Annual Securities Report

English excerpt translation of the "Yukashoken-Houkokusho" for the 99th fiscal year (from April 1, 2022 to March 31, 2023)

Nippon Paper Industries, Co., Ltd. 3863

Note: This document has been translated from the Japanese original for reference purposes only. In the event of any discrepancy between this translated document and the Japanese original, the original shall prevail.

[Business Risks]

The following is a list of major risks that management recognizes as having the potential to materially affect the consolidated company's financial position, operating results, and cash flows, among other matters related to the business and accounting conditions described in the Annual Securities Report (submitted on June 29, 2023). However, these are not an exhaustive list of all risks, and risks other than those listed may also exist and have an impact. Forward-looking statements in the text are based on the Group's judgment (the Company and its consolidated subsidiaries) as of the end of FY2023/3.

(1) Major Risks Associated with Management Strategies

1) Raw Material and Fuel Procurement, Domestic and International Transportation

NIPPON PAPER GROUP is engaged in businesses in which it purchases raw materials and fuel such as wood chips, wastepaper, oil, coal, and chemicals, and uses these resources to manufacture and sell products. The Group is thus exposed to the risk of fluctuations in input prices for raw materials and fuel based on domestic and international market conditions.

Such fluctuations could affect the Group's business performance, financial position and other aspects. In addition, the global shortage of container transport capacity triggered by the spread of the COVID-19, the shortage of dockworkers and truck drivers, disruption of global supply chains due to geopolitical risks, furthermore, the use of clean energy in response to environmental issues and price pass-through due to the price increases in raw materials and fuel have caused transport costs to rise and delivery times to be delayed.

In the future in Japan, this trend is expected to become even stronger as the so-called "Logistics 2024 Problem," which concerns a driver shortage due to stricter overtime regulations for truck drivers starting in April 2024, becomes more apparent, which could affect the Group's business performance, financial position and other aspects.

As main measures, the Group establishes and implements forward contracts to certain raw materials and fuels for risk hedging purpose. In addition, the Group has established good relationships with shipping companies to ensure stable procurement, and when necessary, the Group considers joint transportation and joint procurement with other companies, purchasing with long-term contracts and from multiple suppliers and regions, and expanding flexible sourcing and procurement network by strengthening horizontal cooperation among group companies, etc. Regarding inventories, the Group is conducting appropriate inventory management and flexible sourcing, including a review of inventory levels.

2) Delays in Business Structure Transformation and the Creation of New Businesses

In the Paper Business, which is one of NIPPON PAPER GROUP's businesses, a market contraction has been continuing as a trend in response to progress of digital transformation (DX), as well as the lifestyle changes by the COVID-19 pandemic. Therefore, the Group has been shifting management resources to growing businesses such as the Daily-Life Products Business, and working to early positive contribution from new businesses and products. If these efforts do not progress as planned, the Group's business performance, financial position, and other aspects could be affected.

The Group's main initiatives are to develop paper products to replace plastics, primarily for containers and packaging; expand the use of woody biomass, including cellulose nanofiber (CNF); and invest in growing businesses, reallocate human resources, and expand overseas business. The Group will implement these initiatives as planned as it strives to improve earnings.

In particular, with regard to overseas business, the Group is accelerating the speed of its overseas expansion more than ever to achieve the Group's growth. NIPPON PAPER GROUP manufactures and sells pulp and paper and operates forestry plantations and other businesses in North America, South America, Scandinavia, Southeast Asia, Australia, and other overseas locations, aiming to capture synergies with existing businesses. In addition, developing business operations overseas entails a number of risks, including changes to laws and regulations by local governments, labor disputes, and the impact of political uncertainty on economic activities. For this reason, the Group strives to prevent the materialization of these risks by sharing information with external law firms and dealing with these risks appropriately.

3) Climate Change

The Group, whose main business is the energy-intensive pulp and paper business, regards addressing climate change issues as one of the key issues in realizing the Group Mission, and has declared itself carbon neutral by 2050 and is working to reduce greenhouse gas emissions. In a situation where the trend toward decarbonization is rapidly accelerating, if the Group's response is delayed, it could be financially impacted by regulatory risks such as carbon pricing and reputational risks from customers and investors.

The Group appropriately assesses the financial impact related to these risks and discloses them in accordance with the TCFD. With regard to risks, in order to reduce them, the Group is working to quickly reduce greenhouse gas emissions by accelerating introduction of high-efficiency equipment, energy-saving measures by review of its manufacturing processes, and by shifting to non-fossil energy sources through a review of its energy mix.

The Group is also working with its stakeholders to reduce emissions in the value chain by promoting modal shifts and shortening transportation distances. While continuing to reduce emissions through self-help efforts, the Group aims to be carbon neutral by 2050 through the use of carbon-free fuels and forest absorption.

4) Product Demand and Market Conditions

NIPPON PAPER GROUP carries out businesses such as the Paper and Paperboard Business, Daily-Life Products Business, Energy Business, and Wood Products and Construction-Related Business. The Group is exposed to the risk of fluctuations in demand for its products based on factors such as economic conditions and fluctuations in product prices based on factors such as market conditions. Such fluctuations could affect the Group's business performance, financial position, and other aspects.

As a countermeasure, the Group is reorganizing its production system and consolidating production bases in the Paper Business, where the market is shrinking significantly due to the progress of digital transformation (DX), as well as the lifestyle changes by the COVID-19 pandemic. Concurrently, the Group is implementing measures such as investing in the Daily-Life Products Business, where demand is expected to increase.

(2) Main Risks Associated with the Business Environment and Business Activities Production

1) Production Facilities

NIPPON PAPER GROUP's production activity is based on the estimated demand and production capacity of existing facilities. The Group is exposed to the risk of a reduction in product supply capability due to equipment trouble or fire, etc. Such fluctuations in the product supply capability could affect the Group's business performance, financial position, and other aspects. Therefore, the Group conducts periodic inspections of its production facilities while carries out aging countermeasure works to systematically renew vulnerable areas, establishing supply systems at multiple plants, and optimizing inventories.

2) Natural Disasters and Infectious Diseases, etc.

The occurrence of an earthquake or large-scale natural disaster in the vicinity of NIPPON PAPER GROUP's production and sales bases may impact its production, sales and other business activities. This may lead to opportunity losses due to a production stoppage, additional costs to restore facilities, and/or damage to products, merchandise and raw materials, etc. Such consequences of natural disasters may affect the business performance, financial position, and other aspects of the Group. In accordance with the Crisis Response Regulations, during emergencies, the Group forms a Crisis Response Headquarters and works to confirm the safety of employees and their families, monitor the status of damage to the Company and its customers, and implement measures to ensure the continuous supply of products to corporate customers. Moreover, the Group has established business continuity management (BCM) to address emergencies. BCM measures include establishing supply systems at multiple plants and carrying out evacuation drills, safety confirmation drills, etc. in preparation for natural disasters.

Although the COVID-19 infections have been placed in the same category of "Class 5 Infectious Diseases" as other diseases such as seasonal influenza, the risk of production line stoppages due to employee infection remains. The Group has prepared a system for communicating with the possibility of multiple outbreaks of infectious diseases, including those other than the COVID-19, that could affect business continuity. In addition, the Group has put a system in place to form a Response Headquarters whenever needed.

3) Human Resources Recruitment and Labor-Related

NIPPON PAPER GROUP considers its human resources strategy to be a key element of its business activities. The Group recognizes that there is a vital need to recruit and develop optimal human resources to expand its business in the future. The Group's inability to recruit optimal human resources could restrict its business operations, which could in turn affect its business performance, financial position, and other aspects. Additionally, if the Group is found to be out of compliance with various labor-related rules (employment issues, harassment, human rights infringements, etc.), the Group could be subject to lawsuits or experience a loss of public trust. Such events could adversely impact the business performance, financial position, and other aspects of the Group.

The Group strives to secure human resources optimally and efficiently through proactive recruitment and development of diverse human resources and the development of workplaces premised on flexible and diverse work styles. From FY2023/3, as a measure to improve employee engagement, the Group has reviewed internal systems, focusing on support for

balancing work and life events such as childcare. In addition, the telecommuting system, which was implemented as an emergency response from the perspective of preventing the spread of the COVID-19, has been made permanent. With regard to labor-related compliance issues, the Group conducts compliance training on a regular basis to raise employee awareness of compliance.

Moreover, the Group strives to operate all of its business sites with the highest priority on safety, the occurrence of an occupational accident is a serious risk that could result in the loss of workers' health and lives, and depending on the nature of the accident, the Group may be held liable for corporate management and may even have to shut down its facilities. In order to prevent occupational accidents, the Group operates own occupational health and safety management system and incorporate specific, ongoing, and voluntary activities into the health and safety plans of each business site, striving to prevent occupational accidents, promote workers' health, and improve health and safety standards such as a comfortable work environment.

4) Environmental Laws and Regulations

The Group is subject to the application of environmental laws and regulations in various businesses. Revisions and amendments to such regulations could limit production activities and result in additional costs incurred to implement countermeasures, etc., affecting the Group's business performance, financial position, and other aspects. In addition to regularly monitoring the status of amendments to environment-related laws and regulations, the Group conducts periodic inspections of environmental facilities and promote construction of countermeasures for aging facilities.

5) Information Systems

NIPPON PAPER GROUP strengthens and rigorously implements security measures for its information systems. The Group also implements extensive information security measures to address the work-from-home environment, which has been rapidly adopted across society. If there are any problems such as information leakages due to unauthorized access to computers and/or data breaches due to criminal acts, and/or interference with somebody's duties, NIPPON PAPER GROUP may be held liable for the payment of compensation for loss or damage and experience a loss of public trust or suspension of business, etc. in the Group. Such events could affect the business performance, financial position, and other aspects of the Group. The Group installs defense systems and provides employee training on information security in step with current conditions. The Group has set forth rules concerning the handling of personal information, and made those rules known to its executives, employees, and business partners as part of its efforts to strengthen its management structure.

6) ESG, SDGs and other social demands

NIPPON PAPER GROUP must address a variety of ESG issues, including respect for human rights, active participation of diverse human resources, and enhancement of its governance, in addition to environmental issues such as response to climate change, utilization of sustainable forest resources, and preservation of biodiversity. If the Group delays its efforts to address ESG issues or fail to properly disclose information required by investors and ESG evaluation organizations, the Group may not be able to gain the understanding and trust of its stakeholders regarding the medium- to long-term growth potential of its group, and its group brand may be damaged or its social reputation may decline, which may affect the Group's business performance, financial position, and other aspects. Through ongoing careful communication with stakeholders, including engagement with ESG assessment organizations, the Group strives to gain their understanding and trust in the medium- to long-term growth potential of the Group through its efforts to address ESG issues.

Among the main ESG issues, initiatives related to climate change are listed separately. Regarding respect for human rights, Philosophy and Basic Policy on Human Rights, Employment and Labor, formulated in 2004, was revised as the Nippon Paper Group Human Rights Policy in 2022 in line with the United Nations Guiding Principles on Business and Human Rights. The Nippon Paper Group Human Rights Policy applies to all directors and employees of the Group, and the Group encourages its suppliers and other business partners to support and comply with the policy. Furthermore, in 2021, the Group established a Human Rights Working Group and introduced human rights due diligence. After listing human rights risks for all stakeholders in the value chain related to paper and Paperboard Business, Paper-pak Business, and Chemical Business, the Group evaluates them, identify high-priority human rights risks, and proceed with implementation of countermeasures.

The group's business foundation is based on forest resources, and the Group has set targets for sustainable forest management that takes biodiversity into consideration in the Nippon Paper Group Environmental Targets 2030. the Group confirm topographical information that needs to be taken into consideration, such as riparian forests in existing business, and conduct fixed-point surveys of forest ecosystems. In addition, the Group appropriately separates and manages forests for economic use and forests for environmental conservation, such as by establishing protected areas and protected forests that are not logged in order to preserve biodiversity.

7) Foreign Exchange

NIPPON PAPER GROUP is exposed to the risk of foreign exchange fluctuations associated with import, export and other transactions. In terms of the balance of imports and exports, the Group's imports of various raw materials and fuel, etc., such as wood chips, oil, coal, and chemicals, exceed its exports of products and other items. For this reason, the predominant foreign exchange impact is that the depreciation of the yen against the U.S. dollar will have a negative impact on business performance. The Group hedges against this risk through forward contracts and other means in order to mitigate the impact of foreign exchange rate fluctuations on its business performance.

8) Product Liability

NIPPON PAPER GROUP could receive claims for compensation for loss or damage in relation to product liability, but it has not received any significant claims of this sort at present. However, NIPPON PAPER GROUP may be liable for the payment of compensation for loss or damage in the future. While the Group has enrolled in product liability insurance, it may not be enough to cover the amount of compensation for loss or damage for which the Group may be held liable. The Group has established NIPPON PAPER GROUP Product Risk Committee to supervise the product safety risk of its group companies and support efforts to manage and mitigate that risk. Concurrently, Product Risk Committees have been set up at the Group's main manufacturing companies as part of efforts to prevent product safety incidents by promoting the development of product risk management regulations.

9) Litigation

NIPPON PAPER GROUP takes the utmost care in compliance management to observe and follow laws and regulations in the course of doing business. However, as it conducts business activities worldwide, the Group is exposed to the risk of litigation or other actions associated with criminal or civil affairs, taxation, antitrust law, product liability law, intellectual property rights, and environmental and labor issues. As a result, such litigation could affect the Group's business performance, financial position, and other aspects. Heightened environmental awareness has made it particularly crucial for the Group to show consideration to local community residents, perform biodiversity surveys and conduct other activities when making use of forestry resources. In addition, ensuring compliance is one of the main principles of NIPPON PAPER GROUP's Action Charter. The Group strives to raise employees' awareness of compliance through awareness-building and training activities for employees.

10) M&As and Business Alliances

NIPPON PAPER GROUP may conduct activities such as M&As and business alliances with the aim of realizing sustainable growth by creating new business opportunities. However, changes in the operating environment and other factors may prevent the Group from achieving the results it had initially anticipated. In these circumstances, the business performance, financial position, and other aspects of the Group could be affected. In the process, the Group conducts a thorough examination of its business strategies and synergistic effects before it decides to engage in such activities while utilizing M&As advisors, and it works to maximize its results after it concludes such agreements.

(3) Financial and Accounting Risks

1) Share Prices

NIPPON PAPER GROUP holds marketable shares primarily in business partners and affiliated companies. Therefore, the Group is exposed to the risk of share price fluctuations that could affect its business performance, financial position, and other aspects. With this in mind, the Group conducts regular monitoring of the shares it holds, so that it can detect whether the shares could have a significant impact on its financial position.

2) Interest Rates

NIPPON PAPER GROUP is exposed to the risk of interest rate fluctuations with respect to interest-bearing debt and other items. Such fluctuations could affect the business performance, financial position, and other aspects of the Group. The Company maintains the ratio of fixed interest rate loans to long-term debt above a certain level. Also, the Company mitigates the risk of interest rate fluctuations through the use of financial instruments such as interest rate swaps, in addition to spreading out repayment periods and diversifying financing methods, among other measures.

3) Credit Risk

NIPPON PAPER GROUP takes care to limit its credit risk through measures such as continuously evaluating the financial and related information of its business partners in accordance with credit management rules and establishing credit limits accordingly, but any event that disrupts the collection of receivables, such as a deterioration in the financial condition or bankruptcy of customers, could affect the business performance, financial position, and other aspects of the Group.

4) Impairment of Fixed Assets

NIPPON PAPER GROUP owns fixed assets such as production facilities and land. Changes in the operating environment

and other factors that result in a significant decline in future cash flow generated through these assets may lead to an incurrence of an impairment loss and affect the business performance, financial position, and other aspects of the Group.

5) Retirement Benefit Obligation

NIPPON PAPER GROUP's retirement benefit expenses and obligation are calculated based on actuarial assumptions such as the rate of return and the discount rate on pension assets. However, any circumstances requiring a change in the actuarial assumptions or an impairment to pension assets resulting from stagnation of the stock market and other factors may affect the business performance, financial position, and other aspects of the Group. With this in mind, the Group has diversified its pension plan assets into multiple asset classes and management styles with different risk and return characteristics based on the advice of external consultants. By regularly conducting an analysis of the risk and return of the entire pension plan assets, the Group conducts an evaluation of the effectiveness of the diversification effect.

6) Reversal of Deferred Tax Assets

NIPPON PAPER GROUP records deferred tax assets after it judges the recoverability of deductible temporary differences and operating loss carryforwards based on an estimation of future taxable income. However, changes in the operating environment and other factors that lead to a decline in taxable income, or changes in the tax regulations and other factors that lead to a revision in recoverability, may cause a reversal of deferred tax assets. Such a reversal could affect the business performance, financial position, and other aspects of the Group.

[Notes to consolidated financial statements of Nippon Paper Industries Co., Ltd. ("the Company") and its subsidiaries (collectively, "the Group")]

(Significant Matters Providing the Basis for the Preparation of the Consolidated Financial Statements)

- 1. The scope of consolidation
 - (1) Number of consolidated subsidiaries: 55

The names of major consolidated subsidiaries are omitted.

In the fiscal year ended March 31, 2023, Yufutsu Energy Center, LLC has become a consolidated subsidiary due to its increased importance.

(2) Names, etc., of major unconsolidated subsidiaries

Major unconsolidated subsidiary: Douoh Kouhatsu Ltd.

(Reason for exclusion from the scope of consolidation)

All unconsolidated subsidiaries are excluded from the scope of consolidation because the scale of their operations is small and their total amounts in terms of total assets, net sales, profit or loss (corresponding to the equity ratio owned by the Company) and retained earnings (corresponding to the equity ratio owned by the Company) do not have a significant effect on the Company's consolidated financial statements.

2. Application of the equity method

- (1) Number of unconsolidated subsidiaries accounted for by the equity method: 0
- (2) Number of affiliates accounted for by the equity method: 12

Names, etc., of major affiliates accounted for by the equity method

DuPont Nippon Paper Papylia Godo Kaisha, Shin Tokai Paper Co., Ltd., Phoenix Pulp & Paper Public Company Limited, Nippon Tokan Package Co., Ltd., and Lintec Corporation

- In the fiscal year ended March 31, 2023, Diamond Trading Inc. was newly established and has become an affiliate accounted for by the equity method.
- (3) Unconsolidated subsidiaries (Douoh Kouhatsu Ltd. and 68 other companies) and affiliates (JPT LOGISTICS CO., LTD. and 22 other companies) not accounted for by the equity method are excluded from the scope of the equity method because their total amounts in terms of profit or loss (corresponding to the equity ratio owned by the Company) and retained earnings (corresponding to the equity ratio owned by the Company) are not significant, with insignificant effects on the Company's consolidated financial statements when excluded from the scope of the equity method.
- (4) For the affiliates accounted for by the equity method that close their accounts at different dates than the Company's balance sheet date, the financial statements as of their respective balance sheet dates are used for the preparation of the consolidated financial statements.

3. Accounting period of consolidated subsidiaries

The balance sheet date is December 31 for Jujo Thermal Oy, Siam Nippon Industrial Paper Co., Ltd., Nippon Paper Industries USA Co., Ltd., Opal, Nippon Dynawave Packaging Co., TS Plastics Sdn. Bhd. and its one subsidiary, Amapá Florestal e Celulose S.A. and its two subsidiaries, and Nippon Paper Resources Australia Pty. Ltd.

In preparing the consolidated financial statements, the financial statements as of the said balance sheet date are used for these companies, with necessary adjustments being made for consolidation purposes with regard to material transactions between December 31 and the Company's balance sheet date.

4. Significant accounting policies

- (1) Evaluation basis and methods for significant assets
 - (1) Securities

Other securities:

Securities other than shares, etc. that do not have a market price:

Carried at fair value (Unrealized gains or losses, net of the applicable income taxes, are included directly in net assets. Costs of securities sold are determined by the moving-average method.)

Shares, etc. that do not have a market price:

Carried at cost by the moving-average method

2 Derivatives

Fair value method

③ Inventories

Stated at cost, determined principally by the moving-average or periodic-average method. (The balance sheet amount is written down based on any decline in profitability.)

(2) Depreciation methods for significant assets

① Property, plant and equipment (excluding lease assets)

The declining-balance method is used, except that the straight-line method is employed for some assets of the Company and its consolidated subsidiaries.

However, buildings (excluding building fixtures) acquired on or after April 1, 1998, and building fixtures and structures acquired on or after April 1, 2016, are depreciated by the straight-line method.

The useful lives of assets are principally as follows:

Buildings and structures: 10 to 50 years Machinery, equipment and vehicles: 7 to 15 years

② Intangible assets (excluding lease assets)

The straight-line method is used.

Software for internal use is amortized over an estimated useful life of 5 years on a straight-line basis.

③ Leased assets

Depreciation of leased assets under finance-leasing agreements that do not transfer ownership is calculated using the straight-line method assuming a residual value of zero (or the guaranteed residual value when it is set by the agreement) and a useful life equal to the term of the lease.

(3) Basis for significant allowances and provisions

① Allowance for doubtful receivables

To cover a loss from uncollectible receivables, allowances for bad debts are provided at the amount determined based on the historical experience of bad debts for ordinary receivables. For specific doubtful receivables, the collectability is considered on an individual basis.

② Allowance for environmental costs

To cover future expenditures for disposing of PCB waste in accordance with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes, an allowance is provided at the estimated amount of disposal costs.

(4) Accounting policies for retirement benefits

① Method for allocating projected retirement benefits

In calculating retirement benefit obligations, the benefit formula method is applied to allocate projected retirement benefits to the periods until the end of the fiscal year under review.

② Amortization of actuarial differences and prior service cost

Prior service cost is amortized evenly using the straight-line method over the determined years (7 to 15 years) that are no longer than the average remaining service years of the employees at the time of occurrence.

Actuarial differences are primarily amortized evenly using the straight-line method over the determined years (5 to 15 years) that are no longer than the average remaining service years of employees, beginning from the fiscal year following the time of occurrence.

(5) Standards for recognizing significant revenue and expenses

The Company and its consolidated subsidiaries' main businesses include production and sales of products or sales of goods in the paper and paperboard business, daily-life products business, and wood products and construction-related business as well as wholesale supply and sales of electricity in the energy business. Regarding domestic sales of products and goods in the paper and paperboard business, daily-life products business, and wood products and construction-related business, revenue is mainly recognized upon shipment given the normal period from shipment to delivery upon which control of products and goods is transferred to customers. In export sales, revenue is mainly recognized when the burden of risk is transferred to customers based on trade conditions stipulated by Incoterms, etc.

Regarding wholesale supply and sales of electricity in the energy business, revenue is mainly recognized at an amount for which the Company has the right to claim according to supplied amounts of electricity, as amounts of consideration corresponding directly to supplied amounts of electricity are received from customers over the contract period.

As considerations for transactions are received within one year after satisfying performance obligations, significant financing components are not included.

For transactions related to sales of goods in which the Company acts as an agent in each business, the transaction price is calculated based on the net amount of consideration received from the customer. Also, revenue is measured at an amount of promised consideration in contracts with customers less discounts, etc. There is no estimate of significant variable consideration.

(6) Accounting policies for translation of significant assets and liabilities denominated in foreign currencies into Japanese ven

Receivables and payables denominated in foreign currencies are translated into Japanese yen, using the spot exchange rates on the balance sheet date, and the resulting translation gains and losses are recognized as income and losses. Assets and liabilities of overseas subsidiaries, etc., are translated into Japanese yen at the spot exchange rates on their balance sheet date, whereas income and expenses are translated into Japanese yen at the average exchange rates. The resulting translation gains and losses are recorded as translation adjustments and non-controlling interests under the net assets section.

(7) Significant hedge accounting methods

① Hedge accounting methods

Deferral hedge accounting is principally adopted.

Receivables and payables denominated in foreign currencies hedged by qualified forward foreign exchange contracts are translated at their corresponding contract rates (the allocation method "Furiate-shori").

The exceptional accounting method is adopted for the interest rate swaps that meet special matching criteria ("*Tokureishori*"). The integral accounting method is adopted for currency and interest rate swaps that meet the requirements for integral accounting ("*Ittai-shori*").

- 2 Hedging instruments and hedged items
 - a. Hedging instrument: Forward foreign exchange contracts

Hedged items: Receivables denominated in foreign currencies arisen from exports of products, payables denominated in foreign currencies arisen from imports of raw materials and fuel, and forecast transactions denominated in foreign currencies

b. Hedging instrument: Interest rate swaps

Hedged items: Loans payable

c. Hedging instrument: Interest rate and currency swaps

Hedged items: Loans payable denominated in foreign currencies

d. Hedging instrument: Crude oil swaps

Hedged items: Forecast fuel purchases

e. Hedging instrument: Commodity futures

Hedged items: Forecast power purchases

3 Hedging policy

The Company uses derivative transactions to primarily hedge fluctuation risks of foreign currencies, interest rates and prices.

4 Method for evaluating hedge effectiveness

The Company evaluates hedge effectiveness based on semiannual comparisons of changes in cash flows or the fair value of hedged items and hedging instruments.

For interest rate swaps that meet the requirements for exceptional accounting method and currency and interest rate swaps that meet the requirements of integral accounting method, the Company omits to evaluate hedge effectiveness as of the balance sheet date.

Evaluation of hedge effectiveness as of the balance sheet date is also omitted if forward foreign exchange contracts with the same amount denominated in U.S. dollars, etc., and the same timing are allocated when the contracts are concluded in accordance with the risk management policies, because they guarantee a correlation due to subsequent exchange rate movements.

(5) Hedging relationships that have applied "Treatment of Hedge Accounting for Financial Instruments that Reference LIBOR"

All hedging relationships described above included in the scope of application of "Treatment of Hedge Accounting for Financial Instruments that Reference LIBOR" (ASBJ Practical Solutions No. 40, March 17, 2022) are subject to the exceptional treatment provided in the Practical Solution. The details of the hedging relationships which apply this Practical Solution are as follows.

Hedge accounting methods: Exceptional accounting method for interest rate swaps and integral accounting method for currency and interest rate swaps

Hedging instruments: Interest rate swaps and interest rate and currency swaps

Hedged items: Loans payable and loans payable denominated in foreign currencies

Type of hedge transactions: To fix cash flows

(8) Method and period of amortization of goodwill

Goodwill is amortized by the straight-line method over an appropriate period of within 20 years that is determined based on the actual situations of subsidiaries.

(9) Cash and cash equivalents in the consolidated statements of cash flows

Cash and cash equivalents in the consolidated statements of cash flows include cash on hand, demand deposits at banks and highly liquid short-term investments with negligible risk of fluctuation in value and maturities of not exceeding three months.

(Significant Accounting Estimates)

1. Impairment loss on noncurrent assets

In the fiscal year ended March 31, 2023, the Group determined that there was an indication of impairment loss for the asset group of ¥129,482 million (¥141,112 million in the fiscal year ended March 31, 2022) related to property, plant and equipment of the paper business, which consists of the Company's printing paper business and other businesses in the paper and paperboard segment, due to a decline in profitability caused by a deterioration in the business environment. However, in determining whether to recognize an impairment loss, as with the fiscal year ended March 31, 2022, no impairment loss was recognized because the total undiscounted future cash flows from the asset group exceeded its book value.

Estimates of future cash flows resulting from the continued use of asset group are based on future business plans. With regard to raw material and fuel prices, the price of coal, which is the Group's primary fuel and raw material, continues to surge due to the situation in Ukraine and the prolonged depreciation of the Japanese yen. However, based on forecasts from external institutions, the Group assumes the price will start to gradually decline. Sales volumes for the fiscal year ended March 31, 2023 fell below those of the fiscal year ended March 31, 2022 as a result of overall weak demand. We assume that demand will not return to the previous levels and that domestic sales volumes will continue to diminish. Further, we have set a unit selling price based on past trends as well as on trends in the price of fuels and raw materials.

Because these assumptions are subject to uncertainty, if the future cash flows from this asset group were to decrease significantly due to factors such as the future situation in Ukraine, the containment of COVID-19, and changes in the business environment, an impairment loss may be incurred, which could have a significant impact on the consolidated financial statements for the fiscal year ending March 31, 2023.

2. Recoverability of deferred tax assets

As of March 31, 2023, the Group has recognized deferred tax assets of \(\frac{\pmathbf{\frac{4}}}{3}\),820 million (\(\frac{\pmathbf{\frac{7}}}{7}\),756 million as of March 31, 2022) as a tax sharing company for deductible temporary differences and tax loss carryforwards, which are considered to be recoverable based on the sufficiency of future taxable income.

Estimates of future taxable income are based on future business plans. With regard to raw material and fuel prices, the price of coal and fuel oil, which are the Group's primary fuels and raw materials, continues to surge due to the situation in Ukraine and the rapid depreciation of the Japanese yen. However, based on forecasts from external institutions, the Group assumes the price of coal will start to gradually decline. As for fuel oil, the Group assumes the current levels will persist for the time being, before starting to gradually decline. Sales volumes of printing paper for the fiscal year ended March 31, 2022 were up on those for the fiscal year ended March 31, 2021 due to a rebound to the sharp decline in demand due to the impact of the novel coronavirus (COVID-19) in the fiscal year ended March 31, 2021; however, we assume that demand will not return to the previous levels and that domestic sales volumes will continue to diminish in the long term. Further, we have set a unit selling price based on past trends as well as on trends in the price of fuels and raw materials.

Because these assumptions are subject to uncertainty, a review of the recoverability of deferred tax assets due to factors including changes in the future situation in Ukraine, the containment of COVID-19, and changes in the business environment, may result in a reversal of deferred tax assets, which could have a significant impact on the consolidated financial statements for the fiscal year ending March 31, 2023.

(Changes in Accounting Policies)

(Adoption of the U.S. Financial Accounting Standards Board Accounting Standards Codification (ASC) 842 "Leases")

The Group's overseas consolidated subsidiaries that use the US-GAAP have adopted ASC 842 "Leases" from the beginning of the current fiscal year. As a result, all lease transactions of lessees at those overseas consolidated subsidiaries are, in principle, recorded as assets and liabilities on the balance sheet.

In adopting this accounting standard, the cumulative effect of adoption of this accounting standard is recognized at the date of application, which is accepted as transitional measures.

The impact of the adoption of this accounting standard on the consolidated financial statements is immaterial.

(Accounting Standards Issued but Not Yet Applied)

- Accounting Standard for Current Income Taxes (ASBJ Statement No. 27, October 28, 2022)
- Accounting Standard for Presentation of Comprehensive Income (ASBJ Statement No. 25, October 28, 2022)
- Implementation Guidance on Tax Effect Accounting (ASBJ Guidance No. 28, October 28, 2022)
- (1) Overview

Stipulates the classification of income taxes when taxed on other comprehensive income and the treatment of tax effects related to the sale of stocks in subsidiaries, etc. when the corporate group tax system is applied.

- (2) Scheduled date of application
 - Scheduled to be applied from the beginning of the fiscal year ending March 31, 2025.
- (3) Impact of the application of these accounting standards, etc.

The amount of impact is currently evaluated at the time of preparation of the consolidated financial statements.

(Changes in Presentation)

Consolidated statements of operations

"Exchange gain," which was included in "Other" under "Non-operating income" in the previous fiscal year, is listed as a separate item for the fiscal year ended March 31, 2023 due to its increased materiality. To reflect this change in presentation, the consolidated financial statements for the fiscal year ended March 31, 2022 have been reclassified.

As a result, ¥4,573 million included in "Other" under "Non-operating income" in the consolidated statements of operations for the prior fiscal year is reclassified as ¥1,226 million in "Exchange gain" and ¥3,347 million in "Other."

"Gain on sales of noncurrent assets," which was included in "Other" under "Extraordinary income" in the previous fiscal year, is listed as a separate item for the fiscal year ended March 31, 2023 due to its increased materiality. To reflect this change in presentation, the consolidated financial statements for the fiscal year ended March 31, 2022 have been reclassified.

As a result, ¥374 million included in "Other" under "Extraordinary income" in the consolidated statements of operations for the prior fiscal year is reclassified as ¥364 million in "Gain on sales of noncurrent assets" and ¥9 million in "Other."

"Loss on disaster" and "Loss on business withdrawal" under "Extraordinary loss" were listed as separate items in the previous fiscal year. For the fiscal year ended March 31, 2023, however, their materiality decreased and they are therefore listed under "Other." To reflect this change in presentation, the consolidated financial statements for the fiscal year ended March 31, 2022 have been reclassified.

As a result, ¥4,253 million included in "Loss on disaster," ¥2,424 million included in "Loss on business withdrawal," and ¥2,651 million included in "Other" under "Extraordinary loss" in the consolidated statements of operations for the prior fiscal year are reclassified as ¥9,329 million in "Other."

Consolidated statements of cash flows

"Loss (gain) on sales of noncurrent assets," which was included in "Other" under "Cash flows from operating activities" in the previous fiscal year, is listed as a separate item for the fiscal year ended March 31, 2023 due to its increased materiality. Moreover, "Loss on disaster" and "Loss on business withdrawal" under "Cash flows from operating activities" were listed as separate items in the prior fiscal year. For the fiscal year ended March 31, 2023, however, their materiality decreased and they are therefore included in "Other." To reflect this change in presentation, the consolidated financial statements for the fiscal year ended March 31, 2022 have been reclassified.

As a result, $\frac{4}{253}$ million included in "Loss on disaster," $\frac{4}{24}$ million included in "Loss on business withdrawal," and $\frac{4}{2079}$ million included in "Other" under "Cash flows from operating activities" in the consolidated statements of cash flows for the prior fiscal year are reclassified as $\frac{4}{364}$ million in "Loss (gain) on sales of noncurrent assets" and $\frac{4}{363}$ million in "Other."

(Notes to Consolidated Balance Sheets)

1. The amounts receivable arising from contracts with customers of notes and accounts receivable-trade are as follows:

		(Millions of yen)
	As of March 31, 2023	As of March 31, 2022
Notes receivable-trade	28,561	26,825
Accounts receivable-trade	160,566	218,379
Total	189,128	245,205

2. Pledged assets and secured debts

Assets pledged as collateral and secured debts are as follows:

		(Millions of yen)
	As of March 31, 2023	As of March 31, 2022
Land	119	119
	As of March 31, 2023	As of March 31, 2022
Short-term loans payable	490	340
Long-term loans payable (including current portion)	6	62
Total	496	402

3. Accounts related to unconsolidated subsidiaries and affiliates

Major accounts related to unconsolidated subsidiaries and affiliates are as follows:

		(Millions of yen)
	As of March 31, 2023	As of March 31, 2022
Investment securities (equity securities)	125,608	122,833
Other investments in unconsolidated subsidiaries and affiliates	920	1,249

4. Guarantee obligations

The Company guarantees the following obligations, including loans payable to financial institutions, etc., of companies other than consolidated subsidiaries.

		(Millions of yen)
	As of March 31, 2023	As of March 31, 2022
Employees (housing loans)	1,128	1,385
Nippon Paper Viet Hoa My JSC	801	861
Nippon Paper Foodpac Pvt. Ltd.	679	542
Yufutsu Energy Center, LLC (Note)		5,947
Other	194	503
Total	2,803	9,239

In the previous fiscal year, in addition to the above, the Company also provided guarantees for the following interest rate swaps for subsidiaries and affiliates. The fair values of these swaps are as follows:

		(Millions of yen)
	As of March 31, 2023	As of March 31, 2022
Yufutsu Energy Center, LLC (Note)	_	261

(Note) Yufutsu Energy Center, LLC has become a consolidated subsidiary of the Company as of the first quarter of the fiscal year ended March 31, 2023.

5. Loan commitment agreements (as lender)

The Company maintains loan commitment contracts with unconsolidated subsidiaries. The unexercised portion of facilities based on these contracts is as follows:

		(Millions of yen)
	As of March 31, 2023	As of March 31, 2022
Amount of loan commitment contracts	8,500	8,195
Amount of lending	7,251	7,314
Net	1,248	880

6. Loan commitment agreements (as borrower)

For efficient procurement of working capital, the Company maintains loan commitment contracts with its banks. The unexercised portion of facilities based on these contracts is as follows:

 As of March 31, 2023
 As of March 31, 2022

 Amount of loan commitment contracts
 65,000
 50,000

 Amount of borrowing
 12,500
 —

 Net
 52,500
 50,000

(Notes to Consolidated Statements of Operations)

1. Revenue from contracts with customers

With regard to net sales, revenue from contracts with customers is not listed separately from other revenue. The amounts of revenue from contracts with customers are listed in "Notes – Segment Information – 3. Net sales, income or loss, assets and other items by reportable segment and disaggregation of revenue."

2. The Company reduced the book value of inventory for which profitability had decreased. Cost of sales includes the following loss on valuation of inventory (Negative values indicate the amount of reversal).

		(Millions of yen)
	Fiscal year ended	Fiscal year ended
	March 31, 2023	March 31, 2022
Loss (gain) on valuation of inventory	1,646	(50)

3. Research-and-development costs included in general and administrative expenses and manufacturing costs are as follows:

	(Millions of yen)
Fiscal year ended March 31, 2023	Fiscal year ended March 31, 2022
5,760	5,672

4. Retirement benefit expenses included in general and administrative expenses are as follows:

	(Millions of yen)	
Fiscal year ended March 31, 2023	Fiscal year ended March 31, 2022	
1,689	1,933	

5. Depreciation expenses included in general and administrative expenses are as follows:

	(Millions of yen)	
Fiscal year ended March 31, 2023	Fiscal year ended March 31, 2022	
3,983	3,860	

6. Business preparation expenses

In the fiscal year ended March 31, 2020, the Hokkaido Mill-Yufutsu stopped all paper machines, but the site was prepared as a base for developing new businesses such as biomass power generation of subsidiaries and affiliates, as well as continuing the chemical business. As a result, the Company has recorded the related expenses as business preparation expenses under non-operating expenses.

7. Gain on sales of noncurrent assets

Fiscal year ended March 31, 2023

¥2,377 million from land, etc. and others.

Fiscal year ended March 31, 2022

¥314 million from land, etc. and others.

8. Loss on withdrawal from business of subsidiaries

This is a loss resulting from the withdrawal from the graphic paper business at Opal, a consolidated subsidiary. The principle items of this loss are impairment loss, etc. on noncurrent assets.

9. Impairment loss

Fiscal year ended March 31, 2023

The Group recorded the impairment loss of \(\frac{4}{22}\),048 million on the following assets.

(Millions of yen)

Application	Location	Impairment loss	Type	Notes
Assets scheduled to be disposed of, etc.	Victoria state, Australia	18,081	Machinery, equipment and vehicles, etc.	Extraordinary loss "Loss on withdrawal from business of subsidiaries"
Assets scheduled to be disposed of, etc.	Akita-shi, Akita, etc.	3,538	Machinery, equipment and vehicles, etc.	Extraordinary loss "Impairment loss"
Idle assets, etc.	Muroran-shi, Hokkaido, etc.	427	Land, etc.	Extraordinary loss "Impairment loss"
	Total	22,048		

To test indicators of the impairment of noncurrent assets, the Group groups assets mainly on a cash-generating unit basis for business-use assets and on an individual property basis for idle assets and assets to be retired.

The recoverable value of idle assets and assets to be retired was measured based on those assets' net sale value or value in use.

The breakdown of impairment losses of idle assets, etc. consists of ¥96 million for buildings and structures, ¥132 million for machinery, equipment and vehicles and ¥198 million for land. The breakdown of impairment losses of assets scheduled to be disposed of, etc. consists of ¥84 million for buildings and structures, ¥21,233 million for machinery, equipment and vehicles and ¥302 million for others.

The net sale value was estimated based on a third-party appraisal value, in principle, or by any equivalent means. Because the period of estimation for the value in use is less than one year, the future cash flows are not discounted.

In addition, the Group recorded loss on withdrawal from business of subsidiaries (¥19,705 million) for the fiscal year ended March 31, 2023, which was loss due to Opal's withdrawal from the graphic paper business. Of such, ¥18,081 million was impairment loss on noncurrent assets.

Fiscal year ended March 31, 2022

The Group recorded the impairment loss of ¥1,476 million on the following assets.

(Millions of yen)

Application	Location	Impairment loss	Type	Notes
Assets to be retired	Ishinomaki-shi, Miyagi Prefecture	1,317	Machinery, equipment and vehicles, etc.	Extraordinary loss "Impairment loss"
Idle assets, etc.	Fuji-shi, Shizuoka Prefecture, and others	159	Land, etc.	Extraordinary loss "Impairment loss"
	Total	1,476		

To test indicators of the impairment of noncurrent assets, the Group groups assets mainly on a cash-generating unit basis for business-use assets and on an individual property basis for idle assets and assets to be retired.

The recoverable value of idle assets and assets to be retired was measured based on those assets' net sale value or value in

The breakdown of impairment losses of assets for shut down consists of ¥0 million for buildings and structures, ¥1,316 million for machinery, equipment and vehicles and ¥0 million for others. The breakdown of impairment losses of idle assets, etc. consists of ¥8 million for machinery, equipment and vehicles and ¥151 million for land.

The net sale value was estimated based on a third-party appraisal value, in principle, or by any equivalent means. Because the period of estimation for the value in use is less than one year, the future cash flows are not discounted.

10. Loss on retirement of non-current assets

(1.4.1	lions	of)
(1 / 1 1	nons	OIVE	ını

		(IVIIIIOIIS OI JUII)
	As of March 31, 2023	As of March 31, 2022
Machinery, equipment and vehicles	480	383
Removal cost	2,715	2,264
Other	208	254
Total	3,404	2,902

(Notes to Consolidated Statements of Comprehensive Income)

Reclassification adjustments and income tax effects on components of other comprehensive income are as follows:

	Fiscal year ended	(Millions of yen) Fiscal year ended
	March 31, 2023	March 31, 2022
Net unrealized holding gain on other securities:	Watch 31, 2023	Water 51, 2022
Amount recognized during the year	4,098	(1,056)
Reclassification adjustments	(13,298)	(5,948)
Before income tax effect adjustment	(9,199)	(7,005)
Income tax effect	2,402	2,326
-		
Net unrealized holding gain on other securities	(6,796)	(4,678)
Net deferred gain (loss) on hedges:		
Amount recognized during the year	6,742	6,785
Reclassification adjustments	(2,766)	(1,056)
Before income tax effect adjustment	3,975	5,729
Income tax effect	(1,062)	(1,662)
Net deferred gain (loss) on hedges	2,912	4,066
Translation adjustments:		
Amount recognized during the year	20,834	14,966
Reclassification adjustments	20,054	11,700
Translation adjustments:	20,834	14,966
D		
Remeasurements of defined benefit plans, net of tax	966	7 720
Amount recognized during the year		7,720
Reclassification adjustments	(1,879)	(3,177)
Before income tax effect adjustment Income tax effect	(913)	4,543
	356	(1,356) 3,187
Remeasurements of defined benefit plans, net of tax	(556)	3,167
Share of other comprehensive income of affiliates accounted		
for using the equity method:		
Amount recognized during the year	3,180	1,961
Reclassification adjustments	485	(650)
Share of other comprehensive income of affiliates accounted for using the equity method	3,665	1,311
Total other comprehensive income	20,059	18,853

(Notes to Consolidated Statements of Changes in Net Assets)

Fiscal year ended March 31, 2023

1. Matters related to outstanding shares

(Shares)

Type of shares	As of April 1, 2022	Increase	Decrease	As of March 31, 2023
Common stock	116,254,892	_	_	116,254,892

2. Matters related to treasury stock

(Shares)

				(======)
Type of shares	As of April 1, 2022	Increase	Decrease	As of March 31, 2023
Common stock	721,288.80	6,211.07	12,005.00	715,494.87

Reasons for the change:

The increase in treasury stock (6,211.07 shares) resulted from the purchase of shares of less than one unit (6,011 shares) and an increase in shares of the Company in the current fiscal year due to changes in equity in affiliates accounted for by the equity method (200.07 shares).

The decrease in treasury stock (12,005 shares) resulted from the delivery of shares of the Company through the Company's Board Benefit Trust (BBT) (11,800 shares) and the sale of shares of less than one unit (205 shares).

The number of shares at the end of the current fiscal year includes 156,300 shares of the Company held through the BBT.

3. Matters related to stock acquisition rights, etc. None applicable.

4. Matters related to dividends

(1) Dividends paid

Resolution	Type of shares	Total amount of dividends (Millions of yen)	Dividend per share (Yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 29, 2022	Common stock	3,476	30	March 31, 2022	June 30, 2022

Note: The total amount of dividends resolved at the Ordinary General Meeting of Shareholders held on June 29, 2022 includes the amount of dividends (¥5 million) on shares of the Company held through the BBT.

(2) Dividends for which the record date falls in the fiscal year ended March 31, 2023, but for which the effective date comes after March 31, 2023

None applicable.

Fiscal year ended March 31, 2022

1. Matters related to outstanding shares

(Shares)

Type of shares	As of April 1, 2021	Increase	Decrease	As of March 31, 2022
Common stock	116,254,892			116,254,892

2. Matters related to treasury stock

(Shares)

Type of shares	As of April 1, 2021	Increase	Decrease	As of March 31, 2022
Common stock	750,237.31	6,611.00	35,559.51	721,288.80

Reasons for the change:

The increase in treasury stock (6,611 shares) resulted from the purchase of shares of less than one unit (6,611 shares). The decrease in treasury stock (35,559.51 shares) resulted from the delivery of shares of the Company through the Company's Board Benefit Trust (BBT) (35,000 shares), a decrease in shares of the Company in the current fiscal year due to changes in equity in affiliates accounted for by the equity method (3.51 shares) and the sale of shares of less than one unit (556 shares).

The number of shares at the end of the current fiscal year includes 168,100 shares of the Company held through the BBT.

3. Matters related to stock acquisition rights, etc. None applicable.

4. Matters related to dividends

(1) Dividends paid

(1) Dividende para					
Resolution	Type of shares	Total amount of dividends (Millions of yen)	Dividend per share (Yen)	Record date	Effective date
Ordinary General Meeting of Shareholders held on June 29, 2021	Common stock	3,476	30	March 31, 2021	June 30, 2021
Meeting of Board of Directors held on November 5, 2021	Common stock	1,158	10	September 30, 2021	December 1, 2021

Notes: 1. The total amount of dividends resolved at the Ordinary General Meeting of Shareholders held on June 29, 2021 includes the amount of dividends (¥6 million) on shares of the Company held through the BBT.

2. The total amount of dividends resolved at the meeting of the Board of Directors held on November 5, 2021 includes the amount of dividends (¥1 million) on shares of the Company held through the BBT.

(2) Dividends for which the record date falls in the fiscal year ended March 31, 2022, but for which the effective date comes after March 31, 2022

Resolution	Type of shares	Source of funds for dividends	Total amount of dividends (Millions of yen)	share (Yen)	Record date	Effective date
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Ordinary General Meeting of Shareholders held on	Common stock	Retained earnings	3,476	30	March 31, 2022	June 30, 2022	
June 29, 2022		carnings					

Note: The total amount of dividends resolved at the Ordinary General Meeting of Shareholders held on June 29, 2022 includes the amount of dividends (¥5 million) on shares of the Company held through the BBT.

(Notes to Consolidated Statement of Cash Flows)

Cash and cash equivalents at year-end are reconciled to the amounts reported in the consolidated balance sheets as follows:

		(Millions of yen)
	Fiscal year ended	Fiscal year ended
	March 31, 2023	March 31, 2022
Cash and deposits	144,350	136,845
Term deposits with maturities of more than three months	(3)	(629)
Cash and cash equivalents	144,346	136,216

(Leases)

Operating lease transactions

As lessee:

Future minimum lease payments for noncancelable operating leases are summarized as follows:

		(Millions of yen)
	As of March 31, 2023	As of March 31, 2022
Due within one year	2,192	2,551
Due after one year	9,474	53
Total	11,667	2,604

Notes: 1. As certain overseas consolidated subsidiaries have applied the IFRS No. 16 "Leases," operating leases related to such subsidiaries are not included.

 As overseas consolidated subsidiaries that use the US-GAAP have applied the U.S. Financial Accounting Standards Board Accounting Standards Codification (ASC) 842 "Leases" from the fiscal year ended March 31, 2023, operating leases related to such subsidiaries are not included in the amounts for the fiscal year ended March 31, 2023.

As lessor:

Future minimum lease income for noncancelable operating leases is summarized as follows:

		(Millions of yen)
	As of March 31, 2023	As of March 31, 2022
Due within one year	215	215
Due after one year	428	644
Total	644	859

(Financial Instruments)

1. Status of financial instruments

(1) Policy for financial instruments

Domestically, the Group has implemented a Cash Management System (CMS), which is controlled by the finance department of the Company, to manage funds within the Group. The Group manages temporary cash surpluses through low-risk financial assets.

The Group raises funds it requires through bank borrowings, commercial paper and bond issuances based on projected cash demand according to the Group's capital investment plans. The Group spreads out repayment dates so that it can secure long-term capital continually. Furthermore, the Group diversifies financing resources to maintain liquidity, raising short-term working capital through bank loans, commitment line contracts and securitization of receivables and notes.

The Group adheres to a policy of using derivative transactions for the purpose of reducing interest rate fluctuation risk, foreign currency exchange risk and price fluctuation risk, and it does not enter into speculative transactions.

(2) Types of financial instruments and related risk

Trade receivables—trade notes and accounts receivable—are exposed to credit risk in relation to buyers. The due dates for all receivables and notes should be within one year. In addition, the Group is exposed to foreign currency exchange risk arising from receivables and notes denominated in foreign currencies. In principle, foreign currency exchange risk is hedged by forward foreign exchange contracts while the amounts of such receivables and notes are continually within that

of liabilities denominated in foreign currencies.

Investments in securities mainly consist of shares of business partners and affiliates. The Group is exposed to market risk for listed securities.

Trade payables—trade notes and accounts payable—are due within one year. The payables denominated in foreign currencies are exposed to foreign currency exchange risk, which is hedged by foreign currency forward contracts.

The Group raises funds through short-term borrowings for working capital and raises funds through long-term loans payable and bonds mainly for capital investments. Some long-term loans payable bears variable interest rates and therefore is exposed to interest rate fluctuation risk. To reduce and fix interest expense for long-term loans payable bearing interest at variable rates, the Group utilizes interest rate swap and currency and interest rate swap transactions as a hedging instrument on an individual basis.

Regarding derivatives, the Group enters into forward foreign currency contracts to reduce the foreign exchange risk arising from receivables and payables denominated in foreign currencies and forecast transactions denominated in foreign currencies. The Group also enters into interest rate swap transactions to reduce fluctuation risk for interest payable for long-term loans payable bearing interest at variable rates. The Group also enters into currency and interest rate swap transactions to reduce exchange and interest rate fluctuation risk for loans payable denominated in foreign currencies, crude oil swap transactions to reduce price fluctuation risk on certain fuel purchase transactions, and commodities futures transactions to reduce price fluctuation risk on power purchase transactions.

For information regarding the method of hedge accounting, such as hedging instruments, hedged items, hedging policy and the assessment of the effectiveness of hedging activities, please refer to "Notes - Significant Matters Providing the Basis for the Preparation of the Consolidated Financial Statements, 4. Significant accounting policies, (7) Significant hedge accounting methods."

(3) Risk management for financial instruments

① Monitoring of credit risk (the risk that buyers or counterparties may default)

The Group's marketing division and finance division have established a regular screening system to monitor the financial status of clients, which allows them to closely supervise transactions, in accordance with the credit management rules prepared by the Company and its respective consolidated subsidiaries based on the "Group credit management policy." The two divisions give each other frequent and detailed reports on the status of credit collections on a daily basis to minimize risks. The divisions acquire information on clients in financial difficulty to protect related claims.

For all derivative transactions, the Group enters into transactions only with financial institutions that have a sound credit profile to minimize counterparty risk.

② Management of market risks (the risks arising from fluctuations in exchange rates, interest rates, prices, etc.)

To minimize the foreign exchange risk arising from trade receivables and payables denominated in foreign currencies and forecast transactions denominated in foreign currencies, the Group identifies the risk deriving from future export and import transactions for each currency twice each year and enters into forward foreign exchange contracts to hedge such risk.

The Group enters into interest rate swap transactions to minimize interest rate fluctuation risk for loans payable and bonds bearing interest at variable rates, and enters into currency and interest rate swap transactions to minimize exchange and interest rate fluctuation risk for foreign currency denominated loans payable. The Group also regularly monitors the ratio of loans with fixed interest rates and ones with variable interest rates, and optimizes such ratio according to interest rate movements.

The Group uses crude oil swap transactions to reduce the risk of price fluctuations for certain fuel purchases, and commodity futures transactions to reduce the risk of price fluctuations for power purchases.

As to investments in securities, the Group periodically reviews the fair values of such financial instruments and the financial position of the issuers. In addition, the Group periodically evaluates whether to continue to hold certain securities taking into account the relationship with the issuers.

③ Monitoring of liquidity risk (the risk that the Group might not be able to meet its obligations on scheduled due dates) In the Group, to minimize liquidity risk, the finance department of the Company prepares a cash flow plan every half year, which is updated on monthly and daily basis.

The Group obtains funds in consideration of diversification of fund-raising schemes, lengthens loan periods and staggers maturities to minimize refinancing risk. In addition, to diminish liquidity risk, the Group enters into commitment line contracts and overdraft arrangements with financial institutions.

(4) Supplementary explanation of items relating to the fair values of financial instruments

Because various assumptions and factors are reflected in estimating the fair value of financial instruments, different assumptions and factors could result in a different fair value. In addition, the contract amounts of derivatives provided in "Derivatives" are not necessarily indicative of the actual market risk involved in derivative transactions.

2. Estimated fair value and other matters related to financial instruments

The book value of financial instruments on the consolidated balance sheets and their estimated fair value, as well as the

difference between these values, are shown in the following table.

As of March 31, 2023

(Millions of yen)

	Book value	Fair value	Difference
(1) Notes and accounts receivable-trade	189,128	189,128	_
(2) Investments in securities			
Other securities	36,659	36,659	_
Stocks of subsidiaries and affiliates	60,972	48,295	(12,677)
Golf club membership	89	101	12
Total assets	286,849	274,184	(12,665)
(3) Notes and accounts payable-trade	154,167	154,167	_
(4) Short-term loans payable	214,383	214,605	222
(5) Long-term loans payable	607,850	599,362	(8,487)
Total liabilities	976,400	968,136	(8,264)
(6) Derivatives ³	19,230	19,230	_

- 1. "Cash and deposits" has been omitted because it represents cash and the book value of deposits approximates the fair value as deposits are settled in a short period of time.
- 2. Shares etc., that do not have a market price are not included in "(2) Investments in securities." The book values of the relevant financial instruments are as follows:

Classification	As of March 31, 2023
Unlisted equity securities	68,905

3. Net assets and liabilities arising from derivatives are presented on a net basis, and net liabilities in total are presented in parentheses.

As of March 31, 2022

(Millions of yen)

			(Willions of yell)
	Book value	Fair value	Difference
(1) Notes and accounts receivable-trade	245,205	245,205	_
(2) Investments in securities			
Other securities	52,151	52,151	_
Stocks of subsidiaries and affiliates	58,827	54,170	(4,656)
Golf club membership	92	106	14
Total assets	356,277	351,635	(4,642)
(3) Notes and accounts payable-trade	141,435	141,435	_
(4) Short-term loans payable	185,703	185,891	187
(5) Long-term loans payable	597,259	604,120	6,861
Total liabilities	924,398	931,447	7,049
(6) Derivatives ³	5,849	5,849	_

- 1. "Cash and deposits" has been omitted because it represents cash and the book value of deposits approximates the fair value as deposits are settled in a short period of time.
- 2. Financial instruments for which it is extremely difficult to determine the fair value

(Millions of yen)

	(Williams of year)
Classification	As of March 31, 2022
Unlisted equity securities	69.284

Because the fair values of these financial instruments are extremely difficult to determine, given that they do not have market prices, they are not included in "(2) Investments in securities."

3. Net assets and liabilities arising from derivatives are presented on a net basis, and net liabilities in total are presented in parentheses.

Notes:

1. Redemption schedule for receivables after the consolidated balance sheet date

As of March 31, 2023

(Millions of ven)

				(Williams of year)
	Within one year	Over 1 but	Over 5 but	Over
	within one year	within 5 years	within 10 years	10 years
Cash and deposits (*)	144,277	_	_	_

Notes and accounts receivable-trade	189,128	_	_	_
Total	333,405	_		_

^{*&}quot;Cash and deposits" does not include the amount of cash on hand.

As of March 31, 2022

(Millions of yen)

	Within one year	Over 1 but within 5 years	Over 5 but within 10 years	Over 10 years
Cash and deposits (*)	136,768	_	_	_
Notes and accounts receivable-trade	245,205	_	_	_
Total	381,974	_	_	_

^{*&}quot;Cash and deposits" does not include the amount of cash on hand.

2. Redemption schedule for long-term loans payable and other interest-bearing debt after the consolidated balance sheet date

As of March 31, 2023

(Millions of yen)

	Within one year	Over 1 but within 2 years	Over 2 but within 3 years	Over 3 but within 4 years	Over 4 but within 5 years	Over 5 years
Short-term loans payable	148,288	_	_	_	_	_
Long-term loans payable	66,094	89,346	103,687	64,411	47,435	302,969
Total	214,383	89,346	103,687	64,411	47,435	302,969

As of March 31, 2022

(Millions of yen)

	Within one year	Over 1 but within 2 years	Over 2 but within 3 years	Over 3 but within 4 years	Over 4 but within 5 years	Over 5 years
Short-term loans payable	143,531	_	_	_	_	_
Long-term loans payable	42,172	58,264	89,613	100,650	61,503	287,228
Total	185,703	58,264	89,613	100,650	61,503	287,228

3. Fair value information by level within the fair value hierarchy

The fair value of financial instruments is classified into the following three levels according to the observability and materiality of inputs used to measure fair value.

Level 1 fair value: Fair value measured using observable inputs, i.e. quoted prices in active markets for assets or liabilities that are the subject of the measurement.

Level 2 fair value: Fair value measured using observable inputs other than Level 1 inputs.

Level 3 fair value: Fair value measured using unobservable inputs.

If multiple inputs are used that are significant to the fair value measurement, the fair value measurement is categorized in its entirety in the level of the lowest level input that is significant to the entire measurement.

(1) Financial instruments measured at fair value As of March 31, 2023

Catagomi	Fair value (Millions of yen)					
Category	Level 1 Level 2 Level 3 Total					
Investments in securities						
Other securities	36,659	_	_	36,659		
Derivatives		19,230	_	19,230		

As of March 31, 2022

Catagory	Fair value (Millions of yen)					
Category	Level 1	Level 2	Level 3	Total		
Investments in securities						
Other securities	52,151	_	_	52,151		
Derivatives	_	5,849	_	5,849		

(2) Financial instruments other than those measured at fair value

As of March 31, 2023

Cotocomi	Fair value (Millions of yen)						
Category	Level 1	Level 2	Level 3	Total			
Notes and accounts receivable-trade	_	189,128	_	189,128			
Notes and accounts payable-trade	_	154,167	_	154,167			
Short-term loans payable	_	214,605	_	214,605			
Long-term loans payable	_	599,362	_	599,362			
Investments in securities							
Stocks of subsidiaries and affiliates	48,295	_	_	48,295			
Golf club membership	_	101	_	101			

As of March 31, 2022

Cotocomi	Fair value (Millions of yen)						
Category	Level 1	Level 2	Level 3	Total			
Notes and accounts receivable-trade	_	245,205	_	245,205			
Notes and accounts payable-trade	_	141,435	_	141,435			
Short-term loans payable	_	185,891	_	185,891			
Long-term loans payable	_	604,120	_	604,120			
Investments in securities							
Stocks of subsidiaries and affiliates	54,170	_	_	54,170			
Golf club membership	_	106	_	106			

Note: A description of the valuation technique(s) and inputs used in the fair value measurement Investments in securities

Listed shares are valued using quoted prices. As listed shares are traded in active markets, their fair value is classified as Level 1. For information on other securities, please refer to "Securities."

Derivatives

Currency, interest rates and commodities subject to principle accounting are measured using prices quoted by counterparty financial institutions regarding the relevant transactions, and are classified as Level 2.

Since those, to which the exceptional accounting for interest rate swap and the integrated accounting for interest rate and currency swap were applied, are treated as a part of the hedged long-term loan payable, the fair value of them are included in the fair value of relevant long-term loan payable (see "Long-term loan payable" below).

Since those, to which the appropriation method was applied, such as the forward exchange contracts, etc., were treated as a part of hedged accounts receivable-trade, notes payable and accounts payable-trade, their fair values are included in the fair values of accounts receivable-trade, notes payable, and accounts payable-trade.

For information on derivatives, please refer to "Notes – Derivatives."

Notes and accounts receivable-trade

The fair value of these items is measured using the discounted cash flow method based on the amount of receivables, period to maturity and an interest rate reflecting credit risk, for each receivable categorized by a specified period, and is classified as Level 2.

Notes and accounts payable-trade and short-term loans payable

The fair value of these items is measured using the discounted cash flow method based on future cash flows, period to repayment and an interest rate reflecting credit risk, for each liability categorized by a specified period, and is classified as Level 2.

Long-term loans payable

The fair value of long-term loans payable is calculated by classifying the total amount of principal and interest by a specified period and discounting its future cash flow at a rate determined based on the risk-free rate and the credit spread. It is therefore classified as Level 2.

Long-term loans payable with variable interest rates are covered by interest rate swap transactions that meet special accounting criteria and currency and interest rate swaps that meet integral accounting criteria (see the Derivatives section above) and are accounted for together with the corresponding interest rate swaps and currency and interest rate swaps. The fair value of such loans is calculated by discounting the total amount of principal and interest of the loans thus accounted for at a rate determined as stated above.

Golf club membership

Golf club membership is assessed using prices quoted by shops handling golf club memberships. However, they are not deemed to be quoted prices in active markets and accordingly, the fair value is classified as Level 2.

(Securities)

1. Other securities

As of March 31, 2023

(Millions of yen)

	Book value	Cost	Valuation difference
Securities for which the book value exceeds their			
cost:			
Equity securities	30,471	13,517	16,954
Subtotal	30,471	13,517	16,954
Securities for which the book value does not			
exceed their cost:			
Equity securities	6,187	7,838	(1,651)
Subtotal	6,187	7,838	(1,651)
Total	36,659	21,356	15,302

Note: With regard to the fair value of unlisted equity securities as of March 31, 2023 (¥4,359 million on the consolidated balance sheet), given that those securities do not have market prices, they are not included in "other securities" above.

As of March 31, 2022

(Millions of yen)

	Book value	Cost	Valuation difference
Securities for which the book value exceeds their			
cost:			
Equity securities	45,641	18,180	27,461
Subtotal	45,641	18,180	27,461
Securities for which the book value does not			
exceed their cost:			
Equity securities	6,510	9,521	(3,011)
Subtotal	6,510	9,521	(3,011)
Total	52,151	27,702	24,449

Note: Because the fair value of unlisted equity securities as of March 31, 2022 (¥5,371 million on the consolidated balance sheet) is extremely difficult to determine, given that those securities do not have market prices, they are not included in "other securities" above.

2. Sales of other securities

(Millions of ven)

			(minimons of join)
	Sales	Aggregate gain	Aggregate loss
Equity securities	19,894	13,385	87

Fiscal year ended March 31, 2022

(Millions of yen)

			()
	Sales	Aggregate gain	Aggregate loss
Equity securities	6,421	6,140	

3. Impairment of securities

For the fiscal year ended March 31, 2023, the Company recorded a loss on impairment of securities in the amount of \(\frac{\pm}{178}\) million (including \(\frac{\pm}{178}\) million of equity securities that do not have a market price). For the fiscal year ended March 31, 2022, the Company recorded a loss on impairment of securities in the amount of \(\frac{\pm}{2244}\) million (including \(\frac{\pm}{52}\) million of equity securities that do not have a market price).

Loss on impairment of securities are recorded for all securities for which the fair values at year-end have declined by 50% or more, compared with their acquisition costs. The impairment of securities for which the rate of decline in fair value is between 30% and 50% depends on how significant the amount of the decline is, how the decline is recoverable and other factors.

(Derivatives)

- 1. Derivative instruments not subject to hedge accounting
 - (1) Currency-related transactions

As of March 31, 2023

(Millions of yen)

	Hedging instrument	Contract amount	More than 1 year	Fair value	Valuation gain/loss
Off-market transactions	Foreign exchange forward contracts Sell U.S. dollars	95	_	8	8

As of March 31, 2022 None applicable.

(2) Interest-related transactions

As of March 31, 2023

(Millions of yen)

	Hedging instrument	Contract amount	More than 1 year	Fair value	Valuation gain/loss
Off-market transactions	Interest rate swap transactions Pay/fixed and receive/floating	277	_	(2)	(2)

As of March 31, 2022

(Millions of yen)

	Hedging instrument	Contract amount	More than 1 year	Fair value	Valuation gain/loss
Off-market transactions	Interest rate swap transactions Pay/fixed and receive/floating	251	250	(13)	(13)

Note: Hedge accounting was not applied for certain derivative transactions since they no longer met the criteria for hedge accounting.

2. Derivative instruments subject to hedge accounting

(1) Currency-related transactions

As of March 31, 2023

						((Millions of yen)
Hedge account method	ing	Hedging instr	rument	Principal hedged items	Contract amount	More than 1 year	Fair value
Deferral hed method	dge	Foreign forward contract Sell U.S. dollars Other	exchange ets	Accounts receivable-trade	6,080 4,675	Ξ	(30) (18)
		Buy U.S. dollars Other		Notes and accounts payable-trade	106,467 17,267	77,712 4,587	12,751 583

				((Millions of yen)
Hedge accounting method	Hedging instrument	Principal hedged items	Contract amount	More than 1 year	Fair value
Allocation method (Furiate-shori)	Foreign exchange forward contracts Sell U.S. dollars Other	Accounts receivable-trade	134 81		(Note)
	U.S. dollars Other	Notes and accounts payable-trade	516 —	_ _	

Note: Foreign exchange forward contracts subject to the allocation method are recognized together with hedged items (i.e., accounts receivable-trade, notes and accounts payable-trade). The fair values of such transactions are included in those of the relevant hedged items.

As of March 31, 2022

					(Millions of yen)
Hedge accomethod	counting	Hedging instrument	Principal hedged items	Contract amount	More than 1 year	Fair value (Note)
Deferral method	hedge	Foreign exchan forward contracts Sell U.S. dollars Other	Accounts receivable-trade	8,221 823	_ _ _	187 10
		Buy U.S. dollars Other	Notes and accounts payable-trade	43,986 15,443	15,074 5,896	1,091 813

				(Millions of yen)
Hedge accounting method	Hedging instrument	Principal hedged items	Contract amount	More than 1 year	Fair value
Allocation method (Furiate-shori)	Foreign exchange forward contracts Sell U.S. dollars Other	Accounts receivable-trade	133 25	_ _ _	
	Buy U.S. dollars Other	Notes and accounts payable-trade	831 —	_ _	(Note)

Note: Foreign exchange forward contracts subject to the allocation method are recognized together with hedged items (i.e., accounts receivable-trade, notes and accounts payable-trade). The fair values of such transactions are included in those of the relevant hedged items.

(2) Interest rate-related transactions

As of March 31, 2023

(Millions of yen)

				1	willions of yell)
Hedge accounting method	Hedging instrument	Principal hedged items	Contract amount	More than 1 year	Fair value
Deferral hedge method	Interest rate swap transaction Pay/fixed and receive/floating	Long-term loans payable	33,987	28,806	190
Exceptional accounting method (Tokurei-shori)	Interest rate swap transaction Pay/fixed and receive/floating	Long-term loans payable	165,200	165,200	(Note)

Note: Interest-rate swaps that qualify for the exceptional accounting method are recognized together with the corresponding long-term loans payable. The fair values of such transactions are included in those of the loans.

As of March 31, 2022

(Millions of yen)

Hedge accounting method	Hedging instrument	Principal hedged items	Contract amount	More than 1 year	Fair value
Deferral hedge method	Interest rate swap transaction Pay/fixed and receive/floating	Long-term loans payable	8,116	8,116	22
Exceptional accounting method (<i>Tokurei-shori</i>)	Interest rate swap transaction Pay/fixed and receive/floating	Long-term loans payable	142,700	142,700	(Note)

Note: Interest-rate swaps that qualify for the exceptional accounting method are recognized together with the corresponding long-term loans payable. The fair values of such transactions are included in those of the loans.

(3) Currency and interest rate-related transactions

As of March 31, 2023

(Millions of yen)

Hedge accounting method	Hedging instrument	Principal hedged items	Contract amount	More than 1 year	Fair value
Integral accounting method (Ittai-shori)	Currency and interest rate swap transaction Pay/fixed and receive/floating Pay/JPY and receive/USD	Long-term loans payable	10,122	10,122	(Note)

Note: Currency and interest rate swaps that qualify for the integral accounting method are recognized together with the corresponding long-term loans payable. The fair values of such transactions are included in those of the loans.

As of March 31, 2022

(Millions of yen)

Hedge accounting method	Hedging instrument	Principal hedged items	Contract amount	More than 1 year	Fair value
Integral accounting method (Ittai-shori)	Currency and interest rate swap transaction Pay/fixed and receive/floating Pay/JPY and receive/USD	Long-term loans payable	10,122	10,122	(Note)

Note: Currency and interest rate swaps that qualify for the integral accounting method are recognized together with the corresponding long-term loans payable. The fair values of such transactions are included in those of the loans.

(4) Commodities-related transactions

As of March 31, 2023

(Millions of yen)

Hedge acco	ounting	Hedging instrument	Principal hedged items	Contract amount	More than 1 year	Fair value
Deferral method	hedge	Commodity swaps Pay/fixed and receive/floating	Marine fuel	3,305	389	(242)
Deferral method	hedge	Commodity swaps Pay/fixed and receive/floating	Brent crude	8,369	5,600	2,583
Deferral method	hedge	Commodity futures transactions	Power	6,666	5,333	3,413

As of March 31, 2022

(Millions of yen)

Hedge acco	unting	Hedging instrument	Principal hedged items	Contract amount	More than 1 year	Fair value
Deferral method	hedge	Commodity swaps Pay/fixed and receive/floating	Marine fuel	3,295	440	1,134
Deferral method	hedge	Commodity swaps Pay/fixed and receive/floating	Brent crude	11,819	7,490	2,339
Deferral method	hedge	Commodity futures transactions	Power	8,081	6,833	250

(Retirement Benefits)

1. Overview of retirement benefit plans

The Company and its consolidated subsidiaries adopt funded and unfunded types of defined-benefit plans and defined-contribution plans.

Defined-benefit corporate pension plans offer lump-sum or pension payments mainly according to the employee's salary and period of service.

Employee retirement benefit trusts are set up for some defined-benefit corporate pension plans. Lump-sum payment plans – which are basically unfunded, although the creation of retirement benefit trusts has resulted in some plans becoming funded – offer lump-sum payments as retirement benefits according to the employee's salary and period of service.

Defined-benefit corporate pension plans and lump-sum payment plans adopted by some consolidated subsidiaries use a simplified method to calculate net defined benefit liability and retirement benefit expenses.

2. Defined-benefit plans

(1) Reconciliation between the beginning and ending balances of retirement benefit obligations (excluding plans using a simplified method)

		(Millions of yen)
	Fiscal year ended	Fiscal year ended
	March 31, 2023	March 31, 2022
Retirement benefit obligations at the beginning of year	116,494	122,152
Service cost	3,719	3,807
Interest cost	734	693
Actuarial differences generated	(877)	(143)
Retirement benefits paid	(10,978)	(10,390)
Other	815	374
Retirement benefit obligations at the end of year	109,907	116,494

(2) Reconciliation between the beginning and ending balances of plan assets (excluding plans using a simplified method)

	(Millions of yen)
Fiscal year ended	Fiscal year ended
March 31, 2023	March 31, 2022
125,991	130,700
2,563	2,608
(3,670)	1,215
491	796
(10,202)	(9,692)
479	362
115,651	125,991
	March 31, 2023 125,991 2,563 (3,670) 491 (10,202) 479

(3) Reconciliation between the beginning and ending balances of net defined benefit liability for plans using a simplified method

	(Millions of yen)
Fiscal year ended	Fiscal year ended
March 31, 2023	March 31, 2022
2,037	2,132
613	555
(459)	(405)
(277)	(278)
13	33
1,927	2,037
	March 31, 2023 2,037 613 (459) (277) 13

(4) Reconciliation between the ending balances of retirement benefit obligations and plan assets and the net defined benefit liability and net defined benefit asset reported on the consolidated balance sheets

		(Millions of yen)
	As of March 31, 2023	As of March 31, 2022
Retirement benefit obligations for funded plans	112,488	119,028
Plan assets	(120,055)	(130,431)
	(7,567)	(11,403)
Retirement benefit obligations for unfunded plans	3,750	3,944
Net asset or liability reported on the consolidated balance sheets	(3,816)	(7,458)
Net defined benefit liability	11,669	12,495
Net defined benefit asset	(15,486)	(19,954)
Net asset or liability reported on the consolidated balance sheets	(3,816)	(7,458)

Note: Plans using a simplified method are included.

(5) Breakdown of retirement benefit expenses

Fiscal year ended	E' 1 1 . 1
i iscui yeur ciiucu	Fiscal year ended
March 31, 2023	March 31, 2022
3,719	3,807
734	693
(2,563)	(2,608)
2,328	3,218
(246)	(140)
613	555
4,584	5,525
1,049	1,077
	March 31, 2023 3,719 734 (2,563) 2,328 (246) 613 4,584

Note: Special retirement benefits are included in "Loss on business withdrawal" and "Other" under "Extraordinary loss."

(6) Remeasurements of defined benefit plans

Remeasurements of defined benefit plans in other comprehensive income consist of the following (before tax effect).

		(Millions of yen)
	Fiscal year ended	Fiscal year ended
	March 31, 2023	March 31, 2022
Past service costs	246	140
Actuarial differences	666	(4,683)
Total	913	(4,543)

(7) Remeasurements of defined benefit plans

Remeasurements of defined benefit plans in accumulated other comprehensive income consist of the following (before tax effect).

	(Millions of yen)
As of March 31, 2023	As of March 31, 2022
(3,028)	(3,275)
(8,730)	(9,396)
(11,759)	(12,672)
	(3,028) (8,730)

(8) Matters regarding plan assets

① Major components of plan assets Plan assets mainly consist of the following:

	As of March 31, 2023	As of March 31, 2022
Stocks	54%	55%
Bonds	22%	22%
General account	14%	13%
Cash and deposits	9%	9%
Other	1%	1%
Total	100%	100%

Note: Total plan assets for the fiscal years ended March 31, 2023 and March 31, 2022 include securities contributed to the retirement benefit trust (27% and 29%) created for corporate pension plans, respectively.

② Method for determining the long-term expected rate of return on plan assets

To determine the long-term expected rate of return on plan assets, the current and expected portfolio of plan assets and the current and future expected long-term profitability of the various plan assets are considered.

(9) Assumptions used in actuarial calculations

Major assumptions used in actuarial calculations are as follows:

	Fiscal year ended	Fiscal year ended
	March 31, 2023	March 31, 2022
Discount rates	Mainly 0.5%	Mainly 0.5%
Long-term expected rates of return on plan assets	Mainly 2.0%	Mainly 2.0%

Note: Expected rate of salary increase is not presented because the Company and its consolidated subsidiaries do not generally use it in actuarial calculations for their retirement benefit plans.

3. Defined-contribution plans

The required amount of contribution to the defined-contribution plans was \(\xi\)1,823 million for the fiscal year ended March 31, 2023 and \(\xi\)1,766 million for the fiscal year ended March 31, 2022.

(Tax-effect Accounting)

1. Significant components of deferred tax assets and liabilities

(Millions of yen) As of March 31, 2022 As of March 31, 2023 Deferred tax assets: Accrued enterprise taxes 468 410 Accrued bonuses 2,387 2,216 Net defined benefit liability 5,693 4,853 Impairment loss 29,451 23,230 Loss on valuation of investment securities 2,476 2,481 Provision for environmental measures 2,845 3,360 Unrealized profit eliminated in consolidation 875 856 Tax loss carryforwards (Note 2) 48,985 32,890 Loss on revaluation of land 12,239 12,299 Other 13,865 12,420 Gross deferred tax assets 95,191 119,117 Valuation allowance relating to tax loss carryforwards (Note (43,408)(28,477)2) Valuation allowance for total deductible temporary (58,671)(48,497)differences Valuation allowance subtotal (Note 1) (102.079)(76.974)Total deferred tax assets 18,216 17,037 Deferred tax liabilities: Reserve for advanced depreciation of noncurrent assets (2,081)(2,091)Unrealized holding gain on other securities (4,112)(6,594)Net Deferred gain (loss) on hedges (4,966)(1,022)Gain on revaluation of land, etc. (27,080)(27,098)Other (10,476)(8,930)Total deferred tax liabilities (48,715)(45,737)Net deferred tax liabilities (27,520)(31,678)

(Changes in presentation)

Net Deferred gain (loss) on hedges, which was included in "Other" under "Deferred tax liabilities" in the previous fiscal year, is listed separately as "Net Deferred gain (loss) on hedges" for the fiscal year ended March 31, 2023 due to its increased materiality. To reflect this change in presentation, the notes for the fiscal year ended March 31, 2022 have been reclassified. As a result, $\frac{1}{2}(9,953)$ million included in "Other" under deferred tax liabilities for the prior fiscal year are reclassified as $\frac{1}{2}(1,022)$ million in "Net Deferred gain (loss) on hedges" and $\frac{1}{2}(8,930)$ million in "Other."

Notes:

- 1. The primary reason for the change in valuation allowance is the increases in tax loss carryforwards and valuation allowance for total deductible temporary differences at overseas subsidiaries.
- 2. Tax loss carryforwards and deferred tax assets amounts by carryforward periods

As of March 31, 2023

(Millions of yen)

	Within one year	Over 1 but within 2 years	Over 2 but within 3 years	Over 3 but within 4 years	Over 4 but within 5 years	Over 5 years	Total
Tax loss carryforwards (a)	64	36	4,488	513	_	43,881	48,985
Valuation allowance	(64)	(36)	(4,488)	(513)	_	(38,304)	(43,408)
Deferred tax assets	_	_	_	_	_	5,576	5,576

⁽a) Tax loss carryforwards are calculated based on the statutory tax rate.

As of March 31, 2022

(Millions of yen)

	Within one year	Over 1 but within 2 years	Over 2 but within 3 years	Over 3 but within 4 years	Over 4 but within 5 years	Over 5 years	Total
Tax loss carryforwards (a)	36	64	36	4,805	171	27,775	32,890
Valuation allowance	(36)	(64)	(36)	(4,805)	(171)	(23,362)	(28,477)
Deferred tax assets	_	_	_	_	_	4,413	4,413

⁽a) Tax loss carryforwards are calculated based on the statutory tax rate.

2. Reconciliation of the effective tax rate and the statutory tax rate

-%	30.6%
_	1.7
_	(1.5)
_	2.8
_	(69.8)
_	127.9
_	4.0
_	(33.8)
_	(3.6)
_	58.3

Note: Statement is omitted as net loss before tax and other adjustment for the current term has been reported.

3. Accounting treatment of corporate and local income taxes or tax effect accounting related thereto

The Company and certain domestic subsidiaries adopted the group tax sharing system from the current fiscal year. The Company follows the "Practical Solution on the Accounting and Disclosure Under the Group Tax Sharing System" (PITF No. 42; August 12, 2021) for accounting treatment and disclosure of corporate income taxes, local corporate income taxes, and tax effect accounting related thereto.

(Asset Retirement Obligations)

Due to its low significance, detailed information regarding asset retirement obligations is not provided, although the Group reports asset retirement obligations.

(Investment and Rental Property)

Due to its low significance, detailed information regarding investment and rental property is not provided, although the Group has rental property and idle land and buildings.

(Revenue Recognition)

- 1. Disaggregation of revenue from contracts with customers

 The disaggregation of revenue from contracts with customers is as presented in "Notes Segment Information."
- 2. Useful information in understanding revenue from contracts with customers
 Useful information in understanding revenue is as presented in "Notes Significant Matters Providing the Basis for the
 Preparation of the Consolidated Financial Statements 4. Significant accounting policies (5) Standards for recognizing
 significant revenue and expenses."
- 3. Useful information on the relationship between the satisfaction of performance obligations according to contracts with customers and cash flows generated from such contracts, and on the amounts and timing of revenue from contracts with existing customers as of the end of the current fiscal year that is expected to be recognized during or after the following fiscal year
 - (1) Balance, etc. of contract assets and contract liabilities

(Millions of yen)

	As of March 31, 2023	As of March 31, 2022
Receivables from contracts with customers (Beginning balance)	245,205	251,210
Receivables from contracts with customers (Ending balance)	189,128	245,205

The balances of contract assets and contract liabilities of the Group are not significant and have not undergone any major fluctuations, and thus statement thereof is omitted. Additionally, there are no significant amounts of revenue recognized in the current fiscal year and the previous fiscal year as a result of performance obligations satisfied (or partially satisfied) in prior periods.

(2) Transaction price allocated to remaining performance obligations

For the current fiscal year and the previous fiscal year, in the sales of finished goods and merchandise in the paper and paperboard business, the daily-life products business and the wood products and construction-related business, there are no significant transactions with an expected term of contract exceeding one year, and in the wholesale, supply, and sales of electrical power in the energy business, revenue is recognized in accordance with Paragraph 19 of the "Implementation Guidance on Accounting Standard for Revenue Recognition," and therefore, statement thereof is omitted.

(Segment Information)

[Segment information]

- 1. Overview of reportable segments
- (1) Method of determining reportable segments

The reportable segments of the Company are defined as individual units, for which independent financial information is available and which are subject to regular review to evaluate their results and decide the allocation of management resources by the Board of Directors of the Company.

The Company recognizes its consolidated subsidiaries as the units that define its business segments because those are used as the main basis to evaluate results. The reportable segments are defined by integrating business segments that exhibit similarities in terms of economic characteristics, markets for products and services, or customers.

(2) Types of products and services of each reportable segment

The principal products and services of each reportable segment are as follows:

Paper and paperboard segment:

Manufacturing and marketing of paper, paperboard, pulp and materials for paper making

Daily-life products segment:

Manufacturing and marketing of household paper, processed paper goods and chemical products

Energy segment:

Generating and marketing of electric power

Wood products and construction-related segment:

Stocking, manufacturing and marketing of lumber and building materials, as well as civil engineering and construction

2. Method used to calculate net sales, income or loss, assets and other items by reportable segments

Accounting methods applied for the reportable segments are the same as those described under "Significant Matters Providing the Basis for the Preparation of the Consolidated Financial Statements."

Income for each reportable segment denotes operating income, and intersegment sales and transfers are based on market prices in general.

3. Net sales, income or loss, assets and other items by reportable segment, and disaggregation of revenue

Fiscal year ended March 31, 2023

(Millions of yen)

								(
		Reportable segments							
	Paper and paperboard	Daily-life products	Energy	Wood products and construction- related	Subtotal	Other ¹	Total	Adjustment	Consolidated 4
Net sales Goods transferred at a point in time	563,246	440,059	8,213	62,400	1,073,919	14,739	1,088,659	_	1,088,659
Goods and services transferred over time	_	_	41,695	6,496	48,192	15,001	63,193	_	63,193
Revenue from contracts with customers	563,246	440,059	49,908	68,896	1,122,111	29,741	1,151,853	_	1,151,853
Revenue from other sources	_	_	_	_	_	792	792	_	792
Sales to third parties Intersegment sales an	563,246 11,705	440,059 6,854	49,908	68,896 55,148	1,122,111 73,708	30,534 46,887	1,152,645 120,596	(120,596)	1,152,645
transfers Total	574,952	446,913	49,908	124,045	1,195,820	77,421	1,273,242	(120,596)	1,152,645
Segment income (loss)	(29,221)		(1,734)		(29,880)		(27,391)		(26,855)
Segment assets	651,570	524,007	109,336	75,821	1,360,734	34,085	1,394,819	271,723	1,666,542
Other items: Depreciation Amortization goodwill	30,105	30,148 1,049	3,870	819	64,943 1,049	1,336	66,279 1,049	_	66,279 1,049
Increase in property, plant and equipment and intangible assets		32,776	24,096	817	84,955	1,016	85,972	_	85,972

Notes: 1. The "Other" category is a business segment that includes the logistics, leisure and other businesses, and is not a reportable segment.

- 2. The segment income (loss) adjustments are due to intersegment elimination, etc.
- 3. The segment assets adjustment of \(\frac{\pmathbf{Y}}{271,723}\) million includes \(\frac{\pmathbf{Y}}{44,666}\) million of intersegment eliminations for receivables and payables and \(\frac{\pmathbf{Y}}{316,389}\) million of corporate assets that are not allocated to reportable segments. The corporate assets mainly consist of "cash and deposits" for the management of surplus funds, "investments in securities" for long-term investment and "deferred tax assets," which are not allocatable to reportable segments.
- 4. Adjustments are made to reconcile segment income (loss) with operating income in the consolidated statements of operations.

(Millions of yen)

-								(171)	mons of yen)
		Rej	ortable segn	nents					
	Paper and paperboard	Daily-life products	Energy	Wood products and construction- related	Subtotal	Other ¹	Total	Adjustment 2, 3	Consolidated 4
Net sales Goods transferred at a point in time	532,097	386,465	3,357	56,878	978,798	14,075	992,874	_	992,874
Goods and services transferred over time	_	_	28,455	7,639	36,095	15,375	51,471	_	51,471
Revenue from contracts with customers	532,097	386,465	31,813	64,518	1,014,894	29,451	1,044,345	_	1,044,345
Revenue from other sources	_			_	_	740	740	_	740
Sales to third parties Intersegment sales an transfers	532,097 8,143	386,465 6,582	31,813	64,518 48,774	1,014,894 63,500	30,192 46,472	1,045,086 109,973	— (109,973)	1,045,086
Total	540,240	393,047	31,813	113,293	1,078,395	76,664	1,155,060	(109,973)	1,045,086
Segment income (loss)	(5,575)	4,770	1,586	7,613	8,394	2,117	10,511	1,578	12,090
Segment assets	692,354	488,028	53,598	67,628	1,301,610	33,900	1,335,510	303,776	1,639,286
Other items: Depreciation Amortization	34,100	26,699 1,016	3,643	769 —	65,213 1,016	1,336	66,549	_	66,549 1,016
goodwill Increase in property, plant and equipment and intangible assets	26,158	26,879	2,762	767	56,568	1,538	58,107	_	58,107

Notes: 1. The "Other" category is a business segment that includes the logistics, leisure and other businesses, and is not a reportable segment.

- 2. The segment income (loss) adjustments are due to intersegment elimination, etc.
- 3. The segment assets adjustment of \(\frac{\pma}{3}\)3,776 million includes \(\frac{\pma}{4}\)(40,248) million of intersegment eliminations for receivables and payables and \(\frac{\pma}{3}\)44,024 million of corporate assets that are not allocated to reportable segments. The corporate assets mainly consist of "cash and deposits" for the management of surplus funds, "investments in securities" for long-term investment and "deferred tax assets," which are not allocatable to reportable segments.
- 4. Adjustments are made to reconcile segment income (loss) with operating income in the consolidated statements of operations.

[Related information]

Fiscal year ended March 31, 2023

1. Information by product and service

Information by product and service approximates the information provided in "Segment Information" and is therefore not provided here.

2. Information by geographical area

(1) Net sales

(Millions of yen)

Japan	Oceania	Asia	North America	Others	Total
814,389	163,613	94,598	46,062	33,982	1,152,645

Note: Net sales information is based on the geographical location of customers and categorized by country or region.

(2) Property, plant and equipment

(Millions of yen)

Japan	Oceania	Asia	North America	Others	Total
580,672	157,007	5,724	38,610	14,804	796,820

3. Information by customer

Information by customer is omitted because no single external customer accounts for 10% or more of net sales in the consolidated statements of operations.

Fiscal year ended March 31, 2022

1. Information by product and service

Information by product and service approximates the information provided in "Segment Information" and is therefore not provided here.

2. Information by geographical area

(1) Net sales

(Millions of yen)

Japan	Oceania	Asia	North America	Others	Total
762,653	135,681	82,942	36,472	27,335	1,045,086

Note: Net sales information is based on the geographical location of customers and categorized by country or region.

(2) Property, plant and equipment

(Millions of yen)

Japan	Oceania	Asia	North America	Others	Total
558,745	164,531	5,432	34,821	11,458	774,989

3. Information by customer

Information by customer is omitted because no single external customer accounts for 10% or more of net sales in the consolidated statements of operations.

[Impairment loss by reportable segment]

Fiscal year ended March 31, 2023

(Millions of yen)

		Reportable segments							
	Paper and paperboard	Daily-life products	Energy	Wood products and construction -related	Subtotal	Other	Total	Adjustment	Consolidated
Impairment loss on noncurrent assets	3,966	18,081	_		22,048	_	22,048	_	22,048

Fiscal year ended March 31, 2022

(Millions of yen)

	Reportable segments							,	
	Paper and paperboard	Daily-life products	Energy	Wood products and construction -related	Subtotal	Other	Total	Adjustment	Consolidated
Impairment loss on noncurrent assets	1,476		_	_	1,476	_	1,476	_	1,476

[Amortization of goodwill and balance of unamortized goodwill by reportable segment]

Fiscal year ended March 31, 2023

(Millions of ven)

		Rep	ortable segm	ents					,
	Paper and paperboard	Daily-life products	Hnerov	Wood products and construction -related	Subtotal	Other	Total	Adjustment	Total
Amortization of goodwill	_	1,049	l		1,049		1,049	_	1,049
Balance of unamortized goodwill at year-end	_	8,259	_	_	8,259	_	8,259	_	8,259

Fiscal year ended March 31, 2022

(Millions of yen)

								(1711)	mons of yen)
		Rep	ortable segm	ents					
	Paper and paperboard	Daily-life products	Energy	Wood products and construction -related	Subtotal	Other	Total	Adjustment	Total
Amortization of goodwill	_	1,016	_	_	1,016	_	1,016	_	1,016
Balance of unamortized goodwill at year-end	_	8,653	_	_	8,653	_	8,653	_	8,653

[Gain on negative goodwill by reportable segment]

Fiscal year ended March 31, 2023 None applicable.

Fiscal year ended March 31, 2022 None applicable.

[Related party transactions]

- 1. Transactions with related parties
 - (1) Transactions of the Company with related parties

The Company's unconsolidated subsidiaries and affiliates, etc.

Fiscal year ended March 31, 2023 None applicable.

Fiscal year ended March 31, 2022 None applicable.

- (2) Transactions of the Company's consolidated subsidiaries with related parties None applicable.
- 2. Information on the parent company and significant affiliates
 - (1) Information on the parent company None applicable.
 - (2) Financial statements of significant affiliates

Fiscal year ended March 31, 2023

The significant affiliates in the fiscal year ended March 31, 2023 are Lintec Corporation, Phoenix Pulp & Paper Public Company Limited. and DuPont Nippon Paper Papylia Godo Kaisha Summarized aggregate financial statement data of the companies are as follows. Further, the total figures are presented.

	(Millions of yen)
Total current assets	135,413
Total noncurrent assets	218,467
Total current liabilities	54,611
Total long-term liabilities	22,638
Total net assets	276,631
Net sales	240,051
Profit before income taxes	23,917
Profit	19,645

Fiscal year ended March 31, 2022

The significant affiliate in the fiscal year ended March 31, 2022 is Lintec Corporation and Phoenix Pulp & Paper Public Company Limited. Summarized aggregate financial statement data of the company is as follows. Further, the total figures are presented.

	(Millions of yen)
Total current assets	144,657
Total noncurrent assets	198,989
Total current liabilities	69,449
Total long-term liabilities	21,400
Total net assets	252,797
Net sales	222,386
Profit before income taxes	27,483
Profit	22,311

(Per Share Information)

		(Yen)
	Fiscal year ended	Fiscal year ended
	March 31, 2023	March 31, 2022
Net assets per share	3,415.75	3,695.31
Profit (loss) per share	(436.28)	17.23

- Notes: 1. Diluted profit per share for the fiscal year ended March 31, 2022 is not stated because no potentially dilutive securities were outstanding. Diluted profit per share for the fiscal year ended March 31, 2023 is not stated because a loss per share was reported and no potentially dilutive securities were outstanding.
 - 2. For the purpose of calculating net assets per share and profit (loss) per share, shares of the Company held through the Board Benefit Trust (BBT) are included in the number of treasury stock deducted when calculating the total number of shares outstanding at the end of the fiscal year and the weighted-average number of common shares outstanding during the fiscal year. The number of treasury stock deducted when calculating the total number of shares outstanding at the end of the fiscal year was 156,300 shares as of March 31, 2023 and 168,100 shares as of March 31, 2022. The weighted-average number of treasury stock deducted when calculating the weighted-average number of common shares outstanding during the fiscal year was 159,759 shares in the fiscal year March 31, 2023 and 179,141 shares in the fiscal year ended March 31, 2022.
 - 3. The basis for calculation of profit (loss) per share is as follows.

	(Millions of	yen unless otherwise stated)
Item	Fiscal year ended March 31, 2023	Fiscal year ended March 31, 2022
Profit (loss) attributable to owners of parent	(50,406)	1,990
Profit (loss) attributable to owners of parent related to common shares	(50,406)	1,990
Weighted-average number of common shares outstanding (shares)	115,538,852.34	115,525,868.61

(Significant Subsequent Event)

1. Withdrawal from White Pulp and Paper (Graphic Paper) Business at Opal, a Consolidated Overseas Subsidiary of the Company

Our Australian consolidated subsidiary Paper Australia Pty Ltd ("Opal") has decided to withdraw from the graphic paper business on 14 February 2023 and accordingly is in the designing rationalizing workforce.

(1) Background of withdrawal from the business

Opal's Maryvale Mill in Victoria, Australia (MV Mill), one of Opal's manufacturing sites, had sourced eucalyptus wood produced in Victoria's state-owned forests as the raw material for bleached pulp, the main ingredient of graphic paper, from VicForests (VF), a Victorian state-owned forestry business.

VF had been contesting a combined court case involving the Environment East Gippsland and Kinglake Friends of the Forest environmental groups since 2021 regarding its timber harvesting activities. On 11 November 2022, the Supreme Court of Victoria, Australia, issued orders against VF which impacted VF ability to continue its timber harvesting operations, making it impossible for Opal to procure eucalyptus wood from VF.

In response to this sudden and unexpected suspension of supply, the Company and Opal had been considering alternative wood supplies in order to continue graphic paper operations, but concluded that alternative procurement is not feasible and has decided to discontinue the graphic paper business at the MV Mill (permanent suspension of some manufacturing assets).

(2) Outline of the business to be withdrawn

(1) Outline of Consolidated Subsidiary

	J			
Name	Paper Australia Pty Ltd			
Address	Building 1, 572 Swan Street, Burnley Victoria 3121 Australia			
Representative	Yoshifumi Nagaura, CEO			
Business Description	Manufacture and sale of paperboard, kraft paper, graphic paper, corrugated board, and folding cartons			
Capital	2,462 Million AUD			
Consolidated Sales	2,111 Million AUD (FY2022/12)			
Established	Sep 1993			

② Outline of the business to be withdrawn

- a. Description of the withdrawn business: Manufacturing and sales of graphic paper
- b. Operating results of the discontinued business (FY2022/12) Net sales: A\$309 million
- c. Closed Paper Machine

M5 paper machine at Opal's MV Mill Capacity: 220,000 tonnes/year Main products: Copy Paper, etc.

d. Decided to close Paper Machine

M2 paper machine at Opal's MV Mill

Capacity: 30,000 tonnes/year

Main products: Machine-glazed kraft paper, etc. Machine closure timing: Aug 2023 (current plan)

(3) Schedule

Completion date of withdrawal from the business: Within 2023 (current plan)

(4) Material impact of the withdrawal on business activities, etc.

With regard to workforce rationalization, Opal is in the process of downsizing the MV mill-related workforce. This process is ongoing and subject to Australian labor laws and regulations.

Based on the progress of withdrawal from the business, the Company expects to recognize approximately 4.9 billion yen as an extraordinary loss related to withdrawal from the business, including redundancy payments for personnel rationalization, in the first quarter of FY2024/3.

In addition, the Company expects to record in FY2024/3 an impairment loss of approximately 1.2 billion yen on fixed assets due to a recent decision to shut the M2 paper machine at the MV Mill from around late August 2023 in relation to unexpected suspension of supply from VF.

The rest of the estimated loss related to business withdrawal, including personnel rationalization, is under scrutiny.

(5) Others

In connection with the withdrawal from the graphic paper business, the Company recorded 19.7 billion yen as impairment loss on fixed assets, etc. in the financial results for the fiscal year ending March 31, 2023.

2. Issuance of corporate bonds

Based on the resolution made at the meeting of the Board of Directors of the Company held on August 5, 2022, the Company issued the 16th unsecured corporate bonds with total amount of \(\frac{1}{2}\)30 billion on May 2, 2023.

The 16th unsecured corporate bonds (with inter-bond pari passu clause)

(1) Total amount of issue: maximum ¥30 billion

(2) Interest rate: 0.390% per annum

(3) Issue price: ¥100 per face value of ¥100

(4) Method of redemption: bullet repayment

(5) Maturity date: May 1, 2026 (3-year bond)

(6) Application of funds: redemption of commercial papers