

Event Summary

[Company Name]	Nippon Paper Industries Co., Ltd.	
[Company ID]	3863-QCODE	
[Event Language]	JPN	
[Event Type]	Earnings Announcement	
[Event Name]	Q2 Financial Results and Management Briefing for the Fiscal Year Ending March 2023	
[Fiscal Period]	FY2022 Q2	
[Date]	November 9, 2022	
[Time]	17:30 – 18:50 (Total: 80 minutes, Presentation: 50 minutes, Q&A: 30 minutes)	
[Venue]	Webcast	
[Number of Speakers]	Toru Nozawa Tomoyasu Itakura Akira Sebe Takashi Ueno	President & Representative Director Executive Officer, General Manager, Financial Division Executive Officer, General Manager, Corporate Planning Division Deputy General Manager, Corporate Planning Division



Consolidated Statement

(¥billion)

	1st Half FY2022/3 Results	1st Half FY2023/3 Results	Variance	
			Amount	%
Net sales	508.4	550.9	42.5	8.4%
Operating income	8.1	-12.0	-20.1	-
Ordinary income	9.7	-7.4	-17.1	-
Net income *	2.2	-22.1	-24.3	-

* Profit attributable to owners of parent

- Net sales increased year-on-year because of price revisions and other factors.
- Operating loss was recorded due to the continued harsh business environment caused by soaring raw materials and fuels prices.
- Recorded impairment losses of shutdown of N1 Paper Machine and others, Akita Mill.

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Itakura: I am Itakura from the Financial Division. Thank you for your cooperation. I will now provide an overview of the financial results for Q2 of FY2022.

Please see page two. Summary of results for Q2 of FY2022.

Net sales increased by 8.4% YoY to JPY550.9 billion, mainly due to the effect of price revisions implemented since the previous fiscal year and higher sales in the daily-life products business.

However, the business environment remained difficult due to soaring raw material and fuel prices, which far exceeded the effect of the sales increase, resulting in a decrease of operating income of JPY20.1 billion YoY and an operating loss of JPY12 billion. In non-operating income/loss, in addition to foreign exchange gains due to yen depreciation, there was a foreign exchange valuation gain from dollar-denominated borrowings by a Brazilian subsidiary.

In addition, the Company posted an impairment loss due to the decision to shut down the N1 Paper Machine and others at Akita Mill, as well as a disaster loss due to the Fukushima Prefecture earthquake in March of this year, as extraordinary losses. Furthermore, a portion of deferred tax assets, already recorded in Q1, has been reversed as a result of a review of the recoverability of deferred tax assets in light of future performance trends and other factors. As a result of the above, the ordinary loss was JPY7.4 billion. Net loss for the period was JPY22.1 billion.

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Results by Segment

(¥billion)

	Net sales			Operating income		
	1st Half FY2022/3 Results	1st Half FY2023/3 Results	Variance	1st Half FY2022/3 Results	1st Half FY2023/3 Results	Variance
Paper and paperboard	261.4	271.4	10.0	-0.2	-9.9	-9.7
Daily-life products	189.7	212.3	22.6	1.8	-5.3	-7.1
Energy	14.8	19.7	4.9	1.1	-1.9	-3.0
Wood products and construction related	28.5	33.4	4.9	3.5	3.9	0.4
Others	14.0	14.1	0.1	1.9	1.2	-0.7
Total	508.4	550.9	42.5	8.1	-12.0	-20.1

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See page three. Net sales and operating income by segment are shown there.

Net sales increased in all segments, including the daily-life products business, to JPY550.9 billion. In addition, sales other than the paper and paperboard exceeded 50% of total sales, indicating that the business structure transformation under the Medium-Term Business Plan 2025 is moving forward. However, operating income was a negative JPY12 billion, resulting in an operating loss. Details will be explained later in the segment results section.

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1st Half FY2023/3 vs. 1st Half FY2022/3 Variance Analysis

(¥billion)

Volume, Sales Price	16.7	-
Raw materials and fuels prices	-36.8	Wood chips -5.2, Wastepaper -5.1, Pulp -0.5, Oil -0.8, Coal -14.9, LNG -2.0, Chemicals, etc. -8.3 (Price -27.1, FOREX -9.7)
Cost reductions, etc.	7.0	Cost reductions 1.9, Permanent machine shutdown at the Kushiro Mill and the Ishinomaki Mill 3.1, Coal reduction effect 2.4 Labor costs 0.2, Logistics costs -0.6
Others	3.4	Oversea business 0.3, Depreciation 1.0, Retirement benefit expenses 0.4, Inventory value adjustment, etc. 1.7
Paper and paperboard business	-9.7	
Daily-life products business	-7.1	Domestic -3.7: Household paper and Healthcare -2.2, Package -1.2, Chemical -0.3 Overseas -3.4: Opal 0.9, NDP -4.3
Other businesses	-3.3	Energy -3.0, Wood products and construction related 0.4, Others -0.7
Operating income	-20.1	
Non-operating income	3.0	Net financial cost 0.4, Equity in earnings of affiliates 0.4, FOREX 2.3, Others -0.1
Ordinary income	-17.1	

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Please see page four. The breakdown of the factors for the increase/decrease is as shown below.

First, let's look at the factors that affected the paper and paperboard business. We will refrain from disclosing the details, but the volume, sales price had a positive effect of JPY16.7 billion. Although domestic sales volume of paper decreased YoY, the effect of price revisions announced last year and higher selling prices for export products, including yen depreciation, contributed to the decrease.

Raw materials and fuel prices had a negative effect of JPY36.8 billion. Coal, wastepaper, chips, and all other raw fuels have been severely affected. Cost reductions, etc., had a positive effect of JPY7 billion. This includes the effect of coal reduction, along with cost improvement due to stabilized operations and the effect of fixed cost reduction due to the suspension of operations at the Kushiro and Ishinomaki mills.

Logistics expenses included higher ocean transportation costs related to exports. I will explain the other businesses, such as the daily-life products business, later. As a result of the above, operating income was down JPY20.1 billion YoY. Non-operating income increased by JPY3 billion YoY due to the contribution of foreign exchange differences, and ordinary income decreased by JPY17.1 billion YoY.

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Paper and paperboard business

(¥billion)

		Net sales		Operating income	
1st Half FY2022/3 Results	1st Half FY2023/3 Results	Variance	1st Half FY2022/3 Results	1st Half FY2023/3 Results	Variance
261.4	271.4	10.0	-0.2	-9.9	-9.7

• Domestic

- Domestic sales volume of paper decreased year-on-year due to sluggish demand.
- Domestic sales volume of paperboard increased from the same period of the previous fiscal year due to firm demands for beverage-related products.
- Net sales increased year-on-year due to the price revisions.
Operating income was in the deficit due to higher prices of raw materials and fuels such as coal, wood chips, and wastepaper.

• Overseas

- Despite the impact of increase costs of raw materials, fuels and ocean freight, profitability has been growth year-on-year by price revisions.

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Please see page five. I will now explain the results by segment.

First, let me talk about the paper and paperboard business.

Regarding the domestic business, domestic sales volume of paper was lower YoY due to generally sluggish demand.

Domestic sales volume of paperboard increased YoY, mainly due to strong demand from beverage-related industries. Although the effect of price revisions was realized and sales increased YoY, the price of raw materials and fuels such as coal, wastepaper, and chips rose significantly, resulting in a large operating loss despite cost reduction efforts. The overseas business increased profit YoY, despite the impact of increased costs of raw materials, fuels and ocean freight, as we proceeded with price adjustments for our products.

As a result of the above, the paper and paperboard business posted higher sales and lower profits compared to the previous fiscal year.

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Daily-life products business

(¥billion)

	Net sales			Operating income		
	1st Half FY2022/3 Results	1st Half FY2023/3 Results	Variance	1st Half FY2022/3 Results	1st Half FY2023/3 Results	Variance
Domestic	90.5	94.9	4.4	4.1	0.4	-3.7
Overseas	99.2	117.4	18.2	-2.3	-5.7	-3.4
Daily-life products business total	189.7	212.3	22.6	1.8	-5.3	-7.1

• Domestic

- The impact of higher prices for raw materials and fuels such as pulp, coal, and liquid packaging boards was ¥-8.6 billion.
- Net sales was increased by that expression of price revisions, strong sales of long-lasting rolls/paper towels and expanded sales of filling machines for liquid package, however, operating income was decreased year-on-year.

• Overseas

- Opal reduced its deficit year-on-year by synergy effect and recovering sales volume of corrugated boxes. However, its operating income lowered due to soaring costs of raw materials and fuels and increasing freight cost by turmoil in marine transportation.
- Nippon Dynawave Packaging (NDP) decreased profits year-on-year due to the suspension of operations, and lower sales volume resulting from disruptions in marine transportation.

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Please see page six. Next, I will explain the performance of the daily-life products business.

In the domestic business, prices of raw materials and fuel such as pulp, coal, and liquid packaging boards soared in all of the household paper, healthcare, paper-pak, and chemical businesses, and the impact of this price hike was minus JPY8.6 billion YoY.

Despite positive factors such as the effect of price revisions, strong sales of long-lasting rolls and paper towels, and an increase in the sales volume of liquid package due to sales expansion associated with the sales of filling machines, sales increased and profit decreased YoY.

Among overseas businesses, Opal reduced its deficit YoY due to synergy effect and recovery in sales volume of fiber packaging. However, we have fallen short of our plan due to soaring raw material and fuel prices and rising logistics costs caused by disruptions in marine transportation. NDP in North America reported a YoY decline due to an increase in fixed costs resulting from the suspension of operations that was not implemented in the previous fiscal year, as well as a decrease in sales volume due to disruptions in marine transportation.

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1st Half FY2023/3 Financial Results



Energy business

(¥billion)

1st Half FY2022/3 Results	Net sales		1st Half FY2022/3 Results	Operating income	
	1st Half FY2023/3 Results	Variance		1st Half FY2023/3 Results	Variance
14.8	19.7	4.9	1.1	-1.9	-3.0

- Net sales was higher than the same period of previous fiscal year contributed by the advances of power cost by soaring costs of raw materials and fuels. However, the operating income was decreased by soaring coal cost and monthly carry-forwards of fuel adjustment cost.

Wood products and construction related business

(¥billion)

1st Half FY2022/3 Results	Net sales		1st Half FY2022/3 Results	Operating income	
	1st Half FY2023/3 Results	Variance		1st Half FY2023/3 Results	Variance
28.5	33.4	4.9	3.5	3.9	0.4

- Domestic raw wood sales volume remained firm due to global lumber supply shortages. As a result, net sales and operating income increased.

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Please see page seven.

In the energy business, although net sales were higher YoY, mainly due to higher electricity prices resulting from surging raw material and fuel prices, operating income decreased due to the impact of the delayed settlement month for fuel cost adjustments amid the continued high price of coal.

In the wood products and construction related business, both net sales and operating income increased due to strong domestic raw wood sales volume, mainly affected by global lumber supply shortages.

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Consolidated Balance Sheets

	Mar.31, 2022	Sep.30, 2022	Variance
(¥billion)			
Total assets	1,639.2	1,697.3	58.1
Cash and time deposit	136.8	93.5	-43.3
Inventories	190.7	238.7	48.0
Other current assets	290.3	287.2	-3.1
Property, equipment, and intangible fixed asset	798.2	834.7	36.5
Investment and other assets	223.0	243.1	20.1
Total liabilities	1,200.6	1,228.0	27.4
Interests bearing liabilities	898.1	896.4	-1.7
Other liabilities	302.5	331.5	29.0
Total net assets	438.6	469.3	30.7
Shareholder's equity	357.8	332.1	-25.7
Total liabilities and net assets	1,639.2	1,697.3	58.1
	Mar.31, 2022	Sep.30, 2022	Variance
Net interest-bearing debt	761.3	802.9	41.6
Adjusted Net D/E ratio * (times)	1.89	2.13	0.24

* Adjusted Net D/E ratio= (Net interest-bearing debt- Equity-type debt)/(Shareholders' Equity + Equity-type debt)

Equity-type debt : The amount of debt procured by Hybrid loans that has been recognized as equity credit by rating agencies (50% of the procured amount raised)

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Please see page eight. Balance sheets are as shown here.

Total assets as of September 30, 2022 were JPY1.6973 trillion, an increase of JPY58.1 billion from the end of the previous fiscal year. The increase was due to the newly consolidated Yufutsu Energy Center and the increase in inventories and fixed assets of overseas subsidiaries attributable to the weaker yen and the difference in foreign exchange effects.

Net interest-bearing debt at the end of September 2022 was JPY802.9 billion, up JPY41.6 billion from the end of the previous fiscal year. With respect to the net D/E ratio, the figures take into account the amount of debt financed by hybrid loans that has been certified as equity by the rating agencies. At the end of September 2022, it was 2.13 times.

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Consolidated Statement

(¥billion)

	FY2022/3 Results	FY2023/3 Forecast	Variance	
			Amount	%
Net sales	1,045.1	1,100.0	54.9	5.3%
Operating income	12.1	-20.0	-32.1	-
Ordinary income	14.5	-20.0	-34.5	-
Net income *	2.0	-25.0	-27.0	-

* Profit attributable to owners of parent

- Yearly forecast has not changed since the release of August 5.
- However, the forecast for operating income by business segment has been revised in consideration of the trends in the 1st half of the fiscal year.

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Please see page nine. From this point forward, the forecast for the full year is provided.

There is no change in the forecast for the full year of FY2022 from that announced on August 5. However, the forecast for operating income by segment has been revised, taking into account the progress made in H1 of the fiscal year and current conditions such as foreign exchange rates.

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Results by Segment

(¥billion)

	Net sales			Operating income		
	FY2022/3 Results	FY2023/3 Forecast	Variance	FY2022/3 Results	FY2023/3 Forecast	Variance
Paper and paperboard	532.1	540.0	7.9	-5.6	-28.5	-22.9
Daily-life products	386.5	420.0	33.5	4.8	-2.0	-6.8
Energy	31.8	40.0	8.2	1.6	-0.5	-2.1
Wood products and construction related	64.5	70.0	5.5	7.6	8.0	0.4
Others	30.2	30.0	-0.2	3.7	3.0	-0.7
Total	1,045.1	1,100.0	54.9	12.1	-20.0	-32.1

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Please see page 10. Net sales and operating income by segment are shown here.

There is no change in net sales by segment. The operating income forecast for each segment has been revised as shown.

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Major assumptions

■ **Annual decline in domestic sales volume (YoY)**

	2nd half	Full year
Newsprint	-9%	-7%
Printing	-10%	-11%
Business communication	-7%	-6%
Containerboard	0%	0%

■ **Major raw material prices and FOREX**

	2nd half forecast	Previous forecast (Full year)
FOREX (USD)	JPY 145/USD	JPY 130/USD
FOREX sensitivity (USD)	+1.2 billion yen/year due to 1 yen appreciation against USD	+0.8 billion yen/year due to 1 yen appreciation against USD
Coal (Australian coal benchmark price)	USD 385/t	USD 380/t
Crude oil (Dubai)	USD 90/BL	USD 110/BL
Wastepaper	Continues at the current level	Considering current price trends

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Page 11. The main assumptions used in the forecast are as shown below.

The domestic sales volume of paper has been generally in line with our expectations. Newsprint, printing, and business communication are expected to decrease YoY, while containerboard is expected to remain almost flat YoY.

For the H2 forecast of major raw materials, please refer to exchange rates and prices. We expect the exchange rate to remain high at JPY145 and for coal at USD385. Other products such as chips and wastepaper are expected to remain at the current high level.

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FY2023/3 Forecast vs. FY2022/3 Variance Analysis

(¥billion)

Volume, Sales Price	56.2	-
Raw materials and fuels prices	-104.4	Wood chips -17.2, Wastepaper -12.1, Pulp -2.2, Oil -1.1, Coal -45.2, LNG -4.9, Chemicals, etc. -21.7 (Price -74.3, FOREX -30.1)
Cost reductions, etc.	12.7	Cost reductions 4.9, Permanent machine shutdown at the Kushiro Mill and the Ishinomaki Mill 4.0, Coal reduction effect 5.8 Labor costs 0.1, Logistics costs -2.1
Others	12.6	Oversea business 0.5, Depreciation 1.9, Retirement benefit expenses 0.8, Inventory value adjustment, etc. 9.4
Paper and paperboard business	-22.9	
Daily-life products business	-6.8	Domestic - 3.9: Household paper and Healthcare -1.9, Package -1.2, Chemical -0.8 Overseas -2.9: Opal -1.6, NDP -1.3
Other businesses	-2.4	Energy -2.1, Wood products and construction related 0.4, Others -0.7
Operating income	-32.1	
Non-operating income	-2.4	-
Ordinary income	-34.5	

12

Please see page 12. The breakdown of factors contributing to the increase/decrease for the full year is as shown.

First, let's look at the factors that affected the paper and paperboard business. We will refrain from disclosing the breakdown, but we expect an increase JPY56.2 billion in volume and sales price. The effects of the price revisions for printing paper, business communication paper and containerboard announced in and after June are mainly incorporated in H2 of the fiscal year. The price of raw materials and fuel is expected to be minus JPY104.4 billion. As you can see, the impact is very large, including the foreign exchange impact.

Cost reductions, etc., of plus JPY12.7 billion are factored into the forecast. This includes the effect of fixed cost reduction due to the shutdown of the Kushiro and Ishinomaki mills, the effect of coal reduction, and cost improvement due to stabilized operations. However, regarding logistics costs, higher marine transportation costs related to exports are factored in the forecast.

In the daily-life products business, we expect a JPY6.8 billion decrease in profit YoY. Both domestic and overseas businesses have been severely affected by soaring raw material and fuel prices, and although we will implement price adjustments and cost reductions, we do not expect to be able to absorb the impact. The energy business failed to recover the loss for H1 of the fiscal year, resulting in a decrease in profit. We expect profit growth in the wood products and construction-related business.

This concludes my explanation of the financial results for Q2. Thank you.

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Basic Strategy and Financial Targets of MTBP 2025



The Comprehensive Biomass Company that Nippon Paper Group Aiming For

A company group that consists of multiple businesses which generate stable profits and realize better living and cultural progress. It achieves this by using diverse technologies and know-how to maximize the use of renewable wood resources.

This provides a wide range of products that help form a circulation-oriented society, supporting profit growth.

To Achieve Medium-Term Business Plan 2025(MTBP2025)

Basic Strategy	Acceleration of Business Structure Transformation		
Priority Tasks	<ul style="list-style-type: none"> • Reallocate Management Resources to Growing Businesses • Accelerate Enhancing Profitability of New Businesses • Reinforce Competitiveness of Foundation Businesses 		
Financial Targets	<ul style="list-style-type: none"> • Net Sales • Operating Income • EBITDA • Debt/Equity Ratio • ROE 	<ul style="list-style-type: none"> FY 2026/3 At an early stage Stably FY 2026/3 FY 2026/3 	<ul style="list-style-type: none"> 1,100.0 billion yen 40.0 billion yen or more 100.0 billion yen 1.5 to 1.6 5.0% or more

2

Sebe: I'm Sebe from the Corporate Planning Division of Nippon Paper. Thank you. I will now explain our efforts to achieve the Medium-Term Business Plan 2025.

Please see page two. This is a reiteration of the basic strategies and financial targets of the Medium-Term Business Plan 2025.

We have always been convinced that the direction we are aiming for in the medium-term plan is correct, and we have positioned this medium-term plan period as an extremely important five-year period for putting our group on a growth trajectory.

As you can see in the definition of a comprehensive biomass company in the upper section, we are working to achieve the goals of the medium-term plan, focusing first on generating proper profits to realize the Group Mission. However, as I will mention later, we are in a situation where we need to address various issues at hand.

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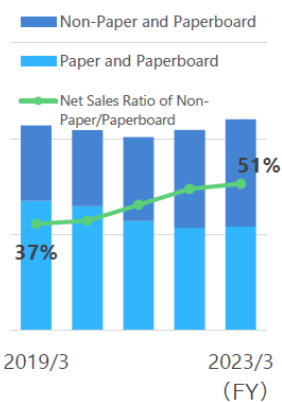
Net Sales and Operating Income Trends by Segment



The Transformation of Business Structure progress based on the result of the composition of net sales by businesses. However, the operating income not to achieve the target yet. Necessary to address to issues of external business environment.

■ Net Sales (¥Billion)	FY2019/3	FY2020/3	FY2021/3	FY2022/3	FY2023/3	MTBP2025
	Results	Results	Results	Results	Forecast	Targets
Paper and Paperboard	674.0	646.7	568.3	532.1	540.0	490.0
Daily-Life Products	266.2	270.2	317.9	386.5	420.0	460.0
Energy	36.2	33.0	33.4	31.8	40.0	45.0
Wood Products and Construction Related	59.8	61.6	59.9	64.5	70.0	75.0
Other	32.5	32.4	27.8	30.2	30.0	30.0
Net Sales Ratio of Non-Paper and Paperboard Business	37%	38%	44%	49%	51%	55%
Total	1,068.7	1,043.9	1,007.3	1,045.1	1,100.0	1,100.0
Overseas sales ratio	17.5%	16.2%	20.5%	27.0%	—	—

In the Composition of Net Sales by Businesses



■ Operating Income

Paper and Paperboard	-9.1	6.1	2.5	-5.6	-28.5	0
Daily-Life Products	12.6	13.0	7.9	4.8	-2.0	27.5
Energy	7.9	6.8	6.9	1.6	-0.5	4.0
Wood Products and Construction Related	4.9	5.9	6.5	7.6	8.0	6.5
Other	3.3	3.2	-4.6	3.7	3.0	2.0
Total	19.6	35.0	19.2	12.1	-20.0	40.0

*Segments of FY2019/3 and FY2020/3 recategorized according to the manners from FY 2021/3

3

Please see page three. The table below shows sales and operating income by segment.

In FY2022, sales of paper and paperboard are expected to be JPY540 billion, while sales of other businesses, including daily-life products business, are expected to be JPY560 billion. Looking at the composition of net sales, we believe that the transformation of the business structure is progressing as expected.

However, as explained before, operating income has fallen far short of the target, especially in the paper and paperboard segment, which has been significantly in the red, and in growth areas such as the daily-life products business and the energy business. We believe that we need to take a measure for this urgently.

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Recognition of External Business Environment

- Global Supply Chain Crisis
- Raw Materials and Fuels Continue at Higher Price Range, i.e., Coal and Wood Chips
- Dynamic Development of Weak Yen
- Increase Concern about a Global Depression
- Increase Importance of Reducing GHG Emission as a Global Issue

Priority Tasks to Address

(1) Increase Profitability of Growing Businesses

(2) Restructuring Graphic Paper Business

(3) Accelerating GHG Reduction; Less Coal Usage

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The external environment is as described.

We continue to face very difficult conditions and we recognize that the impact on our medium-term plan is very significant. We believe that we must take the necessary steps to quickly get back on track with the medium-term plan. Based on this recognition, the first priority is to expand profitability in growth areas. The second is to rebuild the graphic paper business, and the third is to accelerate the reduction of GHG emissions, which I will explain.

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Overview and Tasks in FY2023/3

■ Daily-Life Products Business

(¥Billion)

◆ Operating Income	1H Results	YOY	2H Forecast	Full Year Forecast	YOY
Domestic	0.4	-3.7	2.6	3.0	-3.9
Overseas	-5.7	-3.4	0.7	-5.0	-2.9
Total	-5.3	-7.1	3.3	-2.0	-6.8

Overview

- Domestic
 - The profits of each business has been worthen in 1st half of the fiscal year by soaring costs of raw materials and fuels.
 - Especially the profit of Household Paper Business has downturned by cost increases; mainly pulp.
- Overseas
 - NDP*1 has decreased its profit year-on-year due to a maintenance outage and turmoil in logistics.
 - Opal delayed its profit recovery caused by soaring costs of raw materials, fuels and freights.

Initiatives in 2H

- Domestic
 - Complete price revisions in each businesses, reconsidering additional price revisions as needed.
 - In Household Paper Business, carry-out price revisions ; in addition, cost reduction by increase usage of the pulp made in Nippon Paper Group and other activities.
- Overseas
 - NDP forecasts its profit as the plan by stable productivity.

Breakdown of Factors Behind Changes in the Domestic Daily-Life Products Business, Forecast FY2023/3

(¥Billion)

Volume/Sales Price	12.2
Raw Materials/Fuels Price	-17.5
Cost Reduction and others	1.4
Total	-3.9

* 1 NDP : Nippon Dynawave Packaging Co.,

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Please see page five. Regarding the first key issue of expanding profitability in growth areas, I will explain the overview and measures for FY2022, followed by an explanation of measures to strengthen profitability in FY2023 and beyond.

First, I would like to discuss the daily-life products business.

In Japan, profit in H1 of the fiscal year deteriorated due to soaring raw material and fuel prices for both paper-pak, household paper, healthcare, and care chemical. The table on the right also shows the total for each business and the total for the fiscal year, and this is a breakdown of the total. In particular, in the household paper business, we have been unable to absorb cost increases, mainly in pulp, through price adjustments or cost reductions, resulting in a significant decrease in profit. We think this is a significant issue.

Overseas, NDP reported a YoY decline in profit in H1 of the fiscal year due to the implementation of the major suspension of operations, which did not occur in the previous fiscal year, and the impact of logistics disruptions. However, we believe that the biggest issue overseas is Opal, and due to soaring raw material and fuel prices and logistics costs, the recovery in earnings and return to profitability has been slower than planned. I will explain Opal separately later.

The initiatives for H2 of the fiscal year are listed in the lower part of this report. In Japan, we believe it is important for each business to first firmly complete the planned price revisions and, if insufficient, implement additional price increases to respond to the high raw material and fuel prices.

With regard to household paper, in addition to price revisions, we are also strengthening cost improvements, such as further increasing the amount of pulp used within the Group, in order to achieve an immediate

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recovery in profitability. As for NDP, operations have been stable and the effects of logistics disruptions have subsided, so we expect to secure profit in H2 of the fiscal year as planned.

Improving Profitability of Growing Businesses



Overview and Tasks in FY2023/3

■ Opal

(A\$ million)

◆ Operating Income	1H Results	FY2023/3 Forecast
Packaging	2	⇒ Becoming Profitable
Graphic Paper	-29	⇒ Need strengthen activities due to delay in profit recovering
Total	-27	* Breakdown of data by product type. As a reference

Overview

- Fiber packaging sales are recovering in line with the recovery of the Australian economy. 1H Result, +1.7% YoY
- Graphic paper sales are weak. 1H Result of Copy Paper, -8% YoY
- Significant increases in fuel and logistics costs are expected; Annual Forecast -A\$160 million.
- Costs increased at the Maryvale Mill due to inefficient operations and one-off losses associated with the transition to packaging grades.
- Synergies are expected to be achieved as planned; Annual Forecast A\$28million.
- The price revisions (estimated A\$130 million annual benefits in sales) did not fully absorb the cost increases.

Initiatives in 2H

- Additional price revisions for graphic paper to take effect in FY2023.
- Strengthen measures to improve profitability (transfer of Maryvale Mill's M3 paper machine from graphic paper to paperboard, improved production efficiency, etc.).
- Stabilisation of Maryvale Mill operations (increase in specialist personnel).

6

Please see page six. I would like to explain Opal in some detail.

Opal, as shown in the table, posted a loss of AUD27 million in H1. This is for reference only. Dividing the business into packaging and graphic paper, the packaging business is profitable despite the high raw material and fuel prices, but the graphic paper business is significantly in the red, and we believe it is necessary to first improve profitability in this area.

Looking at the overview column, in terms of sales, fiber packaging is on a recovery trend, while demand for graphic paper is declining at an accelerated pace, with an 8% YoY drop in demand for printing paper due to the spread of telecommuting.

The increase in raw materials, fuel and logistics costs is expected to total JPY160 million for the full year, including packaging and graphic related costs. In addition, due to operational sluggishness, or conversion of paper machines in the Maryvale mill, there is also a temporary loss and other cost increases, and we do not expect that the synergy effect after the Orora acquisition of JPY28 million, or the price adjustment effect of JPY130 million that we are currently working on, will not absorb the cost increase.

In light of this situation, in H2, we will first implement a large additional price increase for graphic paper, although the effect may not be felt until 2023.

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In addition, as we have already begun to do, we will work to improve profitability by shifting the M3 Machine at the Maryvale mill from graphic papers to paperboards and stabilize operations by increasing the number of specialized personnel. We would like to accelerate the recovery of earnings, mainly in graphic paper.

That is all for Opal.

Improving Profitability of Growing Businesses



Overview and Tasks in FY2023/3

Energy Business

◆ Operating Income	(¥Billion)		
	1H Results	2H Forecast	Full Year Forecast
	-1.9	1.4	-0.5

Overview

- Profitability of 1st half of this fiscal year worsened by soaring global coal price and monthly carry-forward of fuel adjustment costs.
- Difference between a coal price index and our procurement prices in fuels adjustments.

Initiatives in 2H

- Resolving monthly carry-forward of fuel adjustment costs.
- Considering a scheme to reduce risks of fuel price fluctuation.
- Success start-up of Yufutsu Energy Center. Commissioning is starting. Forecasting operating income in FY2023/3, +¥0.2 billion.



Yufutsu Energy Center, under constructing

7

Please see page seven. Next is an overview of the energy business in FY2022 and the measures to be taken.

In the energy business, earnings deteriorated in H1 due to a sharp rise in coal prices and the postponement of the settlement month for fuel cost adjustment.

With regard to fuel cost adjustments, the discrepancy between the index price of coal used for the adjustment and the price of coal procured by the Company at that time also contributed to the deterioration in earnings. In the H2, we expect to be able to secure a surplus due to the expected elimination of the month-long delay in the production of fuel adjustment and the launch of the Yufutsu Energy Center in January 2023.

In addition, we will consult with our electricity providers so that we can ensure stable earnings while minimizing the effects of monthly delays in settlements, etc., even in the event of sudden fuel price fluctuations, such as this time.

That is all for now for FY2022.

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Tasks to Improve Profitability from FY2024/3

■ Containerboard Business

● Stable Supply System and Strong Competitiveness by Continuous CapEx

- A project of competitiveness improvement of No.14 paper machine at Yoshinaga, Fuji Mill. (Completed in August 2022)
- Increase numbers of warehouse at Otake Mill. (Completing in April 2023)
- New waste-to-energy boiler at Shimada Mill of Shin Tokai Paper Co., Ltd. (Completing in 2026)

● Developing/Expanding Sales of High Value Products

- Expanding Sales of high-strength kraft linerboard made at Akita Mill into the markets of China and South-East Asia region.

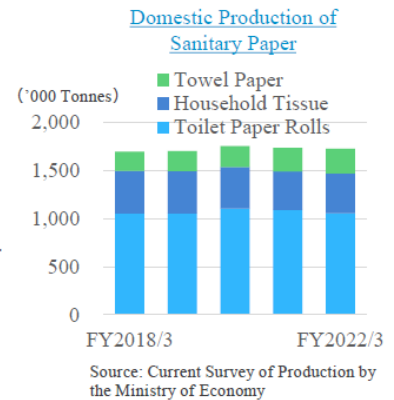
■ Household Paper and Healthcare Business

● Securing Fair Price

- Achieve full price revisions in FY2023/3 and make its contribution to the profits in FY2024/3.
- Proper price revisions along with cost fluctuation of raw materials and fuels.

● Improve Marketing and Competitiveness Aiming Demand Recovery

- Net sales of tissue in 1st half of FY2023/3 has been decreased, Toilet Rolls 110%, Tissue 95% YoY
- Ensuring recovering demand of inbound international travelers in hotels and restaurants.
- Expanding market share by strengthen the strategy of product differentiation.
- Increase usage of pulp made in Nippon Paper Group.
(Pulp self-sufficiency in the group FY2022/3 32% →FY2024/3 50% or more)
- Strengthen the production system by installing new paper machines and others at Crecia Kasuga, Fuji and Ishinomaki Mill.



8

Please see page eight. From here, we will explain our measures to strengthen profitability in FY2023 and beyond.

As I explained earlier, with deficits expected in the daily-life products business and the energy business in FY2022, I believe that lifting earnings in these growth areas in FY2023 and beyond will be a key point in achieving the medium-term plan.

First, I would like to start with the containerboard business. In the containerboard business, we will maintain a stable supply system through continuous capital investment, strengthen competitiveness, and develop and expand sales of high value-added products. Since demand for containerboard is relatively firm, we will continue to make investments that will enhance our cost competitiveness and maintain a stable supply system.

We also plan to develop and produce high-strength liner at the Akita Mill, utilizing kraft pulp, and expand sales in the Asian region.

This is followed by the household paper and healthcare business on the bottom. Here, one is to secure reasonable prices, and the other is to strengthen sales and improve competitiveness in anticipation of a recovery in demand.

Our first goal is to ensure fair prices, first of all, by firmly completing the price increase this fiscal year, and then by fully implementing the price increase effect in FY2023. In addition, we intend to implement further price revisions depending on trends in raw material and fuel prices, but we believe that our ability to pass on prices is crucial to this.

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To this end, it is important to strengthen our sales capabilities through differentiation, etc. In particular, we will review our sales strategy for tissues, which are experiencing sluggish sales in FY2022, and since we expect inbound demand to recover, we will make sure to capture such recovery demand.

In addition, we intend to increase the competitiveness of the business as a whole, including further increase use of pulp within the Group and optimization and efficiency of production with new machines that will be put into operation in the future.

Improving Profitability of Growing Businesses



Tasks to Improve Profitability from FY2024/3

■ Paper-Pak Business

● Accelerate Developing Oversea Markets and Sales Expansion by Optimize Advantage as a Total System Supplier

- Expanding domestic market share
The sales result of 1st half of FY2023/3 Market 96% vs. Nippon Paper Industries 103% YoY*1
- Strengthen the network of baseboard supply in the group → Stable supply from NDP and domestic mills.
- Expanding the market share of filling machine by the relationship with Shikoku Kakoki Co., Ltd.
- Developing/expanding sales of differentiation/high-value products.
i.e., School POP®, straw-less paper cartons for school lunches; Expanding adoptions in over 170 municipalities, 13 prefectures. *2
- Accelerate development into oversea markets.
Improve the relationship with Elopak ASA. Promotion of developing into oversea market such as Oceanian and others.

■ NDP, Nippon Dnyawave Packaging

● Earning Profitability by the Double Business Strategy of Liquid Package Baseboard and Pulp

- Recent firm demand of liquid package products in North America.
Production in North America, +2.5%*3 YoY
- Optimize new equipment, Metal Belt Calendar, to improve quality and increase productivity.
- Fully utilize the pulp dryer to maximize pulp sales and profit.
- Considering installation of a recycle pulp facility; utilize recycle pulp resources and increase baseboard production.



Forecast, the baseboard production in FY2023/3	280,000 tons/year Remains capability
Capability of dry pulp production	170,000 tons/year

*1 Source: Intage *2 As of April 2022 *3 Source: AFPA

9

Please see page nine. This is the package business.

In the package business, we will expand sales by leveraging our strength as a total system supplier and accelerate overseas expansion. In Japan, we have been working with our partner Shikoku Kakoki in recent years to expand the installation of filling machines. As a result, our current paper carton sales have outpaced the industry.

In the future, we will further strengthen the supply system of boards within the Group, and develop and expand sales of differentiated, high-value-added products such as straw-less school milk containers and School POP. In addition, we would like to strengthen our relationship with Elopak in Europe and promote development in Oceania and other overseas markets in cooperation with Shikoku Kakoki.

Next is NDP. We believe that the management of this business, which consists of liquid packaging boards and pulp, is a dual-role operation, so to speak, and we will aim to secure stable earnings. As we have invested in facilities for liquid packaging, we will continue to improve quality and production efficiency, and we will firmly incorporate this into the robust liquid packaging boards business in North America.

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As for pulp, we will maximize sales by utilizing dry pulp machines. In the future, we would like to promote the use of recycled resources and expand production volume by introducing recycled fiber equipment.

Improving Profitability of Growing Businesses

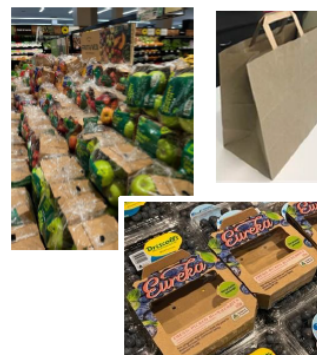


Tasks to Improve Profitability from FY2024/3

■ Opal

● Capture Growing Packaging Demand in Oceania

- Australian GDP growth forecast for 2023: 2.0% *1
Demand for fiber packaging is expected to grow in FMCG and industrial segments.
- Capture growing demand with the start-up of the new corrugated plant in Victoria.
- Capture commercial opportunities in paper packaging, which is expanding due to the Australian Government's plastic-free policy.



● Ensure Improved Profitability

- Price revisions will make a full contribution in FY2023.
- OCC price increases calm down.
- Full realization of synergies.
- Achieve further cost reductions.

◆ Benefits from price revisions (A\$ Million)

Grade	Benefit	Timing
Fiber Packaging	40 – 50	From Aug 2022
Graphic Paper (Additional Price Revision)	20 – 30	From Jan 2023

● Reallocate Management Resources to Package from Graphic Paper

- Optimization of the production structure
Focus on growth through Opal's integrated packaging supply chain.
- Stabilize operations and improve productivity at the Maryvale Mill.

*1 Source: RBA Economic Outlook

10

Please see page 10. Next is Opal's measures to expand its earning power and strengthen profitability in FY2023 and beyond.

As for Opal, we will first try to capture the growing demand for packages in the Oceania region. The Australian economy is expected to grow steadily for the foreseeable future, and demand for fiber packaging for general consumer goods and industrial applications is expected to increase. We will take advantage of the new corrugated plant scheduled to go on line in FY2023, and will continue to capture growing demand.

In addition, we would like to work on capturing commercial opportunities for paper packaging materials, which are expected to expand in the future as part of the Australian government's policy to promote the use of non-plastic and recycled materials.

As for Opal, it is also important to ensure that the effects of improved profitability are realized. As I explained earlier, first of all, we would like to achieve the full effect of the price correction in FY2023, and in addition to finishing up the synergies, we will further strengthen cost reductions aiming for a definite return to profitability in FY2023.

Then there is the third, focus on growth through Opal's integrated packaging supply chain. This is already an essential initiative for Opal. We will gradually optimize our production structure with the initiative. In order

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to maximize the effects of these efforts, we will continue to work on stabilizing operations and improving productivity at the Maryvale mill.

Improving Profitability of Growing Businesses



Tasks to Improve Profitability from FY2024/3

■ Chemical Business

● Ensure the Effect Expression of CapEx and Sales Expansion into Markets Include Overseas

- Ensure the effect expression of completed CapExs

◆ Main completed CapExs

Items	Investments	Profits
Renewed CMC Production Facility, Gotsu Mill	¥5.5billion	Annual Approx. +¥1.5 billion
Functional Coating Resin Productivity Improvement, Iwakuni Mill	¥2.4billion	* Full expression

- Expanding sales of CMC for lithium-ion battery into growing markets include overseas

■ Energy Business

● Improving Profitability of Biomass Power-Generation Business

- Stable operation of Yufutsu Energy Center
- Project of increasing biomass co-firing ratio in the facility of Ishinomakaki Energy Center (Biomass Fuel Ratio : Current approx. 26%→ approx. 42%)

◆ Summary

	Generate Output	Biomass Rasio	Profit Forecast FY2024/3
Yufutsu EC	74,950kW	100%	Approx. ¥1.0billion
Ishinomaki EC	149,000kW	Completed, 42%	(Project Effect) Approx. ¥0.2billion

11

Please see page 11. This is the chemical business.

In the chemical business, we will steadily realize the benefits of our investments and expand sales, including in overseas markets. We have already completed the renewal of CMC production facilities at the Gotsu Mill and the construction to increase production of functional coating resins at the Iwakuni Mill, and we are determined to realize the benefits of these investments. And for products that are expected to grow in overseas markets, such as CMCs for LiB, we will expand sales both in Japan and overseas without missing opportunities.

Next is the energy business. In the energy business, the Company will seek to strengthen earnings by expanding its biomass power generation business. Specifically, the Yufutsu Energy Center, which I mentioned earlier, is now up and running, and we will work to ensure stable operation of this facility, and we will work to strengthen the earning power of the Ishinomaki Energy Center, which has undergone construction work to increase biomass co-firing.

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Tasks to Improve Profitability from FY2024/3

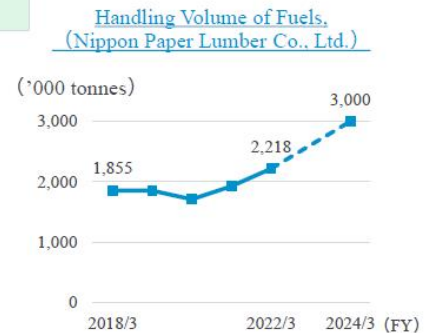
Wood Products and Construction Related Business (Nippon Paper Lumber Co., Ltd.)

Expanding Domestic Products and Company-Owned Forests Business

- Achieving to handle 1 million cubic meters of domestic wood per a year in FY2026/3.
- Produce values of company-owned forests by its multiple optimization.

Strengthen Businesses of Biomass Fuel and Non-Fossil Fuel

- Achieving to handle 3 million tonnes of fuels in FY2024/3.
- Improve the network of developing/supplying in both domestic and overseas.



Kitayama Company-Owned Forest



Suganuma Company-Owned Forest

12

Please see page 12. The wood products and construction related business.

The wood products and construction related business has been generating solid earnings in FY2022, and we will continue to expand our domestic timber and company-owned forest businesses and strengthen our biomass fuel and non-fossil fuel businesses.

In the domestic timber and company-owned forest businesses, we intend to further increase the volume of domestic timber handled and create value through multifaceted utilization of company-owned forests.

To strengthen our biomass fuel and non-fossil fuel business, we will achieve a fuel handling volume of three million tons in FY2023 and strengthen our procurement system in Japan and overseas.

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Tasks to Improve Profitability from FY2024/3

■ New Businesses

● Expanding the Market of CNF

- The net sales of CNF products growth in 1st half of FY2023/3 year-on-year by expanding usage of food/cosmetic region.
- Expanding export products for food, cosmetic and sanitary goods, etc.
- Carry out expanding usage of CNF reinforced resin, developing CNF electricity storage body with medium/long-term strategy.

● Expanding Sales of Cellulose Products

- Exporting agricultural markets by Genki Morimori®, highly digestible cellulose for cattle feed made from wood resources.
- Developing Bio-composite and its sales.
- Considering bioethanol production.

● Ensure Paperization Demand of Package Products

- Increase numbers of paper package product adapts "SHIELDPLUS®" and "Lamina®", etc.
- Promote the "Paperization" to reduce plastic/deplasticization by optimizing paper package products made of kraft paper or one-side coated paper, etc.

13

Please see page 13. Next is the new businesses.

The first is the expansion of the market for cellulose nanofibers. Regarding this, applications in the food and cosmetics fields are expanding. Although we are still in the early stages in terms of scale, we were able to significantly increase sales in FY2022 compared to the previous year, and we intend to further expand this business in the future.

Sales for food, cosmetics, and hygiene products are not limited to the domestic market, but we are also actively working on exports. Also, the expansion of applications for CNF reinforced resins and the development of CNF-based electricity storage body. This will inevitably take some time, but we will sit tight and move forward steadily so as not to miss out on any business opportunities.

Next, as for expanding sales of cellulose products, we are developing new markets, which are becoming interesting in many ways. Expanding the market for cellulose products, especially in the agricultural sector, such as feed for cattle, and feed named Genki Morimori. We are feeling quite responsive to this.

We are also considering and working on the development of bio-composites and bioethanol, utilizing both internal and external technologies and know-how.

In the case of our company, regarding the demand for paper conversion of packaging materials, we have barrier paper such as SHIELDPLUS and LAMINA, but in addition to this, we also intend to expand sales in line with customer needs, including reduced plastic products that utilize existing packaging paper.

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This is a bit long, but that is all I have to say about the first of our key issues, expanding profitability in growth areas. Even in a difficult business environment, we are steadily making efforts for the future, and I hope that you will pay attention to this field.

Restructuring Graphic Paper Business



Production system of Graphic Paper Business that Nippon Paper Group aiming for

● Requirements of production mills

Strong Cost Competitiveness

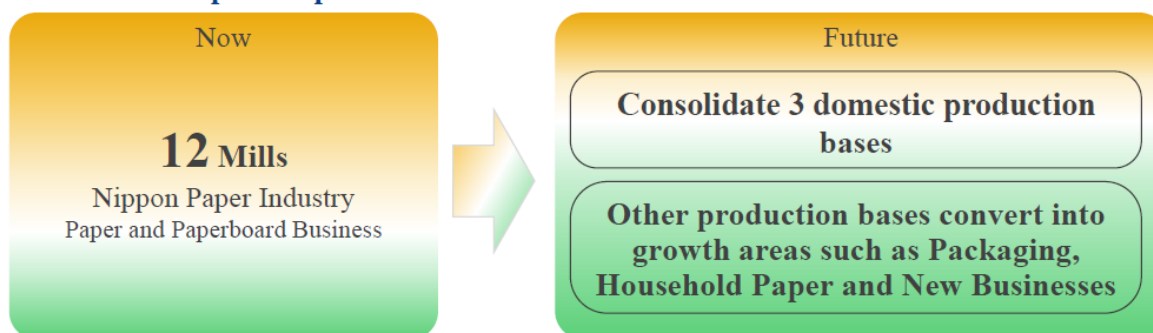
Low GHG Emission

Stable Production Supply

- Consolidate 3 domestic production bases at an early stage by 2030.
- Achieving strong cost competitiveness and minimize GHG Emission by optimize kraft pulp production and black liquor recovery boilers in those product bases.
- Earning customers reliance on strong competitiveness with keep healthy facilities, quality management and LCA. *1

*1 LCA : Life Cycle Assessment

● Future of Graphic Paper Product Bases



14

Please refer to page 14. I would now like to explain the second important issue, the rebuilding of the domestic graphic paper business.

First, let me explain our approach to the production system for graphic paper. There is a risk that reviewing the production system for products such as our graphic paper, whose production bases have historically been dispersed and whose quantity is gradually decreasing, will likely be a symptomatic response. However, we have reaffirmed our belief that we should take a back casting approach, clearly indicating to some extent what the future should look like, and implement measures to achieve that goal.

First, as for the requirements of the production plant we are aiming for, as stated in the upper section, we believe that the plant must have high cost-competitiveness, low GHG emissions, and a stable supply of products.

These requirements are not limited to graphic paper, but are common to many manufacturing industries. However, we have concluded once again that it is not possible to maintain facilities and fixed costs that meet these requirements in a dispersed manner, especially for graphic paper where demand is declining at an accelerating pace. Therefore, this time, we have decided to present a policy to consolidate domestic graphic paper production bases to about three locations as soon as possible by 2030.

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The production bases to be integrated will produce KP and kraft pulp, and we hope to realize high cost-competitiveness and minimization of GHG emissions by maximizing the use of black liquor recovery boilers while fully utilizing the production capacity of these products. By consolidating our bases and reducing the number of facilities, we intend to maintain sound facilities and quality control systems and strengthen our competitiveness, including LCA, to firmly meet the expectations of our customers.

Currently, Nippon Paper has a total of 12 mills that produce paper and paperboard, including graphic paper and packaging paper. Among these, there are factories that make only graphic paper, factories that make only packaging, and factories that make both graphics and packaging. For graphic-related products, we intend to increase the efficiency of production of these products by consolidating them in 3 locations.

Regarding the mills that will not be used as production bases for graphic paper as a result of the consolidation as production bases, we intend to utilize them for growth fields, such as containerboard, liquid packaging, food containers, household paper, and new businesses including cellulose products, while taking advantage of each mill's characteristics and regional characteristics, although some of them have already moved on to other products.

Just to be clear, we are not consolidating 12 mills into three mills and closing the remaining mills, so please do not misunderstand this point. Thank you for your cooperation.

Restructuring Graphic Paper Business



Review of the production system, Decided or Under Considering

Optimize production capacity by accurately assessing demand trends
Execution the optimization with Decrease GHG Emission, i.e., Coal Reduction

■ Facilities that are targets of review of those production system

Mills	Facilities	Capability (thousand tons per a year)	GHG Emission (thousand tons per a year)	Planning Month of Shut down	Status of Consideration
Akita	N1 Paper Machine	84	—	Jun 2023	Decided, Shutdown
	No.5 Boiler	—	80	November 2023	Decided, Shutdown
Ishinomaki	No.8 Boiler	—	250	Pending	Considering, Convert to a Coal Free Boiler
	GP*1	—	5	March 2023	Decided, Shutdown
Iwanuma	No.4 Boiler	—	170	1 st Half of FY2024/3	Considering, Shutdown
Harada, Nippon Paper Papylia	No.3 Paper Machine	5	—	Mach 2023	Released in Sept 2022, Shutdown
	No.5 Paper Machine	5	—	March 2024	Released in Sept 2022, Shutdown

*1 GP : Grounded Pulp



● Converting Akita Mill into a Product Vase of Containerboard and Pulp; Withdrawal Graphic Paper production

- Impairment loss on fixed assets: ¥3.2 billion
- Fixed cost reduction effect: ¥2.5 billion
- GHG emissions: Reduced by 210,000 t-CO2

15

Please see page 15. This is the plan for the review of the graphic paper production system for the time being, which was resolved at today's Board of Directors meeting.

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In reviewing our production system, it is only natural that we should optimize production capacity by accurately assessing demand trends, but we also place importance on promoting GHG reduction, especially coal reduction, in tandem with production capacity reduction.

In addition, the review of the production system announced this time is a plan for the time being. We will continue to review the production system until the final consolidation of bases. We will announce the details of this project as soon as we are able to do so.

The details of this announcement are shown in the table. At the Akita Mill, the N1 Paper Machine, which produces fine paper and thermal paper base paper, will be shut down, and the number five boiler, which mainly uses coal as fuel, will be shut down. At the Ishinomaki Mill, the pulp facility that produces GP will be shut down and the number eight coal boiler will be considered for early conversion to zero coal.

At the Iwanuma Mill, we are also considering suspending the use of the number four coal boiler. The Akita Mill will withdraw from the production of graphic paper due to the shutdown of the N1 Paper Machine and will be used as a production base for corrugated paper and pulp.

In connection with this outage, an impairment loss of approximately JPY3.2 billion on fixed assets was recorded in the Q2 financial results. In addition, it is our policy to basically maintain employment within our group for the employees involved in the facilities to be shut down. The effect of fixed cost reduction, including depreciation and other expenses, is expected to be approximately JPY2.5 billion.

That's all I have to say about the production system.

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Coal Reduction

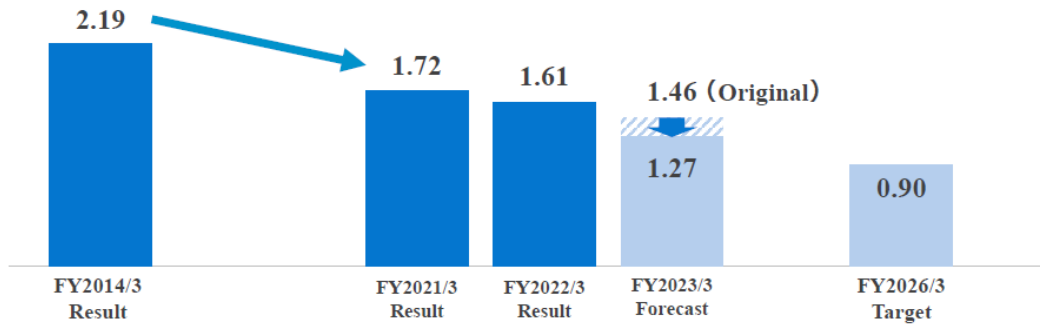
■ Initiatives in FY2023/3

- Planning improve profitability by reducing volume of coal, 1.46 million tonnes(Original Plan) to 1.27 million tonnes.
- Energy saving, change fuels, optimize black liquor as an energy resource, minimize energy generation of coal boilers and consolidate mill outage schedule, etc.,

■ Initiatives from FY2024/3

- No.5 Boiler at Akita Mill is going to shutdown in November 2023.
- Considering shutdown No.4 Boiler, Iwanuma Mill in first half of FY2024/3.
- No.8 Boiler at Ishinomaki Mill is eliminating coal usage at an early stage by 2030; Considering change fuels or convert to a recovery boiler.

◆ Coal Usage (Million Tons) * Scope: Nippon Paper Industries (amount consumed internally)



16

Please turn to page 16. I will continue with an explanation of our efforts to reduce coal consumption.

As I explained in May, in FY2022, we are working to further reduce the amount of coal used in Nippon Paper’s production activities in addition to the initially planned 1.46 million tons.

With coal prices soaring, we are working together with our production, sales, and engineering divisions to reduce the amount of coal used, even by one ton, through energy conservation, fuel conversion, maximum utilization of KP black liquor, curbing the output of coal boilers, and consolidating idle operations, in order to both cut costs and reduce GHG emissions.

As a result, we currently expect to be able to reduce coal consumption to 1.27 million tons in FY2022. In FY2023 and beyond, we are aiming to reduce the amount of coal used to about 900,000 tons, less than 1 million tons, by FY2025, partly because we have decided to stop using coal boilers, including the number five boiler at the Akita Mill mentioned earlier, and partly because we are considering the possibility of eliminating the use of coal.

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Initiatives for Price Revision

■ Price Revisions of Graphic Paper since 2021

Date of Release	Grades	Adjustment Rates	Timing of Implementation
11/4/2021	printing papers, business communication papers	+15% or more	1/1/2022
6/9/2022	printing papers, business communication papers	+15% or more	8/1/2022

Expecting +¥35.0 billion of improving profitability by twice of price revision since last year with reduction. However, it is not enough to offset recent cost soaring yet.



Preparing Further Price Revisions

● Price Revision of Other Products

Month of Release	Products
11/2021	Industrial Papers, Liquid Packaging Cartons (NP-PAKs, FUJIPAKs)
12/2021	Containerboards, Specialty boards, Craft Papers, White Paperboards
1/2022	Household Papers
4/2022	Dissolving Pulp, Lignin Products
7/2022	Containerboards, Specialty Paperboards, Liquid Packaging Cartons (NP-PAKs, FUJIPAKs)
8/2022	Cupboards, High Quality White Boards, Cast Coated Papers, Craft Papers, White Paperboards
9/2022	Wallpapers

17

Please refer to page 17. This one is about price revision efforts.

With regard to graphic paper, we announced price revisions in November of last year and June of this year, and consulted with our customers in response to the price increases of raw materials and fuel that far exceeded what we could cope with through self-help efforts. As a result, the two price revisions are expected to improve earnings by about JPY35 billion on an annual basis.

However, the current cost increase is quite severe due to the persistently high price of coal, the recent rise in prices of other raw materials, and the rapid depreciation of the yen, and we are still in a situation where this alone will not be sufficient to counteract the cost increase. As I will explain later, we will do our utmost to reduce costs. If we are still unable to beat them back, we also believe that we will have to consider further price revisions, and we are currently making preparations for this.

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Future Items for Improving Profitability

In FY2023/3, Promoting items to reduce cost such as coal reduction, etc.
Continue to strengthen activities and aim to express effect ¥10 billion or more in FY 2024/3.

● Main Initiatives and Effect Targets (¥Billion)

	Reorganizing Production System	Cost Reduction	Reducing energy consumptions	Coal Reduction, Change fuels	Other, Fixed Cost	Total
Forecast, FY 2023/3	4.0	2.6	2.3	5.8	0.1	14.8
Target, FY 2024/3	2.5	1.0	2.0	1.5	3.5	10.5

* Excluding logistics costs

■ Reorganizing Production System

- In FY2023/3
Kushiro Mill has withdrawn paper and pulp business.
N6 paper machine , Ishinomaki Mill, has been shutdown.
- In FY 2024/3
N1 paper machine , Akita Mill, shutdown.

■ Coal Reduction and Fuel Changes

- Change to wooden fuels and recyclable fuels.
- Optimize purchased power.

■ Cost Reduction and Energy Saving

- Reducing power and steam usage by energy saving.
- Reducing inventory by consolidate products and improve production efficiency by reducing the number of grade changes in paper machines.

■ Other

- Labor cost reductions, including personnel rationalization.

18

Please refer to page 18. This is about profit improvement measures and cost reduction for the future.

As explained earlier, for FY2022, we are working on every possible cost reduction without exception, including emergency measures such as reduction of coal consumption, as shown in the table, and we currently expect to see an improvement in earnings of JPY14.8 billion in FY2022.

For FY2023, we plan to further improve profitability by more than JPY10 billion through cost improvement, energy conservation, coal reduction, fuel conversion, and labor cost reduction, as well as fixed cost reduction by reorganizing the production system.

Although it is very difficult, we see this opportunity as a chance to build a strong structure that can generate stable profits over the long term, and we intend to take on the challenge of cost reductions without interruption.

This is all for the second priority issue, rebuilding the graphic paper business.

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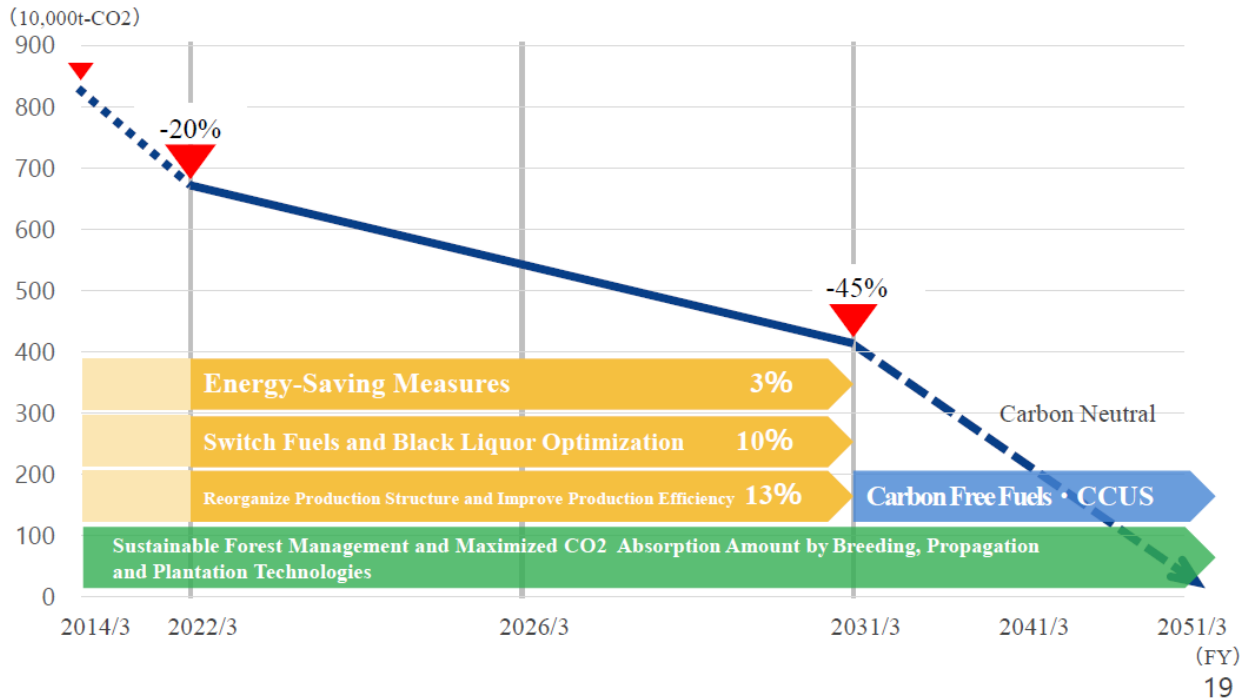
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Reducing GHG Emission Road Map (Image)

Expecting to achieve the target of FY2031/3. New Target is establishing by the end of this fiscal year.



Please see page 19. Next, I will explain the third important issue, acceleration of reducing GHG emissions.

This is an image of the roadmap for GHG reduction toward carbon neutrality. Although the international GHG reduction trend and the current geopolitical background may cause a temporary stagnation, we believe that the direction will basically remain the same and rather accelerate over the medium to long term.

Our group has set a goal of reducing GHG emissions by 45% by FY2030 compared to FY2013 and has reduced GHG emissions by approximately 20% from FY2013 to FY 2021. Toward FY2030, we intend to further promote energy conservation, fuel conversion, and the curbing or shutting down of boiler output. We are now on track to achieve the 45% reduction in FY2030, due to the concrete measures we have taken, including the review of our production system, which I am explaining today.

In response to this, we are currently considering new targets, and hope to set new targets by the end of this fiscal year. We will make a public announcement when the time is right. In FY2030 and beyond, we will continue to aim for carbon neutrality by 2050, including the introduction of carbon-free fuels or CCUS and the utilization of forest absorption.

This is a little brief, but that is all I have to say about GHG reduction.

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Investments is restricted, however, environmental invests carry out as the plan

■ Financial Discipline

- To maintain financial discipline, suppress investment and try to raise funds.
- Targeting to achieve EBITDA ¥100 billion at an early stage.

■ CapEx

Strategic Investments

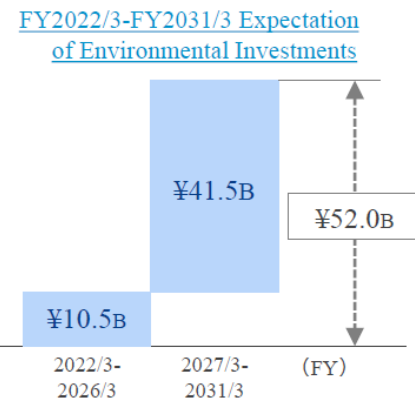
- CapExs to reduce GHG emission carry out as the original plan.
(Original Plan : Invest ¥52.0 billion by FY 2031/3.)
- Strictly selecting items based on those profitability to curve investments.

Investments for Maintenance and Renewal Equipment

- Reduce investments by bring forwards of equipment shutdown, etc.

■ Asset Sales

- Aim to raise funds by approx. ¥50 billion through selling strategic stockholdings and fixed assets from FY2023/3 to FY2024/3.



20

Please see page 20. Next, I would like to explain our approach to capital strategy.

Considering the current very difficult business environment and cash flow, we believe it is necessary to place the highest priority on maintaining financial discipline, curtailing investments and generating funds. However, with regard to capital investment, we will invest approximately JPY52 billion by FY2030 in environmental investments, as planned in our long-term vision, and we will give priority to measures to reduce GHG emissions.

On the other hand, other investments will again be carefully selected based on profitability, taking into consideration the drastically changing business environment, and investments will be curbed. We intend to prioritize and implement this as much as possible, as long as it contributes to future growth.

Although a certain amount of costs are inevitably incurred every year for maintenance and renewal of facilities, we will try to reduce these costs by reducing the number of facilities as much as possible.

Finally, in terms of securing necessary funds, we intend to generate JPY50 billion in funds through the sale of policy stocks or fixed assets during this fiscal year and the next.

That's all I have to say about the capital policy.

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Green Strategy

The Unique Strategy of Nippon Paper Group; to strengthen our business foundation and to contribute to the creation of a circulation-oriented society through spreading biomass products while maximizing the various values of forests.

Overseas Plantation Business

- Enhancement of breeding and propagation technologies, and improvement of CO2 fixation efficiencies
 - Increase CO2 fixation efficiency ratio of the overseas plantation business by 30% by FY2031/3 (compared to 2013)
- Securing forest resources by licensing to other companies' plantation projects
- Securing plantation resources
 - Studying feasibility of securing plantation lands mainly in Asia with a target of 100 thousand ha

Domestic Plantation Business / Domestic Company-Owned Forests

- Expansion of elite tree seedling production business
 - Established closed seed plantations for specified mother trees of Japanese cedar and hinoki in Tottori Prefecture
 - Sequential opening in other prefectures certified as specified breeder business operators

Maintenance of public benefits

Carbon Credits

- Establishment of methods for calculating CO2 absorptions and fixation volumes
- Participation in making rules for creation of environmental value credits (endorsement of the GX League Basic Concept)
- Promote utilization of existing systems such as J-Credit
 - Certificated the credit in company-owned forest in Kazaki, Shizuoka Prefecture



Specified mother trees of Japanese cedar and hinoki (Japanese cypress) in closed seed plantations

*Specified mother trees:

Specified trees designated by the Minister of Agriculture, Forestry and Fisheries as having particularly excellent growth-related properties in order to improve CO2 absorbing and fixing capacity of forests under the Act on Special Measures for Thinning, etc.

21

Please refer to page 21. Next, I would like to briefly discuss green strategies. I would like you to take a look at the status of our overall efforts. I would like to introduce a few recent topics.

One is the domestic elite tree, which is shown in the middle row, and we are working hard to expand the elite tree seedling production business.

In October of this year, we opened a new seed farm for specific mother trees of cedar and cypress in Tottori Prefecture. In the future, we intend to expand our seed farms and seed orchards in other prefectures as well, and we are aiming to expand our elite tree seedling business as a whole. In this way, we can still support the revitalization of the domestic forestry industry by efficiently supplying saplings, and also improve CO2 fixation efficiency. We would like to promote the planting of trees in our company-owned forests, as this will help to increase the value of our company-owned forests.

One more topic, J-Credit is mentioned at the bottom. As for carbon credits, in September of this year, the company-owned forests in Shizuoka Prefecture absorbed 6,800 tons of CO2 over an eight-year period due to continuous thinning. We have obtained J-credit certification for this company-owned forest. Although the amount of credits is still very small, we would like to continue to actively research and consider the acquisition of credits through the use of our own forests.

That is all I have to say about the green strategy.

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Utilize Human Resources

Supporting employees who challenge changes to accelerate the transformation of business structure

Increase Profitability of Growing Businesses

Restructuring Graphic Paper Business

Accelerating GHG Reduction

Changing Expectation against/Tasks of Employees

- ◆ Increase Profitability of Growing Businesses = Changing “Job Description”
- ◆ Restructuring Graphic Paper Business = Changing “Capability”

■ Redistribute Human Resources –Promoting 400 employees of Human Resource Flexibility–

- Reposition of Existing Employees
 - Moving to Growing and New Business

- In-Depth Improving Productivity of Graphic Paper Business
 - Promotion of optimal staffing for reconsidering production system
 - Active promotion of distinguished operators

■ Strengthen Investments for Human Resources

–Investments for Developing Challengeable Employees and Producing Their Performance–

- Reconsidering developing curriculum and working condition
 - Promoting Employees multi-task development to expand their tasks
 - Enhancement of Reskilling and Recurrent

- Ensure and Stabilize Human Resources
 - Reconsidering work style by optimizing DX
 - Constructing system of personnel system based on work-life balance, i.e., working are, etc.,
 - Investment of external human resources to growing and new businesses

- Activating Employees
 - Strengthen Employees Performance and Kaizen Activities
 - Restructuring Group Training
 - Active promotion of the system of side business in the company

22

Finally, I would like to talk about the utilization of human resources.

As we move forward with our business restructuring by expanding profitability in the growth areas I explained today, rebuilding the graphic paper business, and accelerating of reducing GHG emissions, the expectations and roles of our employees, in other words, the nature and scope of their work, will change.

As we move forward with the structural transformation of our business, we expect to liquidate about 400 employees, and we will reallocate human capital. To that end, I think it is necessary to develop human resources who take on the challenge of change, such as reviewing the education system and treatment system, revitalizing employees, securing and retaining human resources. We need efforts to support such human resources. We would like to work on initiatives in this way.

In the process of reviewing our production system, we will also have to put our employees through a great deal of hardship in various aspects, but we will continue to improve our system so that this will result in a virtuous cycle of growth opportunities for each and every one of our employees.

This concludes the explanation of the utilization of human resources.

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- **We challenge to achieve the Medium-Term Business Plan 2025. As a precondition, remaining higher costs of raw materials/fuels, progressive weak Yen and other business environment continues in the future, however, Nippon Paper Group carry out necessary countermeasures to improve profitability, and achieve the Medium-Term Business Plan 2025.**
- **In Growing Region, we challenge to immediate recovery of profitability, and reconsidering strategy from FY2024/3 to establish strong profitable foundation against variable business environment.**
- **In Graphic Paper Business, continue stable products supply with strong cost-competitiveness and minimized GHG emission. To achieve the supply system, we consolidate production bases based on the secure forecast of decreasing demand.**

23

Finally, on page 23, this is a summary of the key points of what I have said today, and I hope you will take a look at it.

The business environment is extremely uncertain and challenging, but change is rapid anyway, and we are tackling both short-, medium-, and long-term challenges with greater speed than ever before. And, to reiterate, even in these difficult times, we have made and will continue to make steady progress on initiatives for growth, including the planting of seeds for the future. We appreciate your continued support.

That's all.

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