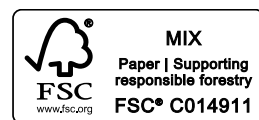


DOWA HOLDINGS CO.,LTD.

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Website: https://www.dowa.co.jp/index_e.html



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DOWA HOLDINGS CO.,LTD. DOWA REPORT 2022



DOWA REPORT 2022

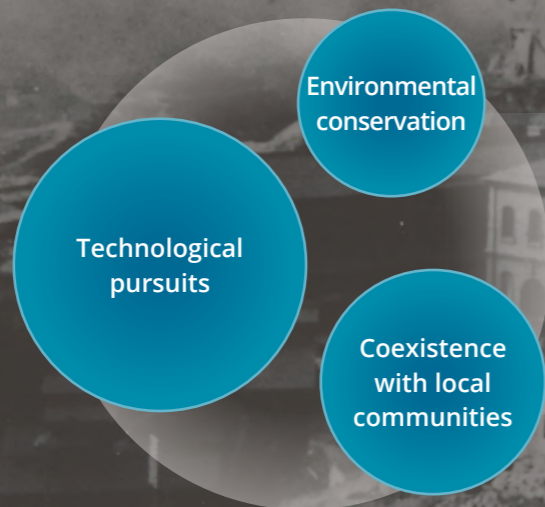
DOWA

Integrated Report
DOWA HOLDINGS CO., LTD.
For the year ended March 31, 2022



Upholding Our Founding Spirit

“Continuing to refine our technology to resolve social issues”

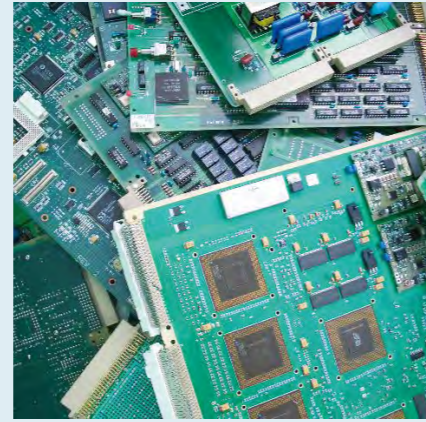


Resolving social issues

DOWA was founded in 1884 as a mining and smelting company working with nonferrous metals. In 1898, the Company developed technology for refining *kuroko*, or black ore, a complex sulfide ore that was difficult to treat with the technology available at the time. This breakthrough set DOWA on a path toward the effective use of nonferrous metal resources, a path it still walks today. Over our more than 130-year history, we have remained committed to facing challenges head-on and continuing to refine our technology. During that time, we have also learned that the true key to resolving social issues is to be mindful of the environment and to coexist with society, in addition to the pursuit of profit.



Urban Mine



The winds of change are blowing as the world shifts toward a recycling-oriented, decarbonized society. To help achieve these goals, the DOWA Group of today is looking to its founding spirit to drive efforts to evolve its unique recycling-oriented business model and to keep offering new value to society. In doing so, we will help create a sustainable future.

Circular Economy



Carbon Neutrality



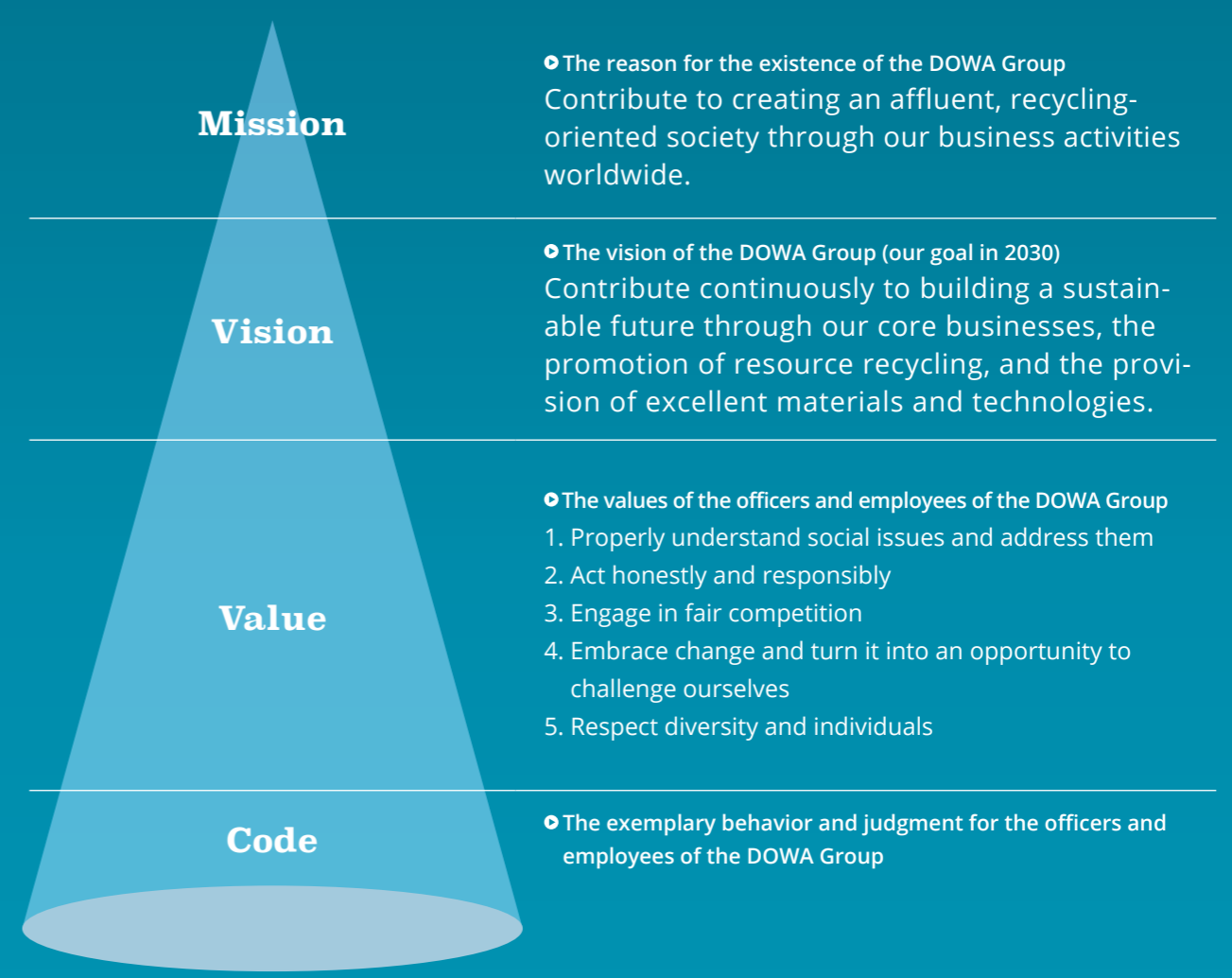
Metallurgical Technology



Sustainability



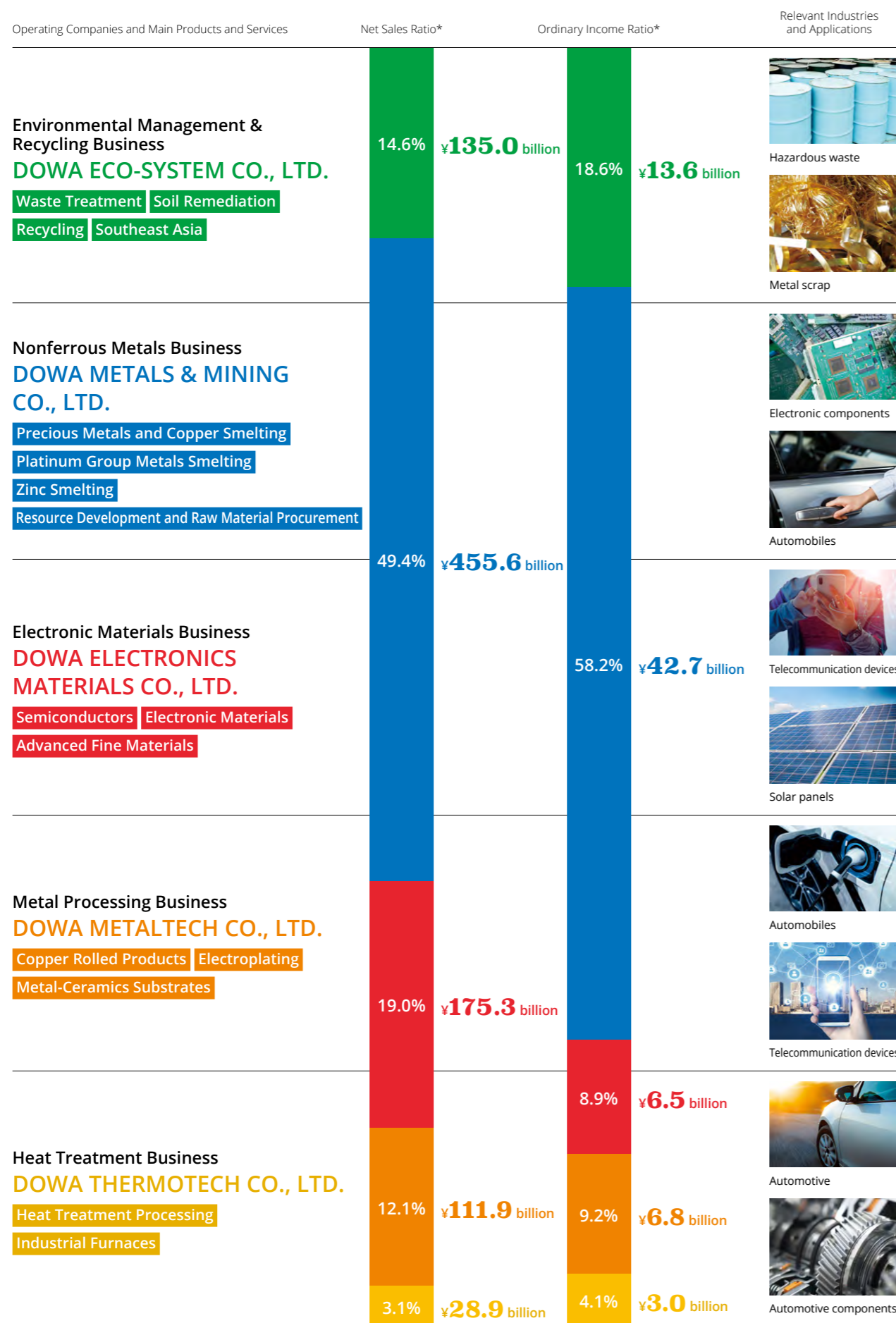
The DOWA Group's Corporate Mission, Vision, Values, and Code of Conduct



In October 2020, we fully revised our Corporate Mission, Vision, Values, and Code of Conduct. We made these revisions with reference to several guidelines, including the United Nations Global Compact (UNGC), the Sustainable Development Goals (SDGs), and the Charter of Corporate Behavior of Keidanren (Japan Business Federation). These revisions also reflect stakeholder expectations and take into consideration the corporate culture DOWA has cultivated over its long history.

 The DOWA Group's Corporate Mission
https://www.dowa.co.jp/en/about_dowa/philosophy.html

At a Glance (Fiscal 2021)



* Excluding adjustments

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Integrated Report 2022
DOWA HOLDINGS CO., LTD.

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Scope of Coverage
Companies included in the PDF "Subsidiaries and Affiliates" located in the IR Library section of the corporate website:
<https://ir.dowa.co.jp/en/ir/library/annual.html>

Period of Reporting
From April 1, 2021 to March 31, 2022, herein referred to as "fiscal 2021." Parts of this report may refer to initiatives and activities outside this period.

Cautionary Note regarding Figures
The figures in this report have been rounded down.

Cautionary Note regarding Forward-Looking Statements
Forward-looking statements in this report, such as performance forecasts, are based on the information available to the Company's management team at the time of publication and on certain premises that it believes to be reasonable. Accordingly, actual performance may differ materially from such forecasts due to a variety of factors.

Guidelines Referenced
• The Integrated Reporting Framework of the International Financial Reporting Standard (IFRS) Foundation
• Guidance for Collaborative Value Creation of Ministry of Economy, Trade and Industry

Use of Abbreviations
This report uses the following abbreviations.
HD: DOWA Holdings Co., Ltd.; ES: Environmental Management & Recycling Business; MM: Nonferrous Metals Business; EL: Electronic Materials Business; MT: Metal Processing Business; TH: Heat Treatment Business; GL: Overseas locations

Message from the President

Continuing the March toward Realizing Our Vision, Driven by Our Founding Spirit and Strengths

SEKIGUCHI Akira
President and Representative Director

The Resolution of Social Issues as the Key to Sustainable Growth

Today, we find ourselves fraught with a variety of social issues. On top of the prolonged impact of the COVID-19 pandemic, we face rising geopolitical risks, including the conflict between Ukraine and Russia and the political status of Taiwan, and the increasing frequency of abnormal weather events stemming from climate change, among other problems. Companies must mount a response to these issues to have any hope of realizing sustainable growth. As a corporate group that engages in mining and smelting as its primary business, the DOWA Group has long worked to address social issues such as environmental conservation and coexistence with local communities. Furthermore, current conditions have

reaffirmed the importance of remaining mindful of how our activities ensure the sustainability of society and sound business. This mindfulness is essential to the future growth of the Group.

Our unique recycling-oriented business model plays an important role in our efforts to resolve social issues. This model combines environmental management, recycling, and smelting—fields directly tied to resource recycling—with electronic materials, metal processing, and heat treatment—fields that can help build a recycling-oriented society. I truly believe that this model is a massive strength that can help us meet the demands placed on companies in the modern day to increase corporate value and build a sustainable society.



The Advantages of a Recycling-Oriented Business Model

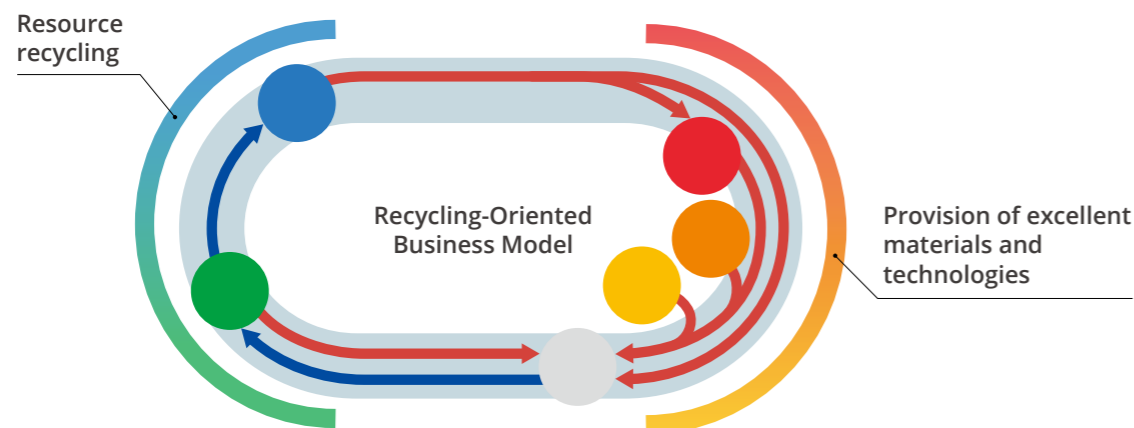
Performance in the mining and smelting business is influenced greatly by the market prices of non-ferrous metals; that is a matter of fate. For this reason, the Group has selected five core businesses, including smelting, with the aim of creating a system that can generate stable earnings and has worked to build up these businesses over several decades. At the beginning of this process, we relied heavily on mining and smelting as our core earnings base, but we have raised the competitiveness and profitability of our other businesses with each successive midterm plan.

Our current recycling-oriented business model leverages the technology, know-how, infrastructure, target markets, and other characteristics of each core business to create synergies, thereby making it very robust. For instance, we have combined the waste treatment capabilities of the Environmental Management & Recycling Business with the highly efficient metal recovery technology of the Nonferrous Metals Business. We use this smelting and recycling complex to recycle a wide variety of metals or to dispose of them appropriately when recycling is not possible, which helps reduce our impact on the environment. In addition, by utilizing our wealth of knowledge and high technological capabilities cultivated in fields such as semiconductors, conductive materials, copper rolled products, and surface treatment, we have been able to create many high-performance

products and services in markets bursting with technological innovation, such as automobiles, smartphones, and solar panels.

However, we need to use our technological capabilities to evolve in step with ever-changing business conditions. That means we must develop and offer a constant stream of unprecedented materials to help resolve social issues. A representative case would be the technology we use to recover several types of metals through refining and recycling. This technology originates from our efforts to mine and smelt black ore, but now we can apply it to help build a recycling-oriented society. One characteristic of the DOWA Group is that developing and enhancing the technology of each business has a direct impact on its ability to resolve social issues. We can harness this key characteristic to better respond to changes in society, which are happening at an increasingly rapid pace.

As I alluded to earlier, the Group's business activities can be broadly divided into two: businesses that handle resource recycling and waste treatment and businesses that provide the materials and technologies necessary to build a sustainable society. The former is particularly notable because these are fields that cannot be easily imitated by other companies as they are deeply rooted in the human resources, know-how, and infrastructure that we have cultivated



over the years, dating back to the management of mines and the smelting of black ore at the time of DOWA's founding. I believe that one of the keys to

evolving our business model will be the extent to which we can capitalize on this advantage.

For details, please refer to "DOWA's Strengths" on page 16.

The Path to Realizing Our Vision

In 2020, after taking in the dramatic global shifts that had taken place in recent years, we took some time to reaffirm both the significance of the Group's business and the direction of the Group's growth, and accordingly we revised the vision of the DOWA Group, which represents our goal in 2030. The Group Vision, which sets out our aim to "contribute continuously to building a sustainable future through our core businesses, the promotion of resource recycling, and the provision of excellent materials and technologies," shines a light on the path DOWA must take going forward in order to strengthen the Group as a whole and help contribute to society. Midterm Plan 2024, which was announced in May 2022 and covers the three years from fiscal 2022 to fiscal 2024, is based on this vision. Each measure contained within Midterm Plan 2024 is intrinsically aimed at realizing the DOWA Group's Vision as a result.

Our previous plan, Midterm Plan 2020, was extended to fiscal 2021 due to the uncertainty created by the outbreak of COVID-19. In the first half of fiscal 2020, the pandemic thrust the Heat Treatment Business into a crisis; as a business that primarily deals with automobile parts, demand plummeted to next to nothing in line with the drastic drop in automobile production. We were ready to see our figures fall into the red; however, we have long been aware of the magnitude of demand fluctuations in the automobile industry and have successfully promoted cost controls to compensate for these fluctuations for many years. As a result, we managed to stave off falling into the red during fiscal 2020. This achievement, to me, is a prime example of what we can accomplish by identifying, prioritizing, and then working to address the most important issues in each business domain. The many

decades we have devoted to expanding our metal recycling business through the development of efficient ways to collect recycled raw materials and other strategies enabled us to ride the tailwind of rising metal prices, which carried us to record increased profits in fiscal 2021. Even in the midst of the COVID-19 pandemic, we came very close to the numerical targets of Midterm Plan 2020. This four-year period was very meaningful for us; not only did it reaffirm the significance of the Group and its resilience in challenging times, but it allowed us to take our next step, Midterm Plan 2024, with confidence.

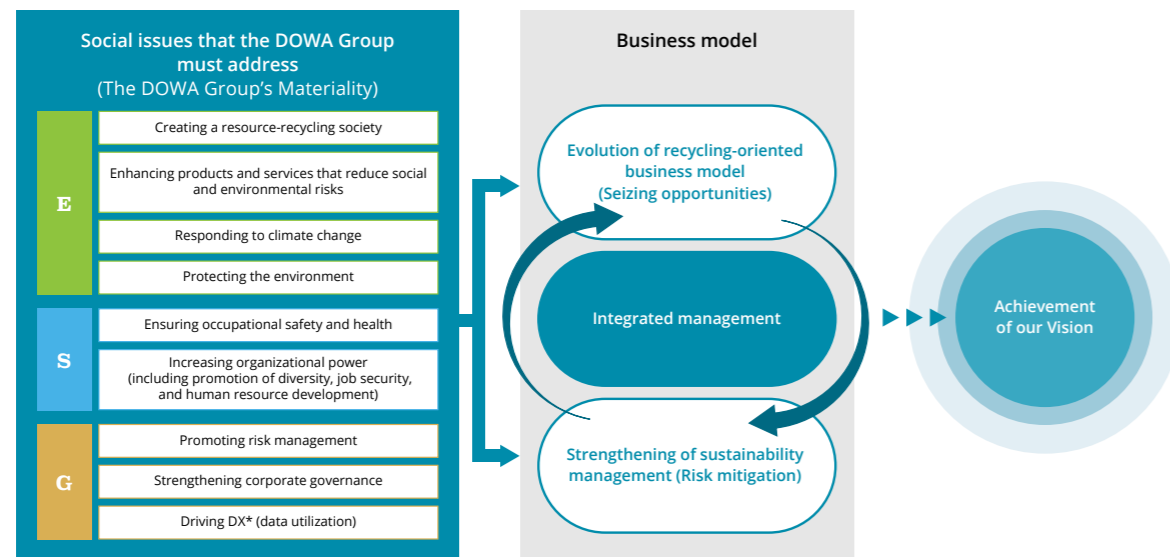
In previous midterm plans, our approach was to compile a series of forecasts for each business, with each business having its own timeline. However, with Midterm Plan 2024, we tried a new approach, centered on the question "What role should the DOWA Group play in society?" With this question in mind, we developed a separate vision for 2030 that ties together all five core businesses and then formulated a plan using backcasting to make that vision a reality. Over the course of this plan, financial figures may fluctuate due to changes in the market, but I do not believe such fluctuations will lead to any major changes in the direction that our vision has set out for us. Midterm Plan 2024 is positioned as the starting line on the path toward realizing this vision. The plan is also an important first step in terms of verifying the effectiveness of backcasting as a viable method for formulating management plans.

I believe that one key to achieving continued growth for the DOWA Group on the way toward 2030 is the improvement of both its economic value and social value. Under Midterm Plan 2024, our financial targets for fiscal 2024 are operating income of ¥60.0 billion, ordinary income of ¥70.0

billion, return on assets (ROA) of 10% or higher, and return on equity (ROE) of 12% or higher. To achieve these targets, we held repeated discussions to clarify issues we need to address, taking into consideration the characteristics of our business and the demands of society. Based on these discussions, we selected nine social issues that the Group must address and positioned them as the DOWA Group's Materiality. In order to resolve these material issues, the Group will continue to focus on four growth areas where it can best

leverage its materials and technological capabilities: automobiles, information and communication, the environment and energy, and healthcare. At the same time, we will find new opportunities through the evolution of our recycling-oriented business model while lowering risk by strengthening sustainability management. These efforts combined will improve corporate value.

For details, please refer to "Midterm Plan 2024" on page 24.



* Digital transformation

A Response to Climate Change Targeting the Greater Issues

Along with the evolution of our recycling-oriented business model, we have set strengthening sustainability management as a basic strategy under Midterm Plan 2024.

The mission of every mine operator is to prevent environmental damage to areas where mines are located and to provide employment to the people who live in nearby communities. Fujita Gumi, the predecessor of the DOWA Group, went as far as funding the development of community infrastructure, such as hospitals and schools. With this ingrained in its history, the Group has a deeply rooted awareness that it is impossible

to do business without efforts toward environmental conservation and coexistence with local communities.

That said, although we have long had an acute awareness of the environment, our response to climate change has, honestly speaking, been limited to considerations within certain departments, and we have been slow to act on a Groupwide scale. To rectify this situation, amid growing demand to address climate change, we established the Climate Change Committee in fiscal 2021 and began extensive discussion on implementing Groupwide climate change countermeasures.

The Group's policy is to work toward achieving carbon neutrality, with efforts centered on three pillars. The first pillar, which almost goes without saying, is to reduce greenhouse gas emissions from business activities. The second pillar is to provide new products and services that will help reduce emissions generated by customers and throughout society in general. Finally, the third pillar is to increase the effectiveness of waste treatment, which includes incineration.

Common practice is to focus on only decarbonization, but decarbonization alone will not lead to a sustainable society. If we adopt a strategy based solely on decarbonization and abandon incineration, which produces CO₂, in favor of burying all the waste we generate, there will naturally be adverse consequences, soil contamination being one of them. Currently, the most effective means of detoxification in waste treatment is incineration. Therefore, I believe that the DOWA Group will play an important role in combating climate change; however, this role is less about reducing emissions by forcibly reducing incineration and much more about preventing the spread of

pollutants through the proper treatment of industrial waste.

As it stands right now, there is no way to reduce CO₂ emissions from incineration to zero, but we are currently engaged in research and development geared toward the long term, aiming to develop treatment technology that will utilize energy that does not produce greenhouse gases. The overriding issue is preventing global warming, and the Group is also involved in an extremely important effort in this regard, the destruction of fluorocarbons. Fluorocarbons have a much higher global warming potential than CO₂, which means that their destruction can greatly reduce the impact of greenhouse gases on the environment. I believe this is a highly worthwhile pursuit, even if some amount of CO₂ is produced in the process. In other words, rather than simply pursuing decarbonization for immediate results, we intend to put forth a balanced, steady response to climate change with our eyes on the greater issues.

For details, please refer to "Responding to Climate Change" on page 42.



Establishment of a Stronger Risk Management System

A key theme in our efforts to strengthen sustainability management is to build a better risk management system. The Group is subject to high performance volatility due to market fluctuations, so risk is a constant topic of internal discussion as we aim for greater stability. With the way our business is currently structured, the biggest risk we face is fluctuations in nonferrous metal prices. Knowing this, we have worked over the course of several decades to organize all the information we can pertaining to production trends and raw material procurement, quantitatively visualize the areas with fluctuation risks, and then use futures markets to hedge these risks. As a result, the Nonferrous Metals Business has come to utilize a large amount of recycled raw materials containing a wide variety of metals relative to its use of concentrates, despite the greater difficulty of doing so. This is possible because we now boast world-class accuracy in quality analysis when receiving raw materials as well as precision when it comes to controlling and reducing the risk of value fluctuations that occurs during the lead time from raw material procurement to product sales.

However, there are still parts of our risk management system where work needs to be done. Under Midterm Plan 2024, we intend to identify issues within this system and strengthen it so it can be truly effective toward managing the specific risks characteristic to the Group's business activities. Under the multilayered structure of a holding company, it is difficult for the holding company to establish a uniform mechanism for ascertaining where risks lie and keeping them under control. Even if the holding company has established a Groupwide internal audit department that can move across the organization, it is the operating companies and operating subsidiaries that must develop risk management systems tailored to their respective business situations. This is a major challenge that we must constantly address in light of changes in business conditions and greater society. I believe one of the major roles of a holding company is to stay ever alert to these changes.

For details, please refer to "Promoting Risk Management" on page 60.

Collective Strength to Drive Our Evolution

The driving force behind our future evolution is the collective strength of the entire corporate Group. In addition to a robust financial base and technological capabilities that set us apart from other companies, good relationships with excellent customers and local communities are important. It is also vital to have employees who are serious and have a strong sense of responsibility.

Partly because of our origins in the mining and smelting industry, we have built up solid relationships with local residents for over a century, especially at our manufacturing bases in Akita Prefecture, where DOWA was founded. These relationships are a strength developed over years and years, and I believe that it is important to involve young employees in local events and

activities that contribute to local communities so that they can experience how deep these ties run and carry them forward.

As a new initiative related to strengthening technological capabilities and developing human resources, in April 2022 we established the DOWA x Tohoku University Co-creation Research Center. We have built a close relationship with Tohoku University, which has wealth of knowledge in industrial waste treatment and metal recycling, thanks to decades of recruiting and joint research, and this new initiative will bring with it new technological seeds and human capital, which we can use to ramp up our efforts to resolve social issues.

Internally, we are working to provide all employees with opportunities that will motivate

them to develop their skills and emphasizing fair recognition of work achievements. We are also working to establish personnel systems that give employees peace of mind. I believe that systems such as remote work or systems that prevent relocation or transfers, by limiting work location to a specific area, allow employees who are providing childcare or nursing care or have fallen ill to work without the worry that they are missing work-related opportunities. Combined, these efforts help enhance human capital.

For details, please refer to "Increasing Organizational Power" on page 54.

To further promote peace of mind in the workplace, efforts to ensure a safe environment and the health of employees are an absolute must. Under Midterm Plan 2024, we, working as a holding company, have set a schedule to implement measures and developed a specific investment plan for improving workplace environments. We are fully committed to improving systems to create a healthy workplace.

We also intend to use digital technology to transform the way we work. Such efforts include developing processes that do not depend on any one person's skill set and reducing both labor-intensive work and the number of working hours required to accomplish tasks at manufacturing sites. This is also an important initiative that will enhance the collective strength of the Group. In addition to building a data linkage platform (backbone core system), a major investment item highlighted in Midterm Plan 2024, we are also launching a digital transformation (DX) human resource development program. We will use these initiatives to move forward with implementing DX, steadily and one step at a time, with the hope of improving the efficiency of the manufacturing process and the quality of customer service.

For details, please refer to "Driving DX (Data Utilization)" on page 76.

Commitment to a Foundation of Good, Honest Business

We were founded as a mining business, and in mining there are no short cuts. We are dealing with natural resources, so to secure profits we must refine our technology and face changing conditions head-on. In addition, DOWA had a hand in making black ore, a resource that is extremely difficult to mine and smelt, into something useful. At the very core of the DOWA Group is a belief that has been with us since the very beginning; good, honest business does not shy away from the challenges presented by the environment in which it operates or the materials with which it works. Instead, it puts in place the right technology to face these challenges head-on.

Personally, I always try use our business to earn the trust of our customers, partner companies, suppliers, and local communities, charged

with the desire to increase the number of supporters of DOWA. This is a mindset I try to share with people within the Group whenever the opportunity presents itself. I am here to make a promise that we will continue to carry on good, honest business with that same spirit DOWA was founded upon. As we do so, I ask all our stakeholders for their trust in the DOWA Group and their further support as we pursue our endeavors going forward.

August 2022



SEKIGUCHI Akira
President and Representative Director

DOWA's History

Adapting to Change

Since its founding in 1884, the DOWA Group has worked in the field of basic materials to support the economic development of Japan. Over the course of its more than 130-year history, the Group has transformed its business and improved and developed its corporate structure while being subject to the variety of business conditions that come with the changing times. Therefore, it is safe to say that our ability to adapt to change, developed over many years, is a characteristic of the DOWA Group.

1884–1989

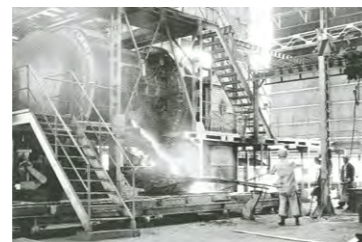
Evolution beyond a Mining Business

The Company was established in 1884, after the Japanese government sold the Kosaka mine, the largest silver mine in Japan at the time. More than a decade later, the Company faced financial difficulties when the mine's silver ore reserves became depleted, compounded by a drop in silver prices. However, DOWA managed to develop technology capable of refining black ore, a complex sulfide ore found in large quantities at the bottom of the silver deposits. This allowed us to revive the Kosaka mine as a copper mine.

From that point on, DOWA expanded as a mining-oriented company, boosted by demand generated by two world wars and post-war reconstruction. The Plaza Accord of 1985, however, led to a rapid appreciation of the Japanese yen and a subsequent and substantial drop in domestic prices for nonferrous metals. This drop in prices caused the profitability of mining, DOWA's then primary business, to plummet. As a consequence, DOWA was forced to shift away from a mining-oriented business structure.



1907: Roaster at Kosaka mine (currently Kosaka Smelting & Refining Co., Ltd.)



Around 1960: Okayama refinery (currently DOWA Electronics Materials Okayama Co., Ltd.)



Around 1980: Toyooka Plant (currently DOWA Metal Co., Ltd.)

1990–2009

Diversification and Corporate Structure Reorganization

Since 1990, after moving on from mining, we have worked to diversify our business. These efforts built the foundations for the DOWA Group's businesses today but had yet to improve profit levels in any significant way. Taking in this situation, we went forward with reorganizing our corporate structure starting in 2000, with an emphasis on reforming our profit and asset structures and reducing interest-bearing debt. In addition, we committed management resources to our core businesses—the Environmental Management & Recycling Business, the Nonferrous Metals Business, the Electronic Materials Business, the Metal Processing Business, and the Heat Treatment Business—a decision that allowed us to showcase our competitiveness for many years after.



2007: Introduced recycling-specific furnace at Kosaka Smelting & Refining



2009: Began waste treatment in Southeast Asia



2010: Introduced recycling business for used lithium-ion batteries

2010–

Stabilization of Profits and Strengthening of Earnings Power

We have utilized our five core businesses to develop a recycling-oriented business model that features an unprecedented smelting and recycling complex that combines appropriate waste treatment with metal recycling. These businesses have also enabled us to provide highly functional materials, technologies, and services and to develop a plethora of niche products. Today, these strengths, among others, make it possible for us to do business on the global stage.

Under Midterm Plan 2024, we will continue to improve corporate value by strengthening financial and non-financial aspects of the DOWA Group.



DOWA's History and the Origins of Sustainability-Focused Management

DOWA's founder, Fujita Denzaburo, was a businessman during Japan's Meiji era who contributed to the industrial world through his involvement in a broad range of businesses that included construction, railways, textile spinning, power generation, and newspapers, in addition to mining.

Fujita founded the Company in Kosaka (Akita Prefecture), where he donated large sums to elementary schools based on the conviction that education is the source of national wealth and power. Further, through the Company's predecessor, Fujita Gumi, he established social capital by introducing electric utilities, constructing railways, maintaining waterworks, and building schools, housing, hospitals, and leisure facilities, such as theaters and sports centers.

This social capital was made available not only to those directly or indirectly involved with the mine but also to residents of local communities.

Sustainability management at the DOWA Group is corporate management conducted from a long-term perspective, drawing from Fujita Denzaburo's philosophy of "coexistence between workers and the residents of local communities."



Founder
FUJITA
Denzaburo
(1841–1912)

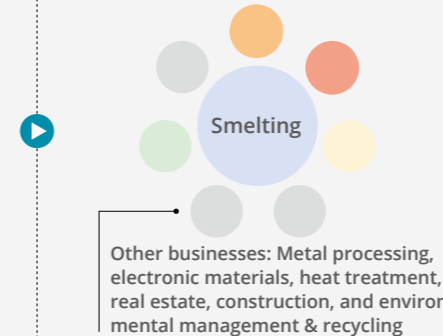
Changing Our Business

Founding–1980s
Business centered on mining and smelting



Structure

1990s
Transition from mining toward diversification



2000s
Formation of recycling-oriented business model using our five core businesses



DOWA's Strengths

STRENGTH

01

A Smelting and Recycling Complex Function That Enables Highly Efficient Metal Recovery

We have combined the waste management of our Environmental Management & Recycling Business with the highly efficient metal recovery technology of our Nonferrous Metals Business to form a smelting and recycling complex. We use a variety of processes to recycle large amounts of metal from materials that are no longer of use to society. Moreover, materials that cannot be recycled are incinerated and transported to landfills to reduce their environmental impact.

Environmental Management & Recycling Business

Integrated services in the areas of waste treatment, soil remediation, and recycling, from transport to landfilling

Amount of hazardous waste
No. 1*
(Domestic market)



Business operations in Southeast Asia
4 countries
(Indonesia, Thailand, Singapore, and Myanmar)



Provision of raw materials (e-scrap)

Nonferrous Metal Business

Highly efficient recovery of more than 20 types of metal from a variety of raw materials using our proprietary technology and network of multiple smelters

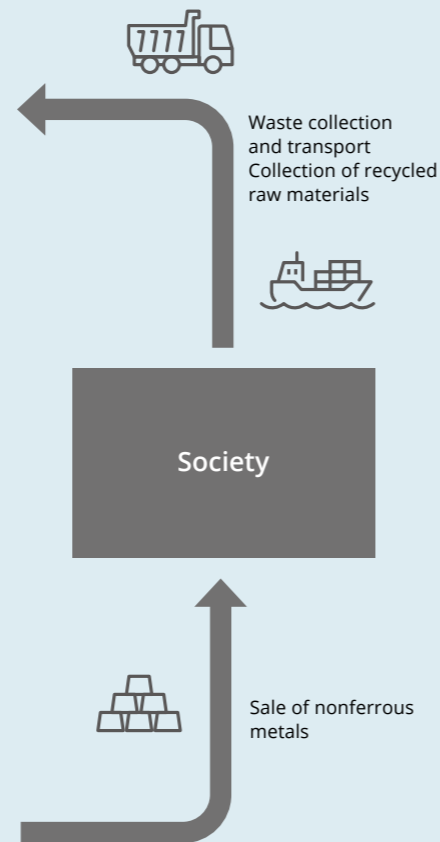
Highly efficient metal recovery using a network of smelters centered on Kosaka Smelting & Refining Co., Ltd.



Domestic production of electrolytic zinc
No. 1*
(Production volume per smelter)



* Based on in-house investigation



STRENGTH

02

Multiple Products at the Top of Niche Markets That Utilize High Technological Capabilities

The Electronic Materials Business, the Metal Processing Business, and the Heat Treatment Business develop and manufacture high-value-added materials at the top of niche markets primarily composed of metal. With our abundant knowledge and high technological capabilities in fields such as semiconductors, conductive materials, copper rolled products, and surface heat treatment, we have created products and services with large shares in markets that undergo rapid technological innovation, such as automobiles, smartphones, and solar panels.

* Based on in-house investigation

Electronic Materials Business

Silver powder
Global share
No. 1*



DOWA's silver powder is used in many solar panels in Japan and overseas.



Solar panels

High-purity gallium
Global share
No. 1*



We refine high-purity gallium to a purity of 99.9999% (6N) or higher.



Various types of electronic components

Magnetic recording materials
Global share
No. 1*



We manufacture and sell approximately 90% of magnetic recording materials used in data storage tapes.



Backup tapes for servers

Metal Processing Business

Copper alloy strips
Domestic share
No. 1*

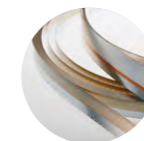


We boast the top domestic market share for copper alloys strips used in automobiles.



Automobiles and smartphones

Silver electroplating
Domestic share
No. 1*



We have a domestic market share of about 80% for silver electroplating for in-vehicle switches.



Automobiles (switches, buttons, etc.)

Heat Treatment Business

Atmospheric heat treatment furnaces
Domestic
Largest scale*



Our atmospheric heat treatment furnaces for automobile parts have the top domestic share.



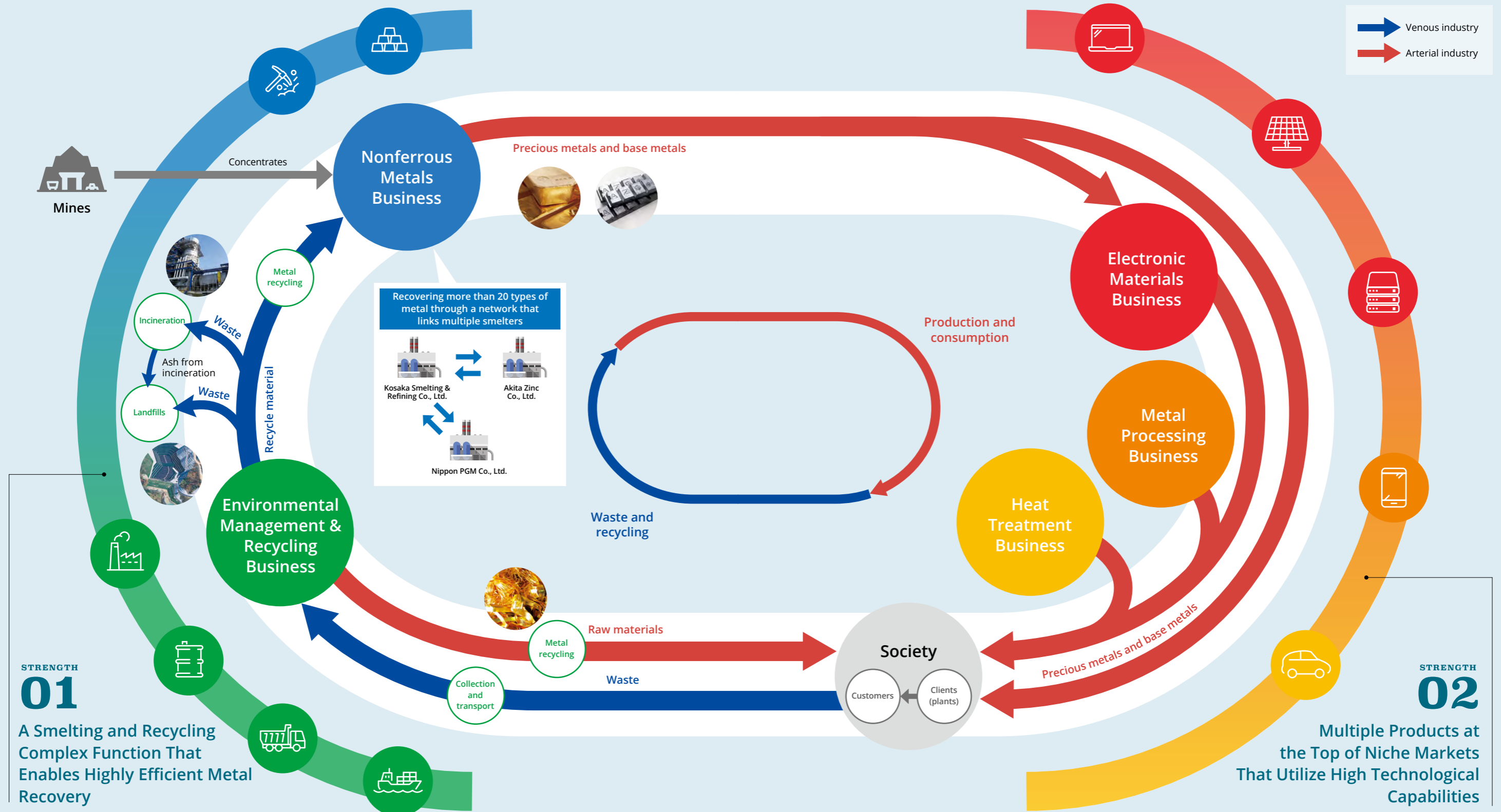
Automobile parts

STRENGTH
03

Recycling-Oriented Business Model

The greatest strength of the DOWA Group is its unique recycling-oriented business model that combines its five core businesses.

We offer a wide range of products and services, from materials to parts, with a wide range of applications. These products and services are developed by leveraging our unique and advanced technological capabilities, earning us top market shares and high profitability. In addition, by providing products and services to a wide range of markets, we have created a highly diverse and stable profit structure that is less susceptible to trends in any one market.

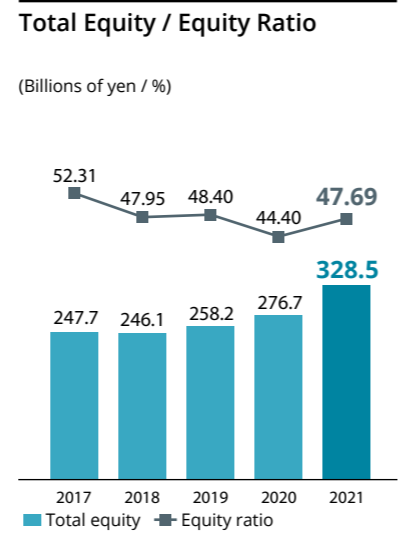
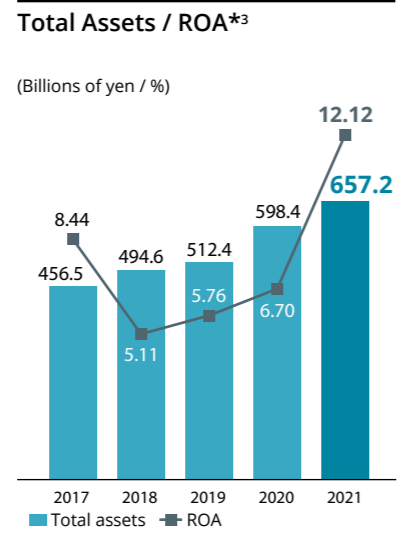
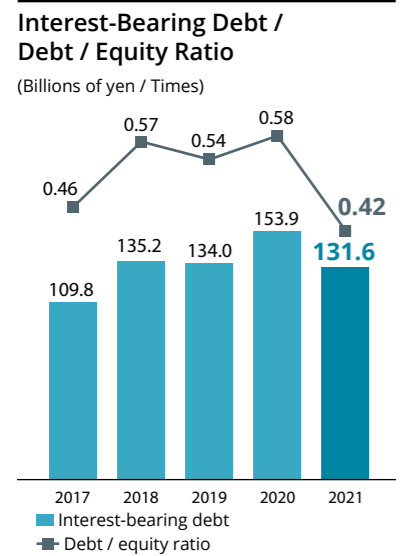
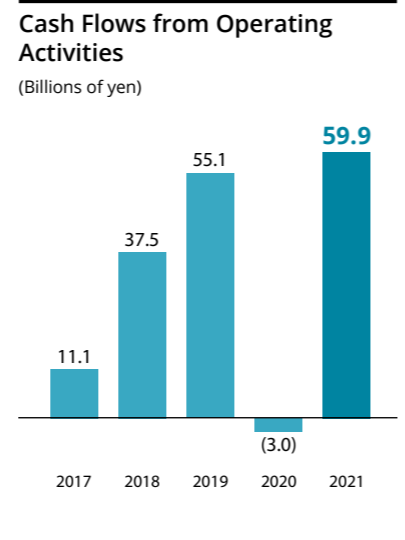
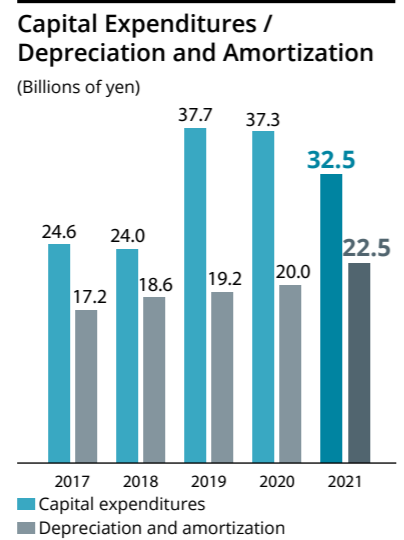
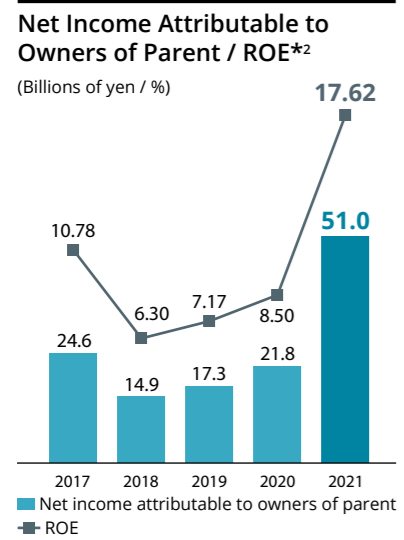
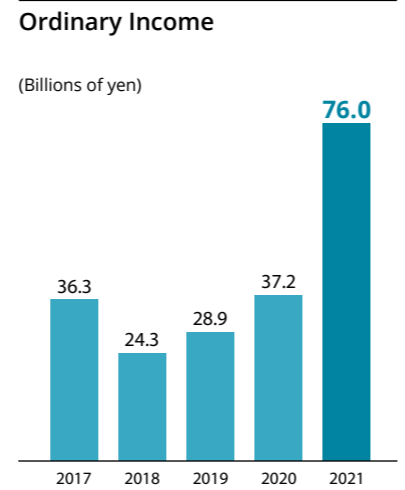
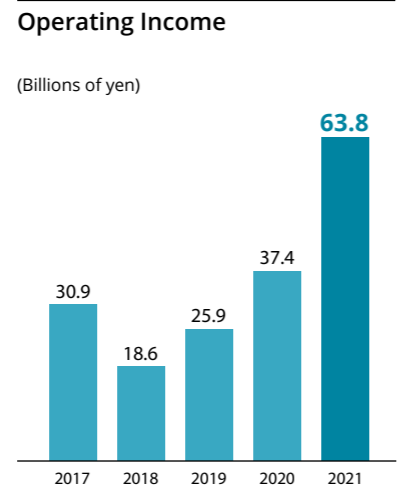
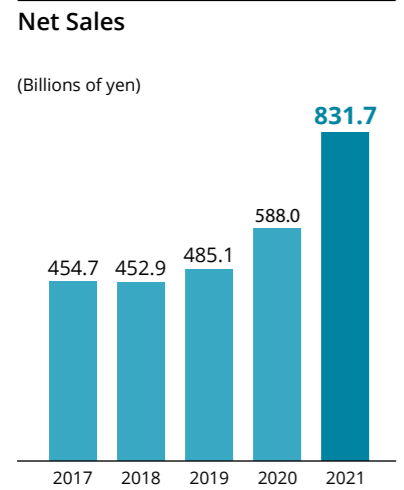


STRENGTH
01
A Smelting and Recycling Complex Function That Enables Highly Efficient Metal Recovery

STRENGTH
02
Multiple Products at the Top of Niche Markets That Utilize High Technological Capabilities

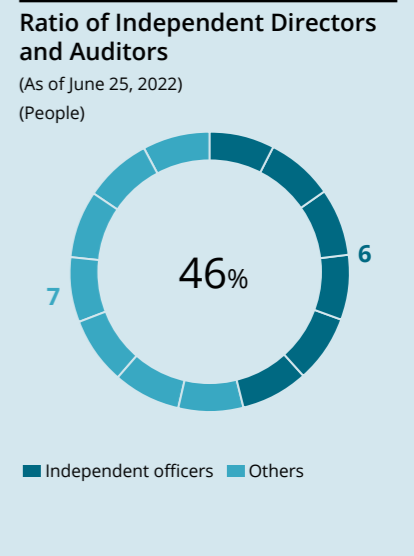
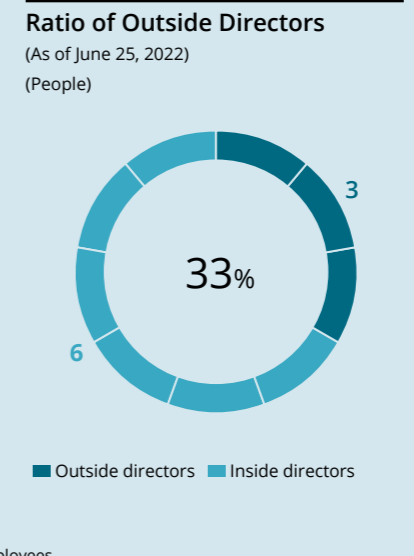
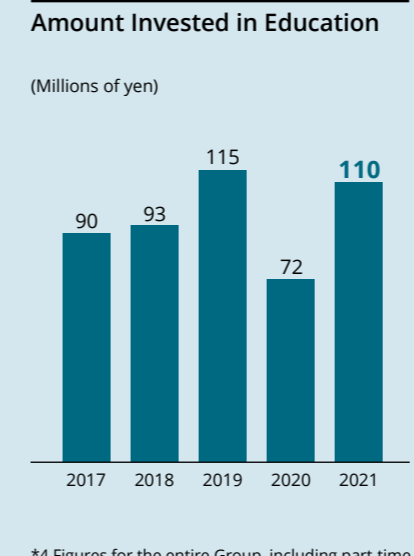
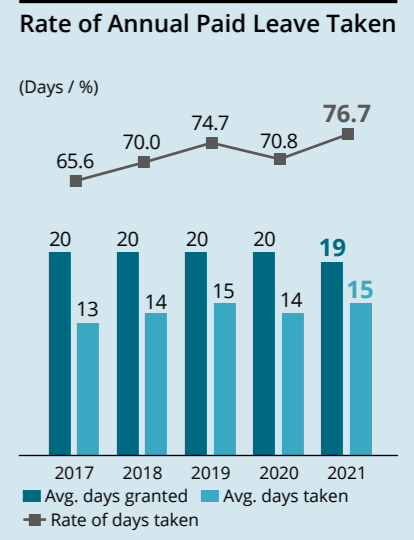
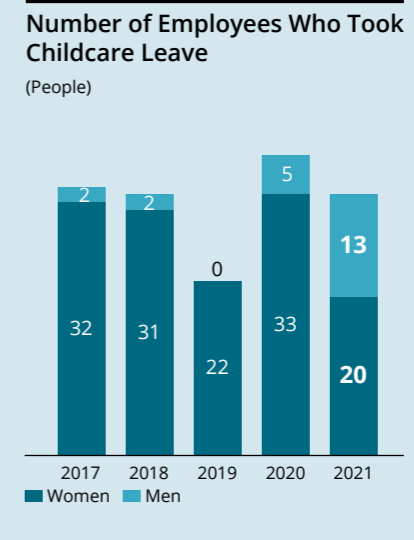
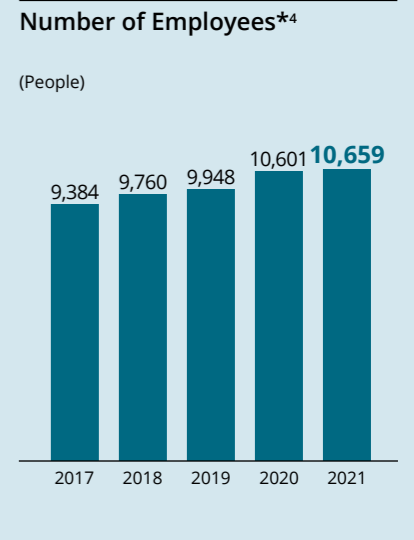
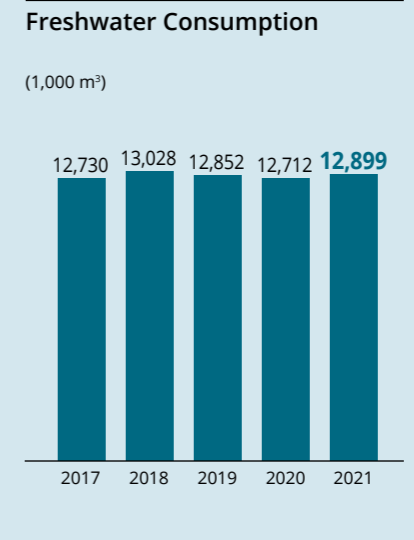
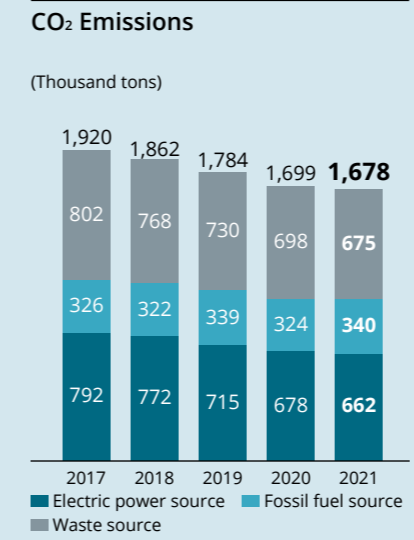
Highlights (FY2021)

Financial Highlights*1



*1 The years stated in the graphs are ended March 31. Thus, "2021" refers to the fiscal year that ran from April 1, 2021 through March 31, 2022.
 *2 Net income attributable to owners of parent divided by the average of shareholders' equity (the amounts after deducting non-controlling interest amounts from equity amounts) at the start and end of the fiscal year.
 *3 Ordinary income divided by the average of total assets over the course of the fiscal year.

Non-Financial Highlights

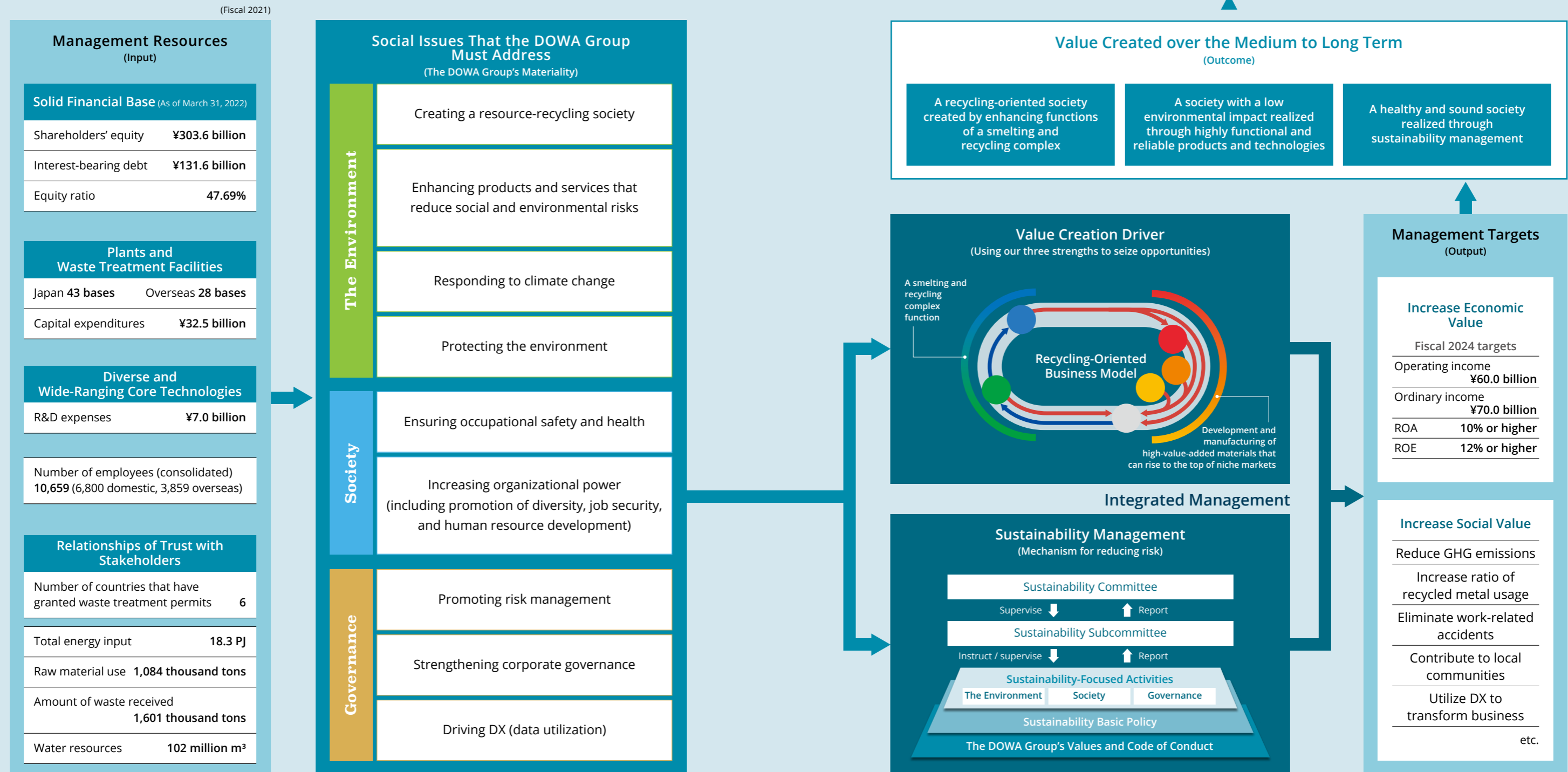


*4 Figures for the entire Group, including part-time employees.
 *5 Cooperating companies and contractors have not been included when calculating these figures.

Value Creation Process

The DOWA Group believes that its most important missions are to engage all of its stakeholders in a sincere and open manner through business operations emphasizing society and the environment and to contribute to the realization of a sustainable society.

Looking at the different social issues that surround the Company, we aim to seek out opportunities by leveraging our value creation driver, which is centered on our recycling-oriented business model. At the same time, we intend to enhance sustainability management as a mechanism to reduce risk and ensure that we can continue to create value over the medium to long term. With these actions, we are realizing our Corporate Mission, "Contribute to creating an affluent, recycling-oriented society through our business activities worldwide," and our Vision (our goal in 2030).



Midterm Plan 2024

The DOWA Group has been actively investing and expanding its business in growth markets, including markets overseas.

Under Midterm Plan 2020, which began in fiscal 2018, we focused on continuing our active investment efforts while reaping the benefits of prior investments. The future was uncertain from fiscal 2020 onward owing to the emergence of the COVID-19 pandemic; however, we saw a steady rise in profits, with rising metal prices serving as a tailwind supported by profits from new businesses. As a result, we achieved record profits in fiscal 2021.

At the beginning of fiscal 2022, we embarked on our new medium-term plan, Midterm Plan 2024.

We plan to maintain our focus on improving economic value by making active investments and reaping the results of prior investments while also working to improve social value by enhancing our response to sustainability issues. Integrated management is part of DOWA's fundamental philosophy, and as such these efforts will push integrated management one step further. At the same time, these efforts will improve corporate value and contribute to building a sustainable society.

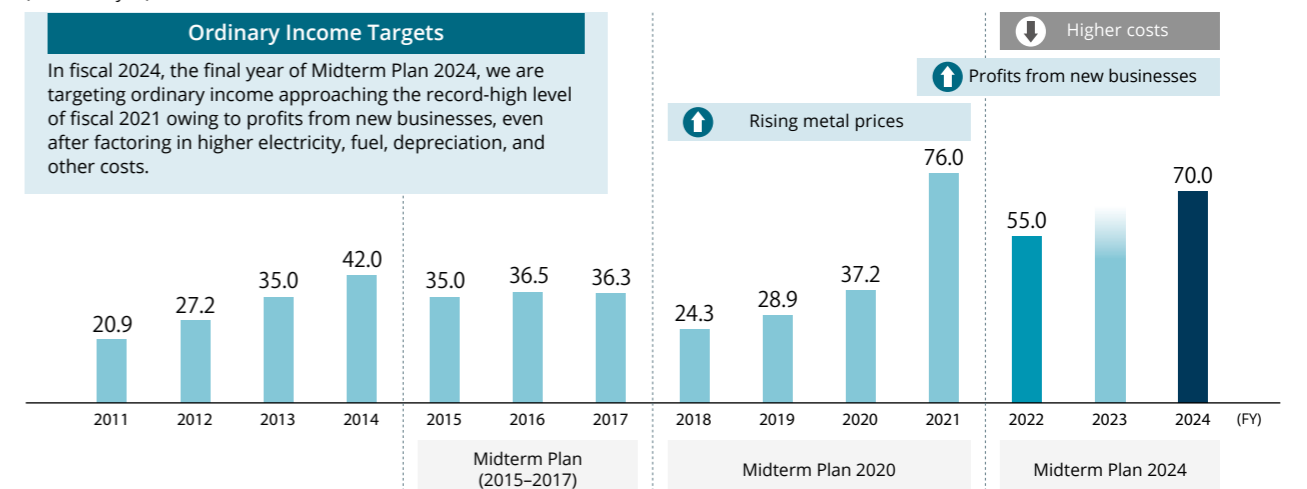
	Fiscal 2015–Fiscal 2017	Fiscal 2018–Fiscal 2021	
	Midterm Plan (2015–2017)	Midterm Plan 2020	
	Expand scale through active investment	Continue active investment while reaping results of prior investments	
Strategy outline	1) Further expand overseas business 2) Expand business by entering growth markets and related fields 3) Continue to reinforce business competitiveness	1) Expand businesses in growth markets 2) Increase competitiveness of existing businesses	
Key achievements	ES • Start of operation of landfill site in Myanmar • Start of operation of new incinerator as part of low-contaminated PCB waste treatment business	HD • Achievement of record profits	
	MM • Start of operation of new incinerator as part of platinum group metal recycling business	ES • Start of construction of second landfill site in Indonesia	
	EL • Expansion of lineup to include fuel cell materials and other new products	MM • Start of operation of Los Gatos Zinc Mine	
	MT • Expansion of electroplating business to Mexico	EL • Start of mass production of short-wavelength-infrared LEDs and photodiodes	
	TH • Expansion of Heat Treatment Business to Mexico	MT • Enhancement of production capacity of copper rolled products	
		TH • Expansion of heat treatment facilities in overseas areas	
Remaining issues	• Engaging in active investment of management resources for further business growth • Realizing results of prior investments	• Enhancing products and services that lead to solutions to social issues • Enhancing measures to address sustainability issues	
Financial data			
		Targets	Fiscal 2017 Results
	Operating Income	¥48.0 billion	¥30.9 billion
	Ordinary Income	¥50.0 billion	¥36.3 billion
	ROA	12%	8.4%
	ROE	—	10.7%
	Cash Flows from Operating Activities (3-year total)	¥130.0 billion	¥86.2 billion
Investment (3-year total)	¥80.0 billion	¥90.6 billion	
R&D Expenses (3-year total)	¥15.0 billion	¥21.3 billion	
	Targets	Fiscal 2021 Results	
Operating Income	¥45.0 billion	¥63.8 billion	
Ordinary Income	¥50.0 billion	¥76.0 billion	
ROA	10% or more	12.1%	
ROE	12% or more	17.6%	
Cash Flows from Operating Activities (3-year total)	¥120.0 billion	¥111.9 billion*	
Investment (3-year total)	¥110.0 billion	¥114.4 billion*	
R&D Expenses (3-year total)	¥20.0 billion	¥19.6 billion*	

* Accumulated amount for the 3-year-period from fiscal 2019 to fiscal 2021

	Fiscal 2022–Fiscal 2024
	Midterm Plan 2024
	Continue active investment, reap results of prior investments, and enhance response to sustainability issues
	The DOWA Group intends to evolve its recycling-oriented business model and enhance sustainability management to reduce risk as part of its continued efforts to address the DOWA Group's Materiality, a series of social issues that the DOWA Group must address.
Social issues that the DOWA Group must address (The DOWA Group's Materiality)	<ul style="list-style-type: none"> Creating a resource-recycling society Enhancing products and services that reduce social and environmental risks Responding to climate change Protecting the environment
	<ul style="list-style-type: none"> Ensuring occupational safety and health Increasing organizational power (including promotion of diversity, job security, and human resource development) Promoting risk management Strengthening corporate governance Driving DX (data utilization)
Business model	<ul style="list-style-type: none"> Evolution of recycling-oriented business model (Seizing opportunities) Integrated management Strengthening of sustainability management (Risk mitigation)
	Achievement of our Vision

Ordinary Income

(Billions of yen)



Capital Management

To achieve sustainable growth and maximize our corporate value, we will implement capital measures with an appropriate balance between growth investments, the maintenance of a sound financial foundation, and an increase in shareholder returns while remaining mindful of the business environment and future risks.

Under Midterm Plan 2024, we will focus on the following items.

Initiatives under Midterm Plan 2024

<ul style="list-style-type: none"> Growth investments 	We will be proactive in making investments in promising businesses and investments that will improve the sustainability of the overall Group. Regarding growth investments, we will focus on projects that are expected to produce high investment returns by considering capital cost and return on investment.
<ul style="list-style-type: none"> Maintenance of a sound financial foundation 	We aim to maintain a sound financial foundation by fully considering the balance between shareholders' equity and interest-bearing debt, so as to continue growth investments and secure working capital.
<ul style="list-style-type: none"> Enhancement of shareholder returns 	We provide returns to our shareholders by paying dividends, in principle, and will strive to ensure stable dividends and increase dividends in a stepwise manner.

Allocation of Funds

Outlook for Consolidated Cash Flows

Cash Flows from Operating Activities

In the three-year period from fiscal 2019 to fiscal 2021, the final three years under Midterm Plan 2020, consolidated cash flows from operating activities totaled ¥111.9 billion. Over the three-year period of Midterm Plan 2024, from fiscal 2022 to fiscal 2024, we intend to exceed this figure, with cash flows from operating activities totaling ¥160.0 billion, by boosting our ability to generate funds from business activities.

Cash Flows from Investing Activities

In the final three years of Midterm Plan 2020, we put a total of ¥114.4 billion toward capital investments and other investments. Under Midterm Plan 2024, we will continue to make high-level investments aimed at continuous business growth.

(Billions of yen)

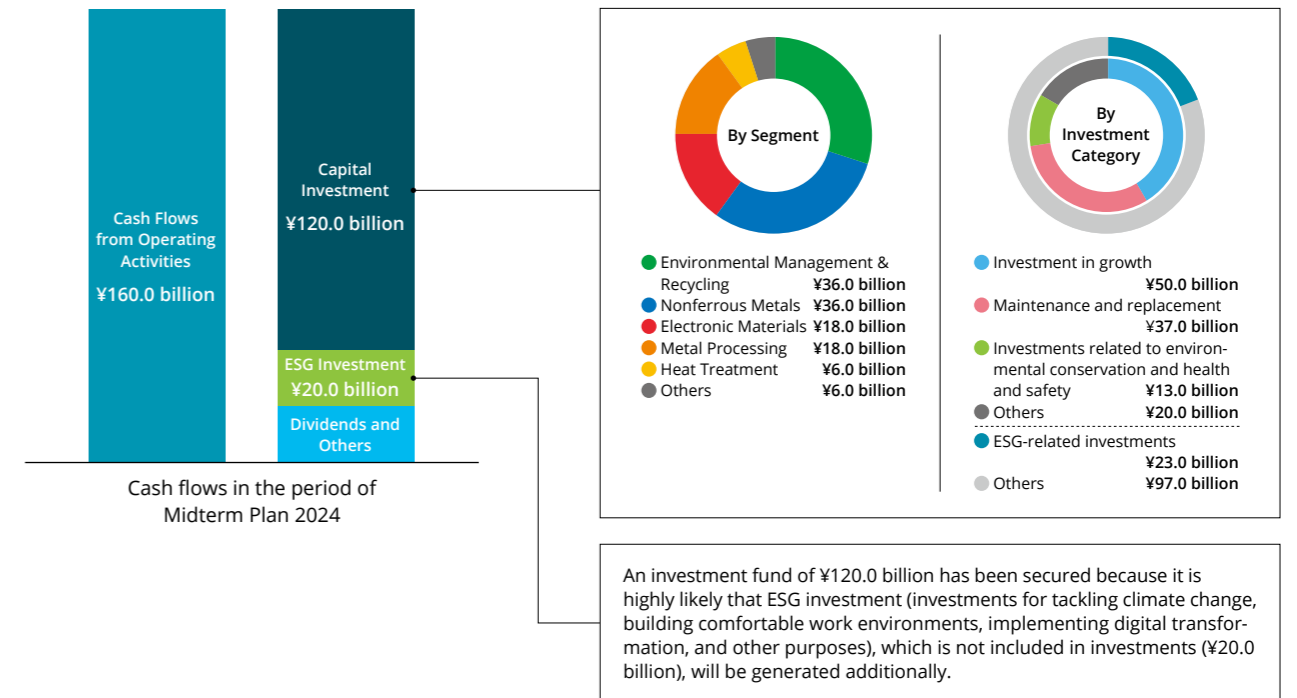
	Midterm Plan 2020				Three-Year Total for Midterm Plan 2020*	Three-Year Total for Midterm Plan 2024
	Fiscal 2018	Fiscal 2019	Fiscal 2020	Fiscal 2021		
Cash Flows from Operating Activities	37.5	55.1	(30.0)	59.9	111.9	160.0
Cash Flows from Investing Activities	(51.0)	(37.8)	(22.9)	(11.3)	(72.0)	(140.0)
Capital Investment	(49.3)	(42.6)	(39.2)	(32.6)	(114.4)	(120.0)
ESG Investment	—	—	—	—	—	(20.0)
Other (subsidiaries, etc.)	(1.7)	4.8	16.3	21.3	42.4	—
Free Cash Flows	(13.4)	17.3	(26.0)	48.5	39.9	20.0
Cash Flows from Financing Activities	15.9	(6.5)	11.5	(31.1)	(26.1)	(20.0)

* Accumulated amount for the 3 years from fiscal 2019 to fiscal 2021

Investment Plan under Midterm Plan 2024

We plan to invest a total of ¥140.0 billion over the course of Midterm Plan 2024. In addition to ¥120.0 billion allocated to capital investment, we plan to direct ¥20.0 billion of this total amount toward ESG investment aimed at enhancing our response to sustainability issues.

Moreover, the earmarked ¥120.0 billion for capital investment includes ¥23.0 billion for additional ESG investment. Combined, we will invest a total of ¥43.0 billion—or approximately 30% of the total amount—in implementing ESG-related projects and boosting our response to sustainability-related issues.

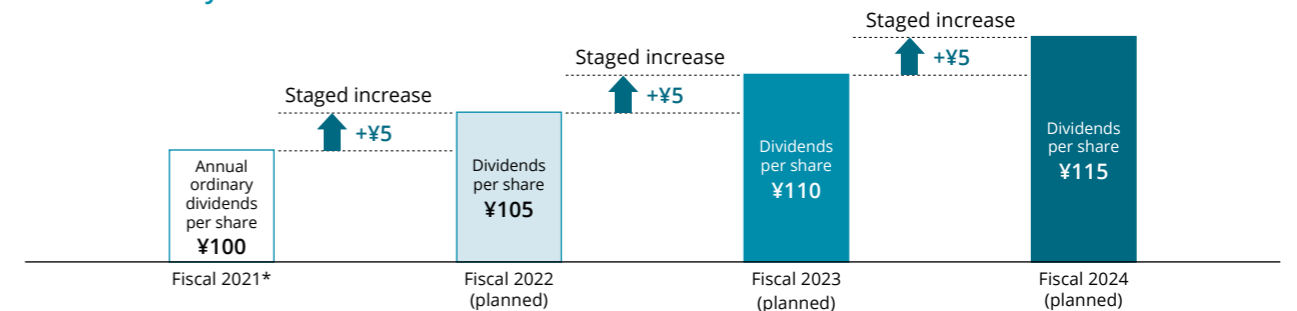


Shareholder Returns

Dividend Policy

DOWA regards the payment of dividends to shareholders as one of its top management priorities. The Company sets out a policy of increasing dividends as performance allows while ensuring sufficient internal reserves for bolstering the corporate structure and expanding business in the future in line with the basic principle of maintaining stable dividends. Our basic dividend policy for the period of Midterm Plan 2024, from fiscal 2022 to fiscal 2024, is to not decrease the amount of ordinary dividends from the previous year's amount and to increase the amount of ordinary dividends in stages because ordinary income will increase in stages from ¥55.0 billion to ¥70.0 billion under the plan. Moreover, we aim to increase the amount of dividends further in consideration of financial results and cash flows in each fiscal year, future prospects, and other factors.

Dividend Policy under Midterm Plan 2024



* The total amount of annual dividends for fiscal 2021 is ¥130 per share, with the amount of special dividends (¥30) added to that of ordinary dividends (¥100).

Materiality

When formulating Midterm Plan 2024, we identified the DOWA Group's Materiality, a series of social issues the Group must address. These issues were selected based on the business environment, specifically the opportunities and risks leading up to 2023, as well as stakeholder expectations and needs.

Materiality Identification Process

The DOWA Group identified materiality (material issues) in fiscal 2010 and, accordingly, promoted sustainability activities Groupwide to address these issues.

On the other hand, social and business conditions surrounding both companies and individuals have changed considerably since that time. Now, companies are required to connect their corporate activities directly to the resolution of social issues and the realization of a sustainable society, and the importance of doing so is increasing with each passing day.

Against this backdrop, the Group redefined its materiality in fiscal 2021.

1	Revising DOWA's Corporate Mission, Vision, Values, and Code of Conduct	In order to properly redefine its materiality, in October 2020 the DOWA Group revised its Corporate Mission, Vision, Values, and Code of Conduct, clarifying the Group's direction going forward.
2	Organizing Risks and Opportunities and Assessing Importance	We have reorganized the list of opportunities and risks we will face leading up to 2030. Regarding opportunities, we have considered how we can leverage the strengths of the Group going forward. Regarding risks, we have looked at what areas need to be improved or reinforced. At the same time, we have been collecting opinions and suggestions through a variety of stakeholder engagement activities since the announcement of Midterm Plan 2020, including more than 500 reporting sessions. We used this information to assess the importance of each opportunity and risk.
3	Identifying Materiality	Based on this assessment, the secretariat of the medium-term plan narrowed the list to nine material issues. After approval by the Board of Directors, these issues became the DOWA Group's Materiality, nine social issues that the Group must address.
4	Incorporating Materiality into Midterm Plan 2024	When we began formulating Midterm Plan 2024, we distributed the DOWA Group's Materiality throughout the Group. As a result, materiality is embedded into each measure contained in Midterm Plan 2024.

Business Environment in the Period Leading Up to 2030

Resource Recycling and Waste Treatment

- The pursuit of a resource-recycling society has been accelerated globally.
- Needs for recycling have increased further. At the same time, the value of recycling has also increased.
- While waste treatment demand is expected to grow in Southeast Asia, the shift from incineration to recycling is expected to accelerate in Japan.

	Opportunities	Risks
Resource recycling	<ul style="list-style-type: none"> ■ Increase in need for recycling reflecting initiatives to achieve SDGs and instill ESG management ■ Tightening of recycling-related regulations to achieve a resource-recycling society ■ Growth in demand for nonferrous metals associated with the shift to a low-carbon society ■ Increase in the value of recycled metals 	<ul style="list-style-type: none"> ■ Decline in demand for waste incineration attributable to the spread of recycling ■ Intensification of competition for collection of recyclable waste and materials for recycling ■ Sophisticated and diversified social requirements on the mining of natural resources
Waste treatment	<ul style="list-style-type: none"> ■ Expansion in the range of waste to treat resulting from tightening of environmental regulations in Japan ■ Increase in the volume of hazardous waste resulting from manufacturing of high-performance materials and products ■ Increase in the amount of waste generated resulting from population increases in Southeast Asia 	<ul style="list-style-type: none"> ■ Decline in the demand for waste incineration resulting from the shift to a low-carbon society ■ Rise of incineration cost resulting from the introduction of carbon pricing (such as carbon tax) ■ Decrease in the amount of waste generated resulting from population decline in Japan

Provision of Excellent Materials and Technologies

- Demand for materials and technologies for automobiles (electric vehicles) and renewable energy will increase further in response to megatrends, such as moves to achieve carbon neutrality.
- As in the previous midterm plan, the four markets, including information and communication and healthcare, are positioned as highly promising markets.



Social Issues That the DOWA Group Must Address (The DOWA Group's Materiality) and SDGs*

	Nine Themes	Related SDGs
The Environment	Materiality 1	Creating a resource-recycling society
	Materiality 2	Enhancing products and services that reduce social and environmental risks
	Materiality 3	Responding to climate change
	Materiality 4	Protecting the environment

* SDGs that are closely related to measures in Midterm Plan 2024

	Nine Themes	Related SDGs
Society	Materiality 5	Ensuring occupational safety and health
	Materiality 6	Increasing organizational power (including promotion of diversity, job security, and human resource development)
Governance	Materiality 7	Promoting risk management
	Materiality 8	Strengthening corporate governance
	Materiality 9	Driving DX (data utilization)

Materiality 1 Creating a Resource-Recycling Society

Basic Approach

The DOWA Group is endeavoring to help create a sustainable society by curbing the consumption of natural resources and promoting the reuse of spent resources. The pursuit of a resource-recycling society has been accelerated globally and needs for recycling have increased further. Resource recycling on a global scale is also essential for creating a circular economy and

achieving carbon neutrality, which means we can expect the value of recycled metals to increase in the future. Taking these factors into account, we aim to increase the ratio of metals derived from recycled raw materials that are used in production. By pursuing this goal and others like it, we hope to enhance our metal recycling efforts further as a means to create a recycling-oriented society.

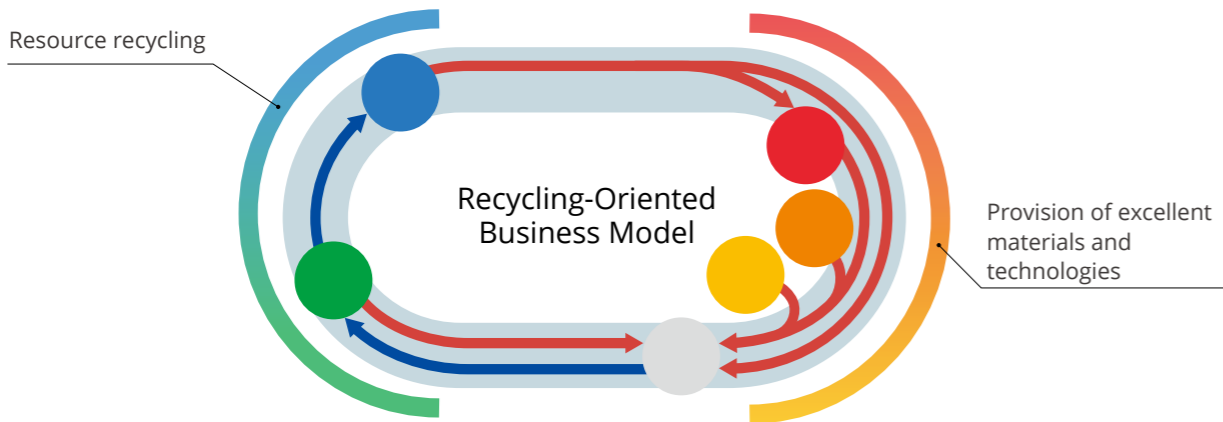
Social Issues Related to Resource Recycling
Resource depletion, uneven distribution of resources, and the impact of mine development on the environment and local communities
Spikes in ore prices (due to increased demand and changes in market conditions or exchange rates) and waste-related issues

Opportunities	Risks
<ul style="list-style-type: none"> Increase in need for recycling reflecting initiatives to achieve SDGs and instill ESG management Tightening of recycling-related regulations to achieve a resource-recycling society Growth in demand for nonferrous metals associated with the shift to a low-carbon society Increase in the value of recycled metals 	<ul style="list-style-type: none"> Decline in demand for waste incineration attributable to the spread of recycling Intensified competition to collect recyclable waste (waste plastics) and recycled raw materials (waste substrates, waste catalysts, crude zinc oxide) Sophisticated and diversified social requirements on the mining of natural resources

Recycling-Oriented Business Model Centered on Metals

The DOWA Group has developed a unique recycling-oriented business model that combines its five core businesses and ranges from metal production to the manufacture of products with high added value. The Environmental Management & Recycling Business deals with waste detoxification and the separation and collection of metals from discarded or spent products or other sources for use as raw materials for smelting. The Nonferrous Metals Business is responsible for extracting useful metals from recycled raw materials and natural resources, namely metal ores. The Electronic Materials Business, the Metal Processing Business, and the Heat

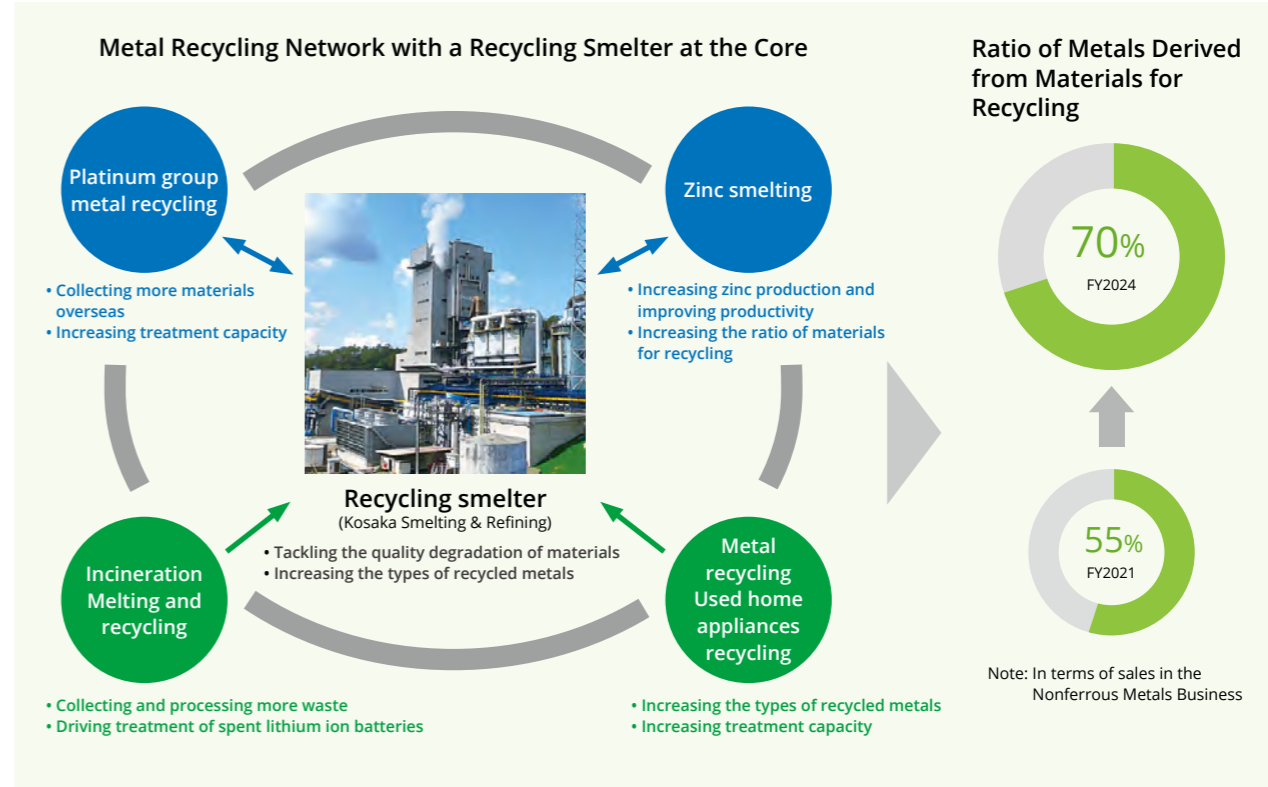
Treatment Business perform various types of processing, including purity improvement treatment, electroplating, and heat treatment, to produce functional materials that help generate added value and are then incorporated in final products, such as automobiles and electronic devices. When these products, whether they are aimed at manufacturers, consumers, or anyone in between, reach the end of their life cycles, and the metals contained within are once again recovered by the Environmental Management & Recycling Business, which begins another cycle of this resource-recycling network.



Initiatives

Enhancement of Metal Recycling

Centered on Kosaka Smelting & Refining Co., Ltd., a smelting and recycling facility, we are working to further strengthen our unique recycling-oriented business model, which combines our environmental business with the smelting of recycled materials. Our intention is to increase the amount of metals derived from recycling that are used in production through collaboration between the Environmental Management & Recycling Business and the Nonferrous Metals Business. To this end, we are moving forward with efforts that include expanding the collection of recycled raw materials, upgrading equipment at each plant, and increasing the types of metals we can recover.



Integration of the Environmental Management & Recycling Business and the Nonferrous Metals Business

The integration of the Environmental Management & Recycling Business and the Nonferrous Metals Business is a crucial step toward more robust resource recycling. Therefore, we are planning to enhance the pretreatment function of the Environmental Management & Recycling Business, which will allow us to ramp up the collection and treatment of recycled raw materials. In the Nonferrous Metals Business, we will raise efficiency by upgrading equipment, which will allow us to recover a greater range of metals.

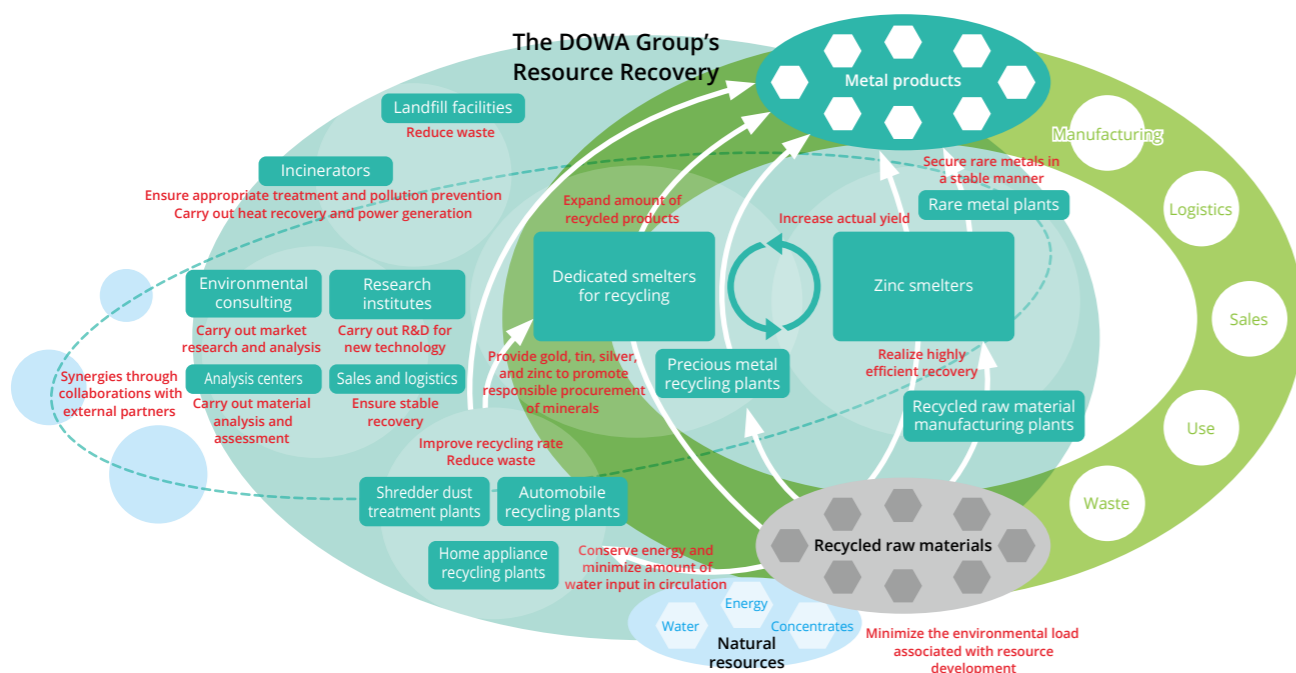
Achievements and Targets

Key Measures	Indicators	Fiscal 2021 Results	Targets for Fiscal 2022 to Fiscal 2024
Increase collection of recycled raw materials	Volume of recycled raw materials collected by Kosaka Smelting & Refining (fiscal 2021 = 100)	100	110 (Fiscal 2024)
	Volume of spent catalysts from automobile exhaust purification collected (fiscal 2021 = 100)	100	140 (Fiscal 2024)
Increase ratio of metals derived from recycled raw materials	Ratio of metals derived from recycling that are used in production (based on sales in the Nonferrous Metals Business)	55%	70% (Fiscal 2024)

Efforts Aimed at the Sustainable Use of Resources

Recycling is one possible way to promote effective resource use. However, this requires technology to recover metals efficiently as well as the technology and infrastructure for safely processing harmful and non-harmful substances generated in the recycling process. Recycling also brings with it other technological and economic issues that must be addressed, such as

the need to create an efficient collection system for recycling raw materials and a means for addressing the labor requirements and costs associated with processing this wide variety of raw materials. Bearing this in mind, the DOWA Group is working to promote the sustainable use of metal resources while taking on the various challenges present in resource recycling.



Optimization of the Resource-Recycling Value Chain

The DOWA Group operates a broad range of recycling businesses that deal with precious metals; home appliances, including discarded small household appliances; and automobiles. These businesses do not simply carry out recycling in isolation. Instead, we improve resource efficiency through a systematic treatment process that accounts for the specific characteristics of a facility in terms of technology as well as the geography and related circumstances of where that facility is located. The Group's operating companies also collaborate with research laboratories and other departments involved in transport, analysis, and various other related areas of operation to utilize resources effectively. When

necessary, the Group also works with outside sectors and partners in order to optimize the value chain.

One notable characteristic of DOWA's business model is that it incorporates waste treatment in addition to recycling. Although we have devoted many years to improving our recycling technology and have worked to recycle increasing amounts of metals, there is some waste that cannot be recycled or reused with today's technological capabilities. Since we possess facilities that are capable of properly treating and managing this waste, we are a vital link within the value chain that allows for greater resource efficiency, environmental conservation, and safety.

Resource Recycling on a Global Scale

To promote sustainable resource use on a global scale, it is also necessary to reduce environmental impact, maximize resource efficiency, and collaborate across national borders. Conscious of that, we utilize our unique set of resources, which includes recycling

technology, infrastructure, knowledge, experience, and human resources, to develop metal recycling and waste treatment businesses not only in Japan but also in China, Singapore, Thailand, Indonesia, and Myanmar. In addition, in North America and Europe, which are

our main sources of recycled raw materials, we collect these materials via our sales and sampling bases and recover rare metals at domestic smelters. Through

Responsible Procurement of Minerals

Companies that handle metals—such as those that comprise the DOWA Group—have a social responsibility to procure minerals while remaining mindful of human rights, the environment, ethics, and similar concerns. We live in a time when products that utilize metal, such as automobiles, electronic devices, and electric appliances, continue to grow in number, are distributed around the world, and support us in our daily lives. Regardless of whether information is disclosed or not, we believe that the procurement of ore, which is the raw material for these products, should not prolong conflicts or come at the cost of human rights violations.

The Company has established the DOWA Group Responsible Minerals Procurement Policy and does not use minerals as raw materials if those minerals may be used to fund organizations involved in human rights violations and other illegal activities in conflict-affected or high-risk areas. We conduct due diligence for all suppliers from whom we procure materials, including tantalum, tungsten, gold, silver, tin, and zinc, and respond appropriately whenever a potential risk is identified. During our due diligence process, we act in accordance with the *OECD Due Diligence Guidance for*

these and other efforts, we have built a resource recycling system that is not only global but promotes environmental conservation.

Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas

In addition, the DOWA Group produces various types of metals, including gold and silver, at its domestic smelters. These smelters are regularly audited by third-party organizations to ensure that our metals are safe for all customers and that our systems and practices for responsible mineral management are being audited.

In our effort to ensure responsible mineral procurement, we have built a metal supply system that is not connected to conflicts or human rights violations. We consider the establishment of this system to be a necessary part of our role as a smelter operator upstream in the supply chain.



Recycling for Lithium-Ion Batteries

Lithium-ion batteries have broad applications, ranging from mobile phones to electric vehicles, with demand on the rise. However, when these batteries are discarded or dismantled, they pose the risk of electric shock or fire, and the value of the metals that can be recovered from spent batteries is subject to market prices. For these and other reasons, a treatment method that is not only stable but can be continued over the long term has yet to be developed. It is our hope that we will be able to develop a safe and efficient system to manage the large volume of batteries that will be produced in the future.

Since 2019, the Environmental Management & Recycling Business has operated a recycling line for spent lithium-ion batteries in Odate City, Akita Prefecture, with a monthly processing capacity of approximately 100 tons of treatable batteries. These batteries undergo detoxification by heat treatment, after which they are separated into iron, aluminum, cobalt-nickel mixtures, and other metals, turning them into recycled metal materials in an efficient manner.

In 2021, we received a new license to utilize an existing furnace for recycling lithium-ion batteries, increasing the maximum capacity that we can accept sixfold. This expanded capacity means that even large lithium-ion batteries for automobiles can be processed safely without requiring them to be dismantled, thereby enabling even more efficient recycling.

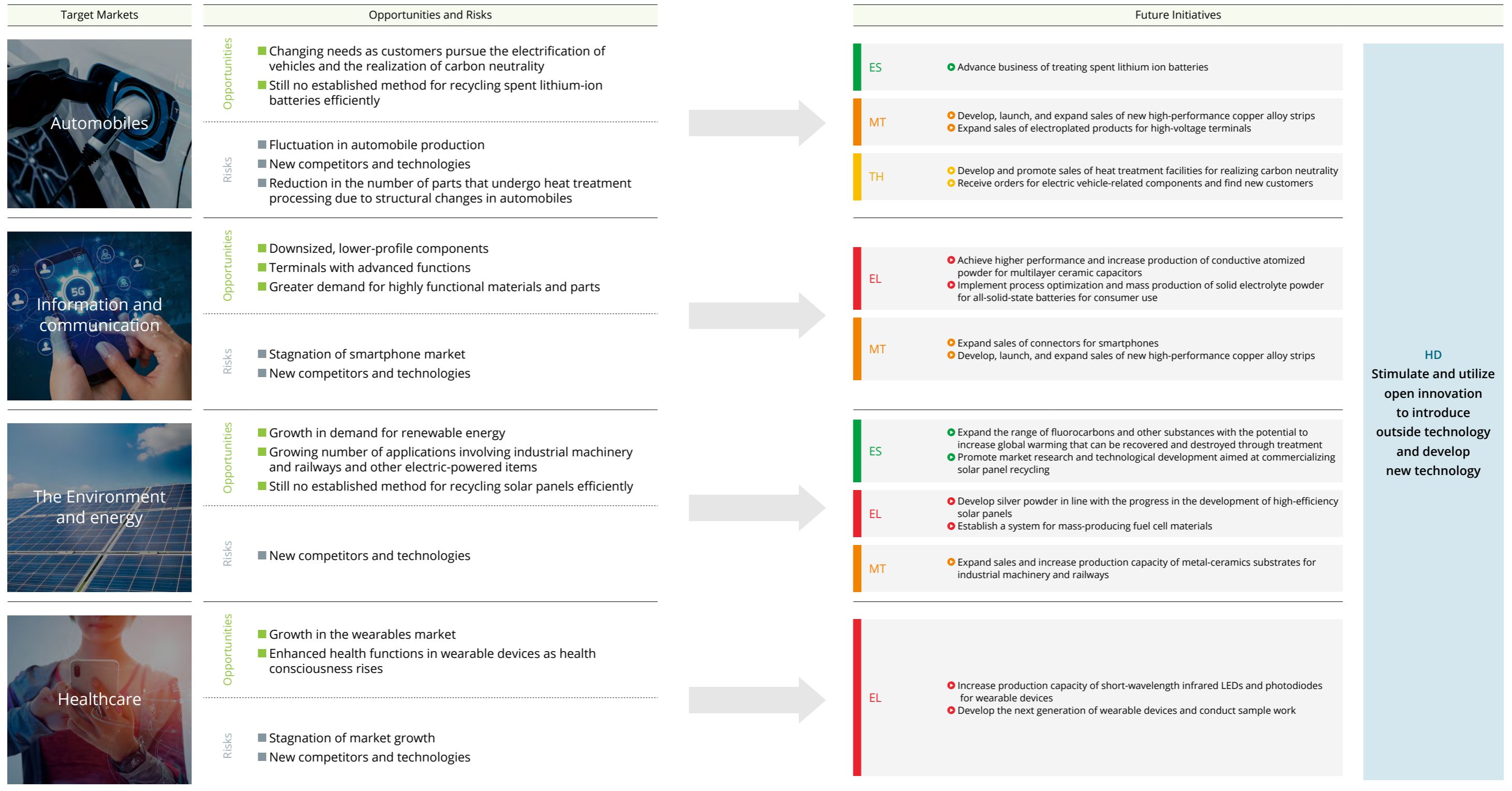


Materiality 2 Enhancing Products and Services That Reduce Social and Environmental Risks



Enhancing Products and Services Targeting Growth Markets

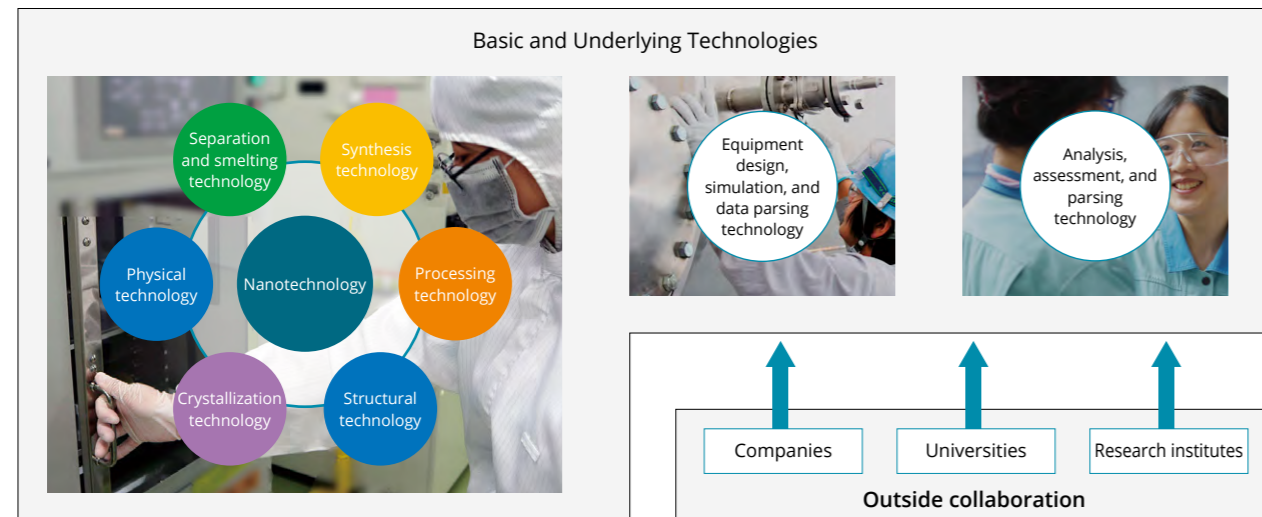
The DOWA Group has positioned automobiles, information and communication, the environment and energy, and healthcare as growth markets and is working to provide each one with a number of products and services with high added value. Going forward, we will focus on developing new technology and establishing new businesses. From there, we will enhance these businesses, and in doing so we will be able to keep up with the technological trends in each growth market and provide a sound response to customer needs.



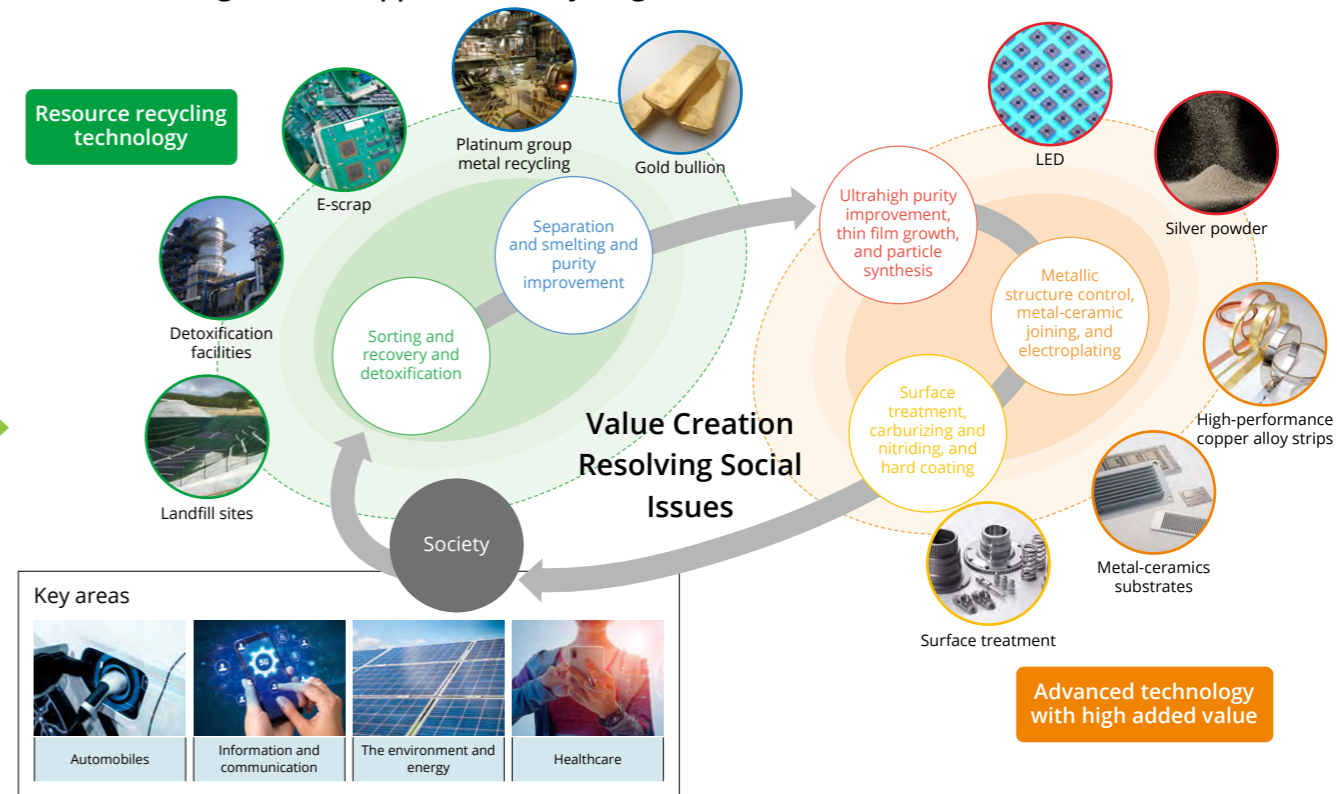
Research and Development

DOWA is focused on research and development aimed at creating the next generation of products and services that can help resolve social issues.

As we use the divisional laboratories of each operating company to improve current products and services, the Business Innovation Research Department of DOWA Holdings is driving efforts to encourage collaboration inside and outside the Group. These efforts will help promote the development of new-concept products and services and innovative new technologies that meet the needs of the near future.



Core Technologies That Support Our Recycling-Oriented Business Model

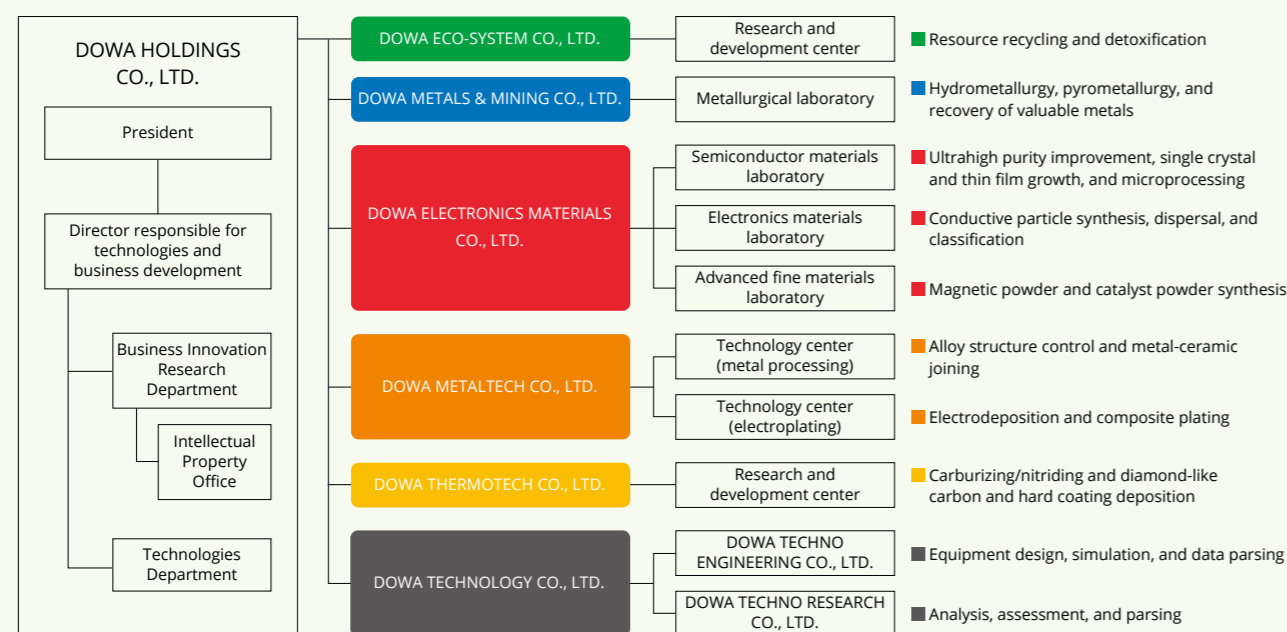


Research and Development System

Each operating company has its own divisional laboratory in addition to a technology development department at its respective manufacturing base to reform and improve current products and services.

We are also developing next-generation products and services that anticipate customer needs while improving and reforming technologies related to manufacturing processes and equipment—technologies that form the foundation of our business.

The DOWA Group's Research and Development Framework



Open Innovation

We are ramping up the development and commercialization of promising new products Groupwide through our in-house incubation system. With our sights set on the near future, we are also creating promising development themes by utilizing the DOWA Techno Fund and other means to enable joint research projects with universities, research institutes, and other institutions in fundamental fields related to new-concept products and services and innovative technologies.

DOWA Techno Fund

Joint research with outside parties and support for the development of technology seeds for future commercialization

In-House Incubation System

Support for the commercialization of in-house technical achievement after completion of basic research and development

Industry-Academia Collaboration

Establishment of the DOWA x Tohoku University Co-creation Research Center (Tohoku University)
 Establishment of endowed chairs (Graduate School of Environmental Studies, Tohoku University; Graduate School of International Resource Sciences, Akita University)
 Partnership agreements (Tohoku University, Akita University, Okayama University, Kumamoto University, and Gunma University)

Establishment of the DOWA x Tohoku University Co-creation Research Center

On April 1, 2022, DOWA and National University Corporation Tohoku University (hereinafter Tohoku University) established the DOWA x Tohoku University Co-creation Research Center (hereinafter DOWA Co-creation Research Center) to promote and strengthen research activities for both parties.

The DOWA Co-creation Research Center aims to deepen the integration of Tohoku University's advanced technological seeds and DOWA's proprietary e-technology in order to create cutting-edge technologies that can help resolve sustainability issues such as the realization of carbon neutrality and declining working populations.



Developing Business Seeds for the Future

To begin, could you please tell us about the process leading up to the establishment of the DOWA Co-creation Research Center?

Sugawara These days, society faces a myriad of issues, and one of the ways companies are dealing with them is by transforming their businesses to embrace carbon neutrality and digital transformation (DX). To do this while also developing their businesses further, companies need to integrate their activities into a variety of technological seeds, including digital technologies such as materials informatics (MI), artificial intelligence (AI), and the Internet of Things (IoT). However, due to the broad range and scope of such technologies, it would take a considerable amount of time for them to be utilized within society if the task were left to a single company or to conventional joint research in a single laboratory. We believed that we needed bring together the technological seeds of Tohoku University and the technology of DOWA so that we could combine our technologies in a natural way, and that belief resulted in our establishment of the DOWA Co-creation Research Center.

Sato We were curious as to whether we could set up something akin to DOWA's Central Research Center at a university. Just as we were engaged in discussions with several universities, it came to our attention in 2020 that Tohoku University had stated it was looking to establish a corporate research center within the university aimed at promoting a system of collaboration that extended across departments. This Co-creation Research Center initiative was very much in tune with what we were looking for. Therefore, with the vigorous support of Director Sugawara, we had the DOWA Co-creation Research Center up and running in just four months, marking the first time a company in the nonferrous metals industry participated in Tohoku University's Co-creation Research Center initiative.

Suto Thanks to the close collaborative ties we had with DOWA up to that point, the Company was very well-known within the faculty and student body, which made the process of establishing the DOWA Co-creation Research Center quite smooth. Currently, I am making visits to DOWA's development bases to explore joint projects, and I get a real sense of how deep the relationship between DOWA and Tohoku University runs from the fact that there are many people at DOWA who graduated from the university.

Sugawara As Professor Suto said, Tohoku University and DOWA have a long-standing collaborative relationship in terms of both research and development and recruitment. In 2003, we established the DOWA Techno Fund to encourage joint research with external research institutes and companies. We have worked on more than 200 research themes with more than 50 domestic and overseas universities, and one-quarter of those themes involved joint research with Tohoku University. In addition, we entered into a comprehensive agreement with the university's Graduate School of Environmental Studies to



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Dialogue

A Discussion at the DOWA x Tohoku University Co-creation Research Center

Developing Business Seeds for the Future

In April 2022, DOWA and National University Corporation Tohoku University (hereinafter Tohoku University) established the DOWA x Tohoku University Co-creation Research Center (hereinafter DOWA Co-creation Research Center) to promote and strengthen research activities for resource recycling and the provision of excellent materials and technologies. Three members in charge of operations sat down to talk about the work going on at the research center.



establish an endowed chair for Control of Environmental Materials in 2004, and then in 2007 we entered into a partnership agreement with the university, deepening these ties even further.

— **Please tell us about the goals the DOWA Co-creation Research Center is working to achieve.**

Sato Companies tend to try to commercialize products and solve problems from a short-term perspective, while universities tend to focus on the future and tackle problems from an academic perspective. In the past, there were times when the two sides were in conflict. The DOWA Co-creation Research Center explores climate change countermeasures and other development themes that are difficult to implement in society and require technologies spanning several academic disciplines. Therefore, I think the research center offers an ideal environment for industry-academia collaboration to solve problems from a long-term perspective.

Sugawara In our initial phase, which covers fiscal 2022 through fiscal 2024, we plan to lay the foundation for future joint research, which also includes certain organizational aspects. Researchers will explore specific research themes related to carbon neutral technologies; revolutionary technologies realized through AI, the IoT, and MI; and new materials for applications in electric vehicles, information and communications, the environment and energy, and healthcare. Our goal is to commence five or more joint research projects. We would like to put the results of this research into practice in society as soon as possible to contribute to solving the various issues the world now faces. Therefore, during this initial phase, we hope to build a strong research track record and to generate different technologies and materials that can help solve a variety of problems, while also promoting more joint research in the future.

Speaking on CO₂ emissions, there are growing calls to conserve and greenify the electricity used in smelting because so much energy is required in operating smelters. At the same time, there are calls to reduce emissions related to waste treatment and to switch to renewable

energy sources. With the rising popularity of electric vehicles, there are also new needs for materials and surface treatments, which require the development of new materials, and it does not stop there. Another important theme is the transformation of manufacturing in response to the declining population. This theme involves using digital technology to automate work processes so that people can generate greater added value. DOWA has several strengths when it comes to developing materials. However, in order to reduce CO₂ emissions, develop more sophisticated materials, or automate work in any revolutionary way, you need to bring in the sort of digital technologies that will lead to faster and more efficient development from the outside, and you need to make full use of MI and other types of computational science.

Suto I think that one of the roles of universities is to use MI to create new things. We are good at collecting data for this purpose within our campus walls, which can then be published in academic papers, but to move from creating small-scale samples for research purposes to undertaking mass production, we need the kind of specialized and practical data possessed by companies. With DOWA's live data at our disposal, the university can offer new technology that will contribute to society.

Sato In addition to this data, I think that we as a company serve an important role by using our manufacturing technology and know-how to verify the discussions and proposals put forth by university professors. I believe that the social implementation of ideas born out of university research findings will improve our manufacturing capabilities and lead to social contributions.

Suto In order to miniaturize materials or take on other challenges, we will combine data on materials from around the world, data from the university, and future data from DOWA to enable the full use of Tohoku University's microstructural control processes and computational science capabilities. In doing so, we hope to develop materials with properties that go well beyond those of conventional materials. However, during discussions within the DOWA Co-creation Research Center, we realized that the current evaluation technology needed to develop these new materials was not up to par. If, after aligning our evaluation methods with Japanese Industrial Standards, we can use these new materials made possible through the full use of MI and other digital technologies for real-world applications, we will have helped the university fulfill its mission, which is to implement the findings of its research in society. That will surely show the significance of establishing the DOWA Co-creation Research Center.

— **Could you please explain how the DOWA Co-creation Research Center is helping cultivate human resources?**

Sugawara When I joined DOWA in the 1980s, engineers were given a lot of time to study at research centers and on-site. From a young age, I conducted research freely

at the Central Research Center and was able to take part in exchanges with other laboratories, universities, factories, and other companies in the same industry, all of which gave me the opportunity to interact with the cutting-edge technologies of the time. But now employees are primed to work right after joining the Company, so they only get to deepen their understanding of technologies related to their field, which narrows the scope of technology that they can apply to a problem. Another challenge we face is finding a way to pass down the technical skills and development capabilities of our best employees to the Company and the next generation of its human resources. Although there are digital means of doing this, like compiling a technical database, I still believe that technical knowledge is something that exists in the minds of people and is passed down from person to person and from person to organization. At universities, even if there is a generational change in professors, the next generation of researchers will continue to raise the levels of expertise and innovation in that field, and with that jump comes one new technology after another. We at DOWA would like to make use of the DOWA Co-creation Research Center as a place where we can continue to pass on such technical knowledge at the university while once again gaining specialized knowledge ourselves. In order to realize prompt social implementation of research outcomes and develop world-class engineers, we will have our employees participate in joint research projects as doctoral researchers.

Sato I am making the preparations to do just that and to serve as the first such doctoral researcher. In addition to broadening one's horizons and deepening one's own expertise in a university setting, the goal is also to build stronger relationships with the students and professors at Tohoku University. I have been closely involved with Tohoku University since around 2002, and several of the students in the laboratory I was doing joint research with at that time have gone on to join DOWA. In addition, some people who were students or assistant professors at the time are professors or associate professors now. These are people with some pull within their departments, with access to their own laboratories, and when they embark on a new development project they call on us, which leads to joint research. It is situations like these that make me truly grateful to have maintained such positive relationships. I hope that our young engineers will build long-term relationships with people at the university by taking placements as doctoral researchers.

Suto The Co-creation Research Center scheme is an initiative unique to Tohoku University and is consistent with Tohoku University's tradition of research first, philosophy of open doors, and spirit of respect for practical learning. On their own, universities are not able to judge whether research will spawn something that is truly usable in society, but through the collaboration with companies that takes place at co-creation research centers we can get a true view of the scale and state of

Developing Business Seeds for the Future

manufacturing and development taking place in industries around the world, plus direct and in-depth knowledge of social issues. This is such a meaningful opportunity for students and young professors because they can get a clear idea of how their research can serve society, which in turn will help them tackle that research with greater enthusiasm. I definitely want to implement education and hands-on training at DOWA's operational sites in the future.

— **Finally, do you have a message for the young engineers who will carry us into the future?**

Sugawara It is a great honor for us to have the DOWA Co-creation Research Center as our base of development at Tohoku University, one of the top universities in Japan and around the world. I would like to express heartfelt gratitude to the many senior employees of DOWA and professors who have built a relationship of trust with Tohoku University over the years and who have been instrumental in the research center's establishment. I would like our engineers help solve social issues by taking an active part in joint research, working to further their own abilities, and accepting the challenge of taking the technological seeds that exist in Tohoku University and implementing them in society.

Sato I think that DOWA is a company where if you approach your work diligently, opportunities to embark on new challenges will come regardless of your age. Even if you are young, if there is something you would like to try, I would encourage you to harness your strength to make a concrete proposal, take action, and try to make it a reality. I hope that the DOWA Co-creation Research Center can be a place where you take on these challenges.

Suto Until now, joint research was a one-to-one undertaking between a company department and a university laboratory. However, unlike in the past, Co-creation Research Centers approach research themes from the standpoint of co-creation, in which multiple departments of a company are involved with multiple laboratories of a university. The themes currently being explored through the DOWA Co-creation Research Center initiative deal with truly difficult issues that are relevant on a global level and that would be insurmountable for a single researcher. We want to combine the strengths of DOWA and Tohoku University to grapple with these difficult issues, using co-creation that reaches out horizontally to collaborate and find solutions. We would like to involve many students and teachers in the DOWA Co-creation Research Center, and we look forward to the active participation of young DOWA engineers.

— **Thank you very much for your time today.**

Materiality 3 Responding to Climate Change

Basic Approach

Climate change is a serious social issue and must be dealt with from a global perspective. Moves toward realizing a carbon-free society are expanding. To date, the DOWA Group has been committed to reducing greenhouse gas (GHG) emissions and has pursued the creation of new business opportunities by providing more products and services to help reduce GHG emissions. In order to promote these efforts further, the DOWA Group established its Climate Change Policy in August 2021. Under the policy, the Group advances initiatives for a decarbonized society, aiming to achieve carbon neutrality by 2050.

Climate Change Policy

The DOWA Group positions its measures against climate change as an important management issue and will work to reduce greenhouse gas emissions. It will also contribute to the realization of a carbon-free society through various businesses, leading to the continued growth of the Group.



Initiatives to Combat Climate Change

To ramp up its efforts to combat climate change, the DOWA Group initiated a scenario analysis in 2021, and in February 2022 the Group endorsed the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) by resolution of the Board of Directors.

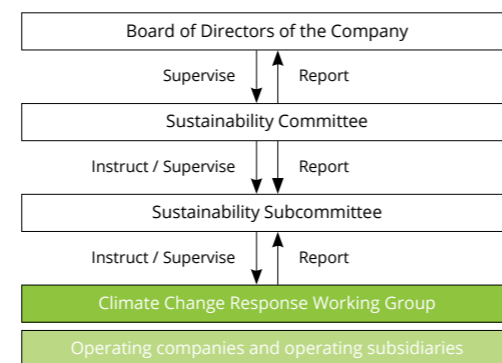
Governance

In order to enhance sustainability-related activities, including those targeting climate change, the DOWA Group established the Sustainability Committee, which is chaired by the president and representative director, and under it the Sustainability Subcommittee, which is chaired by the director in charge of corporate strategy.

The Sustainability Committee holds discussions regarding policies and measures concerning climate change and other sustainability-related issues while also tracking the progress of these measures. Important matters are reported to the Board of Directors, which then supervises the handling of such matters.

The Sustainability Subcommittee monitors the Group's response to several important themes, climate change being one of them. The subcommittee also identifies and assesses risks and opportunities presented by climate change, looking at the issue from a Groupwide perspective, and then investigates and formulates action plans, goals, and countermeasures, which it then reports to the Sustainability Committee along with any important risks and opportunities.

We have also established an organization under the Sustainability Subcommittee specifically dedicated to promoting a response to climate change—namely, the Climate Change Response Working Group. This working group consists primarily of members from operating companies and members of the Technologies Department who work in the field, and it promotes initiatives that include GHG reduction plans and climate change monitoring systems.



Strategies

In fiscal 2021, we conducted a scenario analysis targeting our domestic operations, which account for more than 95% of the Group's total GHG emissions, and used the results to compile a series of risks and opportunities resulting from climate change.

Since the forecasts are highly uncertain and difficult to analyze, this scenario analysis looked at multiple climate scenarios, ranging from 1.5°C to 4.0°C. We also identified, analyzed, and evaluated risks and opportunities relating to climate change on short-term (up to 2025), medium-term (up to 2030), and long-term (up to 2050) bases.

We Referred to the Following Scenarios:

Scenario	Outline	Key References	
		IEA	IPCC
1.5°C	An international opinion toward achieving carbon neutrality by 2050 is formed.	NZE	SSP1-1.9
	Target on which a minimum international agreement (the Paris Agreement) is obtained.	SDS	SSP1-2.6
2.0°C	Target on the basis of immediate GHG emissions reduction targets in different countries is calculated.	APS	SSP2-4.5
	Priority is given to economic growth and the temperature rise and its impacts keep worsening.	STEPS	SSP2-4.5 SSP3-7.0

Note: Items listed under IEA are WEO (World Energy Outlook) 2021 scenarios of the IEA (International Energy Agency), the full names of which are as follows: NZE (Net Zero Emissions by 2050 Scenario), SDS (Sustainable Development Scenario), APS (Announced Pledges Scenario), STEPS (Stated Policies Scenario)

Risks and Opportunities

We have identified risks and opportunities that we believe will have a significant impact on our business over the medium to long term, and we have organized the timeline and degree of impact of these risks and opportunities over the short, medium, and long terms according to the following chart.

Risks, Opportunities, and Prediction of the Future Business Environment			Short Term	Medium Term	Long Term
			-2025	-2030	-2050
1. Strengthened regulations and systems					
Carbon pricing	Carbon taxes and emissions trading	Risks: Full-scale introduction of carbon taxes and emissions trading would significantly add to the direct and indirect financial impact. Institutional arrangements and other related procedures are expected to take considerable time and their impact will manifest from around the mid-2020s. From 2031, moves toward achieving carbon neutrality by 2050 will intensify and the influence of carbon pricing will expand even more.			
2. Energy-related					
Efficient use of energy	Reinforcement of energy saving and introduction of high-efficiency equipment	Risks and opportunities: As we seek to achieve the government target for 2030 GHG emissions reduction, energy-saving targets will be raised. A review of both the tangible and intangible aspects of efforts for GHG emissions reductions will be necessary and new capital investment and other financial burdens will accrue. Meanwhile, the development of energy saving-related products and services will expand our business opportunities.			
Energy conversion	Non-fossil fuel energy	Risks and opportunities: Amid the move toward decarbonization, a rise in prices of electric power, which involves a low CO ₂ emission coefficient, is expected. Although demand will drop for products and services that utilize energy produced by fossil fuels, lower demand will differentiate products that utilize energy from non-fossil fuel sources, increasing business opportunities.			
	Renewable energy	Risks and opportunities: Since the introduction of renewable energy necessitates technological advances and infrastructure development, we expect the spread of renewable energy to get under way in the latter half of the 2020s. Until that time, the needs for electricity from renewable energy will increase and so will procurement prices. Meanwhile, the markets of metallic materials and battery materials for renewable energy will expand.			
3. Stakeholder-related					
Initiatives for decarbonization	Shareholders and financial institutions	Risks and opportunities: The establishment of the law on information disclosure and facilitation of ESG investments and loans will change the costs for funding depending on actions toward decarbonization.			
	Customers	Risks and opportunities: The move toward decarbonization will intensify and also encompass the supply chain. Our response to this trend will influence transaction conditions. We will also shoulder more expenses for the purchase of credits, etc., for decarbonization.			
4. Disaster-related (Physical risks)					
Acute	Torrential rains	Typhoons, heavy rains, river flooding, etc., may damage factory facilities and disrupt supply chains with greater frequency.			
Chronic	Temperature rise	A rise in temperature may change materials and cause health problems such as heatstroke and contagious diseases.			
	Sea level rise	A rise in sea level will make our seaside sites susceptible to high waves and tsunamis.			

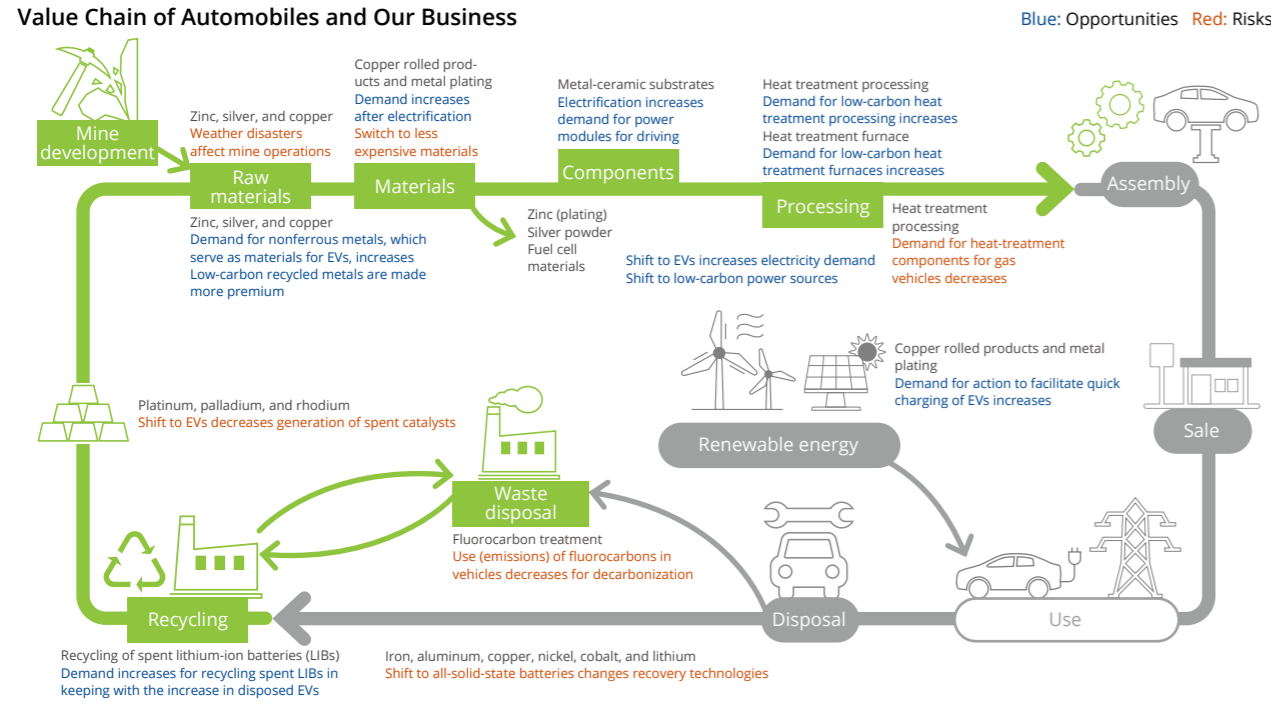
Note: The green columns represent the time of occurrence and degree of impact on short-, medium-, and long-term bases.

Materiality 3 Responding to Climate Change

Noteworthy Market

As we identified the various ways that climate change could impact the DOWA Group, we paid particular attention to the automobile market due to the close connection to the Group's main businesses and the major effect changes could have on the Group's performance. From the perspective of a value chain, we analyzed changes in the automobile market resulting from the growing shift to electric vehicles (EVs) and identified the opportunities and risks for our business operations as shown below.

Value Chain of Automobiles and Our Business

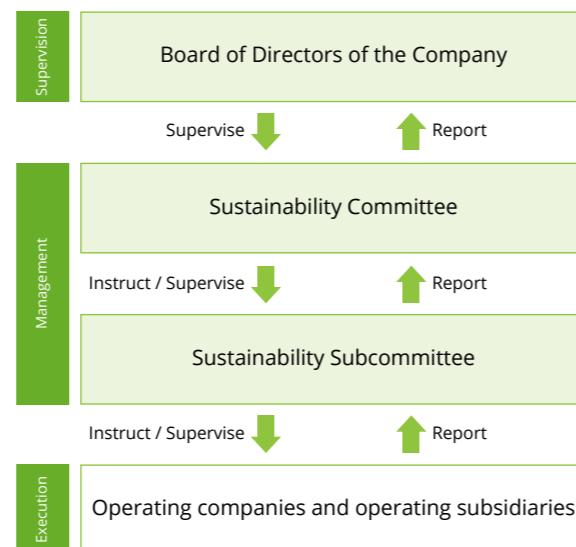


Risk Management

The DOWA Group endeavors to enhance its risk management for the purpose of preventing crises that could have a material impact on business management and minimizing such crises if they occur.

Involving the entire DOWA Group, the Sustainability Subcommittee evaluates risks and other factors concerning sustainability-related matters, such as the risks of climate change that would significantly affect our business. The Sustainability Committee deliberates on matters that are more important in terms of business risks.

The climate change-related risks and opportunities evaluated and identified are reported to the DOWA Holdings Board of Directors if they are deemed by the Sustainability Committee as important. The DOWA Holdings Board of Directors supervises Companywide, sustainability-related policies and goals, including measures against climate change and the organizations that manage and implement such policies and goals.



Metrics and Targets

The DOWA Group seeks to achieve carbon neutrality by 2050. As a step toward that, we have the following intermediate targets to be achieved by fiscal 2030. DOWA Holdings will continue monitoring the status of GHG emissions and reductions and may review these targets if it is considered necessary after taking into account various factors, such as socioeconomic circumstances and changes in Japanese and international political policies toward the realization of a carbon-free society.

Long-term target: The DOWA Group aims to achieve carbon neutrality by 2050.

Intermediate targets: The DOWA Group aims to reduce its Scope 1 and 2 GHG emissions*1 by fiscal 2030 as follows, compared with the baseline of fiscal 2013. Note that these targets are set in accordance with the targets for each category in the Japanese government's Plan for Global Warming Countermeasures,*2 which was formulated to reduce GHG emissions in fiscal 2030 to 46% of the level in fiscal 2013.

Energy sources	CO ₂ from electric power: fossil fuels used in manufacturing bases	At least 38% reduction (from the FY2013 level)
	CO ₂ from electric power: fossil fuels used in offices and other locations	At least 51% reduction (from the FY2013 level)
Non-energy sources	CO ₂ from waste	At least 15% reduction (from the FY2013 level)

Note: These targets include offsetting through the utilization of carbon credits and other means.

*1 Scopes 1, 2, and 3 are concepts from the corporate GHG emissions accounting and reporting standards stipulated in the GHG Protocol. Each scope is defined as follows:

- Scope 1: Direct emissions from the reporting company itself
- Scope 2: Indirect emissions associated with the use of electricity, heat, and other energy supplied by other companies
- Scope 3: Indirect emissions other than Scopes 1 and 2 (emissions from other companies associated with the activities of the reporting company)

*2 The Japanese government's comprehensive plan based on the Act on Promotion of Global Warming Countermeasures (Cabinet decision on October 22, 2021)

DOWA Holdings will gather and identify facts about GHG emissions from the Group's supply chain (Scope 3*1) before considering their incorporation into the targets. For GHG emissions from our overseas business locations, we will stay updated on facts and conduct monitoring in the countries where they operate. In this way, we will repeat discussions for setting targets.

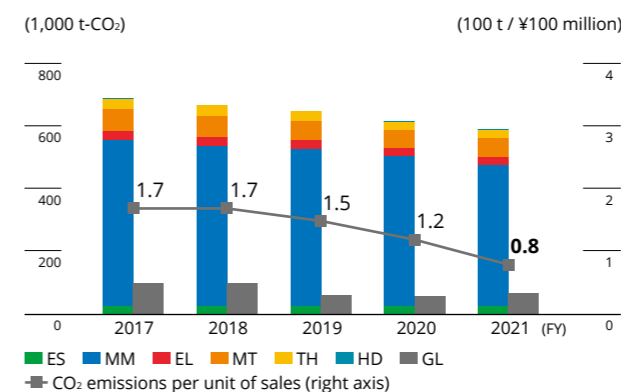
Results

In fiscal 2021, GHG emissions for the entire DOWA Group totaled approximately 1,678 thousand tons (1,591 thousand tons domestic, 87 thousand tons overseas), which is a slight decrease of about 1% from the previous fiscal year. Emissions from electric power and emissions from waste each accounted for approximately 40% of total emissions, whereas fossil fuels accounted for roughly 20% of emissions.

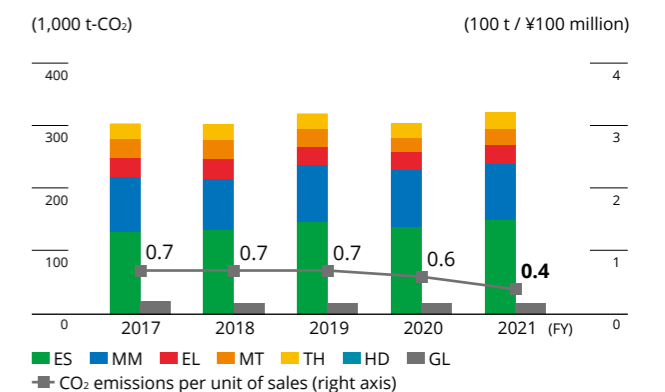
CO₂ Emissions in Fiscal 2021 (1,000 t-CO₂)

Scope 1		Scope 2	
From fossil fuels	From waste	From electricity	
340.3	675.2	662.4	

Electric Power Source



Fossil Fuel Source



Efforts Aimed at Reaching Targets

Renewable Energy Use

Hydroelectric Power Power Generated in Fiscal 2021 45.4 GWh

The DOWA Group is working to combat climate change with measures that include using privately generated power derived from renewable energy sources and leveraging its businesses to spread renewable energy use. Kosaka Smelting & Refining Co., Ltd., based in Akita Prefecture, started operation of its second domestic hydroelectric plant in 1897 for use in mine development. The company has continued to maintain and expand its facilities as its business grows, and it has since increased the number of hydroelectric plants in Akita Prefecture to six.

Solar Power Power Generated in Fiscal 2021 1,564 MWh

DOWA Thermoengineering Co., Ltd.'s Ota Plant (Gunma Prefecture), Meltec Ltd. (Tochigi Prefecture), DOWA Hightech Co., Ltd. (Saitama Prefecture), Eco-System Sanyo Co., Ltd. (Okayama Prefecture), and Act-B Recycling Co., Ltd. (Kumamoto Prefecture) have each installed solar power generation systems at their business locations as part of their efforts to increase renewable energy use. In addition, we are making ongoing efforts to introduce solar power at plants in China, Thailand, and other overseas areas.

Waste Heat Power Generation Power Generated in Fiscal 2021 87 GWh Volume of Waste Heat Utilized 1,006 TJ

The DOWA Group generates power from waste heat at six offices, including five in Japan and one overseas. Thermal power generation involves the use of heat released into the atmosphere to produce high-temperature, high-pressure steam, which turns a turbine to generate electricity. Aside from generating power, this steam is also used for other processes, which further helps to conserve energy. Thermal power generated in this manner utilizes combustible waste as fuel, helping rein in fossil fuel use.

Biomass Power Power Generated in Fiscal 2021 902 MWh

In April 2021, Biodiesel Okayama Co., Ltd. began biogas power generation using food scraps and waste produced by food-related business operators as raw materials. The company operates the first large-scale commercial biogas power plant in the Chugoku region, providing the five prefectures that make up the region with up to 6 GWh per year, enough to power approximately 1,600 households annually. The plant, which has pretreatment equipment for removing packaging and containers, processes approximately 16,000 tons of food waste annually, turning it into gas and using it as a renewable energy source.

Research and Development

Industry-Academia Collaboration: DOWA Co-creation Research Center

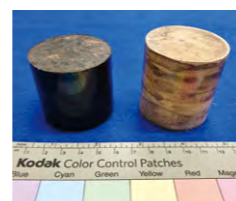
In April 2022, we set up the DOWA x Tohoku University Co-creation Research Center with the aim of bolstering our research activities with Tohoku University. The exceptional technological seeds at Tohoku University and the technology possessed by DOWA will be further integrated. The goal of this joint project is to create cutting-edge technology that will contribute toward offering resource recycling and excellent materials and technology while also responding to sustainability issues, including carbon neutrality.

In the initial phase, from fiscal 2022 to fiscal 2024, we will explore the following themes and aim at launching collaborative research projects.

- 1 Carbon-neutral technology
- 2 Innovative technology fusing artificial intelligence, the Internet of Things, and materials informatics
- 3 New materials for automobiles (EVs), information communication, the environment and energy, and medical and healthcare

Bio-Coke

DOWA is conducting research on bio-coke, a solid fuel made from plants, for use as an alternative to the coke and coal used in its smelting and melting businesses. In 2021, we conducted a combustion test using various plant-derived raw materials and assessed the results. We intend to conduct preliminary and verification testing to promote development that will lead to actual manufacturing.



Countermeasures under Midterm Plan 2024

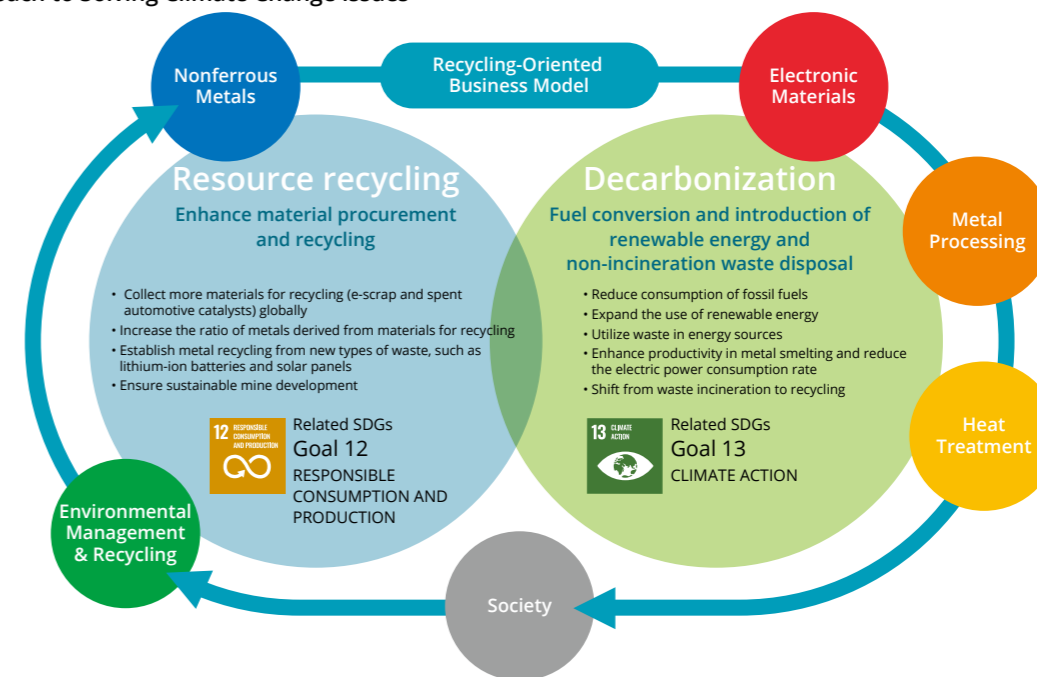
Having started in fiscal 2022, Midterm Plan 2024 is aimed at enhancing our economic and social value simultaneously.

For climate change, we have five key measures in accordance with our Climate Change Policy. In terms of business operations, we are committed to climate change initiatives that leverage the characteristics of each of our businesses, such as building a sustainable business model to achieve compatibility between resource recycling and decarbonization, with consideration of the analysis of TCFD-related risks and opportunities.

Climate Change Countermeasures under Midterm Plan 2024

Key Measures	Initiatives
Creation of businesses in accordance with the market environment	<ul style="list-style-type: none"> ■ Reinforce global resource recycling ■ Build a sustainable business model to achieve compatibility between resource recycling and decarbonization ■ Offer products and services that suit market needs and contribute to decarbonization
Companywide activities against climate change	<ul style="list-style-type: none"> ■ Continue our Companywide efforts to curb climate change and start a working group for climate change initiatives ■ Conduct in-house workshops and provide information
Reinforcement of our monitoring system	<ul style="list-style-type: none"> ■ Streamline the calculation of greenhouse gas (GHG) emissions ■ Share our GHG emissions within the Company with the use of our monitoring system and provide feedback ■ Build a mechanism for the calculation of a supply chain's GHG emissions (Scope 3)
Review of business continuity plans (BCPs)	<ul style="list-style-type: none"> ■ Reinforce our preparedness against weather disasters, a physical risk, and include measures against weather disasters in our BCP ■ Consider and discuss measures against weather disasters affecting the supply chain
Improvement in information disclosure	<ul style="list-style-type: none"> ■ Encourage information disclosure based on the framework of the TCFD recommendations ■ Regularly share information through our integrated reports and website

Our Approach to Solving Climate Change Issues



We will continue to promote energy conservation by improving processes and reduce greenhouse gas emissions by switching fuel sources and utilizing renewable energy in an effort to achieve the Group's medium- to long-term goals. In addition, we will disclose the progress of our efforts to address climate change through our integrated reports and website on a regular basis.

Materiality 4 Protecting the Environment

Basic Approach

The DOWA Group recognizes the impact of its business activities on the environment. We are working throughout the entire Group to implement initiatives for the environment and society through our core businesses and by positioning a reduction in the environmental impact of our business activities as an important issue for management.

Environmental Basic Policy

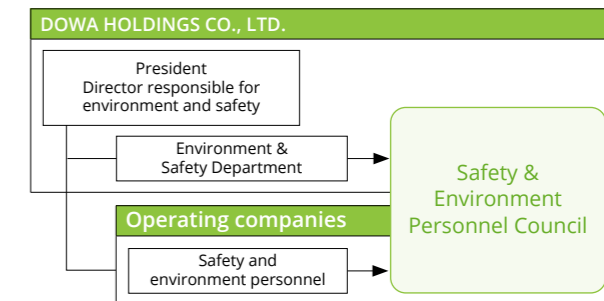
The DOWA Group aspires to help create a healthy and comfortable global environment that can be passed on to the next generation through its business activities.

1. We will pursue initiatives to contribute to addressing climate change and biodiversity loss, among other challenges, and will reduce the environmental impact and environmental risks at the Company and in society.
2. The officers and employees Companywide will all work together to promote environmental conservation.

Environmental Basic Policy: <https://www.dowa-csr.jp/en/about/environment-policy>

Promotion System

The DOWA Group's environmental management activities are conducted by the Environment & Safety Department, which works with the planning office at each operating company in charge of environmental conservation activities. DOWA Holdings coordinates between these operating companies and oversees environmental management for the entire Group.



Achievements and Targets

Key Measures	Indicators	Fiscal 2021 Results	Targets for Fiscal 2022 to Fiscal 2024
Establishment of an environmental management system	Establish and maintain an ISO 14001- or EA21-compliant systems	Ratio of business locations operating under DOWA's EHS-MS (environment, health, and safety management system) (At ISO-certified locations)	70% 100% (by March 31, 2025)
Improvement of risk management	Minimize risk of environmental accidents and improve response capabilities	Number of environmental accidents	0 0

Major production bases in Japan and overseas business locations have acquired ISO 14001 certification or Eco-Action 21 (EA21) certification. To ensure that environmental management is conducted in a proper manner, we also conduct regular internal and external audits and provide training courses for internal auditors. In Midterm Plan 2024, we aim to build ISO 14001- or EA21-compliant quality management systems at all of the Group's main business locations by the end of fiscal 2024, the final year of the plan.

Material Balance

The DOWA Group is promoting business activities while considering material balance by quantitatively determining the input of necessary resources and energy at each stage of the business life cycle as well as the output of CO₂ and waste generated from these activities.



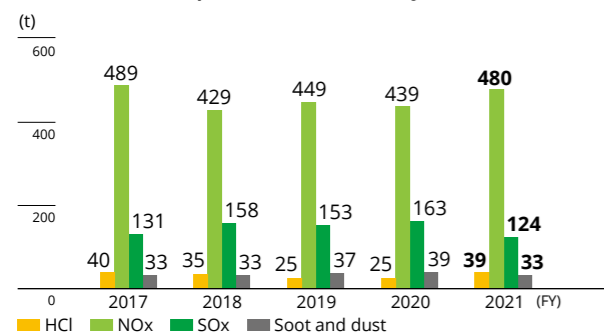
Note: With regard to CO₂ emissions, in principle the DOWA Group seeks to multiply amounts of electricity purchased, fossil fuel consumed, and waste received by the emission factor put forth in the Law Concerning the Promotion of Measures to Cope with Global Warming. Regarding CO₂ emissions derived from waste received, because the calculation terms are as of the time this report was prepared, numbers may not necessarily match those reported to government agencies, which are calculated at a different time. In addition, due to differences in the classification of waste in Japan and overseas and to the difficulty in setting an appropriate emission factor for waste received at overseas business sites, only the portion of CO₂ emissions originating from waste from domestic business locations is given.

Environmental Conservation Initiatives

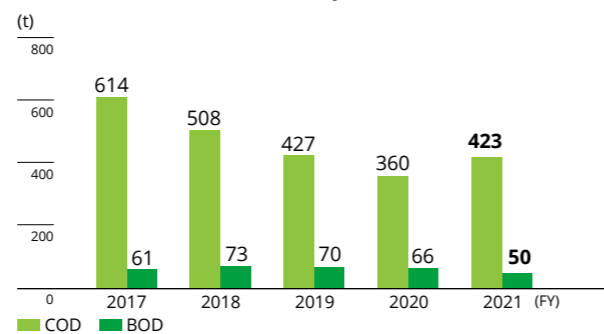
Atmosphere and Water Management

The DOWA Group's impact on the atmosphere and water is greatly affected by the composition of waste received by the Environmental Management & Recycling Business. Therefore, we are working to reduce said impact by enhancing our management systems at each business location and implementing standards that are more stringent than national regulations.

Trend in Atmospheric Emissions by Substance



Trend in Water Emissions by Substance



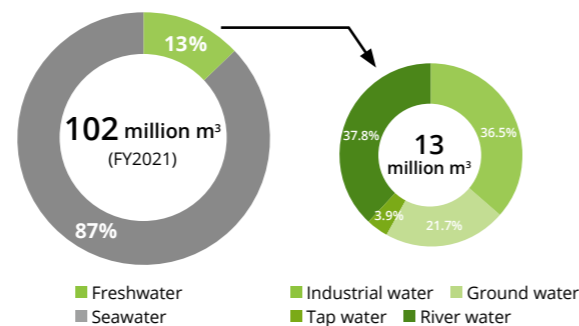
Managing the Use of Water Resources

Every year, the DOWA Group confirms the status of water intake sources and drainage destinations in addition to water usage at production sites in Japan and overseas. We are working to reduce the amount of water used throughout the Group by promoting efficient use within business sites to reduce our water intake.

At least 80% of the water resources used by the Group is seawater that the Nonferrous Metals Business and other business segments use for cooling purposes.

In addition to accounting for the majority of input, seawater used for cooling also accounts for the majority of drainage water discharge. After checking this water for quality, it is returned to its sea area of origin after use. The DOWA Group is committed to water quality, and its efforts to ensure it include water management at each business location and compliance with strict, self-imposed standards in addition to drainage water regulations.

Water Resources



Freshwater Usage

	Fiscal 2019	Fiscal 2020	Fiscal 2021
River water	4.8	4.8	4.9
Industrial water	4.5	4.6	4.7
Ground water	3.0	2.8	2.8
Tap water	0.5	0.4	0.5
Total	12.9	12.7	12.9

Please refer to the "ESG Library" section of DOWA's corporate website for detailed environmental data and further explanation of environment-related initiatives.

<https://www.dowa-csr.jp/en/esg>

Conserving Biodiversity

The DOWA Group draws from its Biodiversity Policy to minimize the impact that its business activities have on biodiversity, and it is promoting the conservation of biodiversity through social action programs.

Biodiversity Policy: <https://www.dowa-csr.jp/en/about/biodiversity>

Conserving Biodiversity during Mine Development

We promote mineral exploration and development projects for zinc mines to ensure a long-term zinc supply. Since mine development and operations have a large impact on the natural environment and local communities, we give careful consideration to the ecosystem and the water environment. Even at overseas mines currently under development, we are taking appropriate measures that begin from the mineral exploration stage onward in order to minimize the impact on the environment, such as regular environmental monitoring that includes ecosystem surveys and water quality assessments.



Water quality and biodiversity monitoring (overseas exploration project)

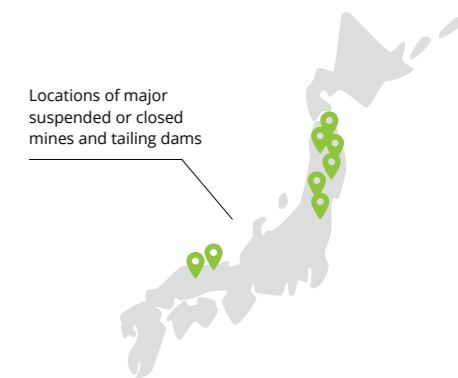
Conserving Biodiversity during Procurement

The supply of paper, a forest-based resource, is one of the most important ecosystem services available, and securing this supply has implications in terms of climate change and waste. Since the DOWA Group's manufacturing businesses are centered on nonferrous metals, excluding water it does not use biological resources as its main raw materials. However, as we do use paper at all of our domestic and overseas business locations, the entire Group purchases large amounts of paper each year. For this reason, we use paper made from a mixture of old paper and forest-certified wood pulp for photocopy paper and pamphlets while making every effort to use sustainable biological resources.

When selecting paper suppliers, the Group not only confirms that the paper itself is environment-friendly but also verifies that said suppliers carry out sustainable paper procurement based on its CSR Procurement Policy.

Managing Suspended or Closed Mines and Tailing Dams

We have established voluntary standards that are stricter than mining laws and regulations for the management of over 20 closed mines and over 30 tailing dams, most of which have suspended operations or closed down. By doing so, the DOWA Group is working to prevent mine pollution and maintain and improve safety.



Managing Water Resources

At suspended or closed mines, mine water, including acidic water or water containing heavy metals, may flow out of the pithead; thus, there is the risk of wastewater flowing into rivers and harming water quality and agricultural land. Accordingly, we have established voluntary management standards that are stricter than mining laws and regulations for the suspended or closed mines and tailing dams that we currently operate. By doing so, the DOWA Group is working to maintain healthy water circulation and an environment conducive to sustainable water use.

Maintaining Stability at Suspended or Closed Mines and Tailing Dams

Mine wastewater treatment plants and tailing dam facilities are inspected on an irregular basis by public safety and inspection departments in each region. Most of the suspended or closed mines and tailing dams that we manage are facilities that ceased operations by 1980. These mines and dams are in very stable condition, with soil covering, mine pollution prevention work in place, and greening through the planting of flora.

We set the items for inspection and the frequency thereof by location, including tailing dams still in use, with qualified people doing patrol inspections of such things as blocked pitheads, and we check the slopes and culverts of tailing dams in order to quickly detect and repair points of deterioration and keep conditions stable.

Materiality 5 Ensuring Occupational Safety and Health

Basic Approach

Occupational health and safety is one of the most important themes in DOWA's efforts to leverage its business toward sustainability. Therefore, the Company conducts a variety of safety-related activities based on the basic philosophy of "safety takes priority over everything."

Safety and Health Policy

- All people connected to the Group will voluntarily take action to improve safety and health and will aim to prevent accidents, occupational injuries, and illness.
- To prevent accidents and occupational injuries, we will actively remove hazards and reduce risks.
- We will help employees improve their physical and mental health, aiming to create safe and comfortable workplaces.

Safety and Health Policy: <https://www.dowa-csr.jp/en/about/health-safety>

Promotion System

Under the DOWA Group's system for promoting safety management, a director of DOWA Holdings serves as the person responsible for environment and safety for the Group, and the Environment & Safety Department selects safety and environment personnel from each operating company who work together to conduct safety management activities. In April 2022, the Safety & Environment Personnel Council was positioned as a working group under the Sustainability Subcommittee. In this new position, the council will continue to act as a forum for discussing the Group's safety-related activities, sharing information about the activities of

each operating company, and providing mutual support. In addition, the director in charge of human resources at DOWA Holdings is in charge of hygiene and health management activities for the Group, and the Human Resources Department takes the lead in promoting activities in cooperation with other departments. Matters flagged as important by the Sustainability Subcommittee are reported to the Sustainability Promotion Committee, the organization positioned above the subcommittee, and then to the Board of Directors if the importance of these matters necessitates such an action. The Board of Directors monitors health and safety for the Group.

Rebuilding Our Environment, Health, and Safety Management System

The Group has resolved to rebuild its environment, health, and safety management system (EHS-MS) during the period covered by Midterm Plan 2024. The goal of this initiative is to operate, maintain, and improve an occupational health and safety management system for the Group that is rooted in risk management. Therefore, we are rebuilding our EHS-MS so that it can be applied to all of the Group's business locations. Many of our

locations are already certified according to ISO standards, and we will use these same standards to develop the Groupwide elements of our EHS-MS, and then implement the EHS-MS at these ISO-certified business locations. From there, we intend to expand the system to other locations while taking steps to fine-tune it. We will work to enhance the Group's governance system from a risk management perspective.

Targets

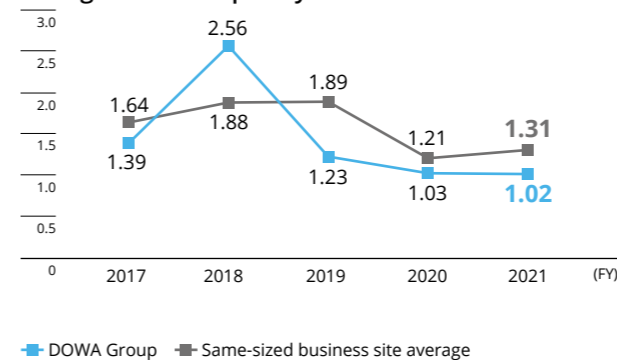
Key Measures	Indicators	Fiscal 2021 Results	Targets for Fiscal 2022 to Fiscal 2024
Improvement of management system	Ratio of business locations operating under the EHS-MS	—	100% (fiscal 2024)
Prevention of recurrence of work-related accidents	Frequency rate and severity rate (including dispatch workers, excluding contractors)	Frequency rate: 1.23 severity rate: 0.02	Frequency rate: 0.7 severity rate: 0.01 (fiscal 2024)

Work-Related Accidents

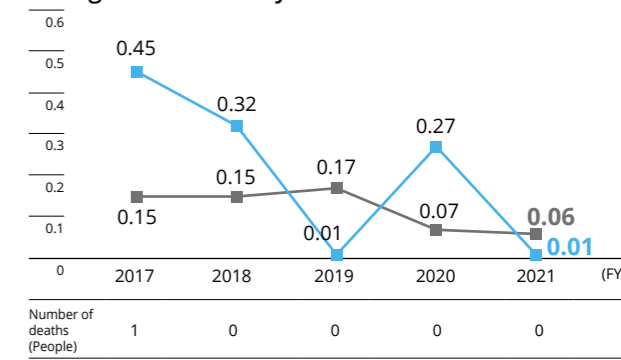
The number of work-related accidents at the DOWA Group as a whole has been on the decline over the long term. The frequency rate of accidents in fiscal 2021 was lower than in the previous fiscal year and lower than the

average for companies of a similar size, according to statistics from the Ministry of Health, Labour and Welfare. The severity rate of accidents for fiscal 2021 also improved, dropping below the average for companies of a similar

Change in the Frequency Rate of Accidents at Work



Change in the Severity Rate of Accidents at Work



Cooperating companies and contractors have not been included when calculating these figures. Totals have been calculated for accidents requiring one or more days of leave. Frequency rate: Indicator showing the frequency of accidents by the number of dead and injured people due to accidents at work per one million total working hours. Severity rate: Indicator showing the degree of accident severity by the number of working days lost per 1,000 total working hours.

size. The number of serious accidents also decreased. In terms of trends, the number of accidents categorized as "contact with hazardous substances" decreased, while

accidents categorized as being "caught in machinery" increased, accounting for one-third of the total number of accidents.

Preventing Work-Related Accidents

Promoting Preventive Measures

The DOWA Group's measures to prevent work-related accidents include efforts to enhance risk assessment activities and safety risk assessments for existing and new businesses. For new businesses we conduct safety audits and, since fiscal 2019, we have performed design and construction for new businesses based on the DOWA Technical Manufacturing Standard, a series of standardized rules for each stage of the process, including construction conceptualization and both basic and detailed design. We use a checklist to evaluate the status of necessary systems to ensure any anticipated environmental and occupational health and safety risks have been dealt with and to ascertain whether there is a proper understanding of residual risks, with proper countermeasures in place. After this process, confirmation and guidance are provided.

Promoting Safety Education

The DOWA Group strives to improve safety awareness through training and other forms of education so that all employees understand occupational safety as a personal matter and work to improve safety of their own accord. In fiscal 2021, a total of 524 people attended one or more types of such training. These modules include risk assessment assessor training, occupational health and safety compliance evaluator training, seminars aimed at understanding occupational health and safety, safety manager training, and training for new employees.



Promoting Health Management

The DOWA Group has formulated the DOWA Group Health Management Declaration and promotes a variety of health-related measures.

The DOWA Group Health Management Declaration

The DOWA Group will strive to maintain and improve the health of all people employed within the Group and their families and create a workplace where employees can work actively and with healthy body and mind.

Efforts to Maintain and Improve Health

- Measures to understand the health status of employees and their families and offer health guidance, aimed at detecting illnesses early and preventing exacerbation
- Measures to improve the workplace environment and promote diverse workstyles, aimed at establishing a health-friendly infrastructure
- Measures to promote lifestyle improvements, aimed at promoting individual health

Materiality 6 Increasing Organizational Power



Basic Approach

At the DOWA Group, we believe that human resources are at the core of all of our business activities. We have overcome challenges in our long history by mobilizing each individual person working on the front line of development, manufacturing, marketing, and management, etc., in the DOWA Group and by squarely facing and addressing problems that have emerged at different times.

To achieve the sustainable development of the DOWA Group and to continue to be a corporate group that is truly needed by society, we aim to maintain corporate growth by combining the efforts of each member who shares our Corporate Mission.

Policy for Human Resources Development

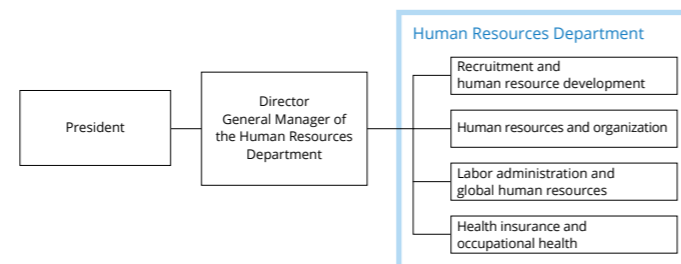
We, the DOWA Group, motivate each employee to strive for opportunities to better themselves. To do that, we offer fair opportunities to study to those who are willing to learn, regardless of their position, age, gender, and work location. Human resource development within the DOWA Group is focused on developing strengths, instead of correcting each and every weakness.

Policy for Human Resources Development: <https://www.dowa-csr.jp/en/about/human-resource>

Promotion System

The Human Resources Department of DOWA Holdings leads the effort to increase organizational power and promotes initiatives in collaboration with other departments, operating companies, and each base of operation. The department comprises four sections, which are responsible for recruitment and human resource development, human resources and organization, labor administration and global human resources, and health insurance and occupational health, respectively.

Functions related to human resources typically include recruitment, human resource evaluation, human resource development, labor affairs, and the development of workplace environments. The four sections of the Human Resources Department have an organic relationship with these functions and serve to enhance them, which increases organizational power in turn. As for the organization of the Human Resources Department, the director serving as general manager of the department is under the direct supervision of the president. This system ensures that instructions and orders can be relayed to the Human Resources Department in a simpler and more effective manner.



Initiatives

Our 2030 vision as it relates to human capital is to be an organization that continues to grow as it strives to create economic and social value. We have defined such an organization as meeting the following three conditions.

- A collection of people that sympathize with the value and role our business has in helping resolve wide-ranging social issues
- An organization that emphasizes teamwork and communication and can demonstrate results Groupwide
- An organization that is open to diverse workstyles and utilizes diverse human resources to accept changes and challenges

To achieve this vision, we are promoting initiatives under the following important themes.

- 1 Securing a labor force and developing core human resources
- 2 Developing human resources and promoting organization-building that will create change
- 3 Establishing diverse workstyles
- 4 Promoting diversity and spreading awareness of human rights
- 5 Promoting DX literacy among human resources

1. Securing a Labor Force and Developing Core Human Resources

Japan continues to grapple with its declining birth rate and aging population. The Labour Force Survey conducted by the Statistics Bureau of the Ministry of Internal Affairs and Communications listed Japan's working population in 2021 as 59.31 million, dropping 800,000 from the figure reported in 2011. Compounded by the recent decline in birth rate, Japan's labor force seems set to shrink at an even faster rate in the coming years. This continued decline will affect the working population in rural areas more severely than in urban areas. We are mindful of this fact, as several of our bases are located in rural areas.

As a result, it is extremely important for the Company to secure a labor force. Initially, we will expand the scope of our hiring activities and step up Groupwide efforts to support hiring at each location and share know-how. We will also continue to conduct regular interviews with young employees, among other efforts, to motivate employees and improve communication between supervisors and their team members. In addition to encouraging the steady growth of new employees through systemized training throughout the workplace, we intend to raise employee engagement by introducing surveys for all employees.

Key Measures	Indicators	Fiscal 2021 Results	Targets for Fiscal 2022 to Fiscal 2024	
Reduction of resignation rate	Implement preemployment and second-year interviews	Average retention rate three years after joining the Company (for new graduates at DOWA Holdings)	95%	Maintain 100% rate
	Implement job satisfaction surveys for employees	Degree of survey coverage	System in development	Conduct surveys on a regular basis

Results

Number of Employees by Region

Region	Fiscal 2017	Fiscal 2018	Fiscal 2019	Fiscal 2020	Fiscal 2021		
					Men	Women	
Japan	6,094	6,359	6,491	6,810	5,566	1,234	
Asia (besides Japan)	3,092	3,148	3,217	3,558	3,105	503	
Europe	24	25	28	29	30	15	
Overseas	North America	131	166	128	128	99	27
	Latin America	43	62	84	76	52	28
Overseas subtotal	3,290	3,401	3,457	3,791	3,286	573	
Total	9,384	9,760	9,948	10,601	8,852	1,807	
						10,659	

Breakdown of Domestic Employees in Fiscal 2021

Age	Permanent Employees						Non-Permanent Employees					
	Executive Officers		Management Employees		General Employees		Outsourced and Temporary Employees		Part-Time Employees		Dispatch Employees	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Under 30	0	0	0	0	808	137	74	29	2	4		
30-50	0	0	417	16	2,095	281	173	136	2	29		
Over 50	113	1	397	3	603	101	527	123	12	33		
Subtotal	113	1	814	19	3,506	519	774	288	16	66		684
Total					4,972							1,828

Breakdown of Overseas Employees in Fiscal 2021

Age	Resident Employees		Local Employees (Permanent Employees)		Local Employees (Non-Permanent Employees)	
	Men	Women	Men	Women	Men	Women
Under 30	6	0	339	141	519	19
30-50	62	5	1,502	338	442	23
Over 50	36	1	311	35	69	11
Subtotal	104	6	2,152	514	1,030	53
Total	110		2,666		1,083	

2. Developing Human Resources and Promoting Organization-Building That Will Create Change

Up to now, we have promoted position-based education in order to raise the level of organizational power across the entire organization. Going forward, we will emphasize developing human resources with the drive to learn and bring about change that will help build an organization that continues growing. In times of great change such as today, it can be difficult to ascertain the “right way” of doing things. However, we believe that the creation of an organization that allows each and every employee to show their full potential will help increase organizational power.

On the other hand, position-based education remains extremely important for the development of new and young employees, and for that reason we will continue with its implementation. However, we are planning a transition to an educational approach that focuses more on the individual and on enhancing the specialties of individuals. We will also develop a platform that allows employees to further their education when they so decide and build a system that supports proactive employee learning at any time.

Key Measures	Indicators	Fiscal 2021 Results	Targets for Fiscal 2022 to Fiscal 2024
Disclosure of Policy for Human Resources Development	Formulate policy and disseminate via the DOWA corporate website and the in-Company portal site	Formulation of policy and disclosure inside and outside the Company	Investigated policy
Development of global human resources	Build a system to impart basic knowledge necessary for overseas assignments to be implemented one year prior to assignment	Implementation of preassignment education and expansion to include post-assignment education	Announce and disseminate policy

Results

Status of Employee Education

Item	Fiscal 2017	Fiscal 2018	Fiscal 2019	Fiscal 2020	Fiscal 2021
Number of in-Company participants	Number of participants				845
	Number of possible participants				1,291
Total hours of education	42,055	42,092	44,724	30,207	33,276
Amount invested in education (Thousands of yen)	89,569	93,083	114,576	71,838	109,592
Amount invested in education excluding travel expenses (Thousands of yen)	65,091	71,144	90,104	71,440	109,019
Number of possible participants among permanent employees (Thousands of yen)	4,188	4,437	4,622	4,805	5,082
Total hours of education per person	27	27	23	20	39
Total cost of education per person (Thousands of yen)	58	61	59	46	130
Total hours of education per person among permanent employees (Thousands of yen)	10	9	10	6	7
Total cost of education per person among permanent employees (Thousands of yen)	21	21	25	15	22

Key Human Resource Development Initiatives and Progress in Fiscal 2021

- Implemented training aimed at encouraging behavioral changes in the workplace and conducted regular online meetings to confirm how this training is reflected in actual operations.
- Held human resource strategy planning meetings at each operating company, which included support for measures to be implemented from the first year of Midterm Plan 2024

Key Measures Related to Human Resource Development from Fiscal 2022 Onward

- Provide educational opportunities in addition to group training
- Continue to increase training for overseas employees and strengthen human resource development throughout the Group
- Enhance career education and diversity training
- Formulate and disclose human resource development policies



3. Establishing Diverse Workstyles

With the population expected to continue to decline in Japan, we believe it necessary to create an environment that allows employees to work for many years and experience self-fulfillment during their working lives, even as they go through different stages of their life, such as childbirth, childcare, and nursing care. Diverse workstyles provide a dual benefit. They give employees more power to choose the style that will bring them self-fulfillment. Further, an ideal workstyle will not only enrich an employee’s work, but their personal life as well. Put together, we believe these factors will raise productivity as well as our employee retention rate. In addition, households with both spouses working have

become commonplace, and the idea of both partners raising children together is becoming more mainstream.

The introduction of various workstyles shows respect for the different circumstances affecting each employee, and we believe that if we create an environment where individual employees can work to their potential, they will return the favor by putting the best of their abilities on display. Put simply, we believe that the happiness of our employees will lead to the development of the Company. To this end, we will take steps to reduce working hours and support employees in balancing childcare and nursing care with work.

Key Measures	Indicators	Fiscal 2021 Results	Targets for Fiscal 2022 to Fiscal 2024
Greater support for balancing childcare and nursing care with work	Provide support that will encourage more men to take childcare leave	Increase in the ratio of men that take childcare leave	10%
Reduction of working hours	Manage total working hours and establish targets for the taking of annual paid leave	Increase in the ratio of annual paid leave days taken	100% (fiscal 2024 target)
Promotion of health management	Encourage employees to take medical examinations	Ratio of employees who received regular medical examinations	76.7%
			80% or higher
			100%
			100%

Results

Status regarding the Taking of Childcare and Nursing Care Leave

Item	Fiscal 2017		Fiscal 2018		Fiscal 2019		Fiscal 2020		Fiscal 2021	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Childcare leave*	Number of employees who took leave		2	32	2	31	0	22	5	33
	Number of employees eligible to take leave						125	13	131	10
Number of employees who took leave to care for sick children		27	26	35	28	64	24	76	27	116
Number of employees who took leave to provide nursing care						11	5	22	12	35
Number of employees who returned to work after childcare leave						0	11	3	10	11
Number of employees who remained with the Company 12 months after returning from childcare leave						1	30	0	11	4

* The number of employees who took childcare leave includes those who remained on leave after taking childcare leave in the previous fiscal year. In addition, the number of employees eligible to take leave is the number of persons who become eligible in the fiscal year specified.

Materiality 6 Increasing Organizational Power

Average Number of Overtime Hours Worked

	Fiscal 2017	Fiscal 2018	Fiscal 2019	Fiscal 2020	Fiscal 2021
Average number of overtime hours worked per month	19.7	18.2	19.0	15.7	21.0

Status regarding the Taking of Annual Paid Leave

	Fiscal 2017	Fiscal 2018	Fiscal 2019	Fiscal 2020	Fiscal 2021
Average number of days granted	20	20	20	20	19
Average number of days taken	13	14	15	14	15
Ratio of leave taken	65.6	70.0	74.7	70.8	76.7
Number of employees who took refresh leave					257

4. Promoting Diversity and Spreading Awareness of Human Rights

We believe that a diverse group of human resources utilizing a diverse set of workstyles is what sparks innovation. Diversity among a company's core human resources is without a doubt an important part of corporate management, and we promote diversity for these core human resources and all others employed by the Group. Since this pursuit will also help us secure a labor force, we intend to make a strong Groupwide effort to achieve this goal.

In terms of hiring, we are ramping up efforts to hire increased numbers of women and foreign nationals. In particular, we aim to raise the number of women hired as new graduates to 30% or higher by the final year of Midterm Plan 2024. At the same time, we plan to create an environment that promotes the participation and advancement of women by establishing welfare

facilities, expanding career education, and making other efforts specifically for women.

In addition, we formulated our Human Rights Policy in March 2022, and we are working to instill awareness of human rights among all Group employees and eliminate harassment.



Human Rights Policy: <https://www.dowa-csr.jp/en/about/human-rights-policy>

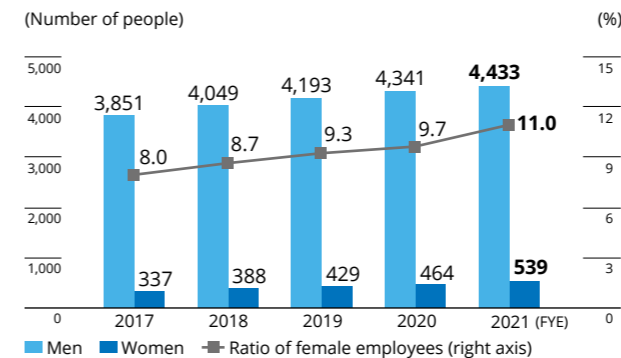
Key Measures	Indicators	Fiscal 2021 Results	Targets for Fiscal 2022 to Fiscal 2024
Promotion of the participation and advancement of women	Enhance hiring	Increase in the ratio of new hires who are women (DOWA Holdings) 19%	30% or higher
Promotion of the participation and advancement of employees up to the age of 65	Raise the age of retirement	Introduction of an option to postpone retirement System under development	Introduce a Groupwide system
Protection of human rights	Conduct anti-harassment training	Elimination of harassment Formulated our Human Rights Policy	Continue to implement training
Promotion of the participation and advancement of people with disabilities	Provide hiring support by spreading awareness and sharing examples of employment at DOWA Holdings	Ratio of employment of people with disabilities 2.6% (DOWA Holdings)	2.3% or higher (Groupwide)

Results

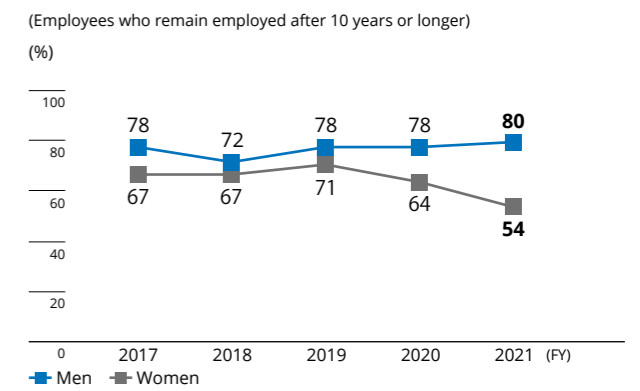
Percentage of Female Workers by Position (Employees of DOWA Holdings, including Those Seconded to Consolidated or Non-Consolidated Group Companies)

Position	Fiscal 2017	Fiscal 2018	Fiscal 2019	Fiscal 2020	Fiscal 2021
Executive officers	0.8%	0.8%	0.9%	0.9%	0.9%
Management employees	1.3%	1.7%	1.4%	2.4%	2.3%
General employees	10.0%	10.5%	11.2%	11.4%	16.8%

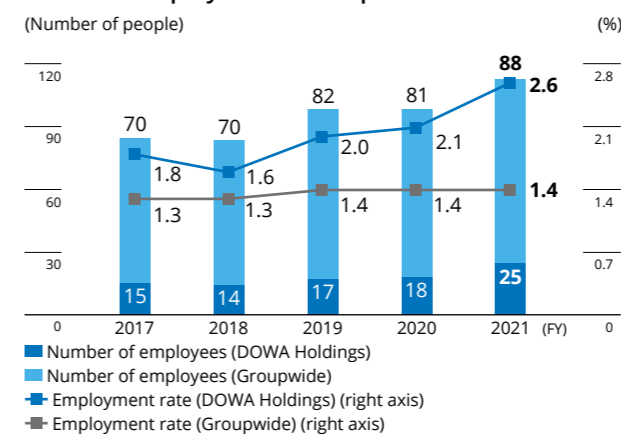
Ratio of Female Employees (Domestic, Permanent Employees)



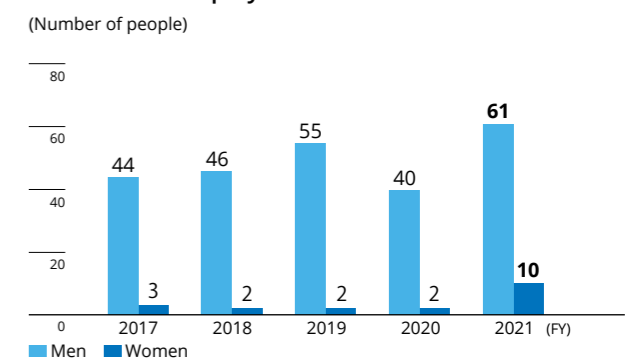
Employee Retention Rate



Status of Employment of People with Disabilities



Status of Re-Employed Retired Workers



5. Promoting DX Literacy among Human Resources

We were recognized as a digital transformation certified business operator in July 2022 (details on page 77) and have made a declaration that we will promote digital transformation as a Companywide initiative. The Human Resources Department is promoting the integration, analysis, and utilization of the vast amount of employee-related data that we have accumulated over the years.

We will use this data to create a system that can extract information accurately and in a timely manner, with the goal of finding human resources, training them effectively, and treating them fairly.



Materiality 7 Promoting Risk Management



Risk Management

Basic Approach

The DOWA Group engages in risk management to prevent situations that could have a major impact on its business and to prevent or mitigate damage in the unlikely event such a situation comes to pass. Specifically, we will continue efforts to enhance our risk management process, which involves identifying apparent and potential risks at each operating company, implementing countermeasures, monitoring, and conducting audits.

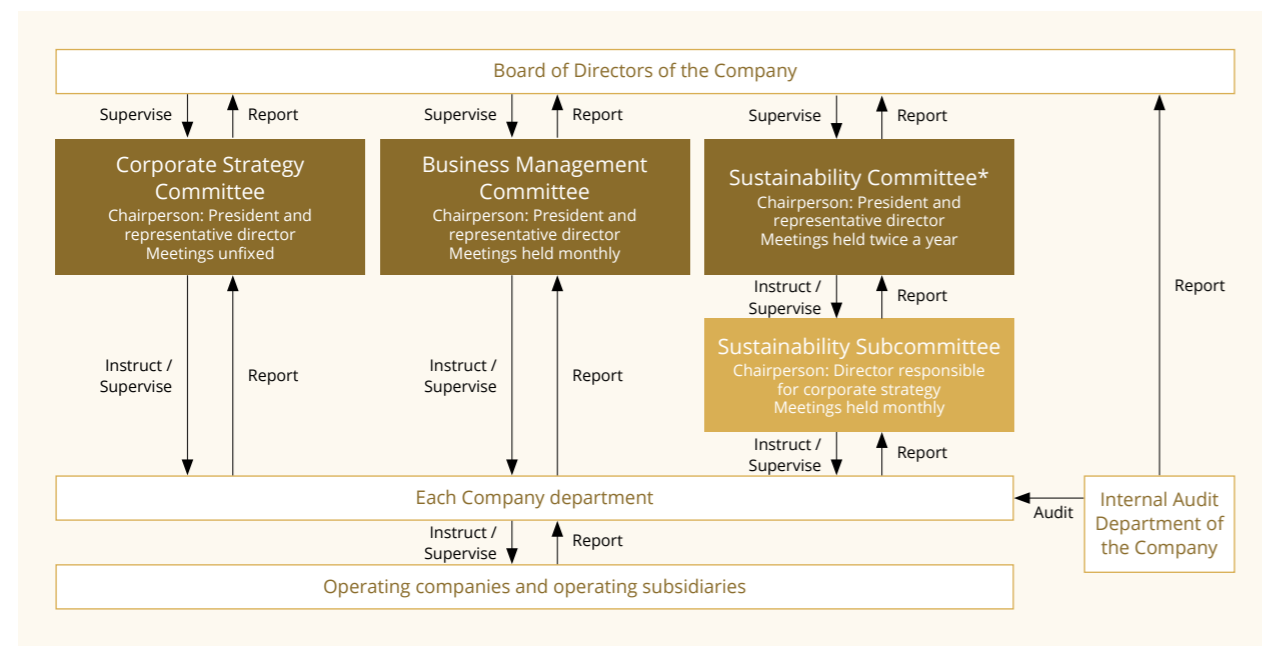
Risk Management Basic Policy

The DOWA Group will establish and operate a risk management system across the Group to identify and assess risk events facing our business development and to enable strategic risk responses as a group in a timely manner.

Risk Management Basic Policy: <https://www.dowa-csr.jp/en/about/risk-management>

System for Promoting Risk Management

We have broadly classified risks that could have a significant impact on business as strategic risks, economic risks, operational risks, and hazard risks. The Corporate Strategy Committee and the Business Management Committee monitor all business risks, with a particular focus on strategic risks. In addition, the Sustainability Committee assesses and identifies risks classified as economic risks, operational risks, and hazard risks and then examines and discusses countermeasures. Any matters deemed important based on discussions at each committee are then reported to the Board of Directors, which accordingly supervises the response to these matters.



* Topics discussed by the Sustainability Committee

Social issues that the DOWA Group must address (The DOWA Group's Materiality): (1) Creating a resource-recycling society, (2) Enhancing products and services that reduce social and environmental risks, (3) Responding to climate change, (4) Protecting the environment, (5) Ensuring occupational safety and health, (6) Increasing organizational power (including promotion of diversity, job security, and human resource development), (7) Promoting risk management, (8) Strengthening corporate governance, and (9) Driving DX (data utilization)

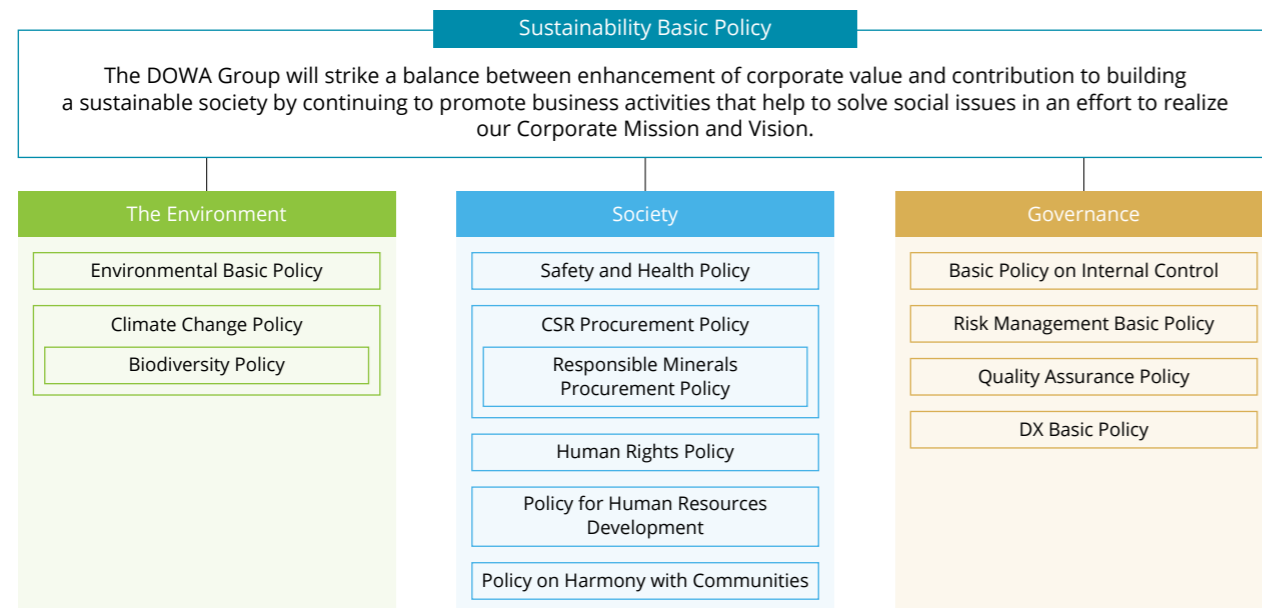
Risks That May Affect the DOWA Group's Operating Results, Share Price, and Financial Position

Classification	Description	Specific Risks	Response
Strategic Risks	Market Fluctuation Risks	<ul style="list-style-type: none"> The economy may deteriorate in major markets where our products are utilized and in areas of demand. Industrial frameworks could change, leading to a drop in demand. 	<ul style="list-style-type: none"> Diversify risks throughout the Group and ensure stable business results by building a unique business portfolio comprising multiple businesses with differing market risks and risks involving changes to business structure
	Climate Change Risks	<ul style="list-style-type: none"> Severe weather events could cause plants to shut down and raise facility management costs. Carbon taxes and other forms of carbon pricing may be introduced. The institutionalization of information disclosure related to climate change may impact the investment environment. 	<ul style="list-style-type: none"> Formulate the DOWA Group's Climate Change Policy and set long-term targets aimed at realizing carbon neutrality by 2050 Set fiscal 2030 targets to reduce greenhouse gases Disclose information and consider countermeasures in line with TCFD recommendations, which have been endorsed by the Group Upgrade to energy-conserving equipment and convert to renewable energy at major manufacturing plants Establish a system headed by the Board of Directors for deliberating climate change and other sustainability issues
Economic Risks	Price Fluctuation Risks	<ul style="list-style-type: none"> Prices of nonferrous metals could drop or the yen may continue to appreciate for an extended period of time. 	<ul style="list-style-type: none"> Avoid and mitigate the risks of fluctuating metal prices and foreign exchange rates through derivative contracts, including nonferrous metal forward contracts and foreign exchange forward contracts
Operational Risks	Operational Risks	<ul style="list-style-type: none"> Natural disasters, power outages, accidents, or infectious diseases could cause a significant drop in production. 	<ul style="list-style-type: none"> Develop a business continuity plan for natural disasters and states of emergency Formulate standardized facility design rules for accident prevention Implement thorough safety guidance and facility inspections and establish a system for sharing information related to safety and operations
Environmental Risks		<ul style="list-style-type: none"> Business activities could generate environmental pollution. 	<ul style="list-style-type: none"> Develop environmental management systems at major domestic and overseas plants Implement monitoring using internal standards stricter than those put forth in environment-related laws and regulations Implement periodic inspections to maintain stable conditions at suspended or closed mines and related facilities Prevent environmental pollution stemming from mine wastewater, cave-in, landslides, and other mine-related damage
Quality Risks		<ul style="list-style-type: none"> There could be serious quality defects or abnormalities. 	<ul style="list-style-type: none"> Obtain ISO 9001 certification at major manufacturing plants Maintain compliance with the quality assurance guidelines established by the Japan Mining Industry Association and other groups Ensure quality of procured products through supplier surveys and audits
Labor Shortage Risks		<ul style="list-style-type: none"> There may be labor shortages at manufacturing bases in Japan due to a drop in the domestic working population as a result of the declining birth rate and aging population and greater competition in hiring. 	<ul style="list-style-type: none"> Extend the age of retirement and establish a motivating work environment by implementing workstyle reforms and establishing and enhancing systems that enable diverse and flexible workstyles Promote Groupwide business efficiency and labor savings by utilizing digital technology Improve the ability of each employee by enhancing the Group's human resource development system
Regulatory Risks		<ul style="list-style-type: none"> Environment- and recycling-related laws in Japan and overseas, antitrust laws, or other laws and regulations could be introduced, which cannot be predicted at the present time. 	<ul style="list-style-type: none"> Preserve rights in Japan and overseas through legal means
Hazard Risks	Information Security Risks	<ul style="list-style-type: none"> Confidential or personal information possessed by DOWA could be leaked, falsified, or destroyed, leading to a loss of trust, claims for damages, and other penalties. 	<ul style="list-style-type: none"> Sign nondisclosure agreements and comply with information regulations Introduce and implement malware countermeasures, multifactor authentication, and other information security systems Enhance employee training

Overview of Initiatives

Organization of Sustainability-Related Policies into a Single Framework

In March 2022, we conducted a review of our CSR Policy, established in 2011, and formulated the Sustainability Basic Policy, which is aimed at achieving sustainable growth and improving corporate value. In addition, we have compiled and organized a series of Group policies related to sustainability into a single framework, with the overarching Sustainability Basic Policy positioned at the top. These actions have helped set a clear path in each area of sustainability that will lead us toward the realization of our Corporate Mission and Vision.



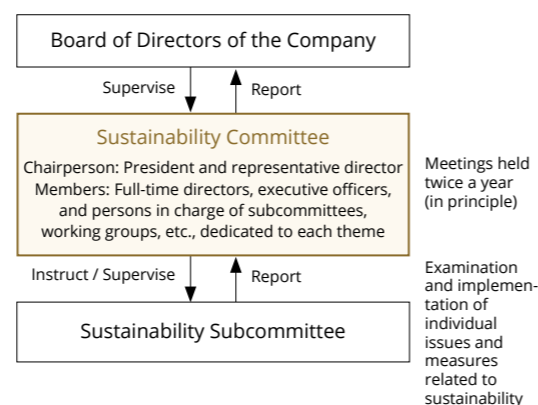
Sustainability Related Policy: <https://www.dowa-csr.jp/en/about>

Establishment of the Sustainability Committee and the Sustainability Subcommittee

On April 1, 2022, we established the Sustainability Committee in an effort to ramp up our sustainability-related activities.

This committee deliberates and makes decisions regarding policies and measures concerning climate change, digital transformation, and sustainability-related issues while also tracking the progress of these measures. Important matters are reported to the Board of Directors for supervision.

We have also established the Sustainability Subcommittee, which operates under the umbrella of the Sustainability Committee, and by collaborating with related departments we have created a system that will allow us to promote sustainability initiatives Groupwide.



Activities of the Sustainability Subcommittee

The Sustainability Subcommittee is chaired by the director in charge of corporate strategy and comprises general managers of DOWA Holdings and heads of the strategic planning departments at operating companies with various responsibilities.

The subcommittee has met once a month since its establishment in April 2022. During these meetings, members from throughout the Group share information pertaining to the DOWA Group's Materiality and work together to examine possible countermeasures. For details regarding the DOWA Group's Materiality, please refer to **page 28 and 29**.

Participation in International Organizations and an International Consortium

In March 2009, the DOWA Group endorsed and signed the United Nations Global Compact (UNGC). We respect the 10 principles under the four fields of human rights, labor, the environment, and anti-corruption listed in the UNGC and are working toward the sustainable development of society. We are also actively participating in the activities of the Global Compact Network Japan, UNGC's local network in Japan.



Global Compact Network Japan: <https://www.ungejn.org/index.html> (Japanese only)

Supply Chain Management

The DOWA Group promotes sustainability management throughout the whole supply chain by distributing to business partners and suppliers the DOWA Group CSR Procurement Guideline, which combines elements of its CSR Procurement Policy and Code of Conduct, and by ensuring its suppliers understand its approach to sustainability.

In fiscal 2015, we developed a system for identifying and auditing high-risk suppliers that involves self-diagnosis using self-checklists. In fiscal 2021, we also distributed self-checklists to approximately 100 major and new business partners and provided feedback reports to responding companies about our expectations as well as requests for improvements. We did not conduct audits during fiscal 2021 as a preventive measure in response to the COVID-19 pandemic.

In addition, as suppliers ourselves, we may receive requests for CSR-conscious procurement from customers. Therefore, DOWA Holdings and the sales, manufacturing, procurement, human resources, general affairs, and other departments of operating companies and manufacturing subsidiaries work together to fully understand and respond to these requests.



The DOWA Group's CSR Procurement Guideline: <https://www.dowa-csr.jp/en/about/csr-procurement>

Business Continuity Plans

In order to avoid or minimize any risks that could affect our ability to conduct business in times of emergency, we have formulated business continuity plans (BCPs) for each region and business location in the event of damaging earthquakes; other natural disasters, such as typhoons and torrential rains, which have been occurring with increasing frequency in recent years; and widespread pandemics. Since the DOWA Group primarily engages in business-to-business transactions, disruptions along the supply chain will have a severe impact on the production and sales activities of customers receiving our services or products. Therefore, through CSR procurement, we regularly confirm with our major suppliers that they have in place a BCP to ensure that we can restore and continue business promptly.

Strengthening of Information Security

The strengthening of information security is positioned as one of the Group's most important management issues. Under the leadership of management, we are working to address information security risks from both software and hardware perspectives. In fiscal 2021, we established a dedicated team to respond to cybersecurity incidents, and it quickly began tackling the issue. In fiscal 2022, we migrated to a security system that can centrally monitor the security status of computers used at each of the DOWA Group's bases. We are also working to systematically improve employees' understanding of security through methods that include raising awareness through training and study sessions.

Compliance

Basic Approach

The directors and employees of the Group utilize the DOWA Group Corporate Mission, Vision, Values, and Code of Conduct to guide them in their day-to-day business activities. In addition, our continued efforts to spread awareness of our whistleblower system, combined with the implementation of internal audits, helps with the prevention and early detection of any fraud or misconduct in the Company or at Group companies, and accordingly we take appropriate measures whenever the need should arise.

The DOWA Group's Corporate Mission, Vision, Values, and Code of Conduct: https://www.dowa.co.jp/en/about_dowa/philosophy.html

System for Ensuring Compliance

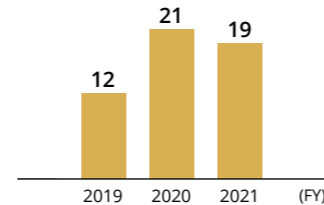
Centered on the General Affairs & Legal Department, which is the department in charge of compliance, DOWA Holdings has stipulated items for regulations that comprise a system of major company regulations. These include regulations for the Board of Directors, administrative authority, accounting, document handling, purchasing, and information system management. This system of regulations serves to standardize regulations across the Group and clarify the responsibilities, authority, and authorization procedures of each position. In addition, the Internal Audit Department conducts internal audits, including regular monitoring and risk assessment.

Internal Reporting System

The Company has established the DOWA Consultation Desk, which allows any Group director or employee to anonymously report and consult with outside lawyers regarding harassment, fraud, or any other improper activity. Confidentiality concerning reports made and the protection of reporting parties against unfair treatment are both guaranteed by the DOWA Consultation Desk. Our internal reporting system is also available to employees of suppliers and cooperating companies.

Consultations and opinions expressed are kept confidential and are addressed promptly and appropriately. In fiscal 2021, there were 19 consultations made, and corrective action was carried out and completed in all cases where such a response was necessary.

Number of Consultations Made through the DOWA Consultation Desk (Consultations)



Prevention of Harassment

The Company has established the Rules for Harassment Prevention, a series of rules that all employees must follow in order to prevent different types of harassment. We also conduct harassment training for managers throughout the Group and hold lectures delivered by outside lawyers in charge of handling reports made to the DOWA Consultation Desk. In addition, we strive to prevent workplace harassment by putting up posters in our offices and disseminating information through the Company intranet.

Enhancement of Compliance Training

In 2020, we developed and launched the Compliance Cafe, a site on the Company intranet aimed at communicating compliance-related information and raising employee awareness.

The site is updated as needed with case studies and video content of lawyers explaining relevant laws and regulations. We also promote other initiatives to raise awareness, such as distributing a monthly digital magazine within the Group.



Quality Assurance

Basic Approach

At the DOWA Group, we position quality as an important management standard for manufacturing. Major manufacturing plants have obtained ISO 9001 certification for our quality management systems, the international standard for such systems. We are committed to raising the quality of our products and services through the continued operation and improvement of our quality management systems. In addition, we formulated a new quality assurance policy in 2022 as part of our efforts to strengthen the quality assurance system of the entire Group.

Quality Assurance Policy

All employees at the DOWA Group will continue to strive to improve technology and quality together to provide good materials, products, and services; actively respond to customer needs; and contribute to enhancing society.

- 1 We aim to provide high-quality materials, products, and services to meet social demand and customer needs through active communication with customers.
- 2 We aim to improve quality and service, considering safety and the environment at all stages of the manufacturing process, from design and development to manufacturing and delivery.
- 3 We will provide quality that satisfies customers by establishing, maintaining, and continuously improving quality control and quality assurance mechanisms.
- 4 We will comply with laws and regulations in Japan and overseas and make sure to meet customers' requirements and implement contracts.
- 5 We will continue to develop human resources engaging in quality assurance and compliance and strive to enhance technology and the capabilities of human resources.

Quality Assurance Policy: <https://www.dowa-csr.jp/en/about/quality-assurance>

Quality Assurance System

The quality assurance system that we have built, which is headed by the president, allows us to provide an appropriate response to customer opinions and demands related to quality. In April 2021, we established the Quality Assurance Department at DOWA Holdings to further enhance our Groupwide quality risk management system. Regarding employee education, we have created a Companywide education system that includes governance and compliance training. In addition, we have introduced cross-sectional, quality-related education to quality assurance managers as well as quality-related compliance training to new employees. The Sustainability Committee, which was newly established in April 2022, brings together members from throughout the Group to discuss medium- to long-term risk management issues related to quality and to track the progress of measures implemented to respond to these issues.

Achievements and Targets

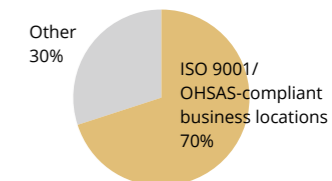
Key Measures	Indicators	Fiscal 2021 Results	Targets for Fiscal 2022 to Fiscal 2024
Creation of an ISO 9001- or OHSAS-compliant system	Compliance rate of business locations that create products	70%	80% (fiscal 2024)
Establishment of quality assurance education	Number of participants	105	350 total

Efforts to Enhance Our Quality Control System

The Group's major manufacturing plants have acquired ISO 9001 certification, the international standard for quality management systems, and maintain operations rooted in a PDCA (Plan-Do-Check-Act) cycle.

Under Midterm Plan 2024, we aim to build and operate ISO 9001- or OHSAS-compliant quality management systems at 80% of the Group's manufacturing sites by fiscal 2024, the final year of the plan.

ISO 9001/OHSAS Compliance Rate (As of March 31, 2022)



Materiality 8 Strengthening Corporate Governance

As the Group contributes to society, strengthening corporate governance is one of its priorities, thus it is making Groupwide efforts to establish effective internal control systems that are appropriately composed and managed, based on the DOWA Group's Corporate Mission, Vision, Values, and Code of Conduct.

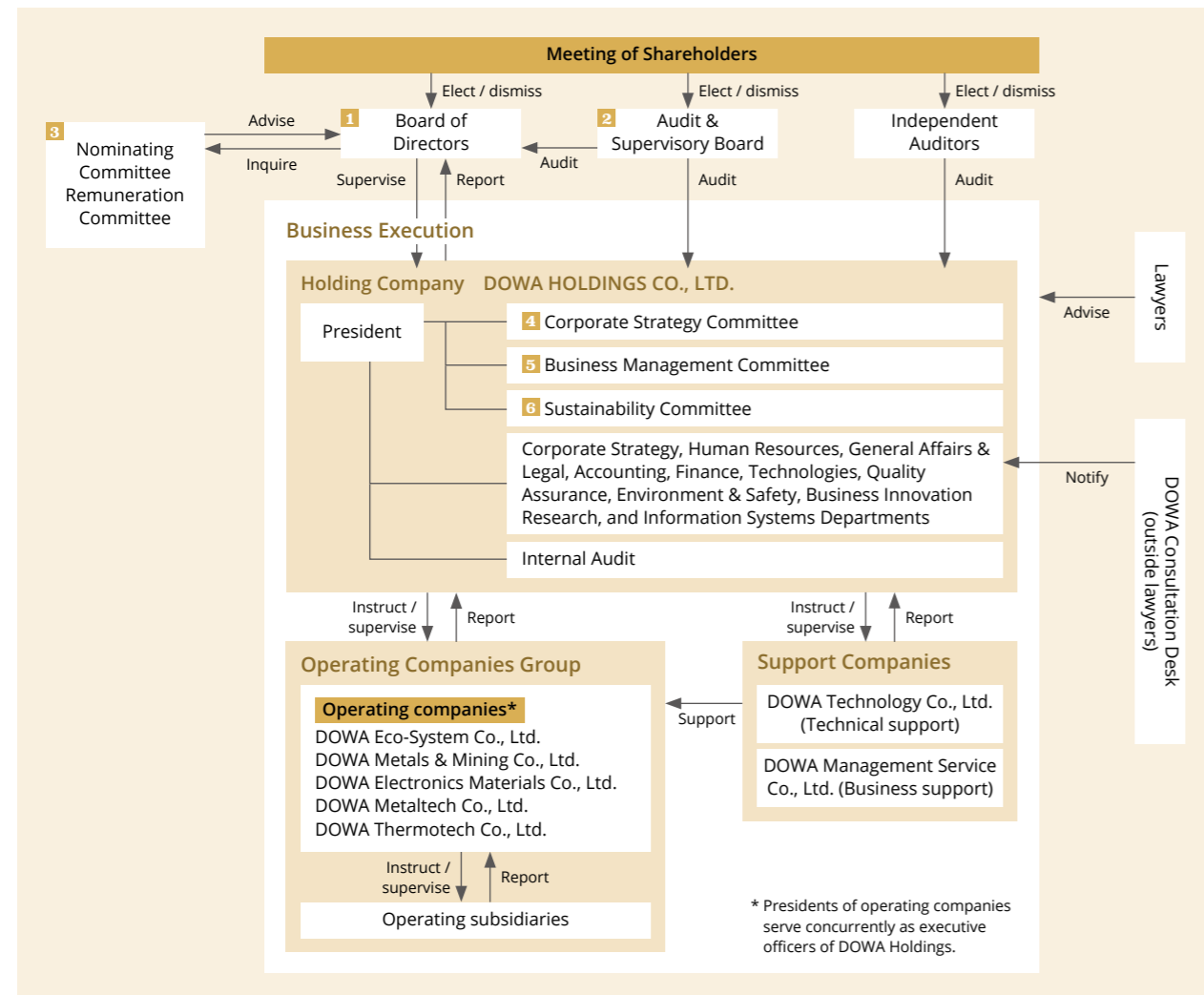
For disclosure based on Corporate Governance Code regulations, please see our Corporate Governance Report here: https://www.dowa.co.jp/en/about_dowa/governance.html (Japanese only).

Composition of the Board of Directors (As of June 25, 2022)

Name	Position	Area of Supervision	Date of Appointment	Number of Company Shares Held*	Number of Board of Directors' Meetings Attended (Number of Meetings Attended / Number of Meetings Held)	Remuneration Committee	Nominating Committee	Expertise and Experience of Directors									
								Corporate Management and Business Strategy	Global Mindset	Sales and Marketing	Research and Development and Production	Quality Assurance and Safety and Environment	Financial Affairs, Accounting, and Finance	Human Resources and Labor	Legal Affairs, Compliance, and Sustainability		
YAMADA Masao	Chairman and Representative Director	—	June 2009	4,985	16/16	—	—	●		●		●	●	●	●		
SEKIGUCHI Akira	President and Representative Director	—	June 2018	2,100	16/16	—	—	●	●	●			●	●	●		
TOBITA Minoru	Director	Quality Assurance and Environment & Safety	June 2021	1,241	12/12	—	—	●		●	●	●					
SUGAWARA Akira	Director	Technologies and Business Innovation Research	June 2021	2,635	12/12	—	—	●		●	●	●					
KATAGIRI Atsushi	Director	General Manager of Human Resources Dept. and responsible for General Affairs & Legal	Newly appointed	1,915	—	—	—	●		●			●	●	●		
HOSONO Hiroyuki	Director	General Manager of Corporate Strategy Dept., Sustainability Section, and Public Relations & Investor Relations Section and responsible for Accounting and Finance	Newly appointed	1,091	—	—	—	●	●	●			●				
HOSODA Eiji	Outside Director	Independent director	June 2010	0	12/12	○ (Committee Chairperson)	○ (Committee Chairperson)			●			●				●
KOIZUMI Yoshiko	Outside Director	Independent director	June 2015	0	16/16	○	○			●							●
SATO Kimio	Outside Director	Independent director	June 2021	0	12/12	○	○	●	●	●			●	●			

* Number of Company shares held as of April 30, 2022

The DOWA Group Corporate Governance Structure (As of June 25, 2022)



Organizational form	Company with an Audit & Supervisory Board								
Number of directors	9 (including 3 outside directors, all of whom are designated independent officers)								
Number of Audit & Supervisory Board members	4 (including 3 outside members on the Audit & Supervisory Board, all of whom are designated independent officers)								
<p>Ratio of Women on the Board of Directors</p> <p>Male 8, Female 1</p>									
<p>Ratio of Independent Officers on the Board of Directors</p> <p>Independent officers 3, Other 6</p>									
<p>Ratio of Independent Officers on the Audit & Supervisory Board</p> <p>Independent officers 3, Other 1</p>									
	Committee Chairperson	Total Members	Inside Directors	Outside Directors	Independent Outside Directors	Audit & Supervisory Board Members	Independent Outside Audit & Supervisory Board Members	Executive Officers	Other
1 Board of Directors	Chairman and representative director (YAMADA Masao)	20	6	3	(3)	4	(3)	In attendance	—
2 Audit & Supervisory Board	Full-time Audit & Supervisory Board member (KINOSHITA Hiroshi)	4	—	—	—	4	(3)	—	—
3 Nominating Committee and Remuneration Committee	Independent outside director (HOSODA Eiji)	5	—	3	(3)	1	(1)	—	1 outside expert
4 Corporate Strategy Committee	President and representative director (SEKIGUCHI Akira)	13	6	—	—	—	—	7	—
5 Business Management Committee	President and representative director (SEKIGUCHI Akira)	12	5	—	—	—	—	7	—
6 Sustainability Committee	President and representative director (SEKIGUCHI Akira)	21	5	—	—	—	—	7	Comprising persons in charge of subcommittees, working groups, etc., dedicated to each theme
	Role and Duties								Meeting Frequency
Nominating Committee	Provide objective assessments and advice to the Board of Directors regarding the important matter of appointing and dismissing management personnel								Once per year or more
Remuneration Committee	Provide the president with impartial assessments and advice regarding director remuneration based on objective factors such as the Group's consolidated performance, dividends paid to shareholders, and remuneration levels outside the Company								Once per year or more
Corporate Strategy Committee	<ul style="list-style-type: none"> Deliberate and make decisions on items of the utmost importance related to the medium- to long-term management strategy Submit items that require deliberation and resolution by the Board of Directors to the Board after deliberation within the committee 								Unfixed (six meetings in fiscal 2021)
Business Management Committee	<ul style="list-style-type: none"> Share updates on business activities (including monthly financial results) as reported by each operating company in order to exchange information regarding business conditions and to facilitate a timely response to changes Report important items to the Board of Directors 								Once a month
Sustainability Committee	<ul style="list-style-type: none"> Evaluate risks and opportunities that could significantly impact the Group's business strategies and deliberate on response policies, targets, and related matters Report risks and opportunities of particular importance to the Board of Directors 								Twice a year

Basic Approach

The DOWA Group and its constituent companies meet a broad range of social needs, based on the Group's Corporate Mission: "Contribute to creating an affluent, recycling-oriented society through our business activities worldwide." As the Group contributes to society, strengthening corporate governance is one of its priorities, thus it is making Groupwide efforts to establish effective internal control systems that are appropriately composed and managed, based on the DOWA Group's Corporate Mission, Vision, Values, and Code of Conduct.

The Company employs a holding company structure that enables it to have a deeper grasp of customer

needs at the ground level of the market and enables swift decisions to be made with authority. This structure also allows us to separate our core businesses into subsidiaries, which in turn facilitates more flexible and bolder management in accordance with the characteristics of each core business, and to allocate management resources to Group companies in an optimal manner, thereby working to maximize corporate value by realizing the sustainable growth of the Group.

The Company has also established an Audit & Supervisory Board and appoints outside directors to ensure sound management.

Efforts to Enhance Corporate Governance

	Board of Directors and Audit & Supervisory Board	Other
Fiscal 2000		Introduced executive officer system
Fiscal 2003	Reduced number of Board members from 20 to 15 and shortened directors' terms of office from two years to one	
Fiscal 2006	Reduced number of Board members from 15 to 13	Moved to a holding company structure
Fiscal 2007	Appointed one outside director	
Fiscal 2009		Abolished hostile takeover defense measure
Fiscal 2015	Appointed one female outside director and updated governance structure to include two outside directors	Revised internal control systems
Fiscal 2017	Introduced evaluation of Board of Directors' effectiveness	
Fiscal 2018	Verified decisions to continue or discontinue cross-shareholdings at Board meeting	
Fiscal 2019		Established Nominating Committee
Fiscal 2020	Conducted an evaluation of Board effectiveness utilizing an external organization	Established Internal Audit Department
Fiscal 2021	Appointed one outside director and updated governance structure to include three outside directors	
Fiscal 2022		Established Sustainability Committee

The Board of Directors

The Board of Directors consists of nine directors (eight men and one woman), including three outside directors, and its meetings are also attended by four Audit & Supervisory Board members, three of whom are outside Audit & Supervisory Board members. In fiscal 2021, the Board of Directors met 16 times, and the attendance rate of outside directors was 100%.

We believe that at meetings of the Board of Directors there is a lively exchange of opinions during the deliberation of each proposal and regarding the supervision of the execution of business and that decision-making and supervision are conducted effectively. In addition, outside directors and outside Audit & Supervisory Board members also contribute by meeting regularly to exchange opinions.

Evaluation of the Effectiveness of the Board of Directors

The Company conducts self-evaluations and analysis of the effectiveness of the Board of Directors every year with the aim of improving the functionality of the Board and, by extension, increasing corporate value. Self-evaluations and analysis were conducted via the method described below in accordance with advice received from an external organization.

In March 2022, the Company provided a questionnaire to all directors sitting on the Board and to Audit & Supervisory Board members who attended Board meetings. Responses were delivered directly to an external

organization, thereby assuring anonymity. An analysis, discussion, and evaluation took place at a regular Board of Directors' meeting in May 2022 based on said organization's report on the aggregated results. What follows is a summary of these results.

Overall Evaluation

- The Board of Directors was evaluated positively in terms of the frequency and operation of Board meetings and in terms of its ratio of inside and outside directors, all of which ensure its effectiveness.

Notable Improvements

- There was a certain level of improvement regarding three issues raised in the previous evaluation, namely the need for further acquisition of knowledge, further improvement of communication between inside directors and outside directors, and the securing of time for reviewing agenda items.

Issues

- Some respondents expressed the need for continued efforts to improve Companywide risk assessment methods and to remedy issues related to dialogues with stakeholders.
- There was also a call to reinvigorate discussions on sustainability and to improve the functionality of the Board of Directors further.

The Board of Directors will continue to work toward enhancing its functionality by giving thorough consideration and executing a response to the issues brought forth by this evaluation of its effectiveness.

The Audit & Supervisory Board

The Audit & Supervisory Board comprises four members, also regarded as corporate auditors, one of whom has accounting and financial knowledge from working in the banking industry. In accordance with the audit policies and audit plans for the term stipulated by the Audit & Supervisory Board, members attend Board of Directors' meetings and other important meetings and audit the execution of directors' duties, such as reviewing status

reports on such tasks from directors. They also monitor the independence of the independent accounting auditors and work with them to explain the audit plans of the independent accounting auditor and report audit findings.

There were 15 meetings of the Audit & Supervisory Board in fiscal 2021, with full attendance for all meetings.

Composition of the Audit & Supervisory Board (As of June 25, 2022)

Name	Position	Date of Appointment	Important Positions Held Concurrently at Other Organizations
KINOSHITA Hiroshi	Corporate Auditor (Full-Time)	June 2020	—
FUKUZAWA Hajime	Corporate Auditor (Full-Time)	June 2021	—
TAKEDA Jin	Outside Corporate Auditor (Part-Time)	June 2011	Attorney, Audit & Supervisory Board member of Japan Aviation Electronics Industry, Ltd.
EGAWA Shigeru	Outside Corporate Auditor (Part-Time)	June 2019	Audit & Supervisory Board member of Fujita Kanko Inc.

Remuneration for Directors and Audit & Supervisory Board Members

Basic Policy

The system of remuneration for directors has been designed with input from the Remuneration Committee and is based on objective factors such as the Group's consolidated performance, the stock price of the Company, and remuneration levels outside the Company. Remuneration comprises basic remuneration, which is a fixed amount; performance-based remuneration, which takes into account the Group's consolidated performance; and restricted stock remuneration. This system does not apply to outside directors, however, as they take on a supervisory role from an independent and objective perspective. Therefore, they are ineligible for any remuneration based on individual performance. The aforementioned Remuneration Committee is a voluntary committee that meets at least once a year, with the majority of its members coming from outside the Company as outside directors or outside experts.

Policy for Determining Amounts for Individual Basic Remuneration

Basic remuneration for directors is fixed remuneration paid monthly according to each director's position and results. It is determined after a comprehensive examination that accounts for Company performance, remuneration levels at other companies, and employee salary levels.

Policy for Determining the Contents and Calculation Method for Performance-Based Remuneration

Performance-based remuneration is provided as a monetary payment paid at a certain time every year. The amount paid as performance-based remuneration is determined by using ordinary income as a baseline, which is then adjusted to reflect individual performance. The purpose of using ordinary income as an indicator for calculating performance-based remuneration is to link company profits to remuneration and thereby motivate directors to contribute to business growth.

Policy for Determining the Contents and Calculation Method for Restricted Stock Remuneration

Restricted stock remuneration shall be provided by

granting monetary compensation claims to eligible directors based on a Board of Directors' resolution. The directors will then pay these claims to the Company as a contribution in kind to receive shares of the Company's common stock with restrictions on the transfer of these shares until retirement or resignation. The amount of each monetary compensation claim is determined according to the specific role of each director, and the amount to be paid per share is determined to be the closing share price of the Company's common stock on the Tokyo Stock Exchange on the business day immediately preceding the date of the Board of Directors' meeting in which a resolution will be made on the issuance or disposal of shares. The purpose of the restricted stock remuneration plan is to give eligible directors a medium- to long-term incentive to work toward the sustained improvement of the Company's corporate value and to give shareholders and these directors a shared sense of value.

Policy for Determining the Ratio between Basic Remuneration, Performance-Based Remuneration, and Restricted Stock Remuneration

The Remuneration Committee examines the ratio between individual basic remuneration, performance-based remuneration, and restricted stock remuneration using companies of a similar scale as well as companies in related industries and with analogous business formats as benchmarks. The president and representative director then decides upon this ratio after giving proper consideration to the Remuneration Committee's findings.

Determination of Remuneration for Individual Directors

The president and representative director is entrusted with determining remuneration for each director and does so after evaluating a director's achievements and performance. When exercising this authority, the president and representative director is to adhere to the process examined, reported, and determined by the Remuneration Committee, in order to ensure remuneration is in line with the restricted stock compensation plan and that remuneration levels are determined objectively and set at appropriate amounts.

Total Remuneration for Directors and Audit & Supervisory Board Members with Subtotals for Each Type of Remuneration and Numbers of Recipients

Classification	Total Remuneration Paid (Millions of Yen)	Remuneration Paid by Type (Millions of Yen)			Recipients (People)
		Fixed Basic Remuneration	Performance-Based Remuneration	Retirement Bonuses	
Directors*1	393	243	149	—	8
Audit & Supervisory Board members*2	26	26	—	—	1
Outside directors and outside Audit & Supervisory Board members	78	66	11	—	7

*1 Excluding outside directors

*2 Excluding outside Audit & Supervisory Board members

Adoption of a Restricted Stock Remuneration Plan

On May 13, 2022, the Board of Directors of the Company passed a resolution to adopt a restricted stock remuneration plan for eligible directors (members of the Board of Directors who are not outside directors) and executive officers to incentivize them to improve the Company's corporate value in a sustainable manner while increasing the value they share with shareholders. At the 119th

Annual General Meeting of Shareholders, held June 24, 2022, the total amount of monetary compensation claims paid to the eligible directors to grant shares based on the plan was set at within ¥100 million per year, with the total number of common shares issued to be within 44,000 shares per year.

Cross-Shareholdings

The Company's cross-shareholdings serve as a means to maintain and strengthen ties with business partners and form solid relationships of trust with issuing companies, which in turn lead to improved corporate value. With regard to each individual issuance of major shares held, the Company makes comprehensive judgments on the worthwhileness of continued possession based on whether each shareholding fulfills its intended purpose and whether the benefits and risks of such possession are commensurate with the capital cost. The substance

of these judgments is routinely examined by the Board of Directors. If it is determined that continued possession of a cross-shareholding will not improve corporate value, the Company will gradually sell off the shareholding, taking into consideration market impact.

In fiscal 2021, decisions to continue or discontinue holdings of all listed shares under possession were validated by the Board of Directors during a meeting held on December 10, 2021. As a result, the Company sold all shares of one issuing company.

Internal Control Systems

In accordance with the DOWA Group's Corporate Mission, Vision, Values, and Code of Conduct, the Group has made a collective effort to design and operate effective and efficient internal controls to contribute to society, maximize corporate value, and carry out the responsibilities of management entrusted to us by our shareholders.

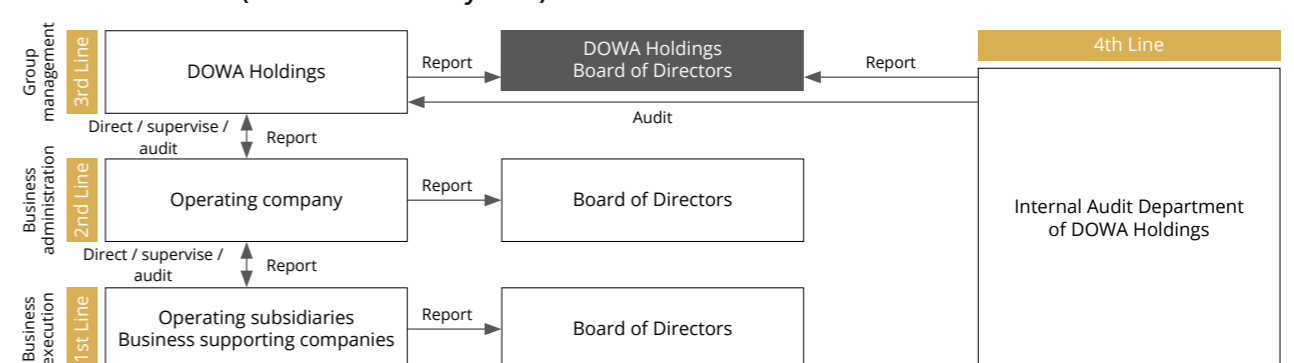
In response, the Company has adopted a holding company structure. While this raises the level of specialization of each business group and the speed at which policies can be executed, it also carries the risk that internal control systems will become localized and overall governance will suffer.

To mitigate this risk and ensure internal control as a Group, we have shared our basic policy regarding

internal control with each Group company and have developed the Four Lines Model, a model of internal control that works effectively within the holding company structure. Each line within the Four Lines Model plays a specific role in internal control. Under this model, the first line focuses on business execution, the second line focuses on business administration, the third line focuses on Group management, and the fourth line focuses on evaluating the Group's internal control as a whole.

Internal control systems must continuously be revised in line with changes in business activities and the social environment, so we are working to further strengthen these systems.

Four Lines Model (Internal Control System)



Board of Directors and Officers (As of June 25, 2022)

Chairman and Representative Director



YAMADA Masao

Apr. 1978 Joined the Company
 Jun. 2003 Executive Officer
 Apr. 2005 Executive Officer, President of Environmental Management & Recycling Company
 Oct. 2006 Executive Officer, President and Representative Director of Dowa Eco-System Co., Ltd.
 Apr. 2008 President and Representative Director of Kosaka Smelting & Refining Co., Ltd.; Director of Dowa Metals & Mining Co., Ltd.
 Jun. 2009 President and Representative Director
 Jun. 2018 Chairman and Representative Director (current position)
 Mar. 2019 Outside Director of Fujita Kanko Inc. (current position)
 Jun. 2019 Outside Director of CK SAN-ETSU Co., Ltd. (current position)

President and Representative Director



SEKIGUCHI Akira

Apr. 1983 Joined the Company
 Oct. 2006 Director of Dowa Metals & Mining Co., Ltd.
 Apr. 2011 President and Representative Director of Kosaka Smelting & Refining Co., Ltd.
 Apr. 2013 Executive Officer, President and Representative Director of Dowa Metals & Mining Co., Ltd.
 Apr. 2018 Chairman of Japan Mining Industry Association (until March 2019)
 Jun. 2018 President and Representative Director (current position)

Outside Directors

* Independent Officer



HOSODA Eiji*

Vice-President, Tokai University

Apr. 1994 Professor at Faculty of Economics, Keio University (until March 2019)
 Jul. 2001 Dean of Faculty of Economics, Keio University (until September 2005)
 Jan. 2009 Special Council Member of Central Environment Council, Ministry of the Environment (until January 2011)
 Apr. 2009 Expert Council Member of the Regulatory Reform Council, Cabinet Office (until March 2010)
 Dec. 2009 Special Council Member of Industrial Structure Council, Ministry of Economy, Trade and Industry (until January 2016)
 Jun. 2010 Director of the Company (current position)
 Jan. 2011 Council Member of Central Environmental Council, Ministry of the Environment (until January 2021)
 Mar. 2017 Representative Director of Japan Foundation for Advanced Auto Recycling (until June 2020)
 Apr. 2019 Professor at Faculty of Business Administration and Information Science, Chubu University (until March 2022)
 Apr. 2020 Dean of Faculty of Business Administration and Information Science, Chubu University (until March 2022)
 Apr. 2021 Vice-President, Chubu University (until March 2022)
 Apr. 2022 Executive Advisor for Academic Affairs, Chubu University (current position)
 Apr. 2022 Vice Chancellor for Humanities and Social Science, Professor, School of Political Science and Economics, Department of Economics, Tokai University (current position)

Directors



TOBITA Minoru

Apr. 1984 Joined the Company
 Apr. 2011 Senior Managing Director of Eco-System Chiba Co., Ltd.
 Apr. 2013 Director and General Manager of Waste Management Business Unit, Dowa Eco-System Co., Ltd.
 Apr. 2017 Executive Officer, President and Representative Director of Dowa Eco-System Co., Ltd.
 Apr. 2021 Executive Officer, responsible for Quality Assurance and Environment & Safety
 Jun. 2021 Director (current position)
 Director of Dowa Eco-System Co., Ltd. (current position)
 Director of Dowa Thermotech Co., Ltd. (current position)



SUGAWARA Akira

Apr. 1984 Joined the Company
 Jun. 1999 General Manager of Metallic Materials Laboratory
 Apr. 2004 General Manager of Shiojiri Factory, Metal Processing Business Unit, Electronics & Metal Processing Company
 Apr. 2006 General Manager of Metallic Materials Laboratory, Metal Processing Company
 Oct. 2006 Director and General Manager of Metallic Materials Laboratory, Dowa Metaltech Co., Ltd.
 Apr. 2013 Director and General Manager of Metal Processing Business Unit, Dowa Metaltech Co., Ltd.
 Apr. 2016 Executive Officer, President and Representative Director of Dowa Metaltech Co., Ltd.
 Apr. 2021 Executive Officer, responsible for Technologies and Business Innovation Research
 Jun. 2021 Director (current position)
 Director of DOWA Electronics Materials Co., Ltd. (current position)
 Director of Dowa Metaltech Co., Ltd. (current position)
 Director of Dowa Technology Co., Ltd. (current position)



KOIZUMI Yoshiko*

Attorney
 Partner of City-Yuwa Partners

Apr. 1972 Registered as an Attorney
 May 2000 Chair of Women Business Lawyers Committee, Inter-Pacific Bar Association (until May 2002)
 Apr. 2009 Partner of City-Yuwa Partners (current position)
 Oct. 2012 Deputy Chair of Government Procurement Review Board (until October 2014)
 Apr. 2013 Director of Japan Bar Association (current position)
 Jun. 2015 Director of the Company (current position)
 Jun. 2015 Outside Director of Taiheiyō Cement Corporation (current position)
 Jun. 2016 Outside Audit & Supervisory Board Member of Sumitomo Bakelite Co., Ltd. (until Jun. 2019)
 Sep. 2017 Outside Audit & Supervisory Board Member of Nippon Koei Co., Ltd. (current position)



KATAGIRI Atsushi

Apr. 1985 Joined the Company
 Mar. 2007 General Manager of Zinc Business Unit, Dowa Metals & Mining Co., Ltd.
 Apr. 2008 Director and General Manager of Zinc Business Unit, Dowa Metals & Mining Co., Ltd.
 Apr. 2011 Director and General Manager of Strategic Planning Dept., Dowa Metals & Mining Co., Ltd.
 Apr. 2018 General Manager of Human Resources Dept. and Personnel Training & Education Dept.
 Apr. 2021 Executive Officer and General Manager of Human Resources Dept. (current position)
 Jun. 2022 Director (current position)
 Director of Dowa Metals & Mining Co., Ltd. (current position)
 Director of Dowa Management Service Co., Ltd. (current position)



HOSONO Hiroyuki

Jul. 1991 Joined the Company
 Jun. 2008 Director of DOWA-Olin Metal Corporation
 Apr. 2012 President and Representative Director of DOWA-Olin Metal Corporation
 Apr. 2016 Director and General Manager of Management & Strategic Planning Dept., Dowa Metaltech Co., Ltd.
 Apr. 2018 General Manager of Strategic Planning Dept. and Public Relations Dept.
 Apr. 2018 Director of DOWA Electronics Materials Co., Ltd. (current position)
 Director of Dowa Metaltech Co., Ltd. (current position)
 Apr. 2021 Executive Officer and General Manager of Corporate Strategy Dept., Sustainability Sec. and Public Relations & Investor Relations Sec. (current position)
 Jun. 2022 Director (current position)



SATO Kimio*

Honorary Senior Corporate Adviser of Nittetsu Mining Co., Ltd.

Apr. 1981 Joined Nittetsu Mining Co., Ltd.
 Jun. 2007 Kyushu Branch Office General Manager
 Jun. 2010 Limestone & Raw Materials Sales Department Manager
 Jun. 2011 Director, in charge of Non-Ferrous Metal & Ore Department and Limestone & Raw Materials Sales Department Manager
 Jun. 2012 Managing Director, in charge of General Accounting Department, Limestone & Raw Materials Sales Department, and Non-Ferrous Metal & Ore Department
 Jun. 2013 Director and Vice President
 Apr. 2015 Representative Director and President
 May 2019 Director
 Jun. 2019 Senior Corporate Adviser
 Mar. 2021 Honorary Senior Corporate Adviser (current position)
 Jun. 2021 Director of the Company (current position)

Audit & Supervisory Board Members

* Independent Officer



KINOSHITA Hiroshi
Corporate Auditor (Full-Time)

Apr. 1983 Joined the Company
Apr. 2011 Director of Kosaka Smelting & Refining Co., Ltd.
Oct. 2016 Vancouver Office Director of Resource Development & Raw Materials Dept. of Dowa Metals & Mining Co., Ltd.
Jun. 2020 Audit & Supervisory Board Member (current position)



FUKUZAWA Hajime*
Corporate Auditor (Full-Time)

Apr. 1983 Joined the Industrial Bank of Japan, Limited (currently Mizuho Bank, Ltd.)
Apr. 2008 General Manager of Americas Division
Apr. 2011 Executive Officer, General Manager of Administration Division (until March 2012)
Apr. 2012 Managing Director of DIAM Co., Ltd. (until September 2016)
Oct. 2016 Managing Executive Officer of Asset Management One Co., Ltd. (until March 2018)
Apr. 2018 Managing Executive Officer of Hodogaya Chemical Co., Ltd. (until March 2021)
Jun. 2021 Outside Audit & Supervisory Board Member (current position)



TAKEDA Jin*
Outside Corporate Auditor (Part-Time)
Attorney
Counsel of Marunouchi Sogo Law Office

Apr. 1986 Registered as an Attorney
Apr. 1986 Joined Marunouchi Sogo Law Office
Jul. 1996 Partner of Marunouchi Sogo Law Office (until December 2020)
Jun. 2011 Audit & Supervisory Board Member (current position)
Jun. 2013 Outside Audit & Supervisory Board Member of Sanken Electric Co., Ltd. (until Jun. 2017)
Apr. 2014 Executive Governor of Japan Federation of Bar Associations (until Mar. 2015)
Apr. 2014 Vice Chairman, Daini Tokyo Bar Association (until Mar. 2015)
Jun. 2018 Outside Audit & Supervisory Board Member of Japan Aviation Electronics Industry Ltd. (current position)
Jan. 2021 Counsel of Marunouchi Sogo Law Office (current position)



EGAWA Shigeru*
Outside Corporate Auditor (Part-Time)
Audit & Supervisory Board member of Fujita Kanko Inc.

Apr. 1981 Joined Fujita Kanko Inc.
Aug. 2001 General Affairs Manager of Tokyo Bay Ariake Washington Hotel
Apr. 2004 Leader of Finance Group of Tokyo BPS
Jan. 2009 General Manager of Legal and General Affairs Department, Management Division of Fujita Kanko Inc.
Mar. 2015 Representative Director and President of Fairton Corporation
Mar. 2019 Audit & Supervisory Board Member of Fujita Kanko Inc. (current position)
Jun. 2019 Audit & Supervisory Board Member (current position)

Officers



YANAI Yasuharu
Executive Officer
President and Representative Director, Dowa Eco-System Co., Ltd.



SUYAMA Toshiaki
Executive Officer
President and Representative Director, Dowa Metals & Mining Co., Ltd.



SUZUKI Koji
Executive Officer
President and Representative Director, Dowa Electronics Materials Co., Ltd.



ONIOH Takashi
Executive Officer
President and Representative Director, Dowa Metaltech Co., Ltd.



YAMADA Kiyoshi
Executive Officer
President and Representative Director, Dowa Thermotech Co., Ltd.



INOMATA Hiroto
Executive Officer
President and Representative Director, Dowa Technology Co., Ltd.



WAKABAYASHI Eiichi
Executive Officer
President and Representative Director, Dowa Management Service Co., Ltd.

Messages from Outside Directors



HOSODA Eiji
Vice-President,
Tokai University

In the new capitalist economy of the future, companies will need to heighten their ability to help society while also increasing profitability through their regular business activities. The biggest questions for DOWA in this regard are how it can leverage its technological capabilities to involve society in one of its specialties—namely, the advanced and cyclical use of resources—and how it can demonstrate its leadership in this new economy. The Company has established the DOWA Group's Vision, to “contribute continuously to building a sustainable future through our core businesses, the promotion of resource recycling, and the provision of excellent materials and technologies.” This vision maps out a clear path for DOWA to take going forward, setting goals that can be achieved by combining the unique technological capabilities and economic capabilities the Group has built up over time. By moving in this direction, DOWA will put itself in a position where it can leverage efforts aimed at creating value every day to achieve both private and public interests in a very natural way. Simply put, in this new capitalist economy, DOWA should position itself to be a leader in the advanced and cyclical use of resources.



KOIZUMI Yoshiko
Attorney
Partner of City-Yuwa Partners

DOWA's corporate culture is deeply rooted in the steady, prudent, and thorough consideration of each project. This is not something that DOWA developed overnight; it is something cultivated over a more than 130-year history. The Company also deserves praise for building a system of management that can adapt to change. One of the ways it does that is by analyzing country-specific and other risks based on various factors, including global trends, and then formulating flexible risk avoidance measures. As for sustainability, I am particularly focused on DOWA's efforts to enhance its human capital. For a company that is so involved with Mother Earth, it comes as a surprise that there are so few female executives at DOWA. Although DOWA has implemented measures under Midterm Plan 2024 aimed at increasing the number of women hired as new graduates, I hope that further consideration will be given to employing people based on their ingenuity as well as people who the Company is trying to target with its hiring practices. That being said, I have great expectations for the Sustainability Committee, which the Company established in April 2022, and the role it will play.



SATO Kimio
Honorary Senior Corporate
Adviser of
Nittetsu Mining Co., Ltd.

A little over a year has passed since I was appointed as an outside director of DOWA. My impression of the Company in terms of governance is that, under the holding company system, the operating companies have a certain degree of responsibility and authority to make decisions quickly and operate flexibly, which helps improve the corporate value of the entire DOWA Group. Also notable is the timely manner in which the Company reviews its internal control system and the subsequent effort to expand and further develop that system. I believe that DOWA would do well to ensure that its governance system takes advantage of these points. In order to strengthen the functions of the Board of Directors, I have been focusing on whether the Company's decision-making on important issues is both rational and based on free and open discussion that takes advantage of each director's expert knowledge. That said, these proceedings are conducted smoothly and openly, and no particular problems arise. Going forward, I intend to keep an eye on how DOWA promotes risk management, which is identified in the DOWA Group's Materiality.

Materiality 9 Driving Digital Transformation (Data Utilization)



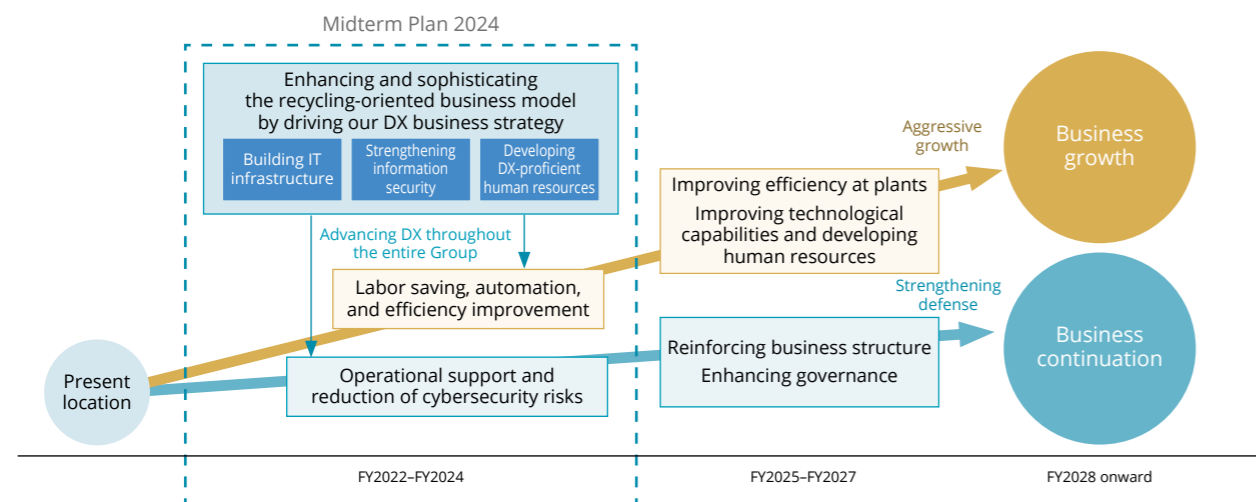
Basic Approach

The Dowa Group recognizes that it is essential to promote data utilization through the use of digital technologies, including artificial intelligence (AI) and the Internet of Things (IoT), in order to transform manufacturing, the foundation of the Dowa Group's business, and to evolve its operations and business activities. Based on this recognition, the Group formed a project team to promote digital transformation (DX) in fiscal 2021, and has been proceeding with Groupwide efforts to prepare for the promotion of DX.

From fiscal 2022 onward, we will promote DX by building IT infrastructure, strengthening information security, and developing DX-proficient human resources in accordance with our DX Basic Policy: Manufacturing Transformation (DOWA Transformation).

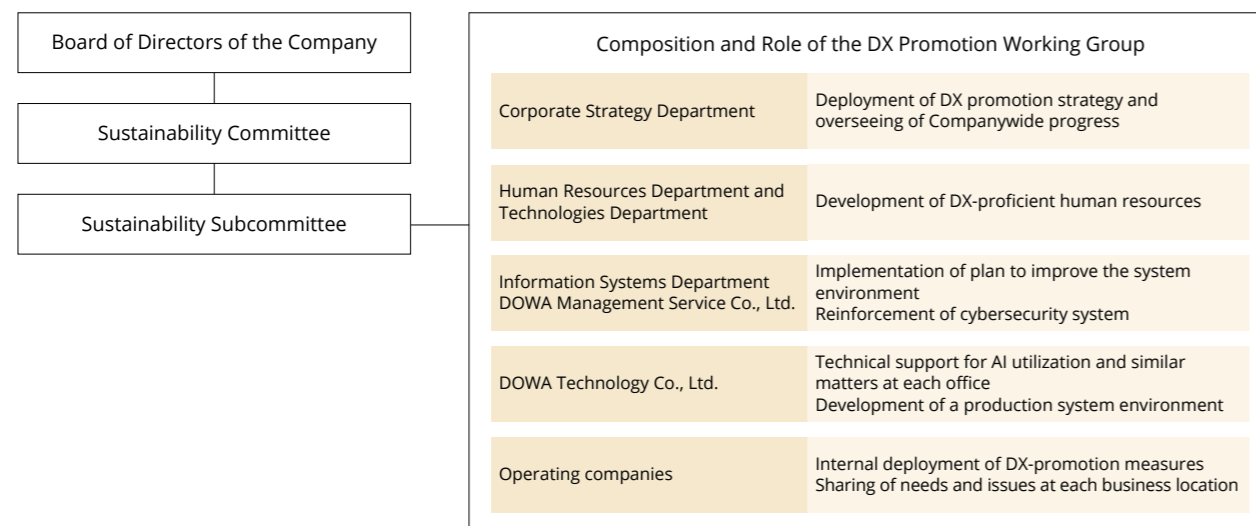
DX Basic Policy: Manufacturing Transformation (DOWA Transformation)

The DOWA Group will accelerate and sophisticate data utilization with digital technologies to become more adaptable, thus strengthening its main business of resource recycling and improving its ability to provide superior materials and technologies.



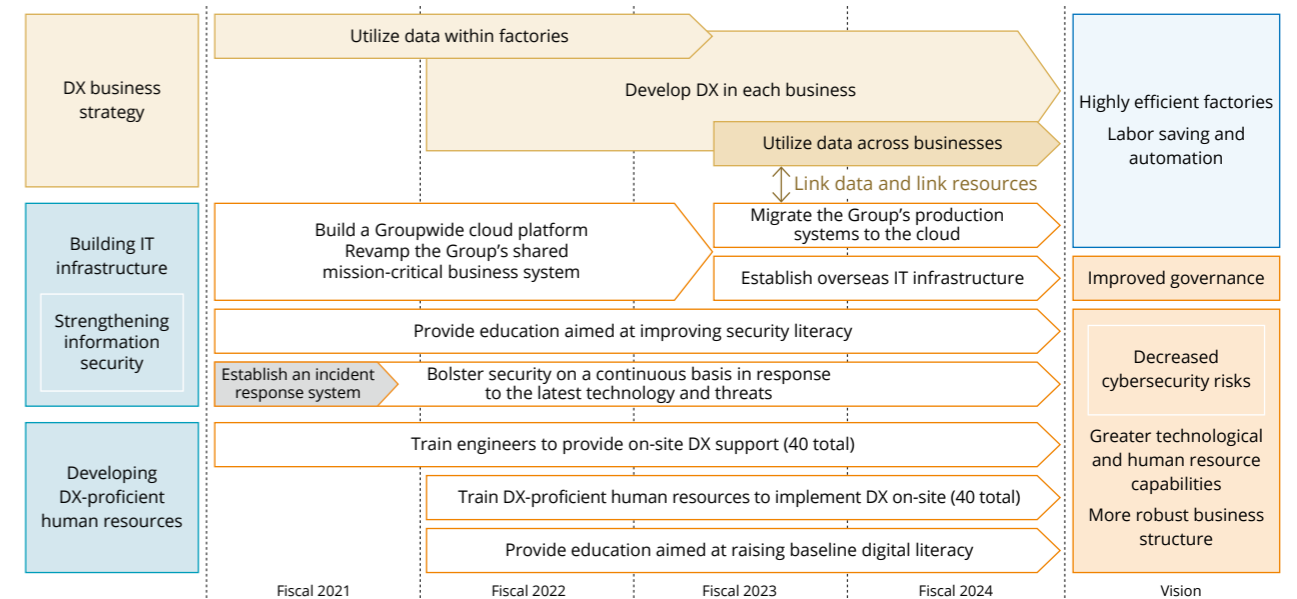
Promotion Structure

In April 2022, we formed the DX Promotion Working Group under the Sustainability Subcommittee. The DX Promotion Working Group sets targets for AI, the IoT, and other DX-related improvements; checks the needs, issues, and progress of DX projects underway at each operating site; and offers support by providing resources and through other means.



DX Promotion under Midterm Plan 2024

Under Midterm Plan 2024, we will promote three key measures aimed at driving our Groupwide DX business strategy—building IT infrastructure, strengthening information security, and developing DX-proficient human resources. From the second half of fiscal 2023, we will start operation of a Groupwide cloud infrastructure that will serve as the basis for a full-scale DX rollout. Once this platform is established, we will take advantage of it to utilize data across businesses and coordinate data between different processes.



Achievements and Targets

Key Measures	Indicators	Fiscal 2021 Results	Targets for Fiscal 2022 to Fiscal 2024
Build IT infrastructure	Operation of a Groupwide cloud platform	Development in progress	Start operation in the second half of fiscal 2023
Develop DX-proficient human resources	Number of personnel trained	14	80 total

Building IT Infrastructure

In fiscal 2021, we began the development of a new IT infrastructure that will enable the use of data across the Group. We intend to use this infrastructure to establish a Groupwide mission-critical business system as well as production systems for each business, which we will integrate with one another. This will make it easy to link both data and resources throughout the Group and utilize data at each production site in a more sophisticated manner. We plan to use this infrastructure to start operation of a Groupwide cloud platform and a Groupwide mission-critical business system in the second half of fiscal 2023.

Developing DX-Proficient Human Resources

Starting in fiscal 2022, we are holding training on the topics of introducing DX and DX fundamentals with the goal of raising the Group's baseline digital literacy. In addition, we will train 40 personnel who will be tasked with promoting DX at each business location and 40 engineers who will support this promotion from the technical side, for a total of 80 people.

Acquisition of DX Certification

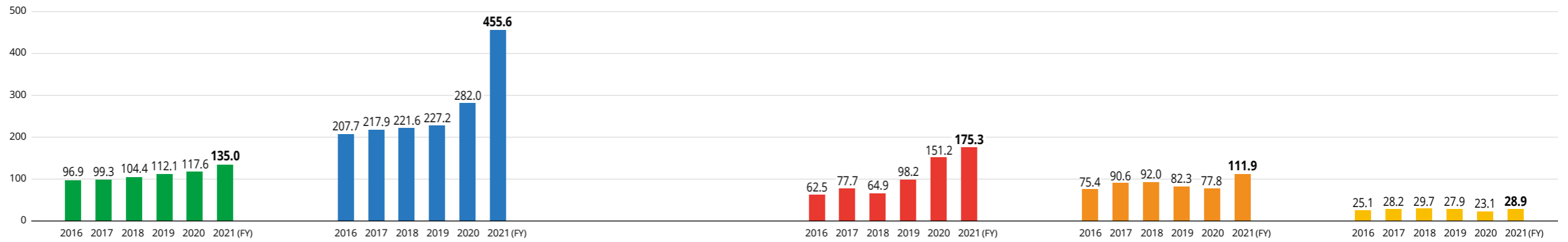
In July 2022, the Company was recognized as a DX-certified operator by the Ministry of Economy, Trade and Industry. The DX Certification initiative is a government-sponsored initiative that grants certification to businesses ready to promote DX in accordance with the requirements specified in the Digital Governance Code formulated by the Ministry of Economy, Trade and Industry.



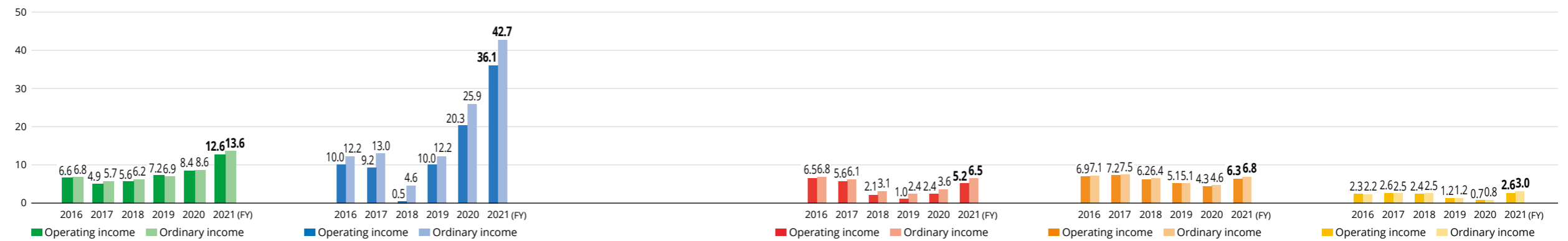
Results by Segment



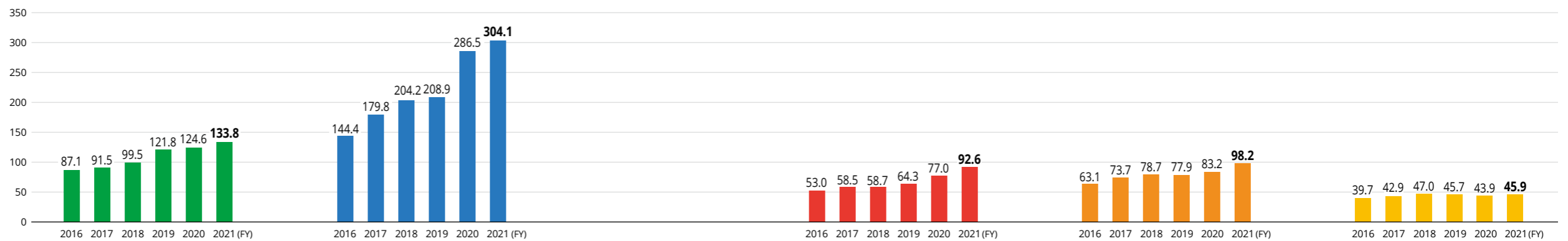
Net Sales
(Billions of yen)



Operating Income /
Ordinary Income
(Billions of yen)

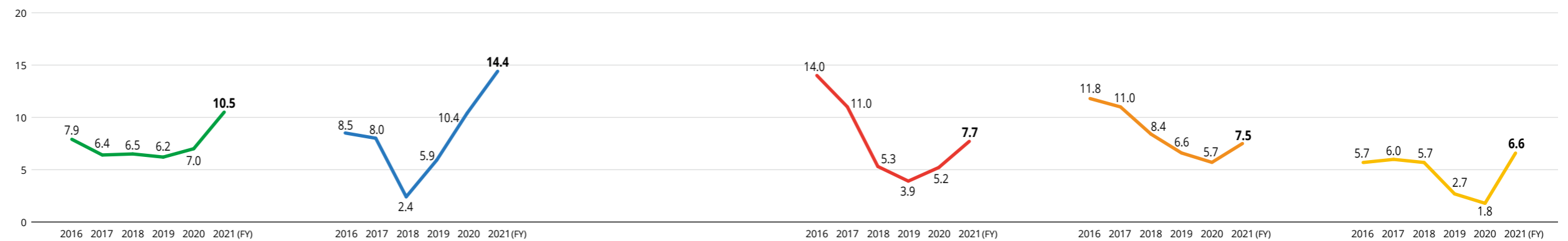


Total Assets
(Billions of yen)



ROA*
(%)

* Ordinary income divided by the average of total assets at the beginning and end of the fiscal year

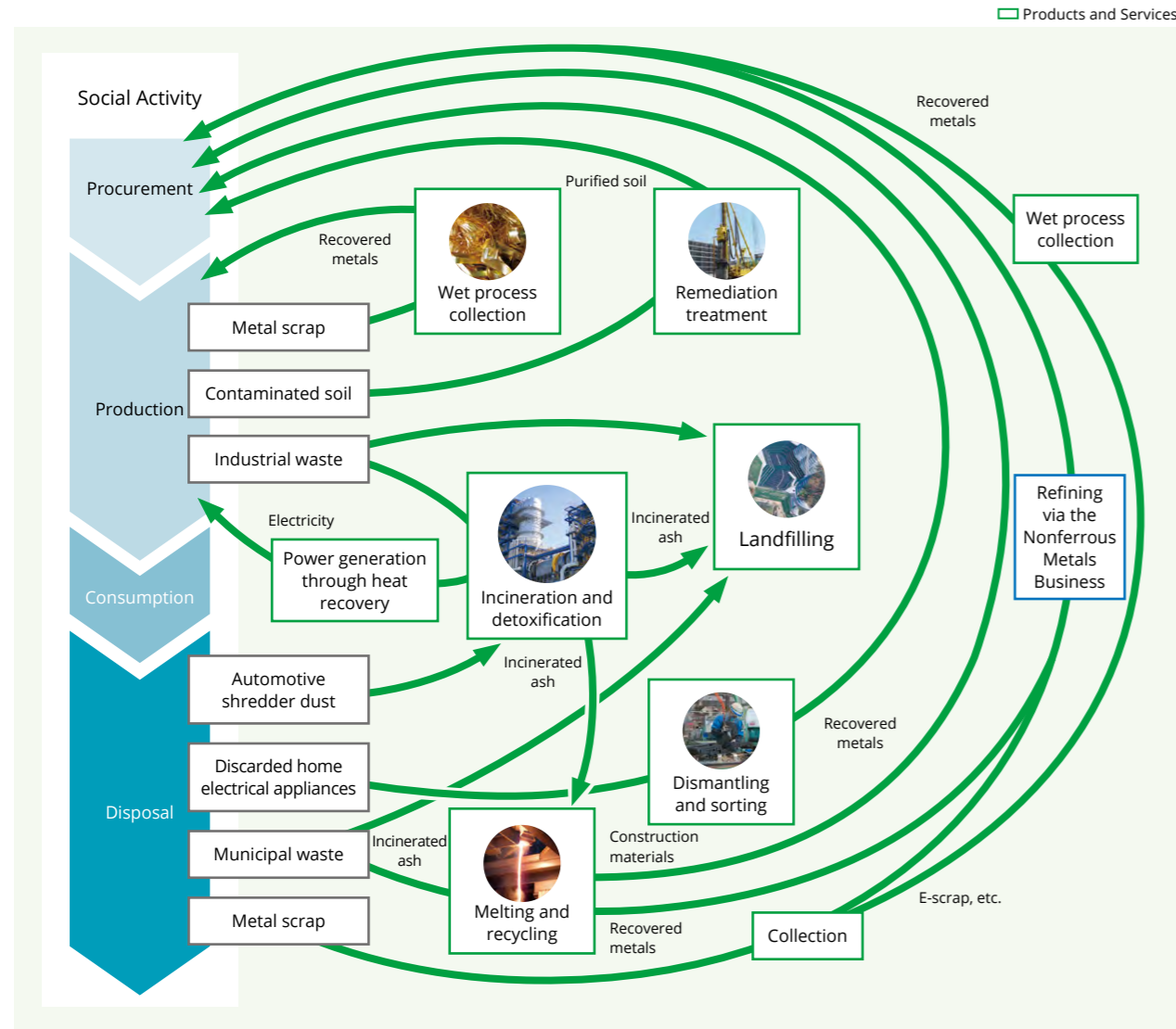


Environmental Management & Recycling Business

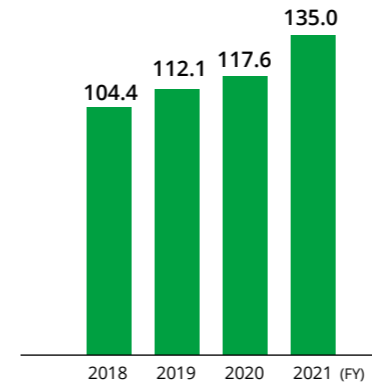
Contribute to building a safe, secure future by continuing to create solutions with high customer satisfaction as Asia's top runner in the environmental management field

Main Products and Services	<p>Waste treatment: incineration of industrial waste / melting and recycling of incinerated ash</p> <p>Soil remediation: surveys and remediation of soil / landfilling of waste / environmental consulting</p> <p>Recycling: recycling of metal / recycling of discarded household appliances / treatment of automotive shredder dust</p> <p>Southeast Asia: landfilling and incineration of waste / recycling of metal and waste</p>
Advantages	<ul style="list-style-type: none"> ● Integrated in-house treatment capabilities encompassing the collection and transport of waste through to its incineration and landfilling ● One of the largest waste incineration capacities in Japan ● Provision of comprehensive environmental solutions to clients ● Operation of a waste treatment business in four Southeast Asian countries

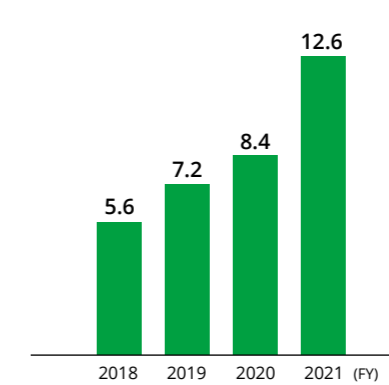
Treatment and Recycling Flow for Waste, Metal Scrap, and Other Materials



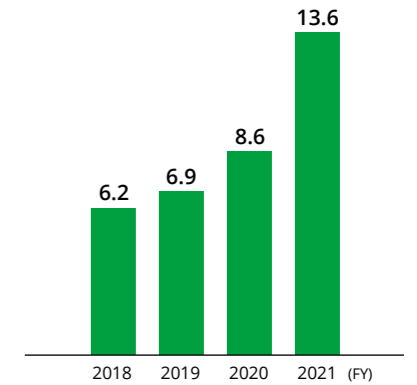
Net Sales
(Billions of yen)



Operating Income
(Billions of yen)



Ordinary Income
(Billions of yen)



Fiscal 2021 in Review

In the waste treatment business, we were able to increase the volume of waste treated through incineration, melting, and recycling, which are our main methods of treatment. Another contributor to earnings was the recycling of nonburnable waste, a business that we commenced in the second half of fiscal 2020. In the recycling business, we maintained a high level of operation against the backdrop of strong demand for recycling home appliances at each of our recycling bases. In the Southeast Asia business, orders for waste treatment in Indonesia, Thailand, and Singapore saw steady increases.



YANAI Yasuharu
Executive Officer
President and Representative Director,
Dowa Eco-System Co., Ltd.

Business Conditions

The domestic waste treatment market is expected to remain stable going forward, and the waste treatment market in Southeast Asia is projected to expand as the region's economies continue to grow. In the recycling market, we anticipate greater demand for recycled metals from spent lithium-ion batteries as demand grows for electric vehicles (EVs) and resource depletion becomes an increasingly serious social issue. We see these developments as great opportunities for DOWA, which has the technology to recover valuable metals efficiently and to properly treat the hazardous substances contained in each product.

Future Initiatives

As Asia's top runner in the environmental field, we will continue working to reinforce each business. In the waste treatment business, we will expand the treatment of difficult-to-process waste. In the Southeast Asia business, we will capture the burgeoning market by launching a second base in Indonesia, expanding incineration and detoxification treatment, and taking other initiatives. Regarding the recycling business for spent lithium-ion batteries, we will work to improve metal recovery technology while building up the business in preparation for full-scale operations in the next few years. As we conduct these efforts, we will also take steps to expand the volumes handled by each of our businesses.



Second base in Indonesia (under construction)

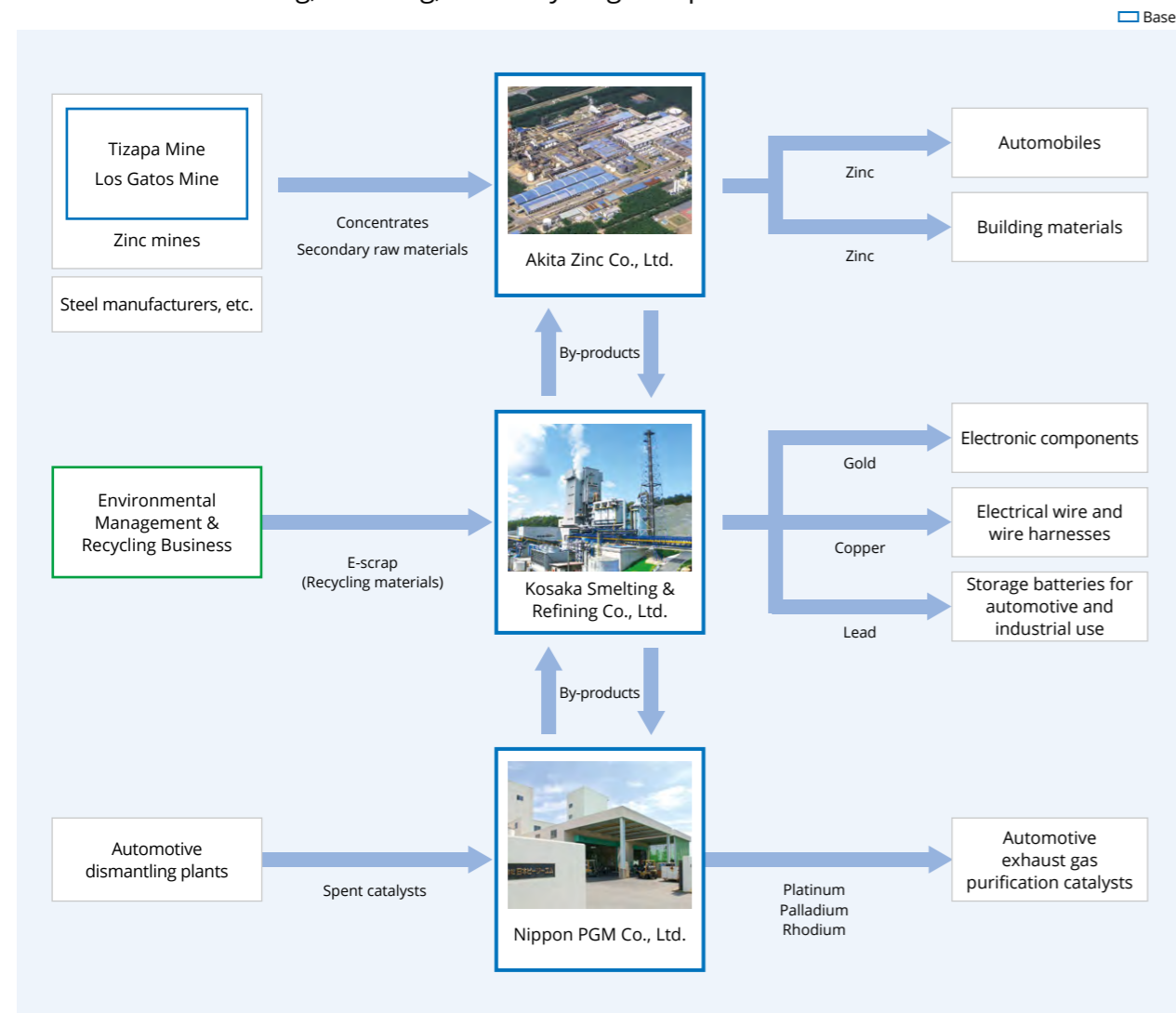
Nonferrous Metals Business

Enhance resource recycling further and deliver the full potential of resources
Build a sustainable business model for nonferrous metals

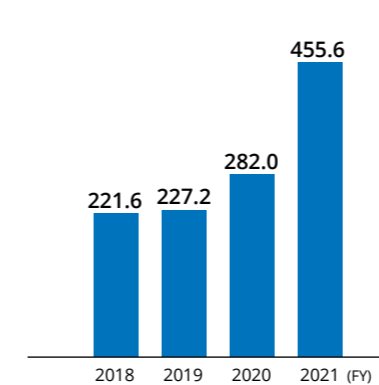
Main Products and Services
 Precious metals and copper smelting: gold / silver / copper / lead / tin / antimony / nickel
 Platinum group metals smelting: platinum / palladium / rhodium
 Zinc smelting: zinc / zinc alloy / indium / sulfuric acid
 Resource development and raw material procurement: stable procurement of raw materials for in-house smelting operations / acquisition and development of Group-owned mines and interests in other mines

Advantages
 • Capabilities of our mining, smelting, and recycling complex centered on Kosaka Smelting & Refining Co., Ltd.
 • Worldwide raw material collection network that is coordinated with the Environmental Management & Recycling Business

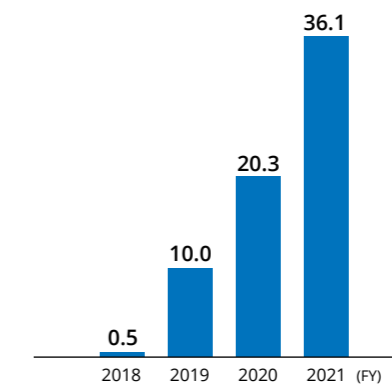
Overview of the Mining, Smelting, and Recycling Complex



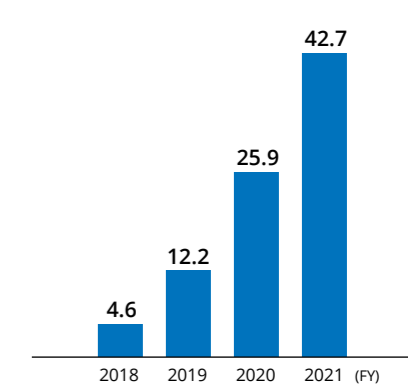
Net Sales
(Billions of yen)



Operating Income
(Billions of yen)



Ordinary Income
(Billions of yen)



Fiscal 2021 in Review

Income increased in fiscal 2021 due to the depreciation of the yen and the jump in prices of precious metals and base metals in comparison with the previous fiscal year. Although the cost of raw materials and electricity rates increased year on year, we were able to achieve record-high profits due to the benefits over time of various measures implemented to date. These benefits included a greater volume of spent catalysts from automobile exhaust purification collected and treated for recycling and the transition of the Los Gatos Mine, a silver and zinc mine in Mexico, to stable operations.



SUYAMA Toshiaki
Executive Officer
President and Representative Director,
Dowa Metals & Mining Co., Ltd.

Business Conditions

Our mining, smelting, and recycling complex is notable for its efficient recovery of a variety of metals and provides an extremely important core function in metal recycling, an essential factor in the creation of a resource recycling society. In addition, we manufacture recycled metals at an extremely high rate within the industry. We take pride in this, and see these metals as helping resolve a variety of issues while helping facilitate the move toward carbon neutrality. We expect these metals to rise in value as a result. That said, we face a headwind in the form of rising energy costs, which affect the costs of equipment maintenance and upgrades, environmental measures, and electricity.

Future Initiatives

To leverage the Company's strengths even further, we aim to bolster the functions of our mining, smelting, and recycling complex and will work to raise the production capacity and efficiency of Kosaka Smelting & Refining Co., Ltd., Akita Zinc Co., Ltd., and Nippon PGM Co., Ltd. while expanding the types of metals we can recover. In the platinum group metals smelting business in particular, we intend to step up our collection activities overseas, where the generation of spent catalysts from automobile exhaust purification is on the rise. In addition, we will make a Groupwide effort to build a sustainable business model for the Nonferrous Metals Business and become the company of choice for customers, employees, and other stakeholders.



Spent catalysts from automobile exhaust purification

Electronic Materials Business

DOWA ELECTRONICS MATERIALS CO., LTD.

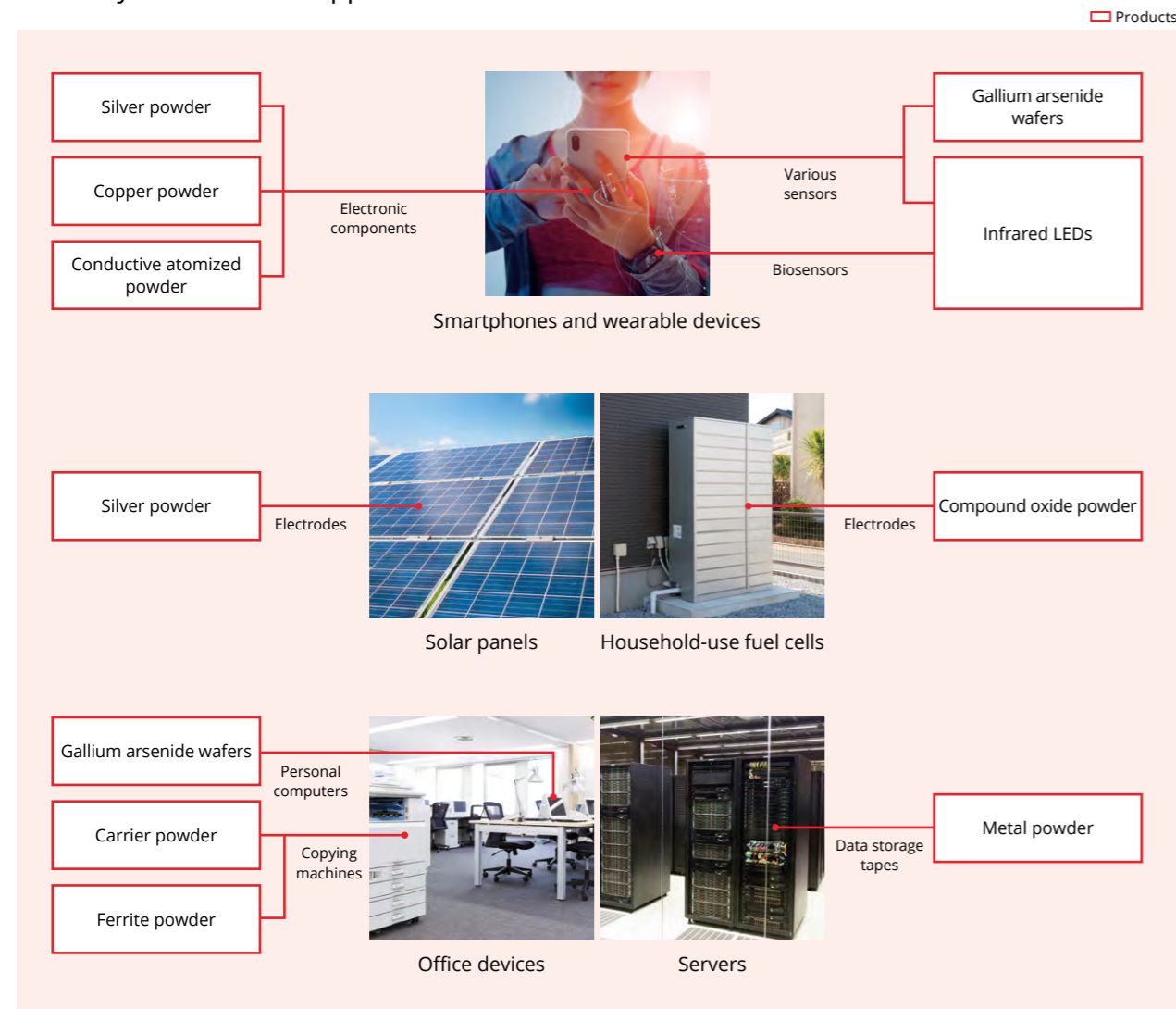
Expand the business in growth markets such as automobiles, information and communication, energy, and healthcare
 Provide unique products needed in society, such as ones for achieving carbon neutrality and ones for the healthcare market

Main Products and Services
 Semiconductors: high-purity gallium / indium / gallium arsenide wafers / red and infrared LEDs / deep ultraviolet LEDs
 Electronic materials: silver powder / copper powder / silver oxide powder / conductive atomized powder
 Advanced fine materials: metal powder / carrier powder / ferrite powder / compound oxide powder

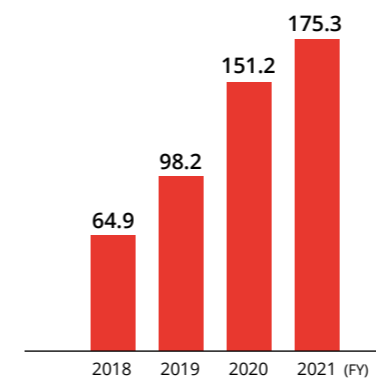
Advantages

- Numerous products boasting leading shares of niche markets
- Production technology that allows for uniform quality from small-scale production to mass production
- Timely identification of changes in client needs and competence in the development of technologies that cater to these new needs

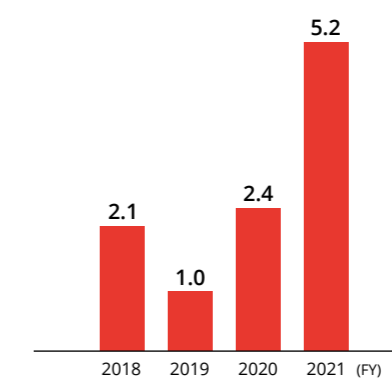
Mainstay Products and Applications



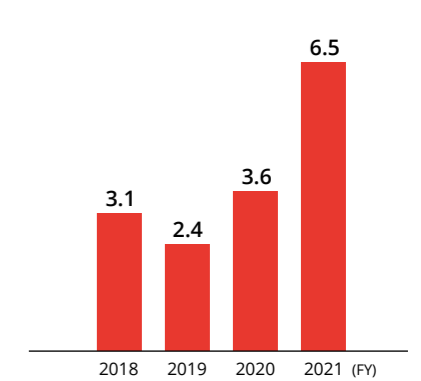
Net Sales
(Billions of yen)



Operating Income
(Billions of yen)



Ordinary Income
(Billions of yen)



Fiscal 2021 in Review

In fiscal 2021, we continued to see year-on-year increases in both revenues and profits. Demand for silver powder for solar panels was firm at the beginning of the fiscal year but entered an adjustment phase from the third quarter. However, we commenced mass production and sales of short-wavelength infrared LEDs and photodiodes (PDs) for wearable devices from the second quarter, which contributed significantly to earnings. As for new products, sales of conductive atomized powder for multilayer ceramic capacitors increased, with firm sales overall.



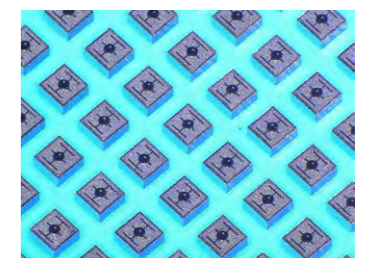
SUZUKI Koji
 Executive Officer
 President and Representative Director,
 Dowa Electronics Materials Co., Ltd.

Business Conditions

DOWA is notable for having a wide range of products that draw on its high technological capabilities and for providing customers with multiple products at the top of niche markets. With the push toward carbon neutrality and the increased speed and diversification of information and communication equipment, we also expect markets such as automobiles, information and communication, the environment and energy, and healthcare to continue their growth trajectory. To keep up with this rapid growth, we will need to leverage aggressive investment in research and development—one of our strengths—to introduce products, such as compound oxide powder for fuel cells and conductive atomized powder, that can match the technological trends and needs of each niche market.

Future Initiatives

In the semiconductor business, we aim to realize further expansion by continuing to develop and perform sample work for the next generation of wearable devices, in addition to our efforts to raise production capacity for short-wavelength infrared LEDs and PDs. In the electronic materials business, we will develop silver powder in response to recent progress made in high-efficiency solar panels and improve the performance of conductive atomized powder while also increasing production. Regarding the advanced fine materials business, the market for compound oxide powder for fuel cells is expected to expand, and we intend to establish a mass production system for these materials. As for new development, we will optimize processes and mass production of materials for all solid-state batteries for consumer use.



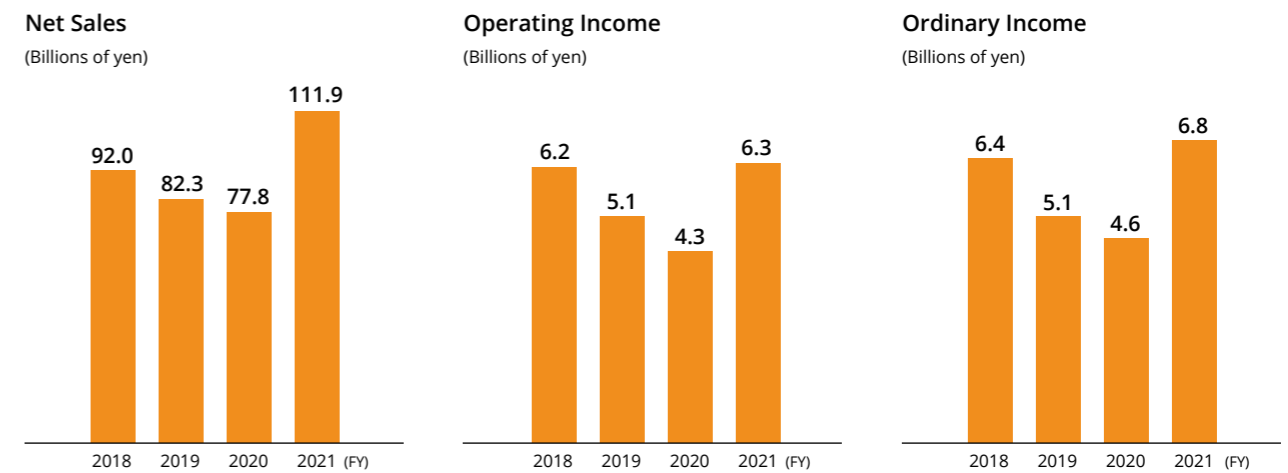
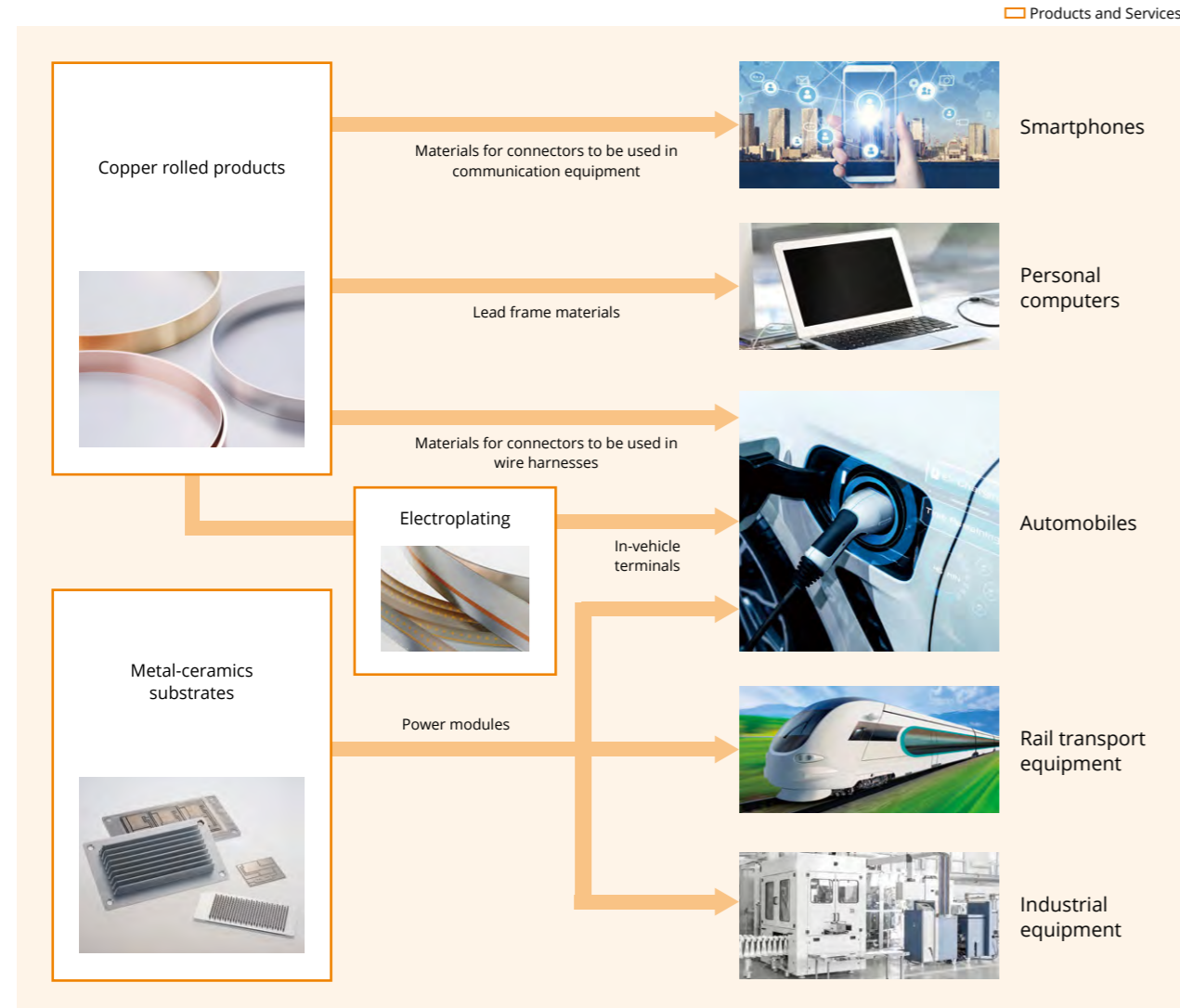
Short-wavelength infrared LEDs

Metal Processing Business

Continue to invest aggressively in growth markets (applications and regions) to tap into new demand with certainty
 Contribute to society by providing products and services that reduce environmental risks

- Main Products and Services**
- Copper rolled products: copper, brass, and copper alloy strips / nickel alloy strips / reflow tin-plated strips / forged brass products
 - Electroplating: electroplating
 - Metal-ceramics substrates: metal-ceramics substrates
- Advantages**
- Extensive lineup of products that have high levels of performance in terms of conductivity, strength, and workability
 - Multiple processing bases in China and Thailand, which are important demand destinations in Asia
 - Large share of the market for automotive copper rolled products and electroplating in Japan
 - One of the largest shares of the global market for metal-ceramics substrates for power modules

Mainstay Products and Applications



Fiscal 2021 in Review

The COVID-19 pandemic led to a slump in automobile production worldwide, but demand remained strong in the copper rolled products business and the electroplating business, in part due to a buildup in customer inventory. In addition, sales of copper rolled products used in telecommunications terminals rose, accompanying the expansion of the 5G market. In the metal-ceramics substrates business, sales of products for industrial machinery increased due to recovery in the market, but sales to railways decreased due to a stagnation in new projects overseas.



ONIOH Takashi
 Executive Officer
 President and Representative Director,
 Dowa Metaltech Co., Ltd.

Business Conditions

The main applications of our products are in the fields of automobiles and information and communication equipment. Demand for automobiles will likely remain unstable due to the ongoing shortage of semiconductors and other factors. In the long term, however, the emergence of the Connected, Autonomous, Shared, and Electric (CASE) concept is expected to stimulate demand for high-voltage terminals, small terminals, charging terminals, and other parts that require highly functional copper rolled products. As for information and communication equipment, various connectors for smartphones and similar mobile devices are becoming more sophisticated and multifunctional.

Future Initiatives

DOWA's extensive product lineup is a major strength for meeting this anticipated demand and a strength we intend to drive further. In the copper rolled products business, we will work to increase sales of high-value-added products by developing and improving high-performance copper alloys. We will also work to boost sales in growth areas and expand our business in Asia. In the electroplating business, we will raise production capacity by consolidating lines and increasing production at our domestic bases, in addition to expanding sales of electroplated products for in-vehicle terminals. Regarding the metal-ceramics substrates business, we intend to expand sales of these substrates and develop new products.

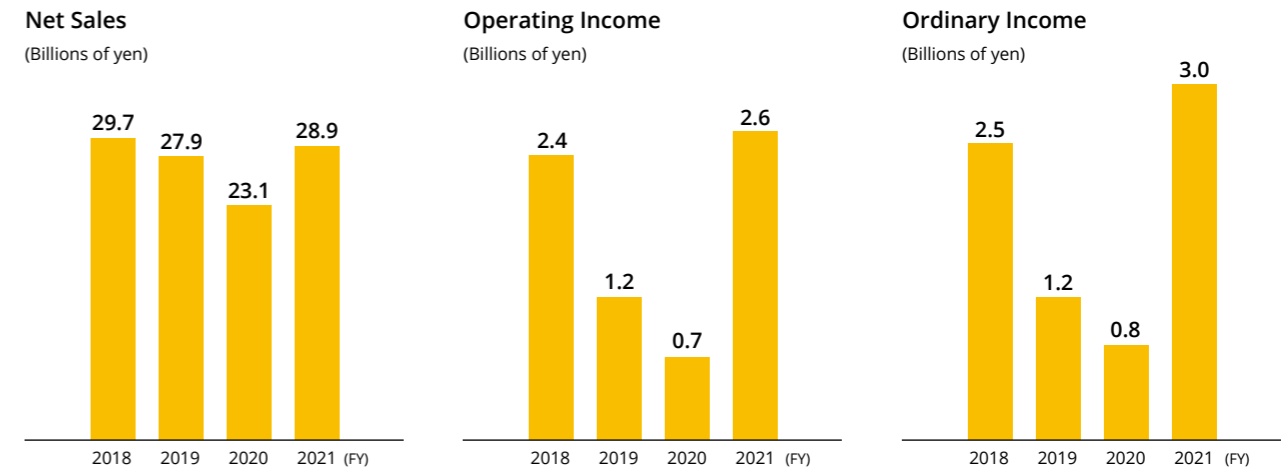


Manufacturing base for copper rolled products

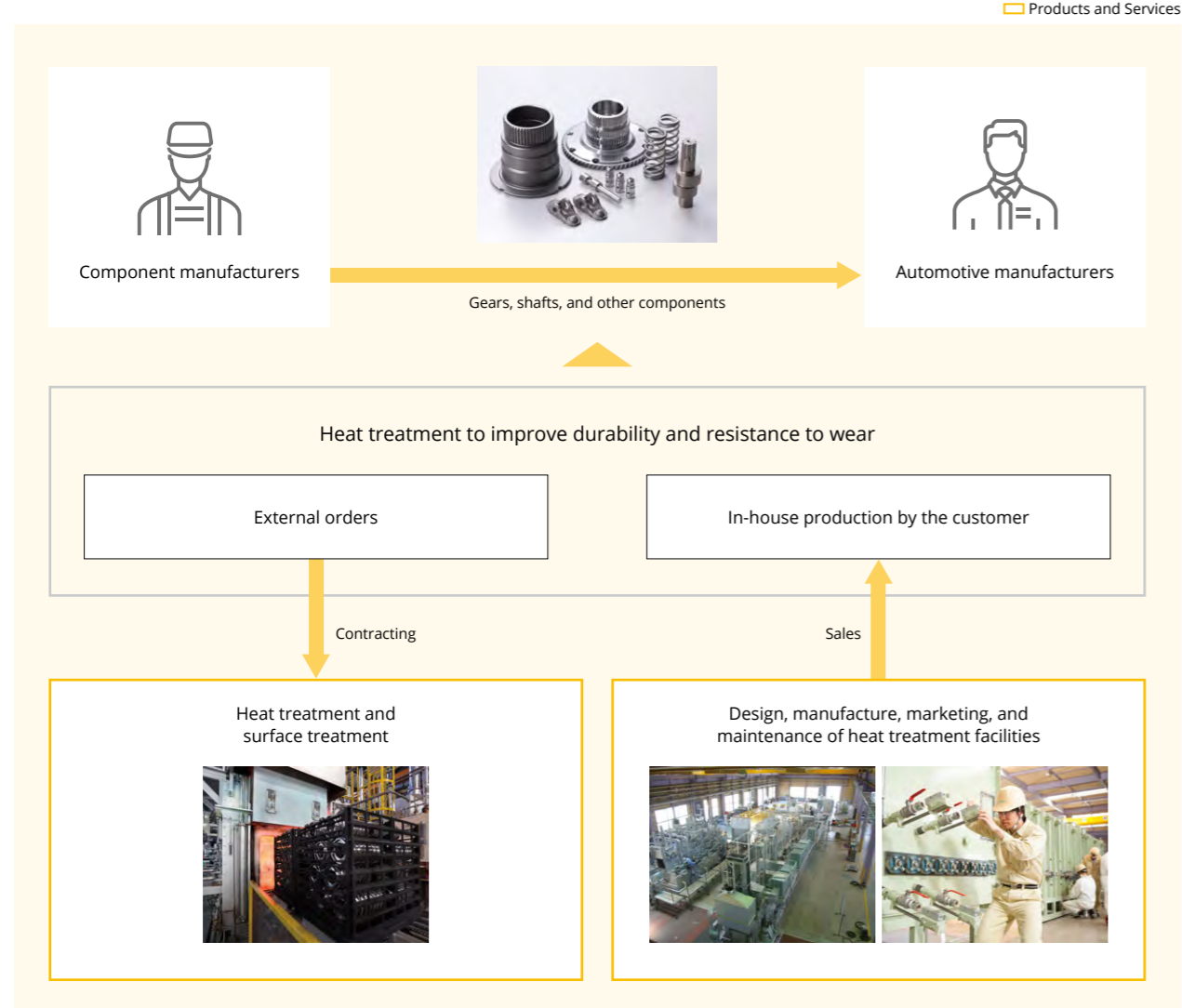
Heat Treatment Business

Take the move toward carbon neutrality as an opportunity and drive initiatives to reinforce sales, manufacturing, and development structures
 Achieve steady growth in growing markets (overseas and new markets)

Main Products and Services	<p>Heat treatment processing: heat treatment / surface treatment</p> <p>Industrial furnaces: design, manufacture, marketing, and maintenance of heat treatment facilities and ancillary equipment</p>
Advantages	<ul style="list-style-type: none"> Significant share of the market for the heat treatment of automotive components in Japan Network of bases that covers the principal automotive manufacturing regions in Japan and overseas Support for clients in terms of both processing and facilities through the heat treatment processing and industrial furnaces businesses



Mainstay Products and Applications



Fiscal 2021 in Review

In fiscal 2021, the prolonged global shortage of semiconductors led to continued unstable automobile production in Japan and overseas, but the impact on DOWA was minor overall. After the initial decline and stagnation in demand for services caused by the COVID-19 pandemic, demand recovered and remained high from the second quarter of fiscal 2020. As a result, domestic and overseas sales from contracted heat treatment processing, sales of heat treatment equipment, and equipment maintenance increased considerably compared with the previous fiscal year.



YAMADA Kiyoshi
 Executive Officer
 President and Representative Director,
 Dowa Thermotech Co., Ltd.

Business Conditions

The automobile industry is undergoing a once-in-a-century transformation. One major challenge the industry faces is achieving carbon neutrality. We see these changes brought about during this period of transformation as both opportunities and risks. Automobiles are made up of tens of thousands of parts, the engine being one of them, and many of these parts undergo heat treatment. With the shift to EVs, there is the expectation that the structure of automobile engines, transmissions, and other parts will change. Furthermore, there are continued calls to reduce greenhouse gases produced through heat treatment processing.

Future Initiatives

We see carbon neutrality as an opportunity to promote measures that will make our sales, manufacturing, and development structures more robust. In the heat treatment processing business, we will work to increase orders to treat EV parts and expand business overseas, where demand is on the rise. In the industrial furnaces business, we will proceed with the introduction of Z-TKM, a new carburizing and quenching furnace that enables close to no CO₂ emissions during heat treatment processing by combining the furnace with green energy sources. In both the heat treatment business and the industrial furnaces business, we plan to apply our services in fields related to robots, aircraft, and other machinery and to increase orders with customers in these fields.



Carburizing and quenching furnace Z-TKM (under development)

Business Topics

Formulated the DOWA Group's Sustainability Basic Policy and made the decision to establish the Sustainability Committee

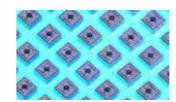
Set 2030 targets to reduce greenhouse gas emissions
Endorsed the recommendations put forth by the Task Force on Climate-related Financial Disclosures (TCFD)

Commenced operations of a hazardous waste detoxification incinerator in Indonesia with the largest treatment capacity in the country (PT Prasadha Pamunah Limbah Industri)



Formulated the DOWA Group's Climate Change Policy and set a long-term target to achieve carbon neutrality by 2050

Began mass production and sale of short-wavelength-infrared LEDs and photodiodes for wearable devices (DOWA Electronics Materials Co., Ltd.)



Commenced operations of a desalinization pretreatment facility for incinerated ash (Meltec Ltd., Yokosuka Plant)



2021 April

May

June

July

August

September

October

November

December

2022 January

February

March

January 2022

Energy Conservation Grand Prize Award (DOWA Group, Okayama Site)

In January 2022, the DOWA Group's Okayama site received Energy Conservation Grand Prize 2021, sponsored by the Energy Conservation Center, Japan with the financial support of the Ministry of Economy, Trade and Industry.

The Okayama site is made up of nine Group companies and organizations that conduct different types of business, and each company and organization is focused on conserving energy. In 2018, the companies and organizations at this site came together to form a project team because of this common focus, with the goal of the total optimization of energy usage across company lines. The team directed its efforts toward the heating and cooling demands of each company's equipment and worked on implementing heat exchange between companies. As a result, it achieved a reduction of 4,324 tons of CO₂ in the three years since the team was established.



November 2021

Factory Greening Award Program (Akita Zinc Co., Ltd.)

Akita Zinc Co., Ltd. received the Director-General's Award of the Tohoku Bureau of Economy, Trade and Industry under the Ministry of Economy, Trade and Industry's 2021 Factory Greening Award Program (commonly known as the National Award for Factory Greening Program).

Akita Zinc established in 1971, produces more than 200,000 tons of zinc ingots every year, making it the largest producer in Japan. The company also operates a smelter with low environmental impact that generates almost no waste. During its construction, it was positioned as a smelter amid greenery, and builders devised ways to carry out this vision including leaving a pine forest around the site. In 2005, the company also acquired ISO 14001 certification. Now the company is working to stay in harmony with the surrounding pine forest while also greenifying the coastal areas.



April 2021

Expansion of Capacity for Recycling Spent Lithium-Ion Batteries (DOWA Eco-System Co., Ltd.)

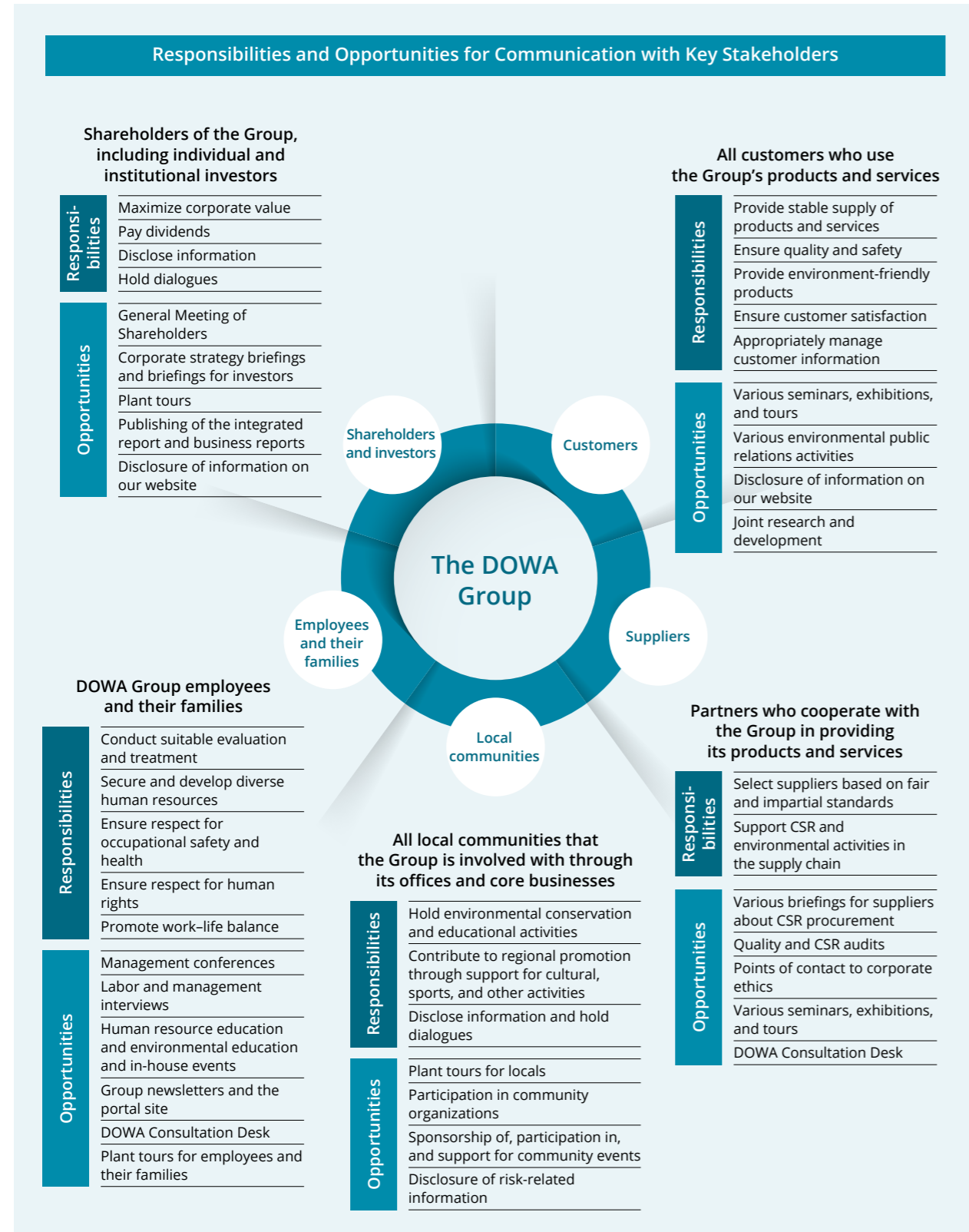
Since 2018, DOWA Eco-System Co., Ltd. has participated in the joint collection scheme of lithium-ion batteries launched by Japan Automobile Manufacturers Association, Inc. After the spent batteries are rendered inactive through heat treatment, they are separated into iron, aluminum, copper, cobalt-nickel mixtures, and other materials and recycled as raw materials for smelting or other uses. The company has also completed technical verifications for refining lithium carbonate from the cobalt-nickel mixtures.

In April 2021, Eco-System Akita Co., Ltd., a subsidiary of DOWA Eco-System, expanded its capacity for accepting electronic devices, including lithium-ion batteries. In May 2022, subsidiary Eco-System Okayama Co., Ltd. commenced operations of its own recycling line that involves pulverizing and sorting batteries after heat treatment, expanding the capacity for recycling spent lithium-ion batteries further.



Sustainability Topics

At the DOWA Group, at each office and department we communicate with our major stakeholders, including customers, shareholders, investors, suppliers, local communities, and employees, through various methods.



Shareholders and Investors May and November

Management Strategy Briefings for Institutional Investors and Analysts

The management strategy briefing held at the end of fiscal 2021 was held online in order to prevent the spread of COVID-19 and to make it possible for shareholders and investors to watch and listen to the president and representative director's presentation regardless of their location. To supplement the briefing, presentation materials and the minutes of the briefing were disseminated online.



Investor Engagement

In fiscal 2021, we met with investors on 128 occasions, allowing us to exchange a wide range of opinions with investors.
Presentation materials:
<https://ir.dowa.co.jp/en/ir/library/materials.html>

Employees February

Certified under the Comfortable Workplace Certification Program

The head office and seven sales offices of DOWA-Tsuun Co., Ltd. received certification under the Ministry of Land, Infrastructure, Transport and Tourism's Comfortable Workplace Certification Program. The goal of this program, which was established in 2020, is to bring attention to the efforts made by automobile-based transport companies to improve their workplaces in order to create more comfortable working environments and to help human resources remain in their positions. DOWA-Tsuun acquired the certification after meeting certification requirements in five areas: legal compliance and related matters, working hours and holidays, mental and physical health, safety and stability, and the securement and training of diverse human resources.



Local Communities May and June

Factory Tours for Junior High School Students

The Group's factories hold factory tours every year for several educational institutions and local residents. Eco-Recycle Co., Ltd., which recycles home appliances in Akita Prefecture, gave tours to about 160 students from four nearby junior high schools from May to June. These tours are part of the curriculum at each junior high school and are held every year to deepen understanding of both occupations and the region by visiting companies and experiencing the work at these companies hands-on. During the tour, participants get an opportunity to develop a better understanding of environmental conservation and resource recycling as guides explain the importance of not only recovering resources but also ensuring complete treatment to protect the environment and human health.



Customers April

Commencement of Landfill Operations

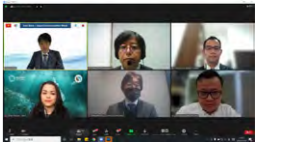
In April 2021, Eco-System Hanaoka Co., Ltd., based in Akita Prefecture, commenced operation of its second landfill site, which began construction in 2017. Eco-System Hanaoka, a subsidiary of Group company DOWA Eco-System Co., Ltd., has developed a track record as an operator of controlled landfill sites that reaches back to 1987. In Japan, a country with little capacity remaining for landfill sites, we were able to begin operations of the landfill thanks to the understanding of the local community. This landfill is equipped to protect the environment and ensure safety with a water shielding structure that uses double synthetic rubber sheets, a water leakage detection system, and a wastewater treatment facility that purifies leachate. With these features and others, the landfill is capable of safely managing landfill waste over the long term and will help the company in its continued efforts to provide safety and security to customers and people in the region.



Governments February

Presentation at an Online Seminar during Viet Nam-Japan Environment Week

DOWA Eco-System Co., Ltd. took the podium at an online seminar during the Second Viet Nam-Japan Environment Week, an event sponsored by Vietnam's Ministry of Natural Resources and Environment (MONRE) and Japan's Ministry of the Environment. The event is held to discuss environmental issues common to Japan and Vietnam and provides a platform to share advanced environmental solutions for building a decarbonized and sustainable future. The company took the stage at this seminar as a company that plays a part in the circular economy and introduced the resource recycling and waste treatment businesses that provide services in Japan and overseas.



Local Communities December

Donation of Protective Equipment to Indonesia's Eruption Disaster Relief Team

In Indonesia, Mount Semeru in eastern Java erupted violently at the end of 2021, causing severe damage. In response, PT Prasadha Pamunah Limbah Industri and PT DOWA Eco System Indonesia donated protective equipment, such as protective masks, boots, and helmets, as well as work equipment, such as shovels and push carts, to volcanic disaster relief teams in order to assist in the emergency response. With Group companies deeply rooted in the local community, the DOWA Group will continue to aid society by providing a variety of support during disasters.



Financial Review

Financial Performance

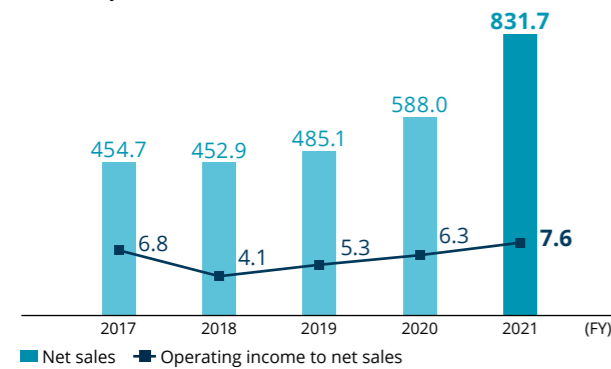
Looking at the DOWA Group's businesses in fiscal 2021, the fiscal year ended March 31, 2022, although the state of automobile production remained uncertain globally, automobile-related products and services saw strong sales, reflecting the negligible impact on the Group. In information- and communication-related products, sales of products for 5G applications increased, while an adjustment phase for sales of products related to new forms of energy has continued since the third consolidated fiscal quarter. In environmental- and recycling-related services, orders for waste treatment were firm. As for the exchange rate and metals prices, in comparison with the previous fiscal year, the average exchange rate of the yen weakened against the U.S. dollar, and the average prices of both precious metals, such as silver

and platinum group metals, and base metals, such as zinc and copper, increased.

Amid these circumstances, the Group made steady progress with measures to raise corporate value under the basic policies put forth under Midterm Plan 2020, which are "expand businesses in growth markets" and "increase competitiveness of existing businesses." As a result, consolidated net sales increased 41.5%, to ¥831,794 million; consolidated operating income was up 70.4%, to ¥63,824 million; and consolidated ordinary income increased 104.5%, to ¥76,073 million. Total income taxes increased 48.6%, to ¥20,259 million, and net income attributable to owners of parent increased 133.7%, to ¥51,012 million.

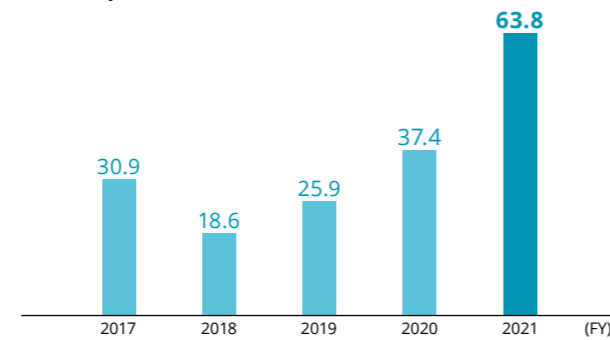
Net Sales / Operating Income to Net Sales

(Billions of yen / %)



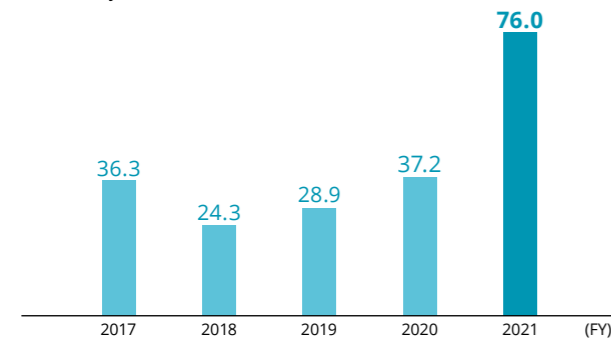
Operating Income

(Billions of yen)



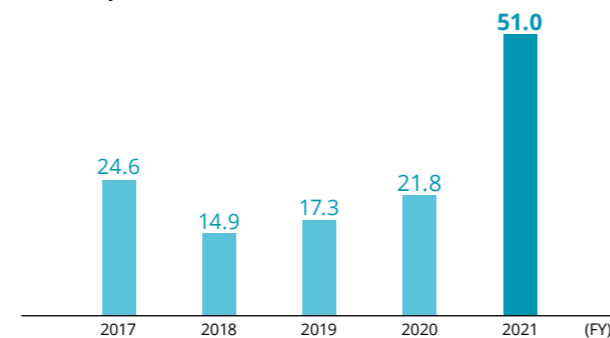
Ordinary Income

(Billions of yen)



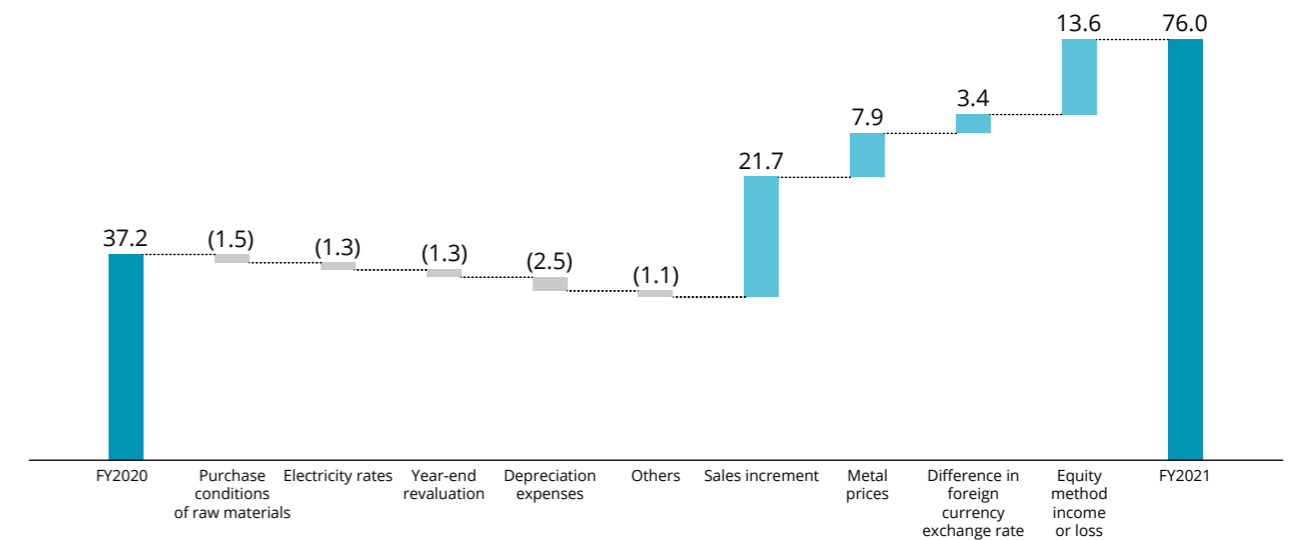
Net Income Attributable to Owners of Parent

(Billions of yen)



Factor Analysis of Ordinary Income

(Billions of yen)



Results by Segment

(Billions of yen)

	FY2020			FY2021			YoY Changes		
	Net Sales	Operating Income	Ordinary Income	Net Sales	Operating Income	Ordinary Income	Net Sales	Operating Income	Ordinary Income
Environmental Management & Recycling	117.6	8.4	8.6	135.0	12.6	13.6	17.4	4.2	4.9
Nonferrous Metals	282.0	20.3	25.9	455.6	36.1	42.7	173.5	15.8	16.8
Electronic Materials	151.2	2.4	3.6	175.3	5.2	6.5	24.0	2.7	2.8
Metal Processing	77.8	4.3	4.6	111.9	6.3	6.8	34.1	1.9	2.1
Heat Treatment	23.1	0.7	0.8	28.9	2.6	3.0	5.8	1.8	2.1
Others / Elimination	(63.9)	1.0	(6.5)	(75.1)	0.7	3.2	(11.2)	(0.3)	9.7
Total	588.0	37.4	37.2	831.7	63.8	76.0	243.7	26.3	38.8

Foreign-Exchange Rate and Metal Prices

	FY2020*	FY2021*
Exchange rate: (¥/\$)	106.1	112.4
Copper: (\$/t)	6,879	9,691
Zinc: (\$/t)	2,419	3,254
Indium: (\$/kg)	166	229

* Figures are the average for the full year.

Analysis of Financial Position

Assets

Total assets at the end of the fiscal year under review came to ¥657,283 million, up ¥58,812 million compared with the end of the previous fiscal year. Total current assets increased ¥56,042 million, while total non-current assets grew ¥2,770 million.

The increase in current assets was attributable to factors including a rise of ¥24,782 million in inventories, ¥18,570 million in cash and deposits, and ¥14,880 million in notes and accounts receivable-trade, and contract assets.

Non-current assets grew mainly due to an increase of ¥14,821 million in investment securities; ¥7,776 million in property, plant and equipment; ¥1,942 million in deferred tax assets; and ¥1,906 million in other intangible assets listed under intangible assets as well as a decrease of ¥24,301 million in long-term loans receivable.

Liabilities

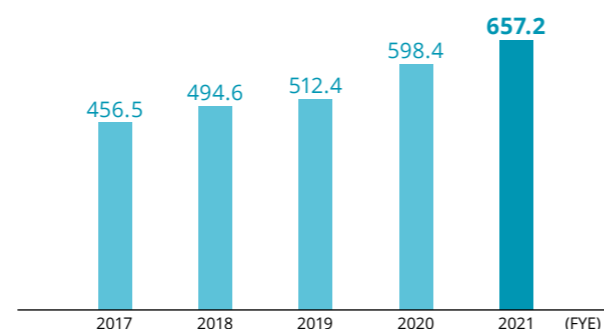
Total liabilities grew ¥6,953 million compared with the previous fiscal year-end. This outcome was primarily due to an increase of ¥10,119 million in other current liabilities listed under current liabilities, ¥10,000 million in bonds payable, and ¥7,927 million in notes and accounts payable-trade and a decrease of ¥25,197 million in short-term borrowings.

Equity

As for total equity, net income attributable to owners of parent came to ¥51,012 million, but payment of cash dividends resulted in an increase in shareholders' equity of ¥44,467 million. In addition, total accumulated other comprehensive income increased ¥3,283 million, due in part to foreign currency translation adjustment, while total equity was ¥51,859 million higher than the balance as of the end of the previous fiscal year. As a result, the equity ratio was 47.69%.

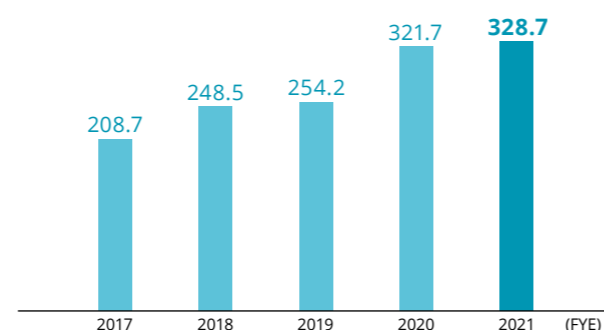
Total Assets

(Billions of yen)



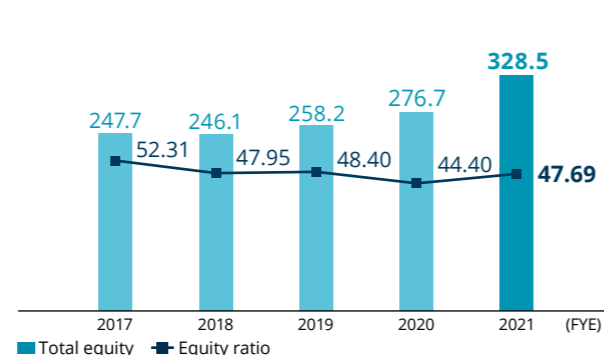
Liabilities

(Billions of yen)



Total Equity / Equity Ratio

(Billions of yen / %)



Analysis of Cash Flows

Consolidated cash and cash equivalents (hereinafter, "net cash") at the end of the consolidated fiscal year under review amounted to ¥35,740 million, up ¥18,419 million compared with the previous fiscal year-end.

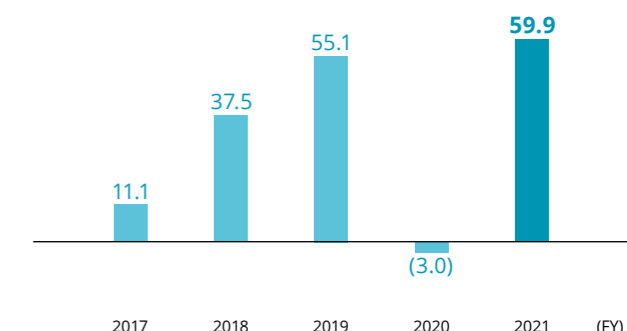
Net cash provided by operating activities came to ¥59,911 million, up ¥62,999 million compared with the previous fiscal year. This was primarily attributable to such factors as profit before income taxes of ¥77,090 million, depreciation of ¥22,582 million, an increase in inventories of ¥22,977, and an increase in trade receivables of ¥15,412 million.

Net cash used in investing activities totaled ¥11,339 million, down ¥11,603 million compared with the previous fiscal year. This was mainly the result of capital expenditures of ¥31,779 million, primarily in the Environmental Management & Recycling Business, and proceeds from collection of loans receivable of ¥18,142 million.

Net cash used in financing activities came to ¥31,190 million, up ¥42,775 million compared with the previous fiscal year. This was largely due to a decrease in interest-bearing debt of ¥22,677 million and cash dividends paid of ¥8,149 million.

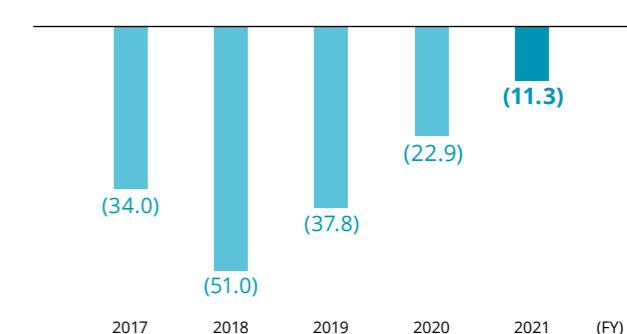
Cash Flows from Operating Activities

(Billions of yen)



Cash Flows from Investing Activities

(Billions of yen)



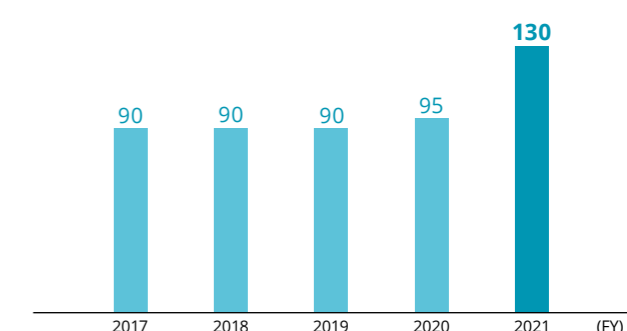
Basic Dividend Policy and Dividends Paid for the Fiscal Year under Review

DOWA views the payment of dividends to shareholders as one of its most important management issues. The Company's fundamental policy is to maintain the stable payment of dividends and, in that light, it pays a dividend commensurate with performance, having appropriated a sufficient amount of retained earnings to bolster the Group's business position and support future business development. As part of Midterm Plan 2020, we have aimed to increase dividends according to profit levels, maintaining a stable dividend of at least ¥90 per share.

With regard to the annual dividend for the fiscal year under review, the Group paid an ordinary dividend of ¥100 per share, an increase of ¥5 per share from the previous fiscal year, having taken into account a comprehensive range of factors including results, future business development, and the strengthening of its financial position. In addition, the Group paid a special dividend of ¥30 per share in light of achieving record-high results. As a result, the annual dividend for the fiscal year under review totaled ¥130 (an ordinary dividend of ¥100 yen and a special dividend of ¥30).

Cash Dividends

(Yen)



Consolidated Performance Trends

(Millions of yen)

For the years ended March 31	Midterm Plan 2020										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Financial Performance											
Net Sales	¥392,468	¥419,390	¥443,985	¥464,219	¥406,598	¥410,503	¥ 454,754	¥ 452,928	¥ 485,130	¥ 588,003	¥ 831,794
Cost of Sales	343,015	365,963	382,079	391,509	337,314	341,177	387,831	396,495	421,630	512,155	725,368
Selling, General and Administrative Expenses	27,443	28,863	30,111	33,616	34,216	35,335	35,975	37,761	37,544	38,393	42,601
Operating Income	22,009	24,564	31,794	39,094	35,067	33,990	30,948	18,671	25,955	37,454	63,824
Operating Income by Segment											
Environmental Management & Recycling (%)	20.34	26.37	29.86	18.80	18.01	19.50	16.06	30.46	27.76	22.58	19.85
Nonferrous Metals (%)	19.25	19.09	22.20	34.69	38.00	29.58	29.74	3.17	38.54	54.31	56.67
Electronic Materials (%)	24.95	23.58	21.12	22.55	22.89	19.36	18.17	11.66	4.09	6.60	8.23
Metal Processing (%)	20.59	19.89	16.96	14.85	14.01	20.49	23.54	33.74	19.71	11.72	9.97
Heat Treatment (%)	8.95	6.33	7.12	6.02	3.86	7.00	8.47	13.05	4.63	1.97	4.13
Others and Elimination (%)	5.92	4.74	2.74	3.09	3.24	4.06	4.01	7.92	5.27	2.82	1.15
Ordinary Income	¥ 20,918	¥ 27,277	¥ 35,055	¥ 42,037	¥ 35,056	¥ 36,504	¥ 36,355	¥ 24,309	¥ 28,996	¥ 37,200	¥ 76,073
EBITDA*1	40,354	41,551	48,000	54,667	50,212	49,786	48,160	37,300	45,244	57,505	86,407
Net Income Attributable to Owners of Parent	10,610	15,213	23,310	26,543	21,826	26,169	24,693	14,986	17,395	21,824	51,012
Capital Expenditures	15,910	18,422	16,549	17,247	22,936	26,526	24,608	24,087	37,723	37,338	32,546
Depreciation	18,344	16,987	16,205	15,572	15,145	15,796	17,212	18,628	19,288	20,050	22,582
R&D Expenses	4,623	4,604	4,651	5,320	5,594	5,670	5,380	5,888	6,076	6,177	7,035
Exchange Rate and Metal Prices											
Copper (Price Quoted, Average)	¥717,817	¥696,375	¥757,633	¥765,775	¥675,483	¥603,917	¥ 756,683	¥ 746,608	¥ 681,592	¥ 769,500	¥1,136,175
Zinc (Price Quoted, Average)	211,683	208,675	240,325	285,983	269,383	305,633	386,733	353,725	313,308	309,400	419,725
U.S. Dollar (Average)	79.08	83.10	100.24	109.93	120.14	108.38	110.85	110.91	108.74	106.06	112.38
Financial Position											
Equity	¥121,807	¥142,400	¥166,987	¥195,649	¥203,370	¥227,821	¥ 247,762	¥ 246,158	¥ 258,241	¥ 276,715	¥ 328,574
Non-Controlling Interests	7,999	8,807	8,733	8,528	8,449	8,518	8,946	8,944	10,194	11,010	15,119
Total Assets*2	319,665	349,787	358,717	379,193	364,420	404,604	456,530	494,683	512,495	598,471	657,283
Interest-Bearing Debt	117,670	107,138	99,663	86,668	81,135	79,883	109,827	135,241	134,086	153,951	131,625
Per Share*3 (Yen)											
Basic Net Income	¥ 35.86	¥ 51.41	¥ 78.77	¥ 89.69	¥ 73.75	¥ 88.43	¥ 417.21	¥ 253.22	¥ 293.92	¥ 368.45	¥ 857.32
Fully Diluted Equity	384.55	451.41	534.75	632.30	658.66	741.06	4,035.06	4,008.03	4,191.09	4,465.44	5,267.94
Cash Dividends	10.00	12.00	15.00	18.00	18.00	18.00	90.00	90.00	90.00	95.00	130.00
Cash Flows											
Cash Flows from Operating Activities	¥ 31,499	¥ 34,970	¥ 30,189	¥ 38,345	¥ 45,751	¥ 29,389	¥ 11,125	¥ 37,555	¥ 55,113	¥ (3,088)	¥ 59,911
Cash Flows from Investing Activities	(19,491)	(19,354)	(18,689)	(20,321)	(23,486)	(25,954)	(34,010)	(51,025)	(37,812)	(22,943)	(11,339)
Cash Flows from Financing Activities	(24,134)	(14,982)	(12,341)	(16,905)	(11,159)	(7,155)	24,087	15,944	(6,569)	11,585	(31,190)
Free Cash Flow	12,007	15,615	11,499	18,024	22,265	3,434	(22,884)	(13,470)	17,301	(26,032)	48,571
Cash and Cash Equivalents at End of Year	4,788	6,129	5,823	8,044	18,902	15,126	16,472	19,002	30,232	17,320	35,740
Ratios											
Return on Assets*4 (%)	6.34	8.15	9.90	11.39	9.43	9.49	8.44	5.11	5.76	6.70	12.12
Return on Equity*5 (%)	9.62	12.30	15.97	15.37	11.43	12.64	10.78	6.30	7.17	8.50	17.62
Operating Income to Net Sales (%)	5.61	5.86	7.16	8.42	8.62	8.28	6.81	4.12	5.35	6.37	7.67
Equity Ratio*6 (%)	35.60	38.19	44.12	49.35	53.49	54.20	52.31	47.95	48.40	44.40	47.69
Operating Income Growth (%)	(3.99)	11.60	29.43	22.96	(10.30)	(3.07)	(8.95)	(39.67)	39.01	44.31	70.40
Interest Coverage (Times)	11.52	14.82	21.41	34.23	39.04	43.12	55.47	20.71	21.69	43.03	97.83
Debt / Equity Ratio*6 (Times)	1.03	0.80	0.63	0.46	0.42	0.36	0.46	0.57	0.54	0.58	0.42
Debt / Capacity Ratio (Times)	1.83	1.37	1.28	1.06	1.00	0.83	1.05	1.29	1.26	1.50	0.97
Return on Invested Capital*6 (%)	4.58	6.32	9.04	9.70	7.91	8.75	7.08	4.02	4.55	5.20	11.46

*1 EBITDA is calculated by adding operating income and depreciation.

*2 Changes put forth in the Partial Amendments to Accounting Standard for Tax Effect Accounting (ASBJ Statement No. 28, issued February 16, 2018) have been applied to the consolidated financial results for the fiscal year under review. These amendments have been retroactively applied to the consolidated financial results for fiscal 2017, and the amount of total assets has been adjusted accordingly.

*3 On October 1, 2017, the Company conducted a 5-for-1 reverse stock split.

*4 Ordinary income divided by the average of total assets at the beginning and end of the fiscal year.

*5 Net income attributable to owners of parent divided by the average of shareholders' equity (the amounts after deducting non-controlling interest amounts from equity amounts) at the beginning and end of the fiscal year.

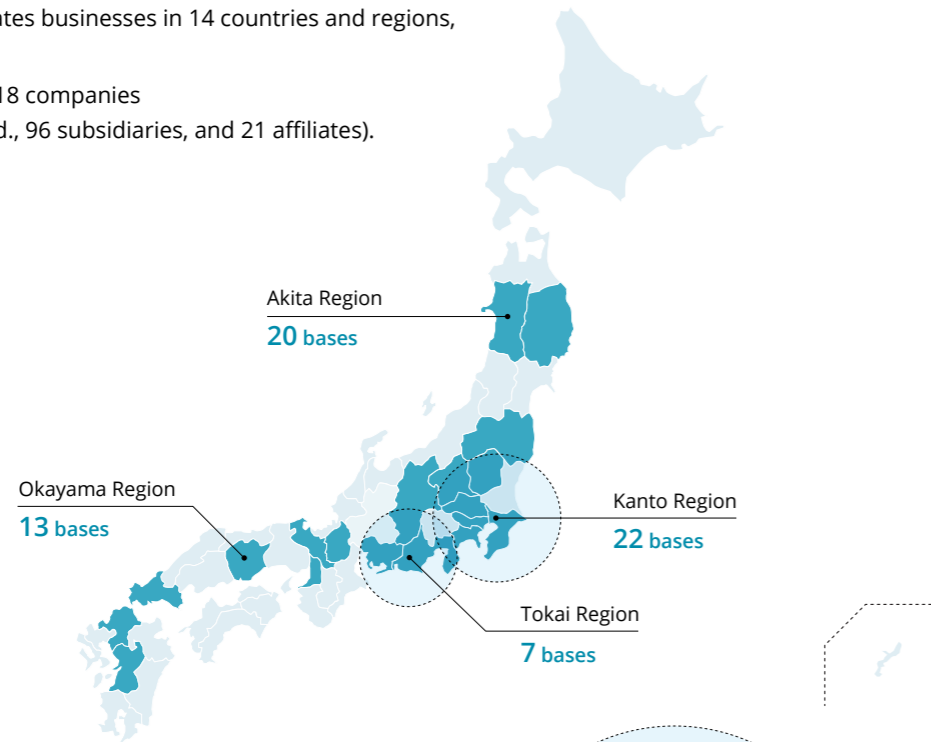
*6 The ratios have been calculated using shareholders' equity (the amounts after deducting non-controlling interest amounts from equity amounts).

Subsidiaries and Affiliates

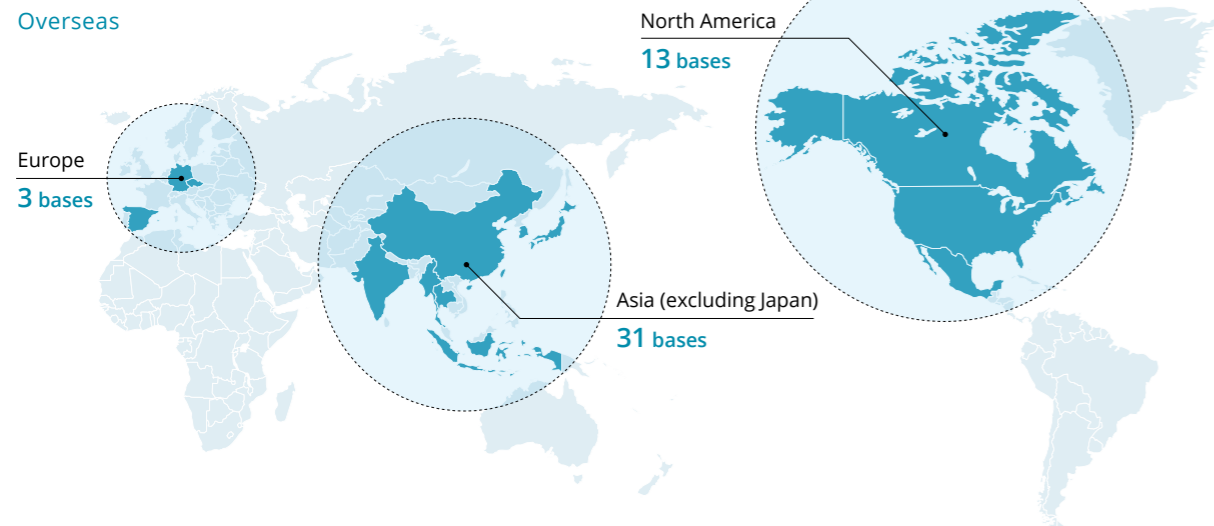
The DOWA Group operates businesses in 14 countries and regions, including Japan.

The Group comprises 118 companies (DOWA Holdings Co., Ltd., 96 subsidiaries, and 21 affiliates).

Domestic



Overseas



Number of Bases of Subsidiaries and Affiliates by Segment

	Consolidated Subsidiaries		Affiliates Accounted for by the Equity Method	Subtotal (Consolidated subsidiaries and equity-method affiliates)	Non-consolidated subsidiaries and non-equity method affiliates	Total
	Domestic	Overseas				
Environmental Management & Recycling	21	7	3	31	6	37
Nonferrous Metals	10	6	7	23	2	25
Electronic Materials	5	0	1	6	2	8
Metal Processing	7	6	2	15	3	18
Heat Treatment	4	7	0	11	1	12
Others	10	4	2	16	1	17
Total	57	30	15	102	15	117

Please refer to "Subsidiaries and Affiliates" for companies included in the scope of coverage of this report. <https://ir.dowa.co.jp/en/ir/library/annual.html>

Company Data and Stock Information (As of March 31, 2022)

Company Data	Company Name	DOWA HOLDINGS CO., LTD.
	Founded	September 18, 1884
	Incorporated	March 11, 1937
	Number of Employees	10,659 (figure for the entire Group, including part-time employees)

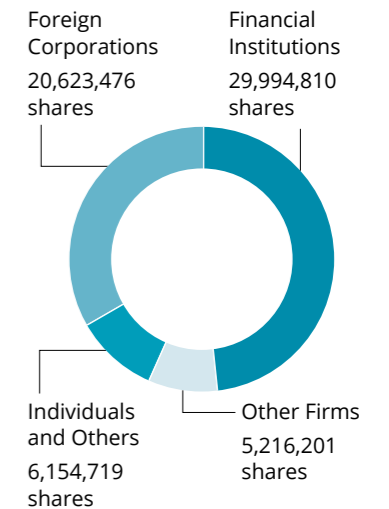
Stock Information	Authorized Shares	200,000,000 shares
	Shares Issued	61,989,206 shares
	Number of Shareholders	9,464
	Stock Listing	Tokyo Stock Exchange, Inc. Nagoya Stock Exchange, Inc. (delisted in April 2022) Sapporo Securities Exchange (delisted in April 2022) Fukuoka Stock Exchange (delisted in April 2022)
	Fiscal Year-End	March 31
	General Meeting of Shareholders	June
	Stock Transfer Agent	Sumitomo Mitsui Trust Bank, Limited
	Accounting Auditor	Deloitte Touche Tohmatsu LLC

Principal Shareholders

Name	Percentage of Outstanding Shares (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	19.89
Japan Trustee Services Bank, Ltd. (Trust Account)	11.30
NORTHERN TRUST CO. (AVFC) RE SILCHESTER INTERNATIONAL INVESTORS INTERNATIONAL VALUE EQUITY TRUST	5.35
NORTHERN TRUST CO. (AVFC) RE U.S. TAX EXEMPTED PENSION FUNDS	3.24
Fujita Kanko Inc.	3.12
National Mutual Insurance Federation of Agricultural Cooperatives	3.06
NORTHERN TRUST CO. (AVFC) SUB A/C NON TREATY	1.90
STATE STREET BANK AND TRUST COMPANY 505103	1.68
Mizuho Bank, Ltd.	1.60
Nippon Life Insurance Company	1.54

Note: The Company holds 1,889 thousand shares of treasury stock.

Shareholder Distribution



Financial Section of *DOWA Report 2022*

Please refer to the "Financial Section" of *DOWA Report 2022* for detailed fiscal information on the fiscal year ended March 31, 2022. <https://ir.dowa.co.jp/en/ir/library/annual.html>

Inquiries

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