418,199
	Retained Earnings (Using The Equity Method)					48,579,989	48,579,989		48,579,989
Sum of All Other Income					(72,622,640,817)	8,564,777,173	(64,057,863,644)	(678,264,657)	(64,736,128,301)
Dividends						(353,484,800,000)	(353,484,800,000)	(1,557,496,640)	(355,042,296,640)
Subsidiary Dividends									
Paid in Capital Increase	4,965,790,000	466,697,505,262					471,663,295,262		471,663,295,262
Subsidiary Paid in Capital Increase		15,883,511,325					15,883,511,325	21,179,699,188	37,063,210,513
Sales of Treasury Stock		536,889,987,896	38,478,851,840				575,368,839,736		575,368,839,736
Sales of Financial Assets Measured at Fair Value Through All Other Income					648,921,392	(648,921,392)			
Purchase of Shares in Subsidiaries									
Changes in Consolidated Entities									
Other									
Conversion of Subsidiary Convertible Bonds Held by the Controlling Company		365,112,481					365,112,481	(871,170,381)	(506,057,900)
Capital Transfer of Derivative Liabilities of Subsidiaries		15,328,010,338					15,328,010,338	15,896,998,158	31,225,008,496
Purchase of Subsidiaries								143,938,978,118	143,938,978,118
Transactions with Non-controlling Interests		(6,649,751,329)					(6,649,751,329)	(133,091,831,646)	(139,741,582,975)
Income Tax Effect Related to Convertible Bonds									
Sum of Equity Increase (Decrease)	4,965,790,000	1,028,514,375,973	38,478,851,840		(71,973,719,425)	435,041,225,197	1,435,026,523,585	62,471,130,139	1,497,497,653,724
2022.12.31 (Capital Stock at the End of the Year)	99,315,790,000	1,085,852,954,318	(15,029,842,807)		(80,834,625,981)	7,953,409,019,052	9,042,713,294,582	189,018,821,966	9,231,732,116,548



## Statements of Cash Flow

Category	47th term	48th term	49th term
<b>Operating Cash Flow</b>	456,522,986,973	606,883,888,565	784,694,563,029
Net Income	697,452,704,211	856,683,021,865	1,096,854,934,657
Receipt of Interest	25,720,280,163	27,472,888,303	48,056,428,017
Receipt of Dividends	610,936,150	180,320,420	1,859,382,675
Payment of Interest	(1,538,078,694)	(4,642,020,031)	(31,843,159,132)
Payment of Corporate Tax	(265,722,854,857)	(272,810,321,992)	(330,233,023,188)
<b>Investment Activity Cash Flow</b>	(547,586,397,377)	(577,707,783,864)	(1,796,800,016,754)
Decrease in Short-term Deposits with Financial Institutions	687,570,112,392	467,935,519,449	172,267,668,512
Increase in Short-term Deposits with Financial Institutions	(696,263,119,471)	(375,367,531,248)	(151,307,622,058)
Decrease in Long-term Deposits with Financial Institutions	152,400,000	430,133,374	432,803,250
Increase in Long-term Deposits with Financial Institutions		(488,654,031)	(14,749,768,318)
Disposition of Fair Value Financial Assets through Profit or Loss	2,464,181,538,958	2,860,716,212,683	3,209,595,077,450
Acquisition of Fair Value Financial Assets through Profit or Loss	(2,344,735,358,834)	(2,985,779,872,893)	(3,348,621,212,939)
Net Payment of Derivatives	(1,998,241,601)	17,101,267,324	20,339,622,286
Increase in Short-term Loans	300,000,000	18,907,760	26,194,947,137
Decrease in Short-term Loans	(311,650,799)	(17,566,810,709)	(6,132,532,270)
Disposition of Financial Assets at Fair Value through Other Comprehensive Income	38,142,715,281	168,668,033,636	36,399,209,205
Acquisition of Financial Assets at Fair Value through Other Comprehensive Income	(27,239,780,000)	(184,710,368,814)	(483,690,520,690)
Disposition of Financial Assets at Amortized Cost	18,680,000	17,355,000	12,440,000
Acquisition of Financial Assets at Amortized Cost	(23,385,000)	(3,080,000)	(11,325,000)
Disposition of Investments in Associates		893,488,011	
Acquisition of Investment in Associates		(84,250,218,341)	(199,913,139,026)
Disposition of Investments in Subsidiaries		28,344,227,149	
Acquisition of Investment in Subsidiaries		(10,711,280,620)	(851,090,948,870)
Disposition of Tangible Assets	948,685,701	947,335,049	443,716,192
Acquisition of Tangible Assets	(662,144,567,510)	(463,828,370,657)	(372,971,049,177)
Disposition of Intangible Assets	916,663,984		
Acquisition of Intangible Assets	(7,178,231,297)	(14,859,493,467)	(6,366,489,633)
Disposition of Investment Real Estate	978,656,800	9,452,500,000	(10,731,000)
Acquisition of Investment Real Estate			2,554,334,500
Increase in Long-term Loans	(1,000,000,000)	(3,757,390,000)	(1,554,000,000)
Decrease in Long-term Loans		2,499,999	60,166,642
Decrease in Deposit	302,076,442	527,555,807	966,578,689

Category	47th term	48th term	49th term
Increase in Deposit	(203,592,423)	(4,621,804,561)	(1,562,792,048)
Payment of Long-term Advance Payments			(10,311,401,777)
Change of Consolidated Scope		13,182,056,236	182,226,952,189
<b>Financial Activity Cash Flow</b>	(171,390,603,906)	1,661,830,293	1,296,334,398,755
Net Increase in Short-term Borrowings	85,039,577,468	138,468,943,162	506,652,969,979
Repayment of Current Long-term Debt		(916,108,800)	(29,025,816,747)
Early Repayment of Current Long-term Borrowings	(1,502,539,651)	(137,360,000)	(27,811,980,784)
Repayment of Lease Liabilities	(2,522,389,676)	(3,262,722,371)	(4,798,988,983)
Acquisition of Other Financial Liabilities			337,136,021
Decrease in Non-controlling Interest		(1,920,000,000)	(142,756,994,274)
Increase in Rental Deposit		5,321,400	
Increase in Non-controlling Liabilities	1,446,987,953	14,046,591,810	10,941,538,286
Issuance of Bonds		4,000,000,000	
Increase in Long-term Borrowings		122,023,645,092	69,016,073,553
Increase in Non-controlling Interest	6,000,000,000	6,880,000,000	18,142,696,902
Dividend Payment	(259,852,240,000)	(277,526,480,000)	(355,042,296,640)
Paid-in Capital Increase			471,663,295,262
Disposition of Treasury Stock			779,016,766,180
<b>Net Increase or Decrease in Cash and Cash Equivalents</b>	(262,454,014,310)	30,837,934,994	284,228,945,030
<b>Cash and Cash Equivalents at the Beginning of the Year</b>	689,518,057,370	425,567,595,232	466,465,326,011
<b>Effect of Exchange Rate Fluctuation of Foreign Currency Denominated Cash, Etc.</b>	(1,496,447,828)	10,059,795,785	30,287,521,261
<b>Cash and Cash Equivalents at the End of the Year</b>	425,567,595,232	466,465,326,011	780,981,792,302

# Independent Assurance Statement

## To the Stakeholders of Korea Zinc

The Korea Productivity Center (hereinafter the "Assurer") was appointed by Korea Zinc Co., Ltd. (hereinafter the "Company") to provide independent assurance of its "2022 Korea Zinc Sustainability Report" (hereinafter the "Report"), and hereby presents the following assurance statement.

### Responsibility and Independence

The Company is fully responsible for the reliability and accuracy of all the information and opinions presented in the Report. The Assurer is responsible solely for the third-party assurance of the content in the Report. As an independent assurance agency, the Assurer was neither involved in the process of preparing the Report, nor in any conflicts of interest that may undermine our independence.

### Assurance Standard and Method

This assurance was conducted in accordance with Type 1 assurance and the Moderate Level based on AA1000AS(2008). Type 2 assurance was also applied to specific indicators that require reliability verification of information collection processes such as greenhouse gas, water consumption, waste management, turnover rate, and industrial accident rate. In addition, Type 2 assurance was applied to eight major issues, including environmental risk management, minimizing environmental impact (input & output), responding to climate change, establishing human rights management system and protecting human rights, safety and health, expanding social contribution activities and community engagement, and advancing ethics and compliance management. The Assessor reviewed whether the Client complied with the four principles of inclusivity, materiality, responsiveness, and impact presented by AA1000AP (2018). Based on the four-principle composition method, we carried out the assessment service. On the basis of documents and information presented by the Client and in the field interviews, we checked all indicators and information specified in the Report to confirm their balance, comparability, accuracy, timeliness, clarity, and reliability.

### Methodology

This assurance was conducted through the following methods:

- Verified if the requirements of the GRI Standards 2021 were fulfilled.
- Verified the compliance with the principles of the Report contents and quality based on the GRI Standards 2021.
- Verified the selection of material issues covered and the appropriateness of the contents
- Verified the suitability of the contents and any errors in expression through a comparison analysis with other sources
- Verified the basis of Core data and information and the internal process and system through on-site inspection at the headquarters in Seoul.

### Findings and Conclusion

It is the Assurer's opinion that the Report represents the sustainability efforts and performance results of the Company in a fair and accurate way. In addition, the Assurer verified if the requirements of the GRI Standards 2021 were fulfilled. The Assurer has not found any inadequacies in respect of the principles set forth in the AA1000AP (2018).

It was confirmed that the reporting requirements of GRI Standards 2021 were satisfied, and the detailed indicators of the material topics derived through the double materiality assessment procedure were as follows.

- GRI Standards 2021
- Universal Standards
- Topic Specific Standards

Issues	Material Topic	Disclosures
1. Environmental Risk Management	Chemicals, Hazardous Chemicals	2-13, 307-1
2. Minimizing Environmental Effect (Input & Output)	Materials, Energy, Water and Effluents, Emissions, Waste	301-1~2 / 302-1, 4 / 303-1, 3 / 303-5 / 303-2, 4 / 305-7 / 306-3~5
3. Responding Climate Change	Economic Performance, Climate Change	201-2 / 305-1~5
4. Establishing Human Right management system and Protecting Human Right	Human Rights	412-1 / 405-1~2
5. Capacity Building and Compensation	Recruitment, Training and Education	401-1~3 / 404-1~3
6. Safety and Health	Occupational Health and Safety	403-1~10
7. Social Contribution Activities and Expanding Community Engagement	Economic Performance, Local Communities	201-1 / 413-1
8. Advancing Ethics and Compliance Management	Anti-Corruption	2-27, 205-3, 206-1

※ In addition, the Assurer checked the accuracy of data and information on some indicators included in the GRI Index.

- GRI 2(General Disclosure): 2-6, 2-9, 2-12, 2-16, 2-18~19, 2-28
- GRI 200(Economic): 201-3
- GRI 400(Social): 418-1

### Inclusivity: Stakeholder Engagement

The Assurer confirmed that the Company communicated with stakeholders to comply with the Inclusivity principle through the relevant communication channels. The Company identified five stakeholders groups, namely shareholders and investors, employees, customers, business partners, and local communities, and collected opinions from stakeholders through communication channels that considered the different characteristics of each stakeholder group. The collected opinions were reflected in management strategies, and is also verified that this type of management decision-making process is a good example.

### Materiality: Identification and Reporting of Material Issues

The Assurer verified that the Company used a double materiality assessment process for identifying its material issues. In particular, the Company identified its material issues through an annual external environment analysis, such as examining global standards including GRI Standards 2021, UN SDGs, ISO 26000, SASB, TCFD, media research and investigating issues related to the domestic and international nonferrous metals smelting industry. The Company also used an internal environment analysis, such as reviewing issues from previous reports and examining management issues in the selection of material issues. In addition, the Assurer verified that the Company proposed its future strategy to respond to the selected issues by reporting the issues derived from the double materiality assessment process in accordance with the Stakeholder Matrix.

### Responsiveness: Organization's Response to Issues

It was verified that the Company diagnosed major expectations that affect the stakeholders' performance and established appropriate measures to respond to them, of which the contents were properly stated on the Report. In particular, the Assurer verified the Company's response to material issues objectively through an annual survey and interview of stakeholders. Moreover, the Report earnestly discloses all corresponding activities and their performances regarding the major issues of sustainability management.

### Impact: Measuring Sustainability Impact

The Company considers the societal impact of the organization by establishing the boundaries of the impact of major issues. And the Company identifies the direct and indirect effects of major issues derived from the double materiality assessment. The Assurer also confirmed the quantified impacts reported in the Report.

## Independent Assurance Statement

### Limitations

The Assurer verified the Report based on the aforementioned assurance standards. The on-site verification was carried out at the headquarters in Seoul. The financial data in the Report was verified through the financial statements and disclosure information, which were audited by an auditor, while the aggregated data at the corporate level are used for the verification of Environmental and Social performance. The Assurer discloses that the results may vary if further verification procedures are performed. The Assurer expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

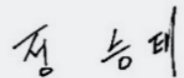
### Recommendations

The Assurer recognizes the diverse efforts and performance made by the Company and suggests the following for the Company's publication of the Report in the future and the improvement of its sustainability standards:

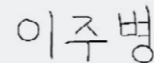
- Considering that the Troika Drive business (Renewable energy and hydrogen business, resource circulation business, secondary battery material business) could contribute to improving sustainability in the world beyond the Company's sustainability, it is recommended that the report the progress and performance of the business more specifically.
- The Company expanded the scope of the Report by disclosing the sustainable management activities and performance of SMC, an overseas subsidiary. It is recommended to consistently include the sustainable management performance of domestic and foreign affiliates, as well as SMC, in the reporting scope in the future.



June 2023  
CEO Wan-gi Ahn



Seung-tae Cheong, Director



Joo-byung Lee, Team Leader



The Sustainability Management Center of the Korea Productivity Center is a fully qualified independent assurance agency. It is officially certified by AccountAbility that established AA1000, the international standard for stakeholder engagement and assurance. It has the Assurance Committee with of experienced experts who are qualified for the consultation and assurance of sustainability practice.

\* AA1000AS (2008): AA1000 Assurance Standard (2008) is the global assurance standard established by AccountAbility to provide a comprehensive way of verifying an organization's management, compliance with the principles and reliability of performance data for reporting its sustainability issues.

\*\* AA1000AP (2018): AA1000 Accountability Principles Standard (2018) is the global assurance principles established AccountAbility to provide the basis for the AA1000 Assurance Standard.

## Memberships and Associations

Memberships and Associations		
Korea Customs Logistics Association	Korea Industrial Safety Association	Korean Institute of Plant Engineering
Korean Chemical Society	Civil Defense Council	Korea Emissions Market Association
Industrial Safety Committee	Regional (Ulsan) Legislation Association	Busan/Ulsan/Gyeongnam Forum
Emergency Planning Council	Industrial Security Council	Listed Company Audit Committee
Seoul Chamber of Commerce	Reserve Army Council	Onsan Industrial Complex Safety Management Association
Onsan Industrial Complex General Affairs Department Heads' Council	Onsan Industrial Complex Facility Directors' Council	Onsan Industrial Complex Scholarship Committee
Onsan Industrial Complex Environmental Management Association	Ulsan/Yangsan Entrepreneur Association	Ulsan Regional Facility Directors' Council
Ulsan Industrial Health Council	Ulsan Chamber of Commerce	Ulsan Electric Engineers Association
Ulsan Safety Communication Committee	Ulsan Research Center Directors' Council	Ulsan Port Development Council
Ulsan Logistics Council	Korea Personal Improvement Association	KRX Emissions Market
Korea Metal Recycling Industry Association	Korea International Trade Association	Korea Nonferrous Metal Association
Korean Association of Occupational Health Nurses	Korea Industrial Technology Association	Korea Listed Companies Association
Korea-America Association	Ulsan Environmental Engineers Association	Environmental Protection Council
Ulsan Province Volunteer Center	Korea Mining Association	Overseas Resource Development Association
International Antimony Association	International Lead Association	International Zinc Association
KBCSD	Korea RE100 Committee	

# Greenhouse Gas Emissions Verification Statement 2022

May Third, 2023

## Verification Target

Korean Foundation for Quality (hereinafter "KFQ") has conducted the verification of "2022 Report on Quantity of emitted Greenhouse gas Consumption (hereinafter 'Inventory Report') for KOREA ZINC Corporation (hereinafter "Company")

## Verification Scope

KFQ's verification was focused on all the facilities which emitted the greenhouse gas during the year of 2022 under Company's operational control and organizational boundary. GHG emissions from direct and indirect emission sources (Scope 1 and 2) were calculated for all GHG emission facilities under the operational control of each company.

## Verification Criteria

The verification process was based on 'Rule for emission reporting and certification of greenhouse gas emission trading Scheme (Notification No. 2021-112 of Ministry of Environment)', 'Rules for verification of operating the greenhouse gas emission trading scheme (Notification No. 2022-279 of Ministry of Environment)'.

## Level of Assurance

The Verification has been planned and conducted as the 'Rules for verification of operating the greenhouse gas emission trading scheme', and the level of assurance for verification shall be satisfied as reasonable level of assurance. And it confirmed through the internal review whether the process before the verification conducted effectively.

## Verification Limitation

The verification shall contain the potential inherent limitation in the process of application of the verification criteria and methodology.

## Verification Opinions

Regarding to the data of the Greenhouse Gas Emission Consumption from the report through the verification, KFQ provides our verification opinions as below;

- 1) The Inventory Report has been stated in accordance with 'Rule for emission reporting and certification of greenhouse gas emission trading Scheme'
- 2) The result of Material discrepancy satisfied the criteria for an organization that emits 500,000 or more and less than 5,000,000 tCO<sub>2</sub>-e shall not exceed 2.5% from total emission as per 'Rules for verification of operating the greenhouse gas emission trading scheme'
- 3) Thus, KFQ conclude that the Greenhouse Gas Emissions of Each Company in 2022 is correctly calculated and stated in accordance with 'Rule for emission reporting and certification of greenhouse gas emission trading Scheme'.

## Emission Calculation Results (tCO<sub>2</sub>eq)

Business site	Scope 1	Scope 2	Total
Sum	2,343,881	1,106,536	3,450,416

※ There is a difference between the total emissions and the sum of emissions by business site (truncated emissions by business site are added together by company).



CEO Ji-Young Song  
 Korean Foundation for Quality

# KSA Scope 3 Emissions Verification Statement



2023, 6, 8

## 1. Verification Goal

The goals of greenhouse gas(GHG) emission verification (hereinafter referred to as 'verification') conducted by the Korean Standards Association are as follows.

- Confirming the conformity with standards and procedures of GHG emission and GHG emissions calculated within the scope of verification
- Checking the validity of declarations related to the organization's GHG emissions or removals
- Confirming the effective implementation of the organization's management of GHG emissions or removals
- Confirming the conformity of processes for implementing, managing and improving the organization's GHG emissions or removals estimates

## 2. Verification Scope

Korea Standards Association conducted verification of Scope 3 for Greenhouse Gas Declaration of Korea Zinc Company, Ltd.

• Boundary: Scope3

**Cat. 1.** Purchased Goods and Services (Raw material)

**Cat. 2.** Capital Goods  
 (Purchasing office equipment such as PCs and vehicles)

**Cat. 3.** Fuel-and energy-related activities  
 (not included in Scope 1 or 2) (Purchased fuel)

**Cat. 4.** Upstream Transportation and distribution  
 (Transportation of raw materials)

**Cat. 5.** Waste generated in operations (Disposal of business site waste)  
 • Year: 2022

**Cat. 6.** Business travel (Domestic and international business trip)

**Cat. 7.** Employee commuting

**Cat. 9.** Downstream Transportation and distribution  
 (Transportation of sold products)

**Cat. 11.** Use of sold products

**Cat. 15.** Investments (Scope 1 and emissions of investment companies)

## 3. Verification Criteria and Guidelines

Korean Standards Association conducted verification according to international standards and the standards and guidelines of the National Institute of Environmental Research.

• ISO 14064-1,3: 2006

• Guidelines for reporting and certification of emissions from the GHG Emissions Trading System (Notification of the Ministry of Environment: No. 2022-279)

• 2006 IPCC Guidelines for National GHG Inventories

• WRI(World Resources Institute) Greenhouse Gas Protocol

• The Corporate Value Chain (Scope3) Accounting and Reporting Standard

## 4. Level of assurance verification and Responsibility

Korea Standards Association provides verification at limited level of assurance to strengthen GHG management for your company's GHG emissions.

## 5. Verification Limit

GHG emissions can be affected by factors such as data limits and uncertainties in the scope of verification, and inherent limitations may exist accordingly.

## 6. Verification Conclusion

No errors or false facts were found in Korea Zinc Company, Ltd.'s GHG emissions verified through the ISO 14064-3 verification procedure within the scope of verification.

## Appendix. GHG emission in 2022 (tCO<sub>2</sub>eq)

Categories	GHG Emissions	Categories	GHG Emissions
<b>Cat. 1</b> Purchased Goods and Services	1,261,367	<b>Cat. 7</b> Employee commuting	349
<b>Cat. 2</b> Capital Goods	169	<b>Cat. 9</b> Downstream Transportation and distribution	10,865
<b>Cat. 3</b> Fuel-and energy-related activities(not included in Scope 1 or 2)	122,621	<b>Cat. 11</b> Use of sold products	161,819
<b>Cat. 4</b> Upstream Transportation and distribution	21,360	<b>Cat. 15</b> Investments	75,695
<b>Cat. 5</b> Waste generated in operations	29,442	<b>Total</b>	1,684,204
<b>Cat. 6</b> Business travel	517		

※ Note: There is a difference between the total amount of emissions for each business site and total amount of emissions by types because when GHG emission is calculated, decimal point is round down.



Korean Standards Association

## Sustainability-related Policies and Standards

Sustainability-related Policies and Standards		
Area	Name of the Document	References
Environmental	Environmental Management Policy	Website - Environmental Management (koreazinc.co.kr)
	Promoting Green Purchase	p.103
	Standards for Mine Waste Management	p.103
	Biodiversity Commitment policy	p.104
Social	Safety-Health Policies	Website – Safety-Health Policies (koreazinc.co.kr)
	Safety-Health Management System	Website – Safety-Health Management System (koreazinc.co.kr)
	Information Protection Policy	p.105
		p.105
	Basic Principles of Human Rights	p.106
	Four Actions of Fair Trade	p.105
	Donation and Sponsorship Policy	p.106
Governance	Code of Ethics	Website- Ethical Management (koreazinc.co.kr)
	Ethical Management Guidelines (Employees)	p.107
	Ethical Management Guidelines (Company)	p.107
	Principles to Managing Non-financial Risks	p.108
	Board Diversity Guidelines	p.109
	Independence of Director Guidelines	p.109
	Tax Policy	p.110
	Anti-corruption Principles	p.111

### Promoting Green Purchase



1. Green purchase of Korea Zinc considers eco-friendliness in the entire process of product production and business operation.
2. Korea Zinc will achieve green purchase by purchasing certified products from basic materials to consumables (MRO), civil engineering, construction, electricity, chemical facilities, and services.
3. The related department will monitor and manage green purchases in environmental affairs and purchasing of materials, to expand green purchases throughout the company.
4. For sustainable growth, Korea Zinc will take into account the environmental impact of purchased goods and take diverse measures for green purchases.
5. We will actively support reviewing the purchase of green products at the request of the related departments.
6. Means and measures for green purchase will be considered in establishing a purchase plan.

### Standards for Mine Waste Management



1. The facilities for waste treatment comply with various regulations and maintenance of such facilities will be improved continuously. Planning, designing, constructing, operating, dismantling, and closing treatment facilities for mine waste are governed under the following principles:
  - The structure must be stable
  - Solids and water must be managed within designated, approved areas
  - Specifications of facilities and installations must comply with the regulations of the country in which the mine is located
  - Facilities and installations must comply with relevant standards, internal policies, best practices of the industry, and technical guidelines from the region or country in which the facility is located
2. Korea Zinc strives to be equipped with a comprehensive system that includes the following, to safely operate and monitor mineral waste management facilities:
  - Monitoring optical dams, bridges, natural slopes, and water levels using surveillance systems using GPS, piezometers, sloping meters, pressure gauges, and remote sensing.
  - A frequent inspection conducted by trained workers and professional technical staff
  - Regular and official safety inspections conducted by external authorized engineers and disclosure of inspection results
  - Conduct a regular review of facilities and mining waste related projects by a group of internal practitioners
  - Regular review of facilities and mineral waste projects by the internal working group

## Sustainability-related Policies and Standards

### Biodiversity Commitment Policy



1. Korea Zinc will comprehensively predict, analyze, and evaluate the impact on the environment in promoting projects and policies, examine biodiversity, and continuously monitor its impact.
2. All workplaces covered by the World Heritage area\* and IUCN Category I-VI protected area\*\* will comply with the legal requirements of countries, and regions.
3. We will conduct an environmental impact assessment, considering the socioenvironment and characteristics of each country and region where workplaces are located.
4. With the protection of endangered rare and endemic species as a top priority, we will support the initiatives of the country and region where the workplace is located to protect biodiversity and make sustainable use of resources.
5. We will continue delivering education and information to enhance their knowledge and understanding of biodiversity protection issues, for a consensus among employees and stakeholders.
6. We will strive to achieve a No Net Loss (NNL) and Net Positive Impact (NPI) that offset biodiversity degradation caused by business activities in areas with critical habitats, through restoration efforts.

In order to protect the ecosystem of creatures living around the workplace, Korea Zinc will continue to comply with the biodiversity policy, regularly monitor pollution levels, and if necessary, work with specialized institutions to evaluate the impact on biodiversity.

\* World Heritage Site

\*\* World Conservation Union-designated protected areas for biodiversity protection, national parks, natural monuments, geological topography, habitat/species management areas, ecological, biological, and cultural values, and sustainable natural resource use areas.

### Information Protection Policy



Korea Zinc has established information protection policies and regulations for all employees, to raise awareness of information protection and to protect customer value. For tangible and intangible assets, including core technologies and personnel, we take necessary administrative, technical, and physical measures required for prevention, detection and management of security incidents. Internal policies are enacted and revised to monitor the latest trends and comply with various regulations.

1. We protect the company's information assets from infringement attacks, illegal access, and leaks.
2. We comply with various legal security requirements related to information protection.
3. We promote a sound security culture through education, inspection, and communication.
4. Appropriate investment and a reasonable level of control are maintained to strengthen information protection.
5. We cooperate with partner companies and strive to improve the security system.

### Four Actions of Fair Trade



For fair transaction with partners, Korea Zinc implements four fair business practices for large-small business cooperation, introduced by the Fair Transaction Commission, in businesses with partners.

**In signing contracts for win-win cooperation between large and small businesses**



· Korea Zinc justly reflects the company's interests in signing contracts with partners and maintaining a reasonable & transparent business with the company.

**In a fair selection of suppliers**



· We contribute to fair contracting orders by enhancing transparency and fairness in the selection & affair with suppliers.

**In establishing and operating an internal audit committee for subcontracts**



· We strictly examine fairness and legitimacy in contracting with partners to establish subcontracting orders and maintain reasonable & transparent business relationships.

**In documenting and keeping subcontract transactions**



· In signing and trading subcontracts with partners, Korea Zinc establishes guidelines regarding issuing and preserving documents thereby constructing order.

## Sustainability-related Policies and Standards

### Basic Principles of Human Rights



#### No discrimination

• Employees should not be discriminated against for nationality, race, age, gender, sexual orientation, disability, pregnancy, religion, political or union affiliation, marriage, etc. in employment, promotion, compensation, and other HR activities and services.

#### Humanitarian treatment

• All employees are respected, and there should be no harsh or inhumane treatment, such as sexual harassment, punishment, mental or physical coercion, verbal abuse, or unreasonable work restrictions.

#### Prohibition of forced labor

• We do not restrain mental or physical freedom and make individuals work against free will, such as assault, threat, confinement, and human trafficking. All work is voluntary, and we do not require workers to hand over government-issued identifications, passports, or work permits on condition of employment.

#### Women's and child labor

• No child workers are employed in any position. 'Child' is defined as those below a certain age, as determined by the laws of each country or region. Young workers and pregnant women are excluded from dangerous work and we comply with working conditions, such as age restrictions, in accordance with the ILO (International Labor Organization)'s national ratification agreement.

#### Working hours

• We comply with regular, overtime, and holiday-related regulations as specified by the laws of each country and region.

#### Wages and benefits

• Payments paid to all workers comply with all applicable national and regional labor laws, including minimum wage, overtime, and legal benefits.

#### Freedom of association and collective bargaining

• We recognize freedom of association and collective bargaining rights guaranteed by labor laws in each country and region and create an environment where workers can communicate with management on working conditions without fear of discrimination, retaliation, or intimidation.

#### Safety and health assurance

• We comply with workplace health and safety laws.

#### Protection of personal information

• The personal information of all stakeholders is strictly protected, and the information is not leaked or used for any other purpose without prior permission from the stakeholders.

### Donation and Sponsorship Policy



1. The donation and sponsorship of Korea Zinc shall be made through a legally established charity only when it complies with the relevant laws and aims for clear charity.
2. Donations or sponsorship shall not be made in connection with auctions, bids, contract renewals, or future business relationships. In addition, the company shall not use donations or sponsorship agreements as a means of obtaining favorable terms from the organization or its affiliates or related parties.
3. Donations or sponsorship must comply with ethical management policies, such as the principle of preventing bribery and preventing corruption, and cannot be made without the approval of the exclusive right holder.
4. No employee may provide financial payments or other contributions to a political party, political enterprise, or candidate.

### Ethical Management Guidelines (Employees)



#### Anti-corruption

- Employees keep in mind that bribery and corruption can undermine the company's ethical reputation.
- Employees do not accept or promise the any monetary and non-monetary bribes from anyone regarding their duties.
- Employees do not take unfair advantage of the company's assets or their position and do not allow third-parties to acquire them either.

#### Information protection

- Employees strictly protect and manage the company's business information and customer information acquired for work purposes.

#### Prohibition of conflict of interest

- Employees shall prevent any conflict of interest or relationship with customers or the company. If any, the employees shall immediately report all relevant information to the compliance team and the team head.

#### Anti-money laundering and insider transaction

- Employees shall not involve themselves or any other stakeholders that include the company, customers, partners, and suppliers in money laundering for the proceeds acquired through unlawful activities.
- Employees shall not engage in unfair activities such as market price manipulation or the use of undisclosed information acquired during the business.

### Ethical Management Guidelines (Company)



#### No discrimination

- The company does not discriminate based on connections in acquaintance, family, educational backgrounds, gender, religion, age, disability, or marital status.

#### Free and fair competition

- The company respects the autonomy and creativity of each employee, offers equal opportunities based on each employee's ability and qualifications, and compensates accordingly.
- The company respects the free market economy order and competes fairly with competitors based on mutual respect.
- The company complies with a fair contract without making unreasonable demands or providing unreasonable support for a particular company using its status.
- The company complies with the laws and regulations related to fair trade, including the Monopoly Regulation and Fair Trade Act, and prohibits anti-trust and anti-competitive practices.

#### Environmental protection and conservation

- In establishing policy standards and procedures, the company considers the environment as a major factor and strives for eco-friendly business activities.
- The company complies with environmental regulations and shall prevent and manage disasters and preserve a clean environment.

#### Safety and health

- The company strives to create a comfortable and safe work environment and to prepare benefits and environments that balance work and life.
- The company actively takes necessary measures to protect its employees from occupational accidents and injuries, disasters, diseases and infectious diseases, and maintains a safe working environment.

#### Whistleblower system

- The company operates an easily accessible whistleblower system for employees.
- The company protects the personal protection of the whistleblower and takes necessary measures to ensure the whistleblower is not treated unfairly, discriminated against, or retaliated against.

## Sustainability-related Policies and Standards

### Principles to Managing Non-financial Risks



1. We recognize that non-financial risk is a crucial factor for the sustainable management of Korea Zinc.
2. We operate a system to identify potential non-financial risks before making business related decisions.
3. We select and manage sensitive non-financial risks or those negatively affect sustainability management.
4. We assess non-financial issues in developing projects involving social and environmental impact such as the construction of production or facilities, thereby reducing or relieving the risks.
5. We communicate and disclose key policies related to non-financial risks to internal and external stakeholders.
6. Through the participation of all employees, we aim to reach a consensus on non-financial risk management and enhance management capacity.

### Independence of Director Guidelines



Based on independence criteria for the Korea Zinc Board of Directors, the independent director is considered independent if the following conditions are met.

- The independent director has not served as an executive of a company within the past five years
- Except as permitted by the SEC Rule 4200 Definitions\*, independent directors or immediate family members of independent directors are not being compensated by the company or subsidiaries for more than \$60,000 per year
- The immediate family members of an independent director have not been an executive of a company or subsidiary for the past three years
- The independent director is not an advisory or consultant to the company or executives
- The independent director is not an employee of a corporation which concluded a contract for major consulting or technology partnership
- The independent director did not serve at the company's external audit agency within the last three years
- The independent director is not an employee of a corporation whose total transaction with the company during the last three business years is 10% or more of the total assets or operating income
- The independent director does not belong to a corporation which concluded a single transaction equivalent to at least 10% of the total sales during the recent business year
- No interest in other matters determined by the Board of Directors

\* Payments arising solely from investments in company securities, or under the discretionary charitable donations matching program

### Principles and Standards for Improving Board Diversity



1. Korea Zinc does not impose nationality restrictions on the candidates for registered and independent directors, for a global advanced governance structure.
2. Korea Zinc does not impose gender restrictions on the candidates for registered and independent directors, to enhance the diversity of the Board of Directors.
3. Korea Zinc strictly eliminates school or regional connections and prioritizes work experience and expertise when hunting candidates for registered and independent directors.
4. Korea Zinc takes a comprehensive approach from the stages of discovering candidates, considering various diversity elements such as race, religion, and ethnicity.



## Sustainability-related Policies and Standards

### Tax Policy



#### Compliance with national tax laws and international regulations

We strictly comply with the laws and regulations of the tax authorities in all domestic and foreign transactions, and preemptively identify and respond to enactment, revision, rules, and precedent creation.

#### Tax risk management

We strive to minimize tax risks related to Korea Zinc management activities and identify tax issues and impacts before making important decisions. In addition, evidence of the decisionmaking is recorded and stored in a standardized document. If it is deemed necessary, we receive advice on effective/efficient management of tax risks from specialized institutions such as law firms, accounting firms, and tax firms.

#### Tax report and payment

Korea Zinc faithfully fulfills its tax reporting and payment obligations in accordance with the laws of the country where profits are realized through business and faithfully fulfills the taxpayer's obligations required.

#### Eliminating tax avoidance

Korea Zinc does not make transactions for the purpose of transferring income between countries or avoiding taxes by taking advantage of differences in laws, deficiencies in the international tax system, and tax havens. We endeavor to ensure that profits realized are legally and consistently taxed in accordance with relevant laws and regulations.

#### Compliance with normal transactions

Korea Zinc maintains a transaction structure consistent with regulations for transactions with affiliated international parties. To prevent improper risk allocation and income transfer, it is important to thoroughly understand transaction details with overseas corporations through the Transfer Price of internal standards based on OECD Guidelines\* and Base Erosion and Profit Shift Guidelines.

#### Respect for the customs office

Korea Zinc strives to establish a constructive and cooperative relationship based on mutual trust and respect with the tax authorities of the site country and faithfully responds to tax investigations or requests for related data.

#### Transparency, accuracy, and objectivity of tax information

In order to ensure transparency in the tax burden, the relevant information is disclosed to stakeholders of Korea Zinc without concealing, distortion, or exaggeration. The audit report discloses the criteria for calculating corporate tax expenses, deferred tax assets and liabilities, composition details of corporate tax expenses, and tax rates in financial statements and annotations, and secures the accuracy and objectivity of related information through external audits.

\* OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations and with local tax laws in each country

### Anti-corruption Principles



- We will fully input time, human resource, budget, facilities, and other resources in making, implementing, and maintaining policies & systems to prevent corruption.
- We will appoint those in charge of anti-corruption, identify the competencies required (related experience, education, training, etc.) and ensure their qualifications.
- When hiring, we will require compliance with the anti-corruption guidelines as a condition, where violations will lead to disciplinary measures authorized by the organization.
- Upon employment, we will share anti-corruption policies and provide related education and training. Those who refuse work that seems corrupt will be ensured not to be discriminated against, retaliated against, or receive any disciplinary actions.
- Prior to recruitment, rotation, and promotion of those exposed to corruption risk or those subject to anti-corruption policies, we will verify their compliance with related regulations.
- We will periodically review incentive systems to function as protection against corruption, and monitor employees' compliance with the anti-corruption regulations.
- We will raise awareness of corruption and the anti-corruption guidelines and provide regular training to employees on anti-corruption principles, corruption influences, corruption-prone conditions and ways to identify them, and bribery/solicitation response tips, and reporting concerns. Same training will be provided to related personnel at medium-level corruption risk or above (e.g. outsourcing, counterpart companies).
- We will communicate anti-corruption policies, systems, procedures, and ranges with related parties and stakeholders including contractors, suppliers and investors, etc. in an effective manner.
- Rational and appropriate measures will be taken to guarantee stakeholders are properly complying with anti-corruption guidelines.
- We will regularly check that employees are reasonably complying with anti-corruption policies and encourage them to comply with policies.
- We will prevent corruption and implement appropriate control measures through investigations of confirmed or suspected bribery.
- We will continue to monitor corruption and suspected activities. And we will also activate whistle-blowing.

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