

Corporate Strategy Briefing

First Half of FY2022 (FY Ending March 2023)

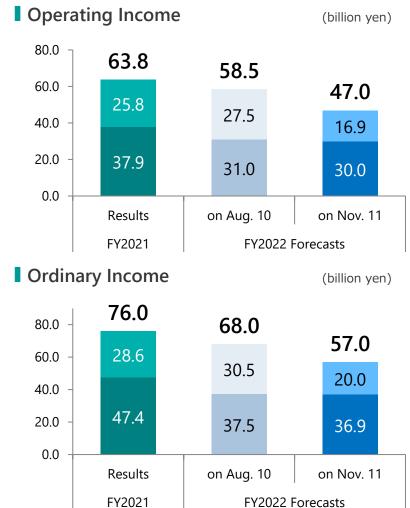
DOWA HOLDINGS CO.,LTD.

November 16, 2022

FY2022 Full Year Forecasts

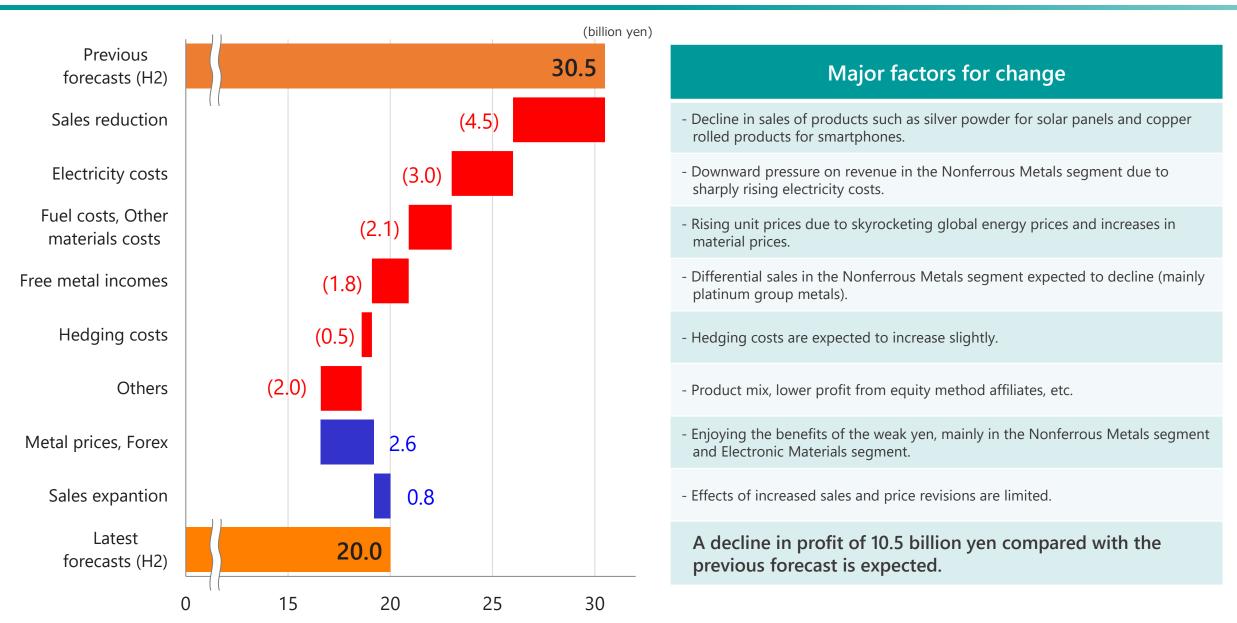
In Q1 FY2022, market prices and volumes were firm, but metal prices began softening from Q2, and electricity costs rose more than expected. In H2 profit is expected to decline compared with H1, in part due to falling metal prices, a decrease in demand for some applications, and a sharp rise in unit prices for electricity.

	Billion yen	FY2022/H1		FY2022/H2		FY2022	
		Results	Year-on-Year	Forecasts	Year-on-Year	Forecasts	Year-on-Year
Net Sales		401.8	(21.4)	383.1	(25.3)	785.0	(46.7)
Operating Income		30.0	(7.9)	16.9	(8.8)	47.0	(16.8)
Oı	dinary Income	36.9	(10.5)	20.0	(8.5)	57.0	(19.0)
	Environmental Management & Recycling	5.8	(0.7)	4.5	(2.5)	10.4	(3.2)
.	Nonferrous Metals	23.5	(3.5)	10.1	(5.5)	33.7	(9.0)
gmen.	Electronic Materials	3.8	0.1	1.8	(1.0)	5.7	(0.8)
3y Segment	Metal Processing	3.4	(0.4)	2.4	(0.4)	5.9	(0.9)
ш	Heat Treatment	0.7	(0.3)	1.5	(0.3)	2.3	(0.7)
	Other/ Eliminations	(0.6)	(5.6)	(0.3)	+1.4	(1.0)	(4.2)
	ofit attributable owners of parent	22.7	(9.8)	12.2	(6.1)	35.0	(16.0)



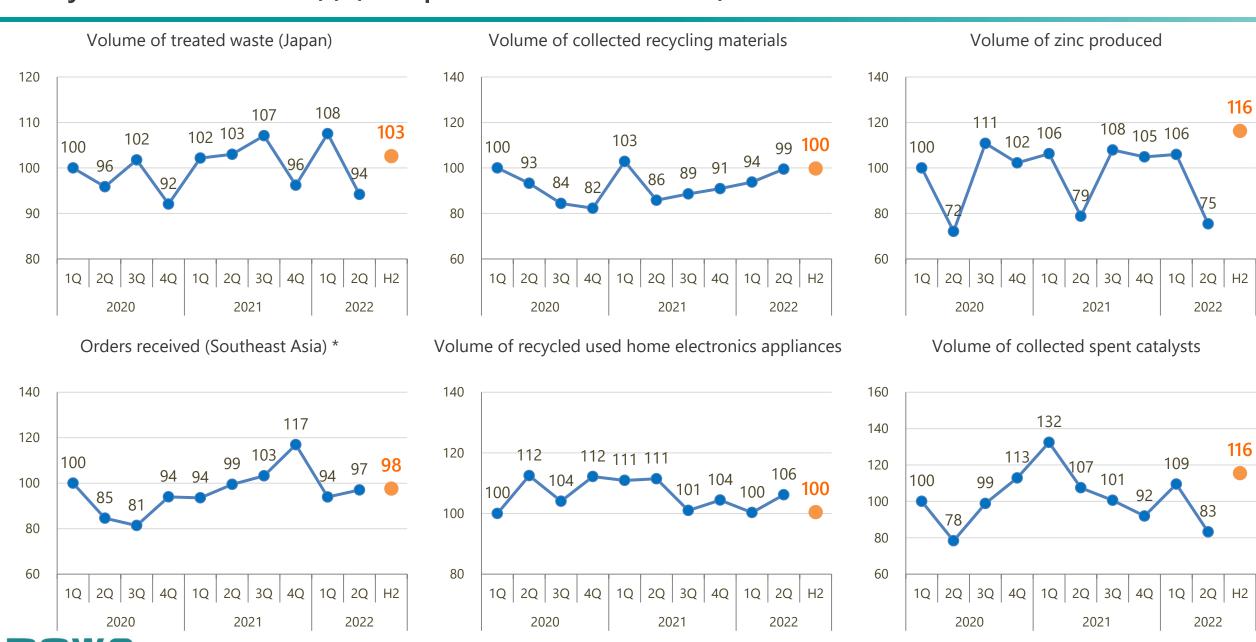


Factor Analysis of FY2022 H2 Ordinary Income (Changes from Previous Forecasts)





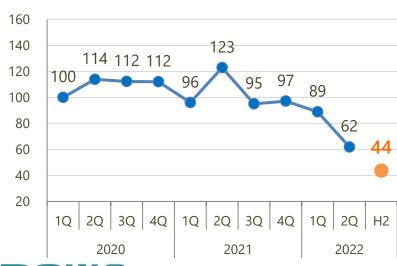
Major Market Trends (1) (Compared to Q1 of FY2020)



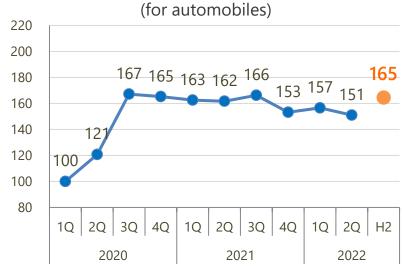
Major Market Trends (2) (Compared to Q1 of FY2020)



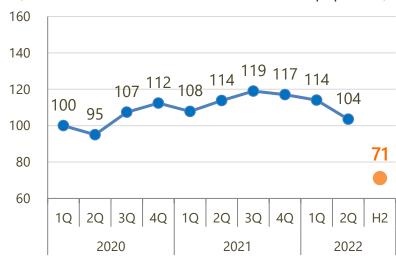
Volume of sales of silver powder



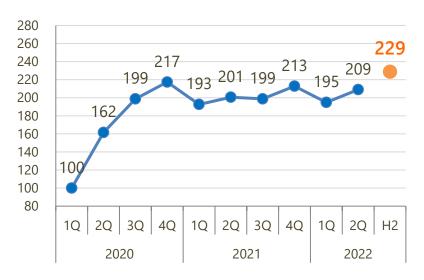
Volume of sales of copper rolled products



Volume of sales of copper rolled products (for information and communication equipment)



Volume of carburizing treatment



[H2 Market Trends (Summary)]

- While silver powder and copper rolled products for information and communication equipment will decline compared with H1, demand will generally remain firm for other products and services.
- For automotive-related products, a turnaround in demand is expected due to recovery production from Q4.
- Rising costs of electricity fuel, other materials will place downward pressure on the balance of income and expenditures.





Progress of Midterm plan 2024

Evolution of Recycling-oriented **Business Model**

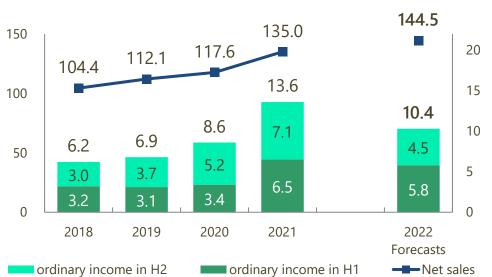
Business Overview

■ Business Environment (FY2022/H2)

- Waste treatment business: Volume of waste generated has will remain flat both in Japan and in Southeast Asia.
- Recycling business: Volume of collected materials for recycling will remain steady.
- Number of used home appliance units processed will remain flat.

■ Net Sales & Ordinary Income

Billion yen (Amounts less than 100 million yen are rounded down.)



《Major Product Trends》

(FY2021/H1 = 100)

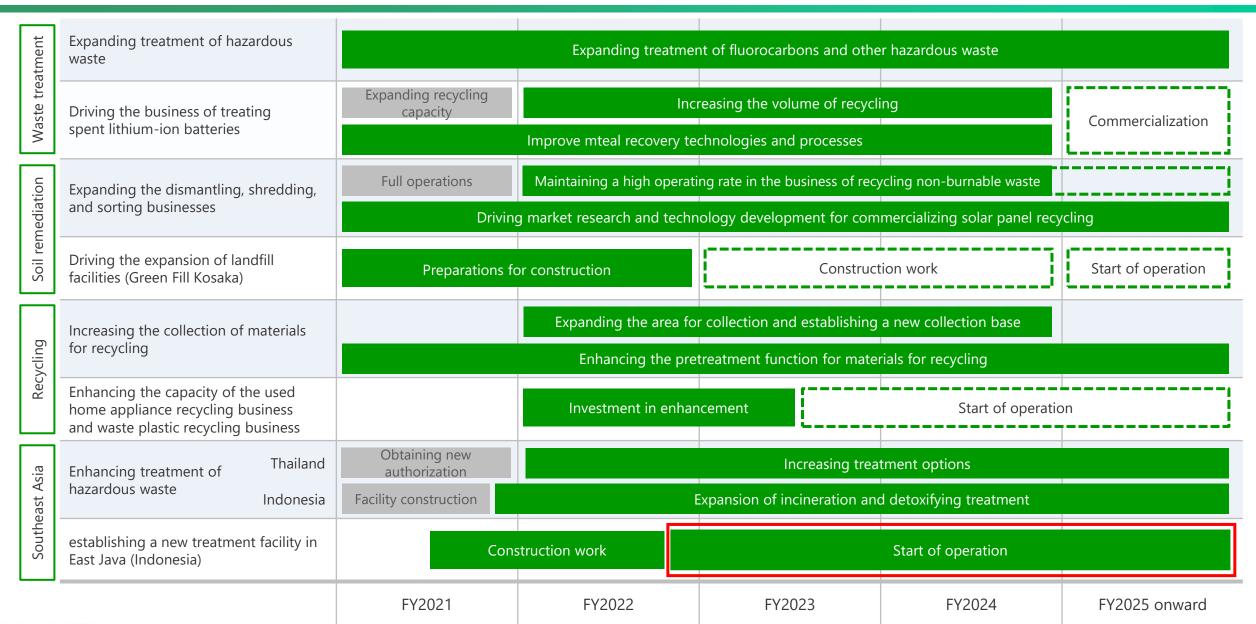
	FY2021		FY2022		FY2024
	H1	H2	H1	H2	F12024
Volume of treated waste in Japan	100	99	98	100	99
Treatment volume in Melting and recycling business	100	121	110	120	141
Waste treatment orders received in Southeast Asia	100	114	99	101	130
Volume of recycled used home electronics appliances	100	92	93	90	100

■ Overview of FY2022/H2 (comparison with H1)

- Significant increase in electricity costs and the cost of fuel and submaterials.
- A brisk volume of domestic waste will be processed for intermediate treatment. The unit price is expected to fall slightly.
- The treatment volume in melting and recycling will rise.
- In Southeast Asia, the focus will be on the processing of hazardous waste.
- In the noncombustible waste recycling business, most revenue planned in the fiscal year is concentrated in the first half.

Environmental Management & Recycling (2) Progress of Key Measures in Midterm Plan

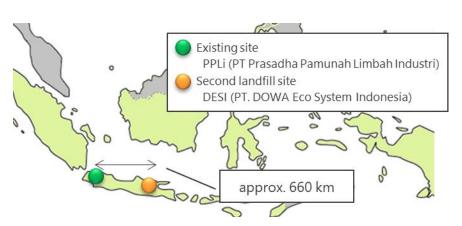






■ Strengthening of Business Response Capabilities in Southeast Asia Markets (Indonesia)

- Expansion of areas that handle orders through alliance with existing sites (PPLi), completion of construction of second landfill side (DESI) in East Java aimed at improved transportation efficiency, start of operation following certification (expected in November 2022).
- → Capture demand for hazardous waste processing that is expected to expand.



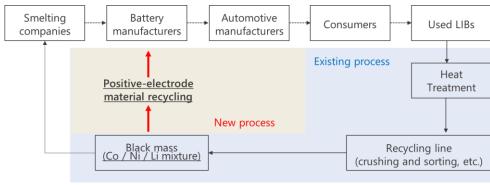




■ Recycling of used lithium-ion batteries

- Following Akita, a recycling line will also enter operation in Okayama (May 2022).
- Successful recycling of cathode material from spent automotive lithium-ion batteries following heat treatment.
- → Strive to enhance business competitiveness by improving processing capacity and building an efficient recycling system.

Lithium-ion battery supply chain



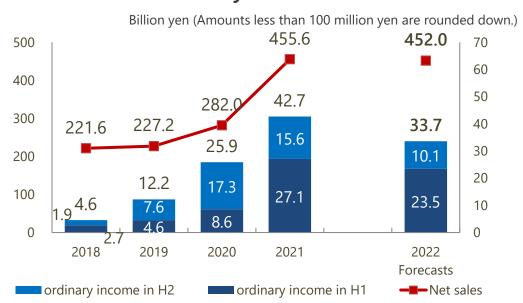


Business Overview

■ Business Environment (FY2022/H2)

- Metal prices, for both base metals and precious metals, are expected to be at a lower level than the H1 average.
- Ingot demand will be slightly sluggish, particularly for the automotive market.
- Generation of spent catalysts is firm.

■ Net Sales & Ordinary Income



《Major Product Trends》

(FY2021/H1 = 100)

	FY2	021	FY2022		FY2024
	H1	H2	H1	H2	F12024
Volume of gold produced (Kosaka)	100	64	92	92	100
Volume of zinc produced (Akita)	100	115	98	126	115
Volume of collected spent catalysts	100	80	80	96	130
(Ref.) Volume of collected recycling materials	100	95	102	106	110

■ Overview of FY2022/H2 (comparison with H1)

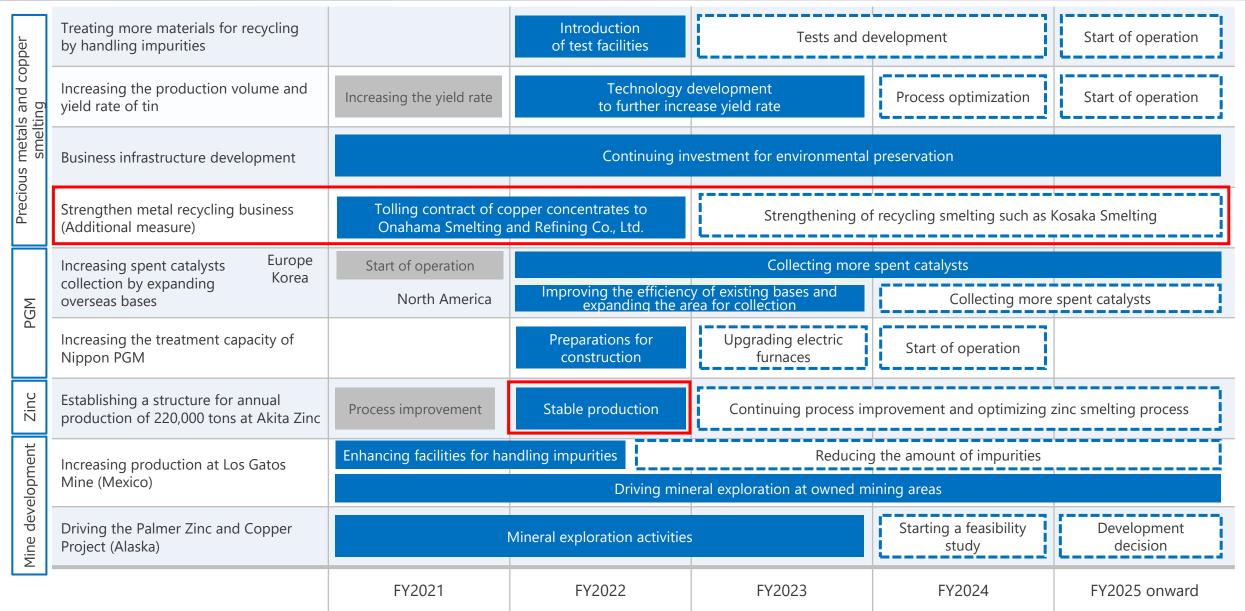
- Due to falling metal prices and deteriorating quality of raw materials, in H2 differential revenue for platinum group metals, zinc will decline.
- In addition to an upward trend for transportation costs and unit prices for materials, electricity rates will also rise sharply.
- Collection volume of spent catalysts temporarily declined due to torrential rain but is expected to recovery in the second half of the year.



In progress

Changes from the last material

Progress of Key Measures in Midterm Plan





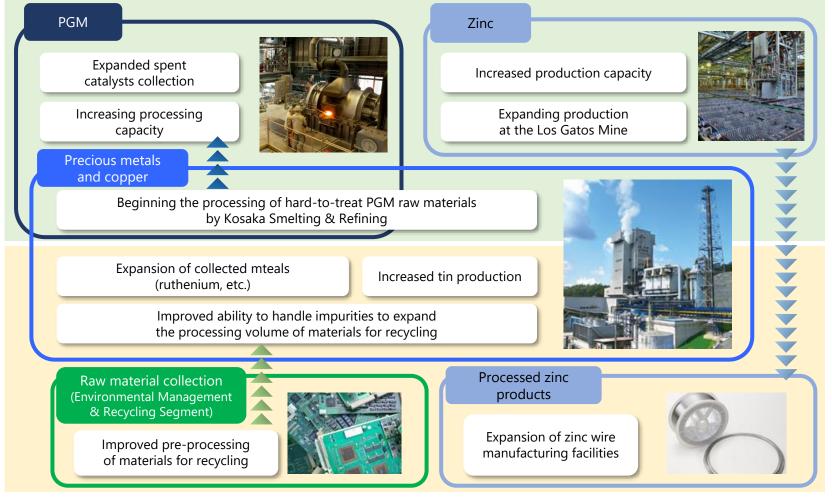
Nonferrous Metals (3)

Further strengthening of complex functions that combine mining, smelting and recycling

- Strengthening capacity for existing markets: Expand sales for various applications including automotive by expanding capacity and increasing production at each plant.
- Expansion into growth markets: Accelerate expansion into new markets and growth markets by enhancing and expanding production types that cater to collection of and demand for new metals.
- → Seek the further strengthening of industrial complex functions that combine mining, smelting and recycling







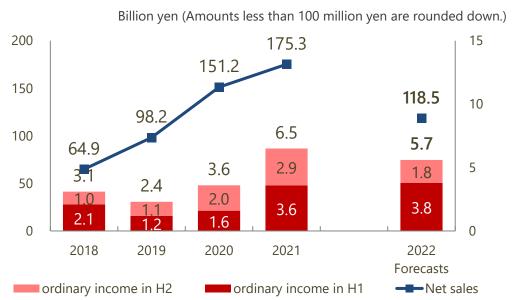


Business Overview

■ Business Environment (FY2022/H2)

- Sluggish markets for telecommunications equipment and semiconductors.
- The sales volume of wearable devices will increase.
- Solar panels to be installed will likely continue to increase, reflecting increasing demand for new energy.

■ Net Sales & Ordinary Income



《Major Product Trends》

(FY2021/H1 = 100)

	FY2021		FY2022		FY2024
	H1	H2	H1	H2	F12024
Volume of sales of LEDs	100	109	149	132	168
Volume of sales of silver powder	100	88	69	40	112
Income from new products (e.g. evaluation sample incomes)	100	109	122	94	200

■ Overview of FY2022/H2 (comparison with H1)

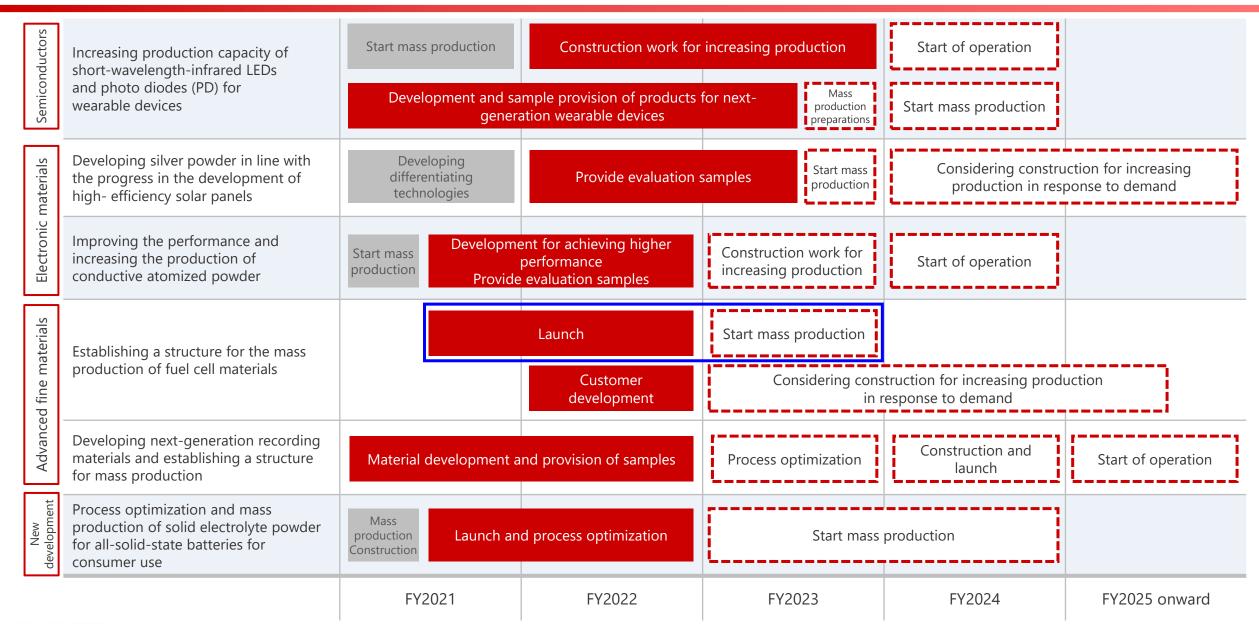
- Solid demand for short-wavelength-infrared LEDs and photo diodes (PDs).
- Orders for silver powder in H2 are expected to be sluggish despite expanded demand for high-efficiency solar power panels.
- Sales have recording materials for data tapes have declined due to the postponement of capital investment in data centers in connection with semiconductor shortages.
- We have steadily proceeded with the development of new products and provision of evaluation samples despite some customers changing plans with fuel cell materials.



Electronic Materials (2)

Progress of Key Measures in Midterm Plan







Electronic Materials (3)

Major Initiatives (details)

Silver powder

- High-efficiency panels have become general purpose and market share has declined due to the worsening competitive environment from the influx of players.
- Competition for current-gen panels has intensified, making it difficult to recover market share.
- → Focus on the high-end market, mainly on next-gen panels, and further concentrate on the development of silver powder with improved properties.

■ Short-wavelength-infrared LEDs and photo diodes (PDs)

- Due to the development of sensing technologies, demand for wearable devices, mainly for the healthcare markets, will rapidly expand.
- Using our strength in catering to a wide range of wavelengths with a focus on infrared ranges, we will expand sales of short-wavelength infrared LEDs and PDs with advanced capabilities for wearable device sensors.
 - → Also advance development aimed at next-generation models to support a variety of sensing methods.

I Fuel cell materials

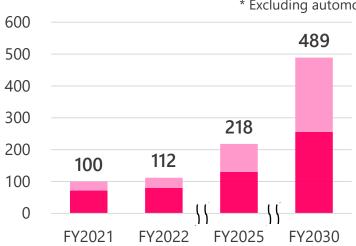
- The market for fuel cells (power generation through hydrogen and oxygen) is expected to rapidly grow as the development of technologies and infrastructure for carbon neutrality accelerates.
- → Development samples for industrial and commercial use have seen steady progress despite changes to the starting times for mass production in some areas.



Fuel Cells for Industrial Use (for illustrative purposes)



- * DOWA HD research, FY2021 indexed to 100
- * Excluding automotive applications



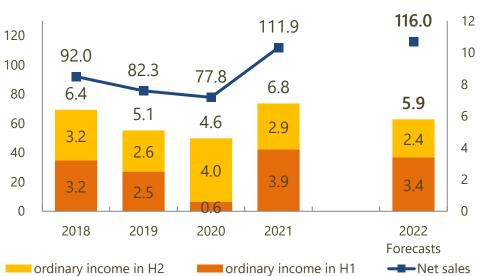
Business Overview

Business Environment (FY2022/H2)

- With the shift to electrified and more intelligent automobiles, the number of automobiles produced is expected to increase to cope with recovered demand.
- While telecommunications equipment will support more functions and enable faster communication, adjustments will continue in the meantime, with a focus on Chinese market conditions.

Net Sales & Ordinary Income

Billion yen (Amounts less than 100 million yen are rounded down.)



《Major Product Trends》

(FY2021/H1 = 100)

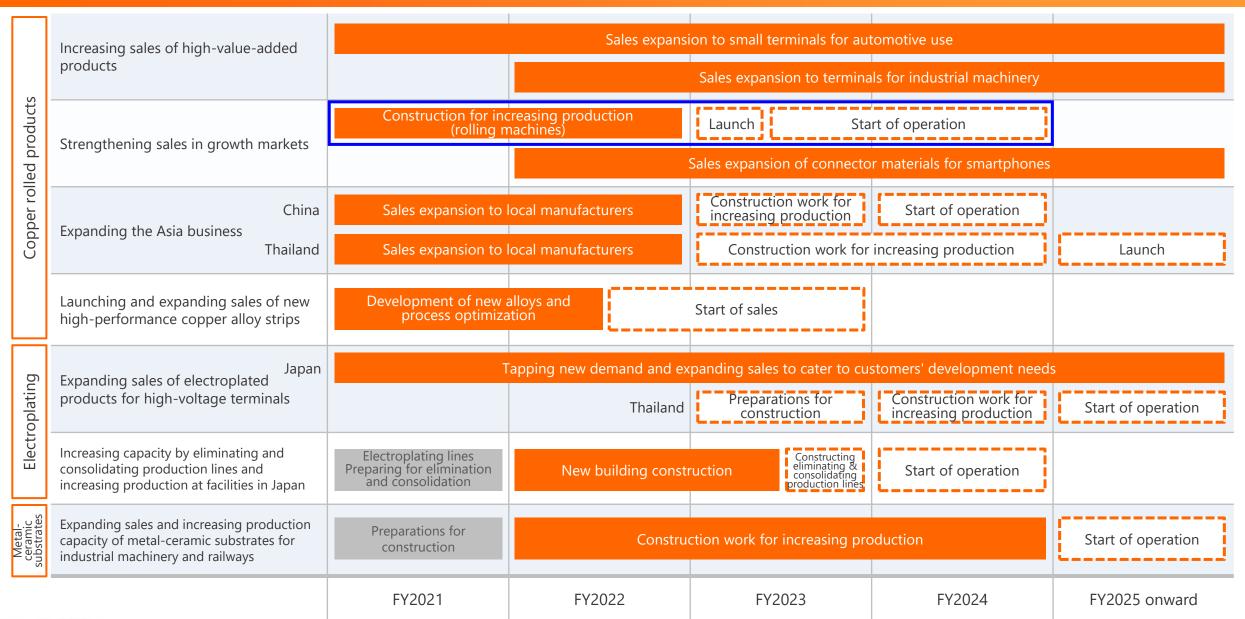
	FY2	FY2021		FY2022	
	H1	H2	H1	H2	FY2024
Volume of sales of copper rolled products (for automobiles)	100	99	95	101	107
Volume of sales of copper rolled products (For information and communication equipment)	100	106	98	64	106

Overview of FY2022/H2 (comparison with H1)

- Production and sales will continue at high levels to eliminate the order backlog of copper rolled products for automobiles.
- Precious metal plating for automobiles is expected to recovery despite customer differences.
- Sales of copper rolled products for telecommunications equipment and semiconductors will decline.
- Strong sales of metal-ceramic substrates will continue, particularly for the industrial segment.

Progress of Key Measures in Midterm Plan







Major Initiatives (details)

■ Copper Rolled Products

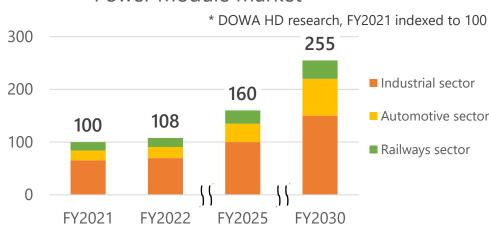
- For automobiles: Demand is increasing, reflecting a shift to electric power and EVs. Launch of SilC plating® silver-graphite composite plating with low insertion force and excellent contact reliability.
- → Expansion into applications that require high sliding properties and reliability, such as charging and high-voltage terminals for Evs.
- For telecommunications equipment: Demand will increase due to the miniaturization and densification of components.
 - Needs for materials that can be used for miniaturization and densification are increasing. Lineup of new YCuT-GM products as compact connector materials for smartphones.
- → To coincide with the introduction of new rolling equipment scheduled to launch in FY2023, support for thin copper rolled products will be enhanced.

Metal-ceramics substrates

- In the power module market, which is the primarily application for mteal-ceramic substrates, demand will expand and the size of the market will increase, driven by the industrial and automotive sectors.
- → Investment in increased production is under way in anticipating of steadily capturing demand.



Power Module Market





Heat Treatment (1)

Business Overview

Business Environment (FY2022/H2)

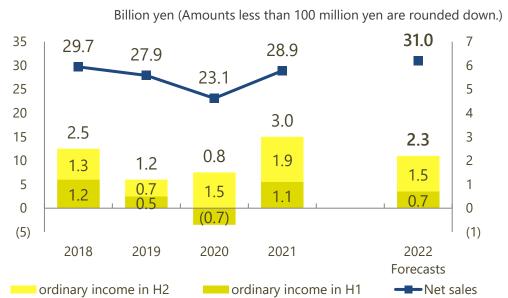
- Global automotive production is on the way to recovery from the impact of the COVID-19 pandemic.

Domestic: Monthly fluctuations in orders will continue due to semiconductor and component shortages.

Overseas: The recovery will be relatively fast and production will be on the rise.

- Demand for equipment maintenance will remain strong.

Net Sales & Ordinary Income



《Major Product Trends》

(FY2021/H1 = 100)

	FY2021		FY2022		FY2024	
	H1	H2	H1	H2	F12U24	
Heat Treatment Sales Amount	100	105	104	103	121	
Industrial Furnaces Sales Amount	100	212	118	196	208	

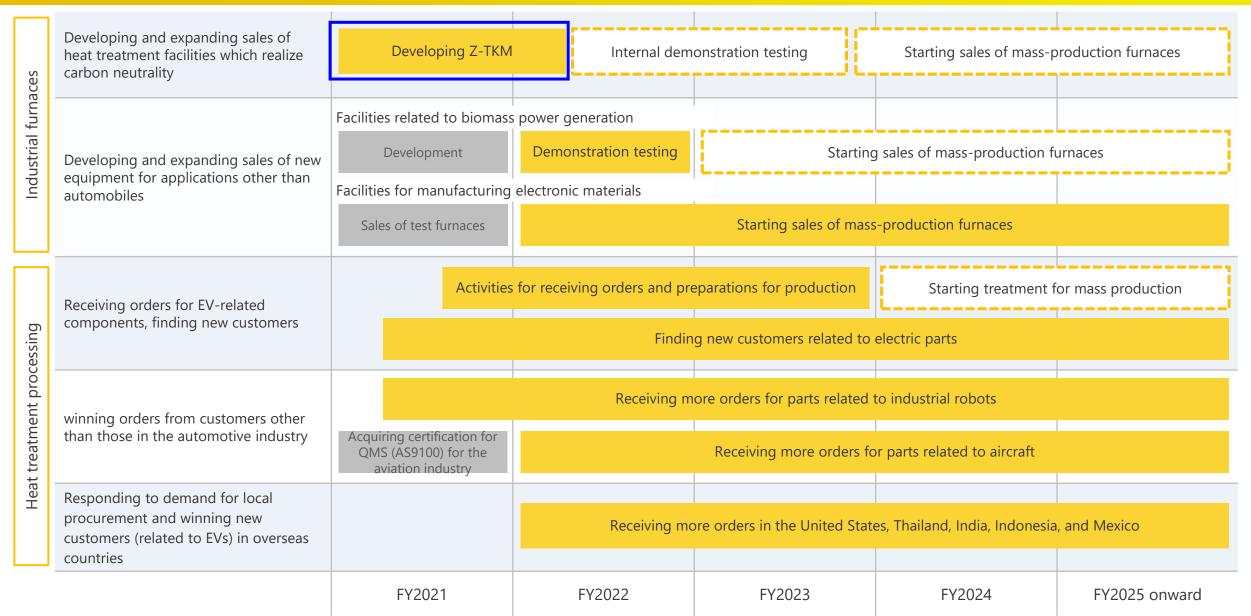
Overview of FY2022/H2 (comparison with H1)

- In the heat treatment business, the Company will build a production system to cope with demand increases and decreases, thoroughly implement operational management to minimize the impact of unit energy prices and other rising costs, and endeavor to maintain and improve revenue.
- In the industrial furnaces business, the Company will uncover customer needs and steadily work on year-end, New Year and end of period maintenance projects.

Heat Treatment (2)

Progress of Key Measures in Midterm Plan

Changes from In progress the last material





Heat Treatment (3)

Enhancing products and services that help achieve carbon neutrality

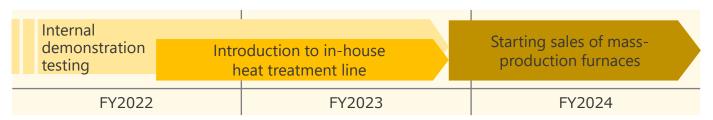
The Company will steadily launch new products and services on the market to respond to strong expectations in the automotive market.

SS Vacuum Carburizing Furnace

- Small lot production will be possible, and CO₂ emissions will be reduced by utilizing vacuum carburizing technology.
- From FY2020, equipment installations at customer premises in Japan and overseas have advanced.

Z-TKM

- Carburizing quenching furnace able to reduce CO₂ emissions within the heat treatment process by 60%.
- If it can be combined with green energy, ammonia burners or hydrogen burners, operation that emits almost no CO₂ in-process could be achieved.
- The Company will continue with internal demonstration testing ahead of the start of full-scale orders within FY2023.



DNTN (surface hardening treatment)

- Treatment that gives high precision and high strength to nitriding treatment with low CO₂ emissions is being developed to application in gear components



Z-TKM testing furnace installed at the Hamamatsu Plant



Improve properties such as wear resistance, fatigue resistance and corrosion resistance in gear components (steel materials).

Conceptual image of surface hardening treatment



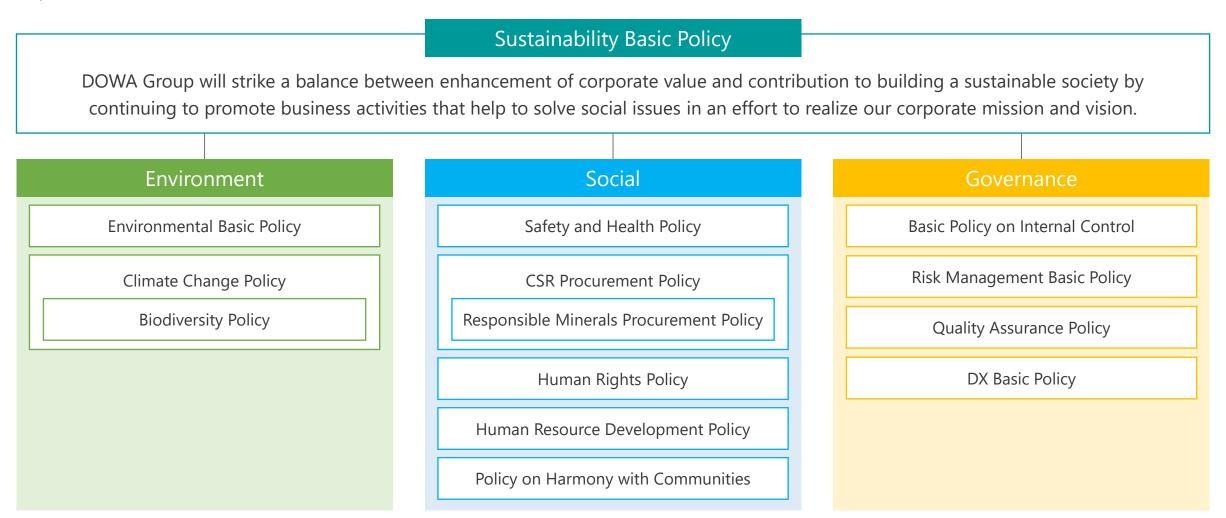


Progress of Midterm plan 2024

Strengthening Sustainability Management

Development of a sustainability-related policy structure

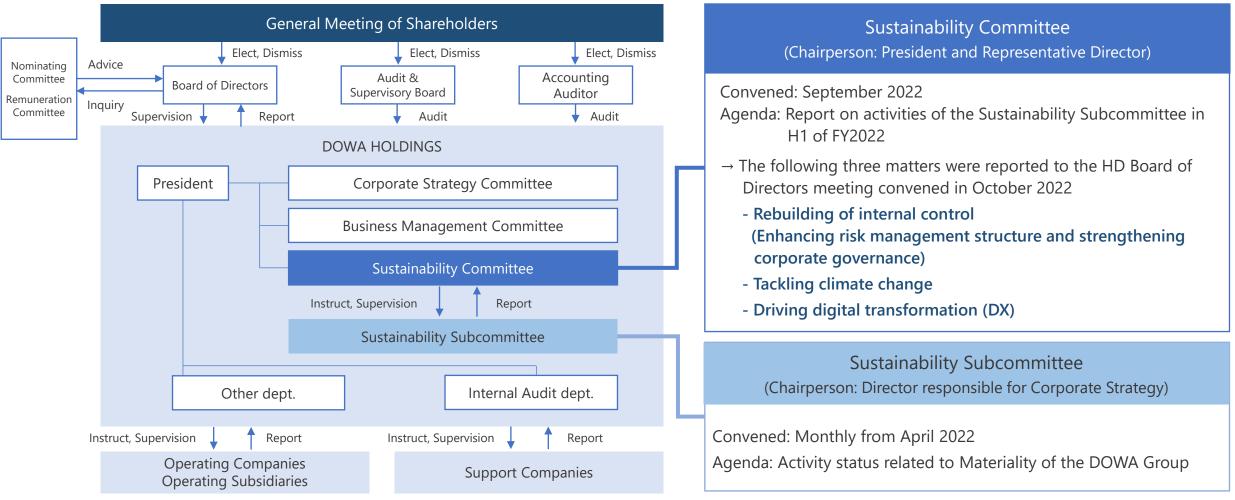
The Company will consolidate and organize Group policies related to sustainability and develop a policy structure that culminates in the Sustainability Basic Policy. The policy will clarify the Company's direction in each area of sustainability leading to achievement of the mission and vision (our goal in 2030).





Start of new sustainability promotion system operation

From April 2022, the Sustainability Subcommittee and Sustainability Committee have been meeting regularly to discuss Groupwide matters. The Company will shift from the sharing of information on sustainability activities to continuing to the development of Groupwide infrastructure and moving to the implementation phase of various measures in H2.



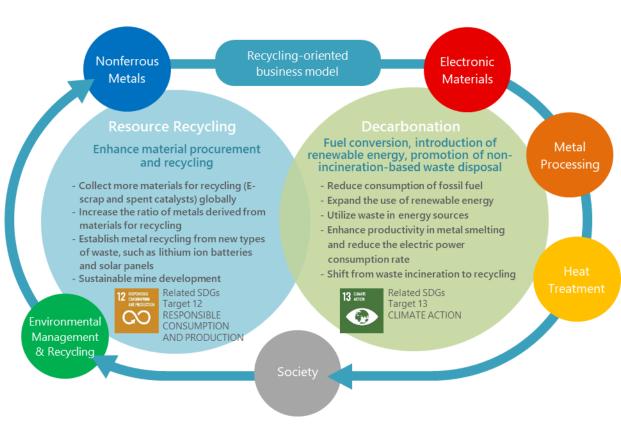
Tackling Climate Change

The Climate Change Working Group established in April 2022 identifies products and services that help tackle climate change based on two perspectives (seizing opportunities and mitigating risks), organizes the challenges that need to be addressed to meet the greenhouse gas reduction targets for FY2030, and shares various information.

Action on Climate Change in Midterm Plan 2024

Key measures	Initiatives
Creation of businesses in accordance with the market environment	 Reinforce global resource recycling Build a sustainable business model to achieve compatibility between resource recycling and decarbonization Offer products and services that suit the market needs and contribute to decarbonization
Company-wide activities against climate change	 Continuing to promote company-wide initiatives related to climate change, launch of the climate change working group In-house workshops and provision of information
Reinforcement of our monitoring system	 Streamline the calculation of greenhouse gas (GHG) emissions Share our GHG emissions within the company with the use of a 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)	 Strengthening preparedness against the physical risks of climate-related disasters and incorporating climate-related disasters into existing BCP Consider and discuss measures against weather disasters affecting the supply chain
Improvement in information disclosure	 Encourage information disclosure based on the framework of the TCFD recommendations Regularly share information by using the integrated report and our website

Approach to solving climate change issues





Driving Digital Transformation (DX)

From early FY2021, response to the digital governance code was strengthened, and certification as a "DX Certified Operator" was obtained from the Ministry of Economy, Trade and Industry in July 2022. During the period of Midterm Plan 2024, the Company will steadily build IT infrastructure and develop DX-oriented human resources to further promote DX Groupwide.

Measures in Midterm Plan 2024	Indicators	FY2021 Results	Targets for FY2022 to FY2024	
Building IT infrastructure	Operating a common Group cloud infrastructure	Start of development	Operational launch in FY2023/H2	
Human Resource Training for Digital Transformations	Number of human resources trained	14	Cumulative number: 80	

■ Building IT Infrastructure

From FY2021, the building of IT infrastructure that will enable the Groupwide utilization of data was launched. In the future, there are plans to develop and integrate the mission-critical systems common to the Group and the production systems of each business within the same infrastructure.

■ Human Resource Training for Digital Transformations

From FY2022, DX introduction and basic human resources training was launched. By the end of FY2024, 40 DX promotion human resources who will promote DX at each business site, and 40 engineers who will support the technical aspects of DX promotion will be trained, resulting in 80 DX-oriented human resources in total.

Obtaining DX Certification

The Company strengthened its response to the Digital Governance Code and in July 2022 obtained certification as a DX Certified Operator from the Ministry of Economy, Trade and Industry.





Dividends

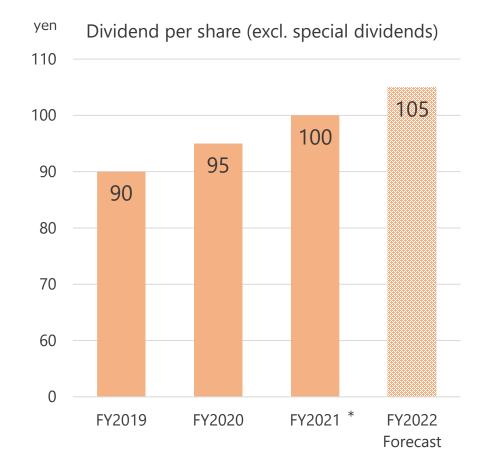
Based on the dividend policy set in Midterm Plan 2024, the dividend for this fiscal year will be 105 yen per share, marking a 5-yen increase in the ordinary dividend from the previous fiscal year. The Company will aim to further increase dividends in light of future trends in financial results, future funding needs, and other factors.

Dividends 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 the Midterm Plan 2024 (FY2022 through FY2024) is "not to 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 yen to 70.0 billion yen under the plan.

Moreover, we will 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.

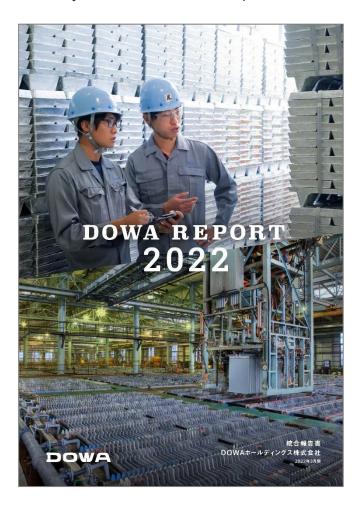


*The total amount of annual dividend for FY2021 is 130 yen per share, with the amount of special dividend (30 yen) added to that of ordinary dividend (100 yen).



Issuance of DOWA REPORT2022 (Integrated Report)

At the end of November 2022, the Company plans to release DOWA REPORT 2022 (Integrated Report 2022, Japanese edition). The report will cover information regarding policies, promotion structures, measures and indicators related to each material issue based on the Materiality of the DOWA Group.







(Appendix) Assumptions and Sensitivities

Sensitivity (Operating Income / FY2022 H2)

Million yen

	Assumptions	Fluctuation	Sensitivity
Exchange rate	145.0 ¥/\$	±1 ¥/\$	310
Copper	7,500 \$/ton	±100 \$/ton	20
Zinc	2,900 \$/ton	±100 \$/ton	240

^{*} Exchange rate sensitivity; Nonferrous Metals 260 million yen and Electronic Materials 50 million yen.

Exchange Rate and Metal Prices

		FY2021		FY2022			Midterm	
	H1	H2	Full-year	H1	H2 assumptions	Full-year	Plan 2024	
Exchange Rate: (¥/\$)	109.8	115.0	112.4	134.0	145.0	139.5	120.0	
Copper: (\$/t)	9,541	9,842	9,691	8,634	7,500	8,067	10,000	
Zinc: (\$/t)	2,954	3,554	3,254	3,597	2,900	3,248	3,800	





Forward-looking statements made in this document, such as business forecast, are based on the information available at this time and on certain premises that the Company assumes to be reasonable. Actual performance may differ materially from such forecasts due to a variety of factors.