DOWA

Business Results and Progress of Key Measures

First Half of FY2021 (FY Ending March 2022)

DOWA HOLDINGS CO., LTD.

November 16, 2021

Hello, everyone.

Thank you for attending our results briefing.

My name is SEKIGUCHI Akira. I am president and representative director of DOWA HOLDINGS. Today, I would like to talk to you mainly about the outlook for the second half of FY2021.

I hope you will bear in mind that the forecasts for FY2021 do not include the results and forecasts of Fujita Kanko Inc., which is an entity accounted for using equity method.



Let me explain the results for the first half of FY2021.

The first-half figures are actual results and equity method income of Fujita Kanko Inc. is therefore included.

In the first half of FY2021, both sales and profit increased significantly year on year. We believe this is largely attributable to three factors.

Firstly, exchange rates and metal prices were both favorable. These were the biggest factors behind the increases in sales and profit.

The second factor is recovery from the effects of the COVID-19 pandemic. In FY2020, the Metal Processing segment and the Heat Treatment segment, both of which have a large proportion of automotive-related customers, were severely hit during the first half. In FY2021, business was still not completely back to normal but conditions were more similar to pre-COVID conditions. Similarly, the Los Gatos Mine in Mexico suspended operations for one-and-a-half months from mid-April 2020 in accordance with the Mexican government's mandated suspension of operations and fell into a loss in FY2020. However, with a return to normal operations in FY2021, the mine is achieving profitability in line with its true potential.

The third factor is materialization of the effects of measures implemented to date. The progress we made in FY2021, such as startup of the business of recycling non-burnable waste in the Environmental Management & Recycling segment and the start of mass production and sale of short-wavelength-infrared LEDs in the Electronic Materials segment, is another factor behind the increases in sales and profit.



Looking next at the FY2021 full-year forecasts. The forecasts do not reflect the results and forecasts of Fujita Kanko Inc.

The "fall in precious metal prices" is in comparison with average prices in the first half. Since we handle a great deal of precious metals such as gold, silver and platinum group metals (PGM), the impact of price volatility in precious metals cannot be ignored.

PGM prices in particular started rising sharply from the third quarter of FY2020 and reached a peak in the first quarter of FY2021. Since we assumed that PGM prices would be similar to September levels, this means that prices will appear low when compared with peak levels.

I will discuss the "automobile production cutbacks" in more detail later but the impact is apparent in the Heat Treatment segment. The Metal Processing segment, on the other hand, is expected to escape any direct impact.



We expect that ordinary income will decrease through the second half compared with the first half but anticipate that our target markets will remain firm.

The "fall in precious metal prices," which is one of the factors behind decreased profit in the Environmental Management & Recycling segment and the Nonferrous Metals segment is based on the assumption of low prices during the second half, compared with the first half, when prices peaked. Although we have been involved in this industry for many years, we feel that the level of prices when they peaked in the first quarter of FY2021 was excessively high and, if anything, we see it as reassuring from the standpoint of business operations that prices passed their peak and entered an adjustment phase.

In the Electronic Materials segment, we forecast firm demand for silver powder. In LEDs business, we fully launched new short-wavelength-infrared LEDs from the second quarter of FY2021. Initially, we received many orders, partly reflecting the build-up of inventories at customers. However, in the second half, demand has levelled off and a negative impact in terms of a difference in LEDs product mix has emerged but we consider this to be the impact of transition to stable operation.

The decreased profit of the Metal Processing segment is chiefly attributable to accounting treatment. In the first half of FY2021, the Metal Processing segment recorded a gain on the reversal of temporary derivative losses recognized at the end of FY2020, which bolstered first-half profit, and the segment will post decreased profit in the second half.

The Heat Treatment segment will post higher profit in the second half than the first due to the usual concentration of sales of industrial furnaces in the second half. Although the Heat Treatment segment has been affected by automobile production cutbacks, on a groupwide basis, the impact will be limited.



Moving on, I would now like to discuss each segment in more detail.

Environmental Management & Recycling (1) Business Overview

Business Environment (FY2021/H2)

- Waste treatment: Firm in Japan and remain flat in Southeast Asia.
- Competition will intensify in the collection of recycling materials for smelters.
- Automobile shredder dust and discarded home electrical appliances will be collected in large quantities.

Net Sales & Ordinary Income



	FY2020		FY2021	
	H1	H2	H1	H2
Intermediated Waste Treatment Volume in Japan	100	99	105	105
Treatment Volume in Melting and Recycling business	100	99	102	121
Waste Treatment Amount in Southeast Asia	100	95	105	102
Treatment Volume in Electric Equipment Recycling business	100	102	105	101

Overview of FY2021/H2 (comparison with H1)

- 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 the business of recycling non-burnable waste, most revenue planned in FY2021 is concentrated in the first half.
- Revenue from recycling business will decrease due to falls in prices of precious metals.

I will begin with an explanation of the Environmental Management & Recycling segment. Looking at the business environment in the second half of FY2021, we expect that we see the same good waste treatment market conditions seen in the first half, with the market holding firm in Japan and remaining flat in Southeast Asia. Around the world, competition over the collection of recycling materials is tending to intensify but we will not let that defeat us and will increase collections. We see no change in terms of collections of automobile shredder dust and discarded home electrical appliances. Looking at major product trends, we anticipate that treatment volumes in all categories will improve year on year.

In our overview of the second half of FY2021, we left our forecast of the unit price for the treatment of domestic waste which we made at the start of the year unchanged and the unit price is expected to be slightly lower than the actual unit price in the first half. One of the reasons the first-half results of this segment were higher than the forecast at the beginning of the year is that the processing unit price was ultimately higher than forecast. In the second half, the unit price has gone back to the level we estimated at the beginning of the year and our forecast may be slightly conservative.

As for the treatment volume in melting and recycling, the newly constructed pre-treatment facility went into operation from June 2021 and progress is good. The new facility will contribute to an increase in treatment volumes at the Tochigi and Fukushima Plants, with benefits emerging in the second half and lasting into next fiscal year and beyond.

In the business of recycling non-burnable waste, most revenue planned in FY2021 is concentrated in the first half. This is a business where an annual contract treatment volume is determined but since treatment progressed at a brisk pace in the first half, profit was also concentrated on the first half. The second-half business environment will not cause any particular problems.



This is a chronological chart showing the progress of key measures in the Midterm Plan. The parts outlined in red are areas where progress has been made since the materials at the beginning of this fiscal year.

I would next like to explain progress made on "Expand melting and recycling business" at the top of the table and "Expand waste treatment business in Southeast Asia" in the middle of the table.



Let me start with "Expand melting and recycling business."

We put the pre-treatment facility into operation in June 2021. We started up the facility in June and transitioned to full-scale operation from July. The benefits of pre-treatment contributed to increased treatment volumes at the Tochigi Plant in FY2020. We believe the next challenge is to further increase collection activities and contribute to increased treatment volumes at the Tochigi and Fukushima Plants in FY2021 and beyond.

"Recycling of used lithium-ion batteries" is a project which will contribute to earnings a little further down the line. What makes us different from our competitors is that we are getting involved in a new recycling business whilst utilizing our existing heat treatment facilities to minimize initial investment.

In this context, recycling line denotes the sorting process. We established a recycling line in Akita in 2019 and now plan to put a new recycling line into operation in Okayama as well during the first quarter of FY2022. That said, we still need to improve quality in our sorting operations and our next challenge in terms of technological development is to improve our metal recovery technologies and processes. This means increasing the value of recovered resources through more technologically advanced selection processes.



The next slide deals with business in Southeast Asia, specifically Indonesia.

We have successfully entered the waste incineration business in Indonesia. Our Midterm Plan 2020 also mentioned this as a key measure but implementation was delayed around half a year, partly due to the effects of the COVID-19 pandemic. Going forward, we plan to ramp up this business.

We finally started construction on a second landfill site in June this year and plan to put the site into operation in the second quarter of FY2022, aiming for a contribution to earnings over the period of the next Midterm Plan. This project was also delayed around one and a half years compared to the initial plan due to the effects of the COVID-19 pandemic. We intend to ensure that the project is not delayed any further.

Nonferrous Metals (1) Business Overview

Business Environment (FY2021/H2)

- Metal prices: The prices of base metals will be about the same as the average prices in H1. The prices of precious metals are expected to be lower than the average prices in H1.
- Demand for metals: Expected to be strong overall.

Net Sales & Ordinary Income



1ajor Product Trends》	(FY2020/H1 = 100)				
	FY2020		FY2021		
	H1	H2	H1	H2	
Copper Production (Kosaka•Onahama)	100	99	90	100	
Gold Production (Kosaka)	100	98	108	96	
Zinc Production (Akita)	100	124	108	124	

Overview of FY2021/H2 (comparison with H1)

- Processing volume of spent catalysts decreased due to the facility renewal.
- Free metal income related to gold will fall in H2 due to periodical maintenances in Kosaka Smelting & Refining.
- Revenue will decline due to the worsening of zinc raw material purchasing conditions.
- Electricity cost and the unit prices of materials will be on an upward trend.

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Moving on to the Nonferrous Metals Segment.

Looking at the business environment, the prices of base metals have recently been in an upward trend but we assume that second-half prices will be mostly unchanged from first-half levels. Our assumptions regarding prices for precious metals are as explained at the beginning of this presentation. Metals demand will be generally firm and there will be no major market irregularities.

As for our overview of the second half of FY2021, processing volume of spent catalysts will decrease in the second half due to the implementation of periodical maintenance conducted once every five years at NIPPON PGM Co., Ltd. This is not a decrease in processing volume due to market irregularities but rather reduced operation for the purpose of equipment maintenance. Similarly, Kosaka Smelting & Refining will also extract less precious metals and other payable metals (meaning less free metal income) in the second half due to annual maintenance. This is also nothing out of the ordinary.

The worsening of zinc raw material purchasing conditions will be in line with initial expectations. In our case, procurement is mainly based on long-term contracts and, during the first half of FY2021, we were still extracting zinc raw material under favorable 2020 conditions. However, in the second half, extraction of zinc raw material procured in 2021 under worse conditions will commence. Consequently, second-half performance appears worse compared with the first half. Fluctuation in procurement conditions has this kind of impact on earnings every year. Electricity costs are also rising, driven by zinc smelting. Electricity prices are expected to go up in response to price increases for oil and natural gas and we have factored the impact of this into our forecast.



This page shows the progress of major actions in the Nonferrous Metals segment during the Midterm Plan.

In the Nonferrous Metals segment, we generally implemented measures smoothly.

I will explain progress on the second major action "Increase collection of PGMs materials by expanding overseas bases" shortly based on the next slide

Regarding "Start construction and operation of new zinc mine in Mexico," we completed the full collection of loans. The improvement in metal prices put Los Gatos Mine in a much better income and expenditure situation, but more importantly, the improvement in the business environment made it possible for the JV partner to raise funds. This allowed the loans used to finance construction to be collected in full according to the proposal of the JV partner. Our share of these loans was previously greater than our equity interest but, following allocation of part of the funds raised to a capital increase, our investment is now commensurate with our equity interest. Consequently, there was a cash inflow of just under 20 billion yen in the first half.



Let us now move on to the expansion of the PGM recycling business.

The PGM recycling business was a major source of revenue in FY2020 and FY2021 and the business is going extremely well. Between the third quarter of FY2020 when PGM prices rose sharply and the end of the first quarter of FY2021, when PGM prices peaked, we were able to make large profits.

Since our production processes at NIPPON PGM Co., Ltd. are highly competitive in terms of recovery efficiency compared with our competitors, we believe that our strategy in terms of collection will determine the success or failure of the business more than our manufacturing strategy, and we are focusing on expansion of collection site.

Our main collection sites are in the United States and Czech and we are reorganizing our collection sites in the United States to increase collection in new places. In Europe, since it was difficult to cover the whole of Europe from our Czech site, we constructed a new sampling site in Spain, which is now in operation. As a result, we are now able to further increase collections, including at our Czech site, which has a high utilization rate. In South Korea, we established a comparatively small sampling site, which we have now put into operation.

Going forward, we plan to create a global collection network to increase collection of spent catalyst.

Electronic Materials (1) Business Overview

Business Environment (FY2021/H2)

- The smartphone sales volume will be recovering trend.
- The sales volume of wearable devices will increase.
- Solar panels to be installed will likely continue to increase, reflecting increasing demand for new forms energy.

Net Sales & Ordinary Income



Najor Product Trends》	(FY2020/H1 = 100)			
	FY2020		FY2021	
	H1	H2	H1	H2
LED Sales Volume	100	96	121	135
Silver Powder Sales Volume	100	105	102	113
Income from new products (e.g. evaluation sample incomes)	100	76	76	95

Overview of FY2021/H2 (comparison with H1)

- Mass production of short-wavelength-infrared LEDs and photo diodes (PD) will continue.
- Demand for silver powder at customers, which declined in H1 chiefly due to the shortage of raw materials, will recover. Sales of silver powder will expand in H2.
- Among new products, Fuel cell materials and Deep-ultraviolet LEDs will earn higher sample revenues.

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In the Electronic Materials segment, the business environment is firm, and demand related to smartphones and wearable devices in particular has grown since FY2020. Use of silver powder in solar panels, which is just one of its applications, is also increasing. Short-wavelength-infrared LEDs and photodiodes are newly launched products and full-scale sales began in the second quarter of FY2021. We believe that these products have at last given us a foothold to turn things around and go on the offensive in the semiconductor business, where we have been consistently struggling.

I also made steady progress towards the full-scale launch of several other new products.



The Electronic Materials segment has more areas with changes, mainly new products, than the other segments. I hope you can see the good progress that has been made on various measures. The progress on a number of these measures is explained in the next slides.

Electronic Materials (3)

Expansion to Automobiles, Telecommunications, Medical and Healthcare Markets

Conductive atomized powder

- Orders from the existing users are increasing as demand for automotive and telecommunications applications is rising.
- Expanding applications for new MLCC users.
- -> Expand sales for circuit board substrates and electronic components of telecommunications equipment with a view to stabilizing revenue.

Short-Wavelength-Infrared LEDs, Photo diode

- Developed a photo diode (PD) using short-wavelengthinfrared LEDs technologies.
- Combined the short-wavelength-infrared LEDs and PD and started mass production and sales for sensors of wearable devices.
- -> Started development for next generation equipment.

Deep-Ultraviolet LEDs

- The provision of evaluation samples for resin curing is partially completed. The Company is waiting for users to start to use the product.
- -> Applications are being expanded to medical devices and analytical instruments.



Sales of conductive atomized powder are mainly to MLCC users but the market is steadily expanding. We also made capital investment with a view to mass production and although depreciation will increase in FY2021, we aim to generate stable ordinary income. Short-wavelength-infrared LEDs and photodiodes (PD) were fully launched in the second quarter of FY2021. Since products in the Electronic Materials segment have a short life cycle, we constantly have to think about the next products. We are, therefore, conducting development with the customers we have now begun delivering to get them to use our LEDs and PD in their next-generation models. If things go well, we think these efforts might be reflected in our business results in 2-3 years from now. When next-generation models come on to the market, the LEDs and PD we are now selling will come to the end of their useful life and we intend to replace them with the LEDs and PD currently under development.

As for deep-ultraviolet LEDs, we withdrew from products used in sterilization applications several years ago but are developing products for other applications such as resin curing applications. With customer qualification already finished, we will now push ahead with initiatives to expand sales.



Silver powder remains a major source of revenue for the Electronic Materials segment. With carbon neutrality ("CN") now a key theme, we expect this market to continue growing strongly. In particular, our silver powder has properties that meet demand for finer wiring, which is a technology for increasing power generation efficiency. I cannot give details of the technology but we plan to maintain a large market share through differentiation in terms of product properties. At the same time, we will also build facilities to increase production and optimize our production processes.

We are building facilities for the mass production of fuel cell materials for SOFCs, in preparation for expansion in demand from FY2022. We are hoping for a significant contribution to earnings during the period of the next Midterm Plan. One major application is use in distributed power sources and we will seek sales expansion in overseas markets which are ahead of the domestic market. In Japan, we will have to wait for establishment of the market for the time being.

Metal Processing (1) Business Overview

Business Environment (FY2021/H2)

- Automotive production will increase. The shift of automobiles to electric power and intelligence advances.
- Telecommunication devices will support increasing functions and faster communication.
- The global shortage of semiconductors will continue.

Net Sales & Ordinary Income



lajor Product Trends》	(FY2020/H1 = 100)			
	FY2020		FY2021	
	H1	H2	H1	H2
Copper Alloy Sales Volume (For Automobile)	100	151	147	149
Copper Alloy Sales Volume (For information and communication equipment)	100	113	114	116

Overview of FY2021/H2 (comparison with H1)

- Sales of copper rolled products and precious metal electroplating for automobiles will continue to be strong, but future sales are uncertain.
- The capacity utilization for the production of copper rolled products for semiconductors will remain high.
- Sales of metal-ceramic substrates for industrial use will be firm, but sales of them from railway operators will remain weak.

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In the Metal Processing segment, the impact of automotive production cutbacks gives cause for concern but demand has recovered significantly compared with FY2020 at least.

Our customers are parts manufacturers, and orders placed with us have not been affected by the production cutbacks, perhaps reflecting expectations that automakers will catch up on production. This also means, however, that market conditions depend on future efforts to catch up on production. Our judgment on the second half is based on the assumption that we will not be significantly affected by the automotive production cutbacks.

Copper rolled products for semiconductors have recovered dramatically since the fourth quarter of FY2019 and we expect that demand will remain strong.

Sales of metal-ceramic substrates for industrial use are firm, but sales to railway operators are weak compared with FY2020. This reflects the fact that investment in railway infrastructure has been pushed back as governments around the world implemented emergency fiscal measures in response to the COVID-19 pandemic.

We are still sure that this is a promising market given that investment in railway infrastructure is expected to increase in light of the push for CN. We will, therefore, work on developing metal-ceramic substrate technologies and differentiating our products from those of our competitors.



Looking at progress of key measures under the Midterm Plan in the Metal Processing segment, there is nothing new to report but progress was made on projects such as completion of reconstruction of electroplating construction lines in Mexico and development of new plating technologies for automotive components. These are both measures intended to contribute to profit during the period of the next Midterm Plan.

Regarding the second measure from the top "Invest in rolling and other facilities for increasing production," we plan to put new rolling facilities into operation from FY2022. We expect that once the new rolling facilities are in operation, we will be able to leverage the respective strengths of our two factories that manufacture copper rolled products (DOWA METAL and DOWA METANIX) and produce synergies. We see this as a challenge to be accomplished under the next Midterm Plan.



The success or failure of copper rolled products business depends on how effectively we are able to tap into new trends, namely the shift to EVs and advances in telecommunications equipment. Thus far we have been making capital investments to this end. We now intend to steadily realize returns on these investments.

Also in the field of metal-ceramic substrates, we recently announced new products. We have now begun supplying samples and are gauging customer reactions.

Heat Treatment (1) Business Overview

Business Environment (FY2021/H2)

- The effect of production cutbacks at automobile manufacturers will likely become apparent in part of the business, but the effect is expected to be minor due to a recovery in demand overseas.
- Equipment sales and demand for maintenance will be firm.

Net Sales & Ordinary Income



lajor Product Trends》	(FY2020/H1 = 10			
	FY2020		FY2021	
	H1	H2	H1	H2
Heat Treatment Sales Amount	100	154	152	156
Industrial Furnaces Sales Amount	100	109	84	165

Overview of FY2021/H2 (comparison with H1)

- Heat treatment processing to meet demand will continue.
- The Company will maintain the effect of cost reduction and ensure profitability.
- In the industrial furnaces business, the Company will steadily proceed with maintenance work that has been postponed and will implement projects towards the end of the fiscal year.

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Lastly, I will describe the Heat Treatment segment.

This segment was directly impacted by the automotive production cutbacks. Although the market is definitely on a path to recovery in FY2021 compared with FY2020, there is a question mark over whether demand will return to pre-COVID levels.

In the heat treatment processing business, the impact of automotive production cutbacks has been felt across-the-board. However, repeated cost-cutting efforts made during the slump in operations last year have become firmly established at each plant. For the time being, we will maximize the effects of cost reductions to maintain and improve profit.

In the future, we believe that the number of parts requiring heat treatment will decrease due to the shift to EVs. On the other hand, we believe the risk of major contraction in the market itself is small, as auto production looks set to increase. However, since the parts requiring heat treatment will change, we will end up being weeded out unless we refine our technologies and costs to meet these needs. This will separate the winners from the losers and we intend to push ahead with the development of various manufacturing technologies. We will also proceed with the development of new technologies, recognizing the need to develop new sectors in place of the automotive sector.



In terms of key measures in this segment, as mentioned earlier, we are pursuing development which anticipates future trends rather than reacting to current trends.



In the heat treatment processing business, demand will change, but the steps that need to be taken have been decided and we will make sure we get on and do them. In measures for CN, we need to produce new furnaces with the aim of achieving zero carbon emissions and we will push ahead with development going forward. In this segment, the automotive industry is our customer and we are therefore considering our business operations from the viewpoint of a leading company in terms of commitment to CN.

Next Midterm Plan

• In the next midterm plan (FY2022-FY2024), DOWA will also focus not only on measures to evolve our core businesses, but also on ESG-related initiatives, such as addressing climate change and strengthening our risk management system.

• DOWA have positioned this as a three-year period to solidify the foundation for the realization of the vision of the DOWA Group (our goal in 2030).

•The details of the next midterm plan will be announced around the beginning of FY2022.

Vision: The vision of the DOWA Group (our goal in 2030)

Contribute continuously to building a sustainable future through our core business, the promotion of resource recycling, and the provision of excellent materials and technologies.

Finally, please allow me to give you advance notification of our next Midterm Plan.

We have taken stock of our existing business and are currently in the middle of sorting out measures under the next Midterm Plan. Under previous Midterm Plans, we focused on future business expansion but under the next Midterm Plan, we intend to clearly communicate our initiatives in terms of addressing climate change and strengthening our risk management.

At any rate, we believe that the next three years will be an extremely important period during which we solidify our business foundations towards 2030.

We previously announced our Midterm Plan in November but, on reflection, this causes confusion because, information in the first fiscal year of the Midterm Plan is different from the one in the new fiscal year plan, which is announced six months later. We, therefore, intend to announce the next Midterm Plan around May so that the information contained in the Midterm Plan and new fiscal year plan is consistent.

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This concludes my presentation. Thank you for your time.