Consolidated Balance Sheet

DOWA HOLODINGS CO., LTD. and Its Consolidated Subsidiaries
For the years ended March 31, 2019 and 2018

Assets	Millions of yen 2019	Millions of yen 2018	Thousands of U.S. dollars (Note 1) 2019
Current Assets:			
Cash and time deposits (Notes 3, 6, and 14)	¥ **20,118**	¥ 16,935	$ **181,259**
Notes and accounts receivable: (Note 14)			
Trade	**82,330**	85,718	**741,778**
Nonconsolidated subsidiaries and associates	**2,350**	2,728	**21,173**
Others	**3,561**	5,447	**32,088**
Subtotal	**88,241**	93,894	**795,040**
Inventories: (Note 13)			
Merchandise and finished products	**29,461**	27,550	**265,445**
Work in process	**5,769**	5,663	**51,986**
Raw materials and supplies	**84,696**	73,127	**763,103**
Subtotal	**119,928**	106,341	**1,080,536**
Other current assets	**9,866**	11,354	**88,895**
Allowance for doubtful accounts	**(147)**	(191)	**(1,329)**
Total current assets	**238,007**	228,334	**2,144,402**
Property, Plant, and Equipment (Notes 5 and 6):			
Land	**24,977**	24,638	**225,040**
Buildings and structures	**126,589**	119,288	**1,140,549**
Machinery and equipment	**250,856**	242,390	**2,260,175**
Construction in progress	**8,183**	8,491	**73,731**
Others	**17,459**	16,602	**157,307**
Subtotal	**428,066**	411,412	**3,856,805**
Accumulated depreciation	**(293,701)**	(287,087)	**(2,646,195)**
Net property, plant, and equipment	**134,365**	124,324	**1,210,609**
Investments and Other Assets:			
Investments in securities (Notes 4, 6, and 14)	**27,158**	30,669	**244,694**
Investments in and advances to nonconsolidated subsidiaries and associates (Notes 4, 6, and 14)	**74,098**	54,306	**667,611**
Deferred tax assets (Note 9)	**7,689**	6,430	**69,279**
Goodwill	**4,620**	5,250	**41,629**
Other assets	**8,835**	7,314	**79,606**
Allowance for doubtful accounts	**(91)**	(100)	**(827)**
Total investments and other assets	**122,310**	103,871	**1,101,993**
Total assets	¥ **494,683**	¥ 456,530	$ **4,457,005**

*1 The accompanying notes are an integral part of these consolidated financial statements.
2 ¥110.99 = U.S. $1, the rate of exchange on March 31, 2019.

Liabilities and Equity	Millions of yen 2019	Millions of yen 2018	Thousands of U.S. dollars (Note 1) 2019
Current Liabilities:			
Short-term borrowings (Notes 6 and 14)	¥ **28,777**	¥ 37,613	$ **259,284**
Commercial paper (Notes 6 and 14)	**29,000**	25,000	**261,284**
Current maturities of long-term debt (Notes 6 and 14)	**18,271**	7,094	**164,623**
Notes and accounts payable: (Note 14)			
Trade	**43,445**	36,655	**391,440**
Nonconsolidated subsidiaries and associates	**4**	715	**36**
Others	**5,979**	5,309	**53,877**
Subtotal	**49,429**	42,680	**445,353**
Accrued expenses	**8,655**	7,983	**77,988**
Accrued income taxes	**2,135**	2,680	**19,242**
Accrued bonuses	**4,110**	4,050	**37,031**
Accrued directors' bonuses	**249**	232	**2,246**
Other current liabilities	**22,826**	15,466	**205,663**
Total current liabilities	**163,456**	142,800	**1,472,718**
Long-term Liabilities:			
Long-term debt (Notes 6 and 14)	**59,662**	40,659	**537,549**
Liability for employees' retirement benefits (Note 12)	**17,967**	17,411	**161,880**
Retirement allowance for directors and audit & supervisory board members	**621**	719	**5,597**
Deferred tax liabilities (Note 9)	**2,064**	2,666	**18,600**
Other long-term liabilities	**4,751**	4,509	**42,814**
Total long-term liabilities	**85,067**	65,967	**766,442**
Total liabilities	**248,524**	208,767	**2,239,160**
Contingent Liabilities (Note 7)			
Equity: (Note 8)			
Common stock:			
Authorized: 200,000 thousand shares in 2019 and 2018			
Issued: 61,989 thousand shares in 2019 and 2018	**36,437**	36,437	**328,294**
Capital surplus	**26,044**	26,222	**234,654**
Retained earnings	**173,624**	165,029	**1,564,322**
Treasury stock, at cost (2,804 thousand shares in 2019 and 2,804 thousand shares in 2018)	**(5,710)**	(5,708)	**(51,446)**
Accumulated Other Comprehensive Income:			
Unrealized gain (loss) on available-for-sale securities	**9,992**	14,164	**90,033**
Deferred gain (loss) on derivatives under hedge accounting (Note 15)	**(2,787)**	1,199	**(25,111)**
Foreign currency translation adjustments	**(27)**	2,124	**(244)**
Defined retirement benefit plans (Note 12)	**(360)**	(653)	**(3,245)**
Total	**237,214**	238,815	**2,137,257**
Noncontrolling interests	**8,944**	8,946	**80,588**
Total equity	**246,158**	247,762	**2,217,845**
Total liabilities and equity	¥ **494,683**	¥ 456,530	$ **4,457,005**

Consolidated Statement of Income

DOWA HOLODINGS CO., LTD. and Its Consolidated Subsidiaries
For the years ended March 31, 2019 and 2018

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Net Sales	**¥ 452,928**	¥454,754	**$ 4,080,805**
Cost of Sales (Notes 11 and 13)	**396,495**	387,831	**3,572,355**
Gross profit (loss)	**56,432**	66,923	**508,449**
Selling, General, and Administrative Expenses (Notes 10 and 11)	**37,761**	35,975	**340,221**
Operating income (loss)	**18,671**	30,948	**168,227**
Other Income (Expenses):			
Interest and dividend income	**2,204**	1,148	**19,864**
Interest expense	**(1,008)**	(578)	**(9,082)**
Gain (loss) on sales and disposals of property, plant and equipment, net	**(860)**	(665)	**(7,752)**
Foreign exchange gain (loss)	**(27)**	(159)	**(245)**
Share of profit (loss) of entities accounted for using equity method	**2,470**	3,723	**22,259**
Commission income	**583**	—	**5,257**
Royalty income	**1,154**	1,074	**10,399**
Gain (loss) on sales of investments in securities, net	**158**	96	**1,425**
Environmental expenses	**(522)**	(466)	**(4,705)**
Loss on impairments (Note 5)	**(212)**	(270)	**(1,912)**
Loss from natural disaster	**(184)**	(165)	**(1,661)**
Compensation for loss	**—**	(409)	**—**
Settlement package	**(206)**	—	**(1,856)**
Reversal of foreign currency translation adjustment	**227**	—	**2,049**
Other, net	**1,050**	698	**9,461**
Subtotal	**4,828**	4,026	**43,500**
Income (loss) before income taxes	**23,499**	34,974	**211,728**
Income Taxes: (Note 9)			
Current	**7,148**	9,329	**64,409**
Deferred	**1,240**	381	**11,179**
Total income taxes	**8,389**	9,710	**75,589**
Net Income (loss)	**15,110**	25,264	**136,138**
Net Income (Loss) Attributable to Noncontrolling Interests	**123**	570	**1,110**
Net income (loss) attributable to owners of the parent	**¥ 14,986**	¥ 24,693	**$ 135,027**

Per Share: (Notes 8 and 17)	Yen		U.S. dollars (Note 1)
Basic net income	**¥ 253.22**	¥ 417.21	**$ 2.28**
Cash dividends	**90.00**	90.00	**0.81**

*1 The accompanying notes are an integral part of these consolidated financial statements.
2 ¥110.99= U.S. $1, the rate of exchange on March 31, 2019.

Consolidated Statement of Comprehensive Income

DOWA HOLODINGS CO., LTD. and Its Consolidated Subsidiaries
For the years ended March 31, 2019 and 2018

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Net Income (loss)	**¥ 15,110**	¥ 25,264	**$ 136,138**
Other comprehensive income: (Note 16)			
Unrealized gain (loss) on available-for-sale securities	**(3,872)**	(449)	**(34,893)**
Deferred gain (loss) on derivatives under hedge accounting	**(4,016)**	1,122	**(36,184)**
Foreign currency translation adjustments	**(1,672)**	(604)	**(15,064)**
Defined retirement benefit plans	**307**	40	**2,774**
Share of other comprehensive income in affiliates	**(833)**	182	**(7,505)**
Total other comprehensive income	**(10,086)**	291	**(90,874)**
Comprehensive income	**¥ 5,023**	¥ 25,555	**$ 45,264**
Total comprehensive income attributable to:			
Owners of the parent	**¥ 4,969**	¥ 25,119	**$ 44,777**
Noncontrolling interests	**54**	435	**487**

*1 The accompanying notes are an integral part of these consolidated financial statements.
2 ¥110.99= U.S. $1, the rate of exchange on March 31, 2019.

Consolidated Statement of Changes in Equity

DOWA HOLDINGS CO., LTD. and Its Consolidated Subsidiaries
For the years ended March 31, 2019 and 2018

	Thousands	Millions of yen			
		Shareholders' Equity			
	Number of Shares of Common Stock Outstanding (Note 8)	Common Stock	Capital Surplus	Retained Earnings	Treasury Stock, at Cost
Balance, April 1, 2017	59,186	¥ 36,437	¥ 26,350	¥ 145,809	¥ (5,703)
Cash dividends paid	—	—	—	(5,409)	—
Net Income (loss) attributable to owners of the parent	—	—	—	24,693	—
Purchases of treasury stock	(1)	—	—	—	(5)
Disposal of treasury stock	0	—	0	—	0
Change of scope of consolidation	—	—	—	(65)	—
Change in the parent's ownership interest due to transactions with noncontrolling interests	—	—	(128)	—	—
Net changes of items other than shareholders' equity	—	—	—	—	—
Balance, April 1, 2018	**59,185**	**¥ 36,437**	**¥ 26,222**	**¥ 165,029**	**¥ (5,708)**
Cash dividends paid	**—**	**—**	**—**	**(5,409)**	**—**
Net Income (loss) attributable to owners of the parent	**—**	**—**	**—**	**14,986**	**—**
Purchases of treasury stock	**(0)**	**—**	**—**	**—**	**(1)**
Change of scope of consolidation	**—**	**—**	**—**	**(982)**	**—**
Change in the parent's ownership interest due to transactions with noncontrolling interests	**—**	**—**	**(178)**	**—**	**—**
Net changes of items other than shareholders' equity	**—**	**—**	**—**	**—**	**—**
Balance, March 31, 2019	**59,184**	**¥ 36,437**	**¥ 26,044**	**¥ 173,624**	**¥ (5,710)**

	Thousands	Thousands of U.S. dollars (Note 1)			
		Shareholders' Equity			
	Number of Shares of Common Stock Outstanding (Note 8)	Common Stock	Capital Surplus	Retained Earnings	Treasury Stock, at Cost
Balance, April 1, 2018	**59,185**	**$ 328,294**	**$ 236,259**	**$ 1,486,883**	**$ (51,434)**
Cash dividends paid	**—**	**—**	**—**	**(48,735)**	**—**
Net Income (loss) attributable to owners of the parent	**—**	**—**	**—**	**135,027**	**—**
Purchases of treasury stock	**(0)**	**—**	**—**	**—**	**(12)**
Change of scope of consolidation	**—**	**—**	**—**	**(8,854)**	**—**
Change in the parent's ownership interest due to transactions with noncontrolling interests	**—**	**—**	**(1,604)**	**—**	**—**
Net changes of items other than shareholders' equity	**—**	**—**	**—**	**—**	**—**
Balance, March 31, 2019	**59,184**	**$ 328,294**	**$ 234,654**	**$ 1,564,322**	**$ (51,446)**

*1 The accompanying notes are an integral part of these consolidated financial statements.
2 ¥110.99= U.S. $1, the rate of exchange on March 31, 2019.

	Millions of yen						
	Accumulated Other Comprehensive Income						
	Unrealized Gain (Loss) on Available-for-Sale Securities	Deferred Gain (Loss) on Derivatives under Hedge Accounting	Foreign Currency Translation Adjustments	Defined Retirement Benefit Plans	Total	Non-controlling Interests	Total Equity
Balance, April 1, 2017	¥ 14,466	¥ 139	¥ 2,516	¥ (713)	¥ 219,303	¥ 8,518	¥ 227,821
Cash dividends paid	—	—	—	—	(5,409)	—	(5,409)
Net Income (loss) attributable to owners of the parent	—	—	—	—	24,693	—	24,693
Purchases of treasury stock	—	—	—	—	(5)	—	(5)
Disposal of treasury stock	—	—	—	—	0	—	0
Change of scope of consolidation	—	—	—	—	(65)	—	(65)
Change in the parent's ownership interest due to transactions with noncontrolling interests	—	—	—	—	(128)	—	(128)
Net changes of items other than shareholders' equity	(302)	1,060	(392)	60	426	428	854
Balance, April 1, 2018	**¥ 14,164**	**¥ 1,199**	**¥ 2,124**	**¥ (653)**	**¥ 238,815**	**¥ 8,946**	**¥ 247,762**
Cash dividends paid	**—**	**—**	**—**	**—**	**(5,409)**	**—**	**(5,409)**
Net Income (loss) attributable to owners of the parent	**—**	**—**	**—**	**—**	**14,986**	**—**	**14,986**
Purchases of treasury stock	**—**	**—**	**—**	**—**	**(1)**	**—**	**(1)**
Change of scope of consolidation	**—**	**—**	**—**	**—**	**(982)**	**—**	**(982)**
Change in the parent's ownership interest due to transactions with noncontrolling interests	**—**	**—**	**—**	**—**	**(178)**	**—**	**(178)**
Net changes of items other than shareholders' equity	**(4,171)**	**(3,986)**	**(2,151)**	**293**	**(10,016)**	**(2)**	**(10,019)**
Balance, March 31, 2019	**¥ 9,992**	**¥(2,787)**	**¥ (27)**	**¥ (360)**	**¥ 237,214**	**¥ 8,944**	**¥ 246,158**

	Thousands of U.S. dollars (Note 1)						
	Accumulated Other Comprehensive Income						
	Unrealized Gain (Loss) on Available-for-Sale Securities	Deferred Gain (Loss) on Derivatives under Hedge Accounting	Foreign Currency Translation Adjustments	Defined Retirement Benefit Plans	Total	Non-controlling Interests	Total Equity
Balance, April 1, 2018	**$ 127,621**	**$ 10,806**	**$ 19,141**	**$ (5,886)**	**$ 2,151,685**	**$ 80,609**	**$ 2,232,295**
Cash dividends paid	**—**	**—**	**—**	**—**	**(48,735)**	**—**	**(48,735)**
Net Income (loss) attributable to owners of the parent	**—**	**—**	**—**	**—**	**135,027**	**—**	**135,027**
Purchases of treasury stock	**—**	**—**	**—**	**—**	**(12)**	**—**	**(12)**
Change of scope of consolidation	**—**	**—**	**—**	**—**	**(8,854)**	**—**	**(8,854)**
Change in the parent's ownership interest due to transactions with noncontrolling interests	**—**	**—**	**—**	**—**	**(1,604)**	**—**	**(1,604)**
Net changes of items other than shareholders' equity	**(37,587)**	**(35,918)**	**(19,385)**	**2,641**	**(90,250)**	**(21)**	**(90,272)**
Balance, March 31, 2019	**$ 90,033**	**$ (25,111)**	**$ (244)**	**$ (3,245)**	**$ 2,137,257**	**$ 80,588**	**$ 2,217,845**

Consolidated Statement of Cash Flows

DOWA HOLODINGS CO., LTD. and Its Consolidated Subsidiaries
For the years ended March 31, 2019 and 2018

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	2019
Cash Flows from Operating Activities			
Income (loss) before income taxes	¥ 23,499	¥ 34,974	$ 211,728
Adjustments for:			
Income taxes (paid) refund	(7,904)	(12,462)	(71,222)
Depreciation and amortization	19,138	17,740	172,435
Loss (gain) on sales and disposals of property, plant, and equipment, net	860	665	7,752
Share of (profit) loss of entities accounted for using the equity method	(2,470)	(3,723)	(22,259)
Loss (gain) on sales of investment securities, net	(158)	(96)	(1,425)
Loss on impairments (Note 5)	212	270	1,912
Changes in assets and liabilities			
Decrease (increase) in notes and accounts receivable	2,435	(7,308)	21,947
Decrease (increase) in inventories	(13,471)	(23,936)	(121,371)
Increase (decrease) in notes and accounts payable	5,883	2,646	53,013
Increase (decrease) in allowance for doubtful accounts	(42)	86	(385)
Increase (decrease) in net defined benefit liability	722	883	6,508
Decrease (increase) in interest and dividend receivables	2,967	2,426	26,733
Increase (decrease) in interest payable	143	46	1,292
Other, net	5,738	(1,086)	51,707
Net cash provided by operating activities	37,555	11,125	338,366
Cash Flows from Investing Activities:			
Acquisition of property, plant, and equipment	(23,395)	(23,680)	(210,789)
Proceeds from sales of property, plant, and equipment	338	516	3,046
Acquisition of intangible fixed assets	(288)	(356)	(2,599)
Acquisition of investments in securities	(1,835)	(7)	(16,541)
Proceeds from sales of investments in securities	39	35	357
Acquisition of investments in subsidiaries and associates	(2,798)	(2,881)	(25,212)
Proceeds from sales of shares of subsidiaries and associates	196	—	1,773
Purchase of shares of subsidiaries resulting in change in scope of consolidation	—	(171)	—
Proceeds from sales of shares of subsidiaries resulting in change in scope of consolidation	—	14	—
Payments for loans	(23,818)	(8,444)	(214,601)
Proceeds from collection of loans	590	825	5,321
Proceeds from subsidies	882	448	7,951
Other, net	(936)	(309)	(8,435)
Net cash used in investing activities	(51,025)	(34,010)	(459,732)
Cash Flows from Financing Activities:			
Net increase (decrease) in short-term loans payable	(8,858)	8,200	(79,809)
Net increase (decrease) in commercial papers	4,000	13,000	36,039
Proceeds from long-term debt	23,601	18,351	212,643
Repayment of long-term debt	(6,811)	(9,179)	(61,373)
Proceeds from issuance of bonds	10,000	—	90,098
Cash dividends paid	(5,641)	(5,555)	(50,828)
Repayment of lease obligations	(343)	(723)	(3,099)
Purchases of treasury stock	(1)	(5)	(11)
Proceeds from sales of treasury stock	—	0	—
Other, net	(0)	—	(0)
Net cash provided by financing activities	15,944	24,087	143,660
Foreign Currency Translation Adjustment on Cash and Cash Equivalents	(58)	(115)	(524)
Net Increase (Decrease) in Cash and Cash Equivalents	2,416	1,088	21,770
Cash and Cash Equivalents of Newly Consolidated Subsidiaries	112	257	1,017
Cash and Cash Equivalents at Beginning of Year	16,472	15,126	148,418
Cash and Cash Equivalents at End of Year (Note 3)	¥ 19,002	¥ 16,472	$ 171,206

*1 The accompanying notes are an integral part of these consolidated financial statements.
2 ¥110.99= U.S. $1, the rate of exchange on March 31, 2019.

Notes to Consolidated Financial Statements

DOWA HOLODINGS CO., LTD. and Its Consolidated Subsidiaries
For the years ended March 31, 2019 and 2018

1. Basis of Presentation of the Consolidated Financial Statements

The accompanying consolidated financial statements have been prepared in accordance with the provisions set forth in the Japanese Financial Instruments and Exchange Act and its related accounting regulations and in accordance with accounting principles generally accepted in Japan (“Japanese GAAP”), which are different in certain respects as to the application and disclosure requirements of International Financial Reporting Standards.

Japanese yen figures less than a million yen are rounded down to the nearest million yen, except for per share data.

In preparing these consolidated financial statements, certain reclassifications and rearrangements have been made to the consolidated financial statements issued domestically in order to present them in a form which is more familiar to readers outside Japan. In addition, certain reclassifications have been made in the 2018 consolidated financial statements to conform to the classifications used in 2019.

The consolidated financial statements are stated in Japanese yen, the currency of the country in which Dowa Holdings Co., Ltd. (the “Company”) is incorporated and operates. The translations of Japanese yen amounts into U.S. dollar amounts are included solely for the convenience of readers outside Japan and have been made at the rate of ¥110.99 to U.S. $1, the approximate rate of exchange at March 31, 2019. Such translations should not be construed as representations that the Japanese yen amounts could be converted into U.S. dollars at that or any other rate.

2. Summary of Significant Accounting Policies

(1) Consolidation

The consolidated financial statements as of March 31, 2019, include the accounts of the Company and its 82 (80 in 2018) significant subsidiaries (together, the “Group”).

Under the control and influence concepts, those significant companies in which the Company, directly or indirectly, is able to exercise control over operations are fully consolidated, and those companies over which the Group has the ability to exercise significant influence are accounted for by the equity method.

Investments in 18 (18 in 2018) associated companies are accounted for by the equity method.

Investments in the remaining nonconsolidated subsidiaries and associated companies are stated at cost. If the equity method of accounting had been applied to the investments in these companies, the effect on the accompanying consolidated financial statements would not be material.

The excess of the cost of acquisition over the fair value of the net assets of an acquired subsidiary at the date of acquisition is amortized on a straight-line basis within 20 years.

(a) Changes in Consolidation Subsidiaries and Associates

(2019)

The consolidated financial statements for the year ended March 31, 2019 (fiscal 2019), now include Golden Dowa Eco-system Myanmar Company Limited and Meltec Iwaki Co., Ltd., which were nonconsolidated subsidiaries in the consolidated financial statements for the year ended March 31, 2018, because they were not material subsidiaries. Also, Sousou Smart Eco Company Co., Ltd., which was newly established during fiscal 2019, is now included in the consolidated group.

(2018)

The consolidated financial statements for the year ended March 31, 2018 (fiscal 2018), newly included Dowa Precision (Thailand) Co., Ltd. and Dowa Metals & Mining America, Inc., which were nonconsolidated subsidiaries in the consolidated financial statements for the year ended March 31, 2017, from the viewpoint of materiality. Also, Key Metal Refining, LLC was newly included in the Company’s scope of consolidation for fiscal 2018 due to the acquisition of additional equity. Furthermore, Jiangxi Dowa Environmental Management Co., Ltd. "JDEM" has been excluded from the scope of consolidation because the Company sold all of its investments in JDEM.

Because Dowa Metals & Mining Alaska Ltd. acquired equity in Constantine Mining LLC during fiscal 2018, Constantine Mining LLC was included in the scope of equity-method accounting.

(b) Accounting Period of Foreign Subsidiaries

In preparing the consolidated financial statements for the year ended March 31, 2019, the Company used financial statements with an account closing date of December 31, 2018, for 18 foreign subsidiaries, including PT. Prasadha Pamunah Limbah Industri.; Dowa Environmental Management Co., Ltd.; Dowa Advanced Materials (Shanghai) Co., Ltd.; and other companies. Material transactions that occurred between January 1, 2019, and March 31, 2019, were adjusted in the consolidated financial statements, as necessary.

(c) Unification of Accounting Policies Applied to Foreign Subsidiaries for the Consolidated Financial Statements

Under Accounting Standards Board of Japan ("ASBJ") Practical Issues Task Force ("PITF") No. 18, "Practical Solution on Unification of Accounting Policies Applied to Foreign Subsidiaries for the Consolidated Financial Statements," the accounting policies and procedures applied to a parent company and its subsidiaries for similar transactions and events under similar circumstances should in principle be unified for the preparation of the consolidated financial statements. However, financial statements prepared by foreign subsidiaries in accordance with either International Financial Reporting Standards ("IFRS") or generally accepted accounting principles in the United States of America (Financial Accounting Standards Board Accounting Standards Codification—"FASB ASC") tentatively may be used for the consolidation process, except for the following items that should be adjusted in the consolidation process so that net income is accounted for in accordance with Japanese GAAP, unless they are not material: (a) amortization of goodwill; (b) scheduled amortization of actuarial gain or loss of pensions that has been recorded in equity through other comprehensive income; (c) expensing capitalized development costs of R&D; and (d) cancellation of the fair value model of accounting for property, plant and equipment and investment properties and incorporation of the cost model of accounting.

(2) Cash Equivalents

Cash equivalents are short-term investments that are readily convertible into cash and that are exposed to insignificant risk of changes in value.

Cash equivalents include time deposits, certificates of deposit, commercial paper and bond funds, all of which mature or become due within three months of the date of acquisition.

(3) Investment Securities

Investment securities held by the Group are classified into two categories.

Available-for-sale securities with market quotations are stated at fair value. Unrealized gains and losses on these securities are stated, net of applicable taxes, as "unrealized gain (loss) on available-for-sale securities" on the consolidated balance sheet. The fair value is determined based on the average market price during the month before the balance sheet date.

Available-for-sale securities without market quotations are stated at cost by using the moving-average method.

In cases where the fair value of equity securities issued by nonconsolidated subsidiaries and associates, or available-for-sale securities, has declined significantly and such impairment is deemed other than temporary, those securities are written down to the fair value and the resulting losses are included in net profit or loss for the period.

(4) Inventories

Inventories are stated at the lower of cost or market value. The costs of the primary finished products such as gold, silver, copper, zinc, lead, platinum, palladium, rhodium, cadmium, and other metals, and imported raw materials are determined by the first-in, first-out method. The costs of other finished products and other raw materials are determined by the moving-average method or the specific identification method, etc.

(5) Property, Plant and Equipment

Property, plant and equipment, including significant renewals and additions, are stated at cost. Repairs and maintenance expenses are charged to current income. Depreciation is mainly computed by the declining-balance method based on the estimated useful lives of the respective assets.

The Company and domestic consolidated subsidiaries have computed the depreciation for buildings (excluding leasehold improvements and building improvements) acquired on or after April 1, 1998, as well as for building improvements and structures acquired on or after April 1, 2016, by the straight-line method.

Depreciation of the landfill is computed using the production method, while the straight-line method is applied to all property, plant and equipment of consolidated foreign subsidiaries.

(6) Long-lived Assets

The Group reviews its long-lived assets for impairment whenever events or changes in circumstances indicate the carrying amount of an asset or asset group may not be recoverable.

An impairment loss would be recognized if the carrying amount of an asset or asset group exceeds the sum of the undiscounted future cash flows expected to result from the continued use and eventual disposition of the asset or asset group.

The impairment loss would be measured as the amount by which the carrying amount of the asset exceeds its recoverable amount, which is the higher of the discounted cash flows from the continued use and eventual disposition of the asset or the net selling price at disposition.

(7) Leases

Finance lease transactions are capitalized to recognize lease assets and lease obligations in the balance sheet.

(8) Research and Development

Research and development costs are charged to income as incurred.

(9) Allowance for Doubtful Accounts

The allowance for doubtful accounts is stated in amounts considered to be appropriate based on the Group's past credit loss experience and an evaluation of potential losses in the receivables outstanding.

(10) Accrued Bonuses

Accrued bonuses to employees are provided for at the estimated amounts, which the Group is obliged to pay to employees after the year-end.

(11) Accrued Directors' Bonuses

Accrued bonuses to directors, including bonuses for the portion corresponding to the corporate performance-based remuneration system, are provided for at the estimated amounts, which the Group is obliged to pay to directors after the year-end.

(12) Retirement and Pension Plans

The Company and consolidated subsidiaries have unfunded retirement benefit plans for employees.

The Company accounts for the liability for retirement benefits based on the projected benefit obligations at the balance sheet date. The projected benefit obligations are attributed to periods on a benefit formula basis. Actuarial gains and losses are amortized on a straight-line basis over five years within the average remaining service period.

(13) Retirement Allowances for Directors and Audit & Supervisory Board Members

Retirement allowance for directors and Audit & Supervisory Board members of some of the Company's subsidiaries are recorded as a liability at the amount that would be required if all directors and Audit & Supervisory Board members retired at each balance sheet date.

(14) Allowance for Environmental Measures

The Group adopted the Act Concerning Special Measures against PCB Waste (Act No. 65 of June 22, 2001) and recorded the estimated cost for the disposal of polychlorinated biphenyl waste. Those amounts are included in other long-term liabilities in the consolidated balance sheet.

(15) Construction Contracts

In December 2007, the ASBJ issued ASBJ Statement No. 15, “Accounting Standard for Construction Contracts,” and ASBJ Guidance No. 18, “Guidance on Accounting Standard for Construction Contracts.” Under this accounting standard, construction revenue and construction costs should be recognized by the percentage-of-completion method if the outcome of a construction contract can be estimated reliably. When total construction revenue, total construction costs, and the stage of completion of the contract at the balance sheet date can be reliably measured, the outcome of a construction contract is deemed to be estimated reliably. If the outcome of a construction contract cannot be reliably estimated, the completed-contract method should be applied. When it is probable that the total construction costs will exceed total construction revenue, an estimated loss on the contract should be immediately recognized by providing for a loss on construction contracts.

(16) Accounting Treatment for Consumption Tax

All transactions are recorded net of consumption tax.

(17) Income Taxes

The provision for income taxes is computed based on the pretax income included in the consolidated statements of income. The asset and liability approach is used to recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Deferred taxes are measured by applying currently enacted income tax rates to the temporary differences.

On February 16, 2018, the ASBJ issued ASBJ Statement No. 28, "Partial Amendments to Accounting Standard for Tax Effect Accounting," which requires deferred tax assets and deferred tax liabilities to be classified as investments and other assets and long-term liabilities, respectively. Deferred tax assets were previously classified as current assets and investments and other assets, and deferred tax liabilities were previously classified as current liabilities and long-term liabilities under the previous accounting standard. The revised accounting standard is effective for annual periods beginning on or after April 1, 2018. The Company retrospectively applied the revised accounting standard effective April 1, 2018, and deferred tax assets of ¥3,957 million and deferred tax liabilities of ¥156 million which were previously classified as current assets and current liabilities, respectively, as of March 31, 2018, have been reclassified as investments and other assets and long-term liabilities, respectively, in the accompanying consolidated balance sheet.

(18) Consolidated Tax Return

The Group files a tax return under the consolidated corporate-tax system, which allows companies to base tax payments on the combined profits or losses of the parent company and its wholly owned domestic subsidiaries.

(19) Foreign Currency Translations and Consolidated Foreign Currency Financial Statements

All monetary receivables and payables denominated in foreign currencies are translated into Japanese yen at the spot exchange rates as of the balance sheet date and foreign exchange gains and losses from translation are recognized in the consolidated statement of income. Assets and liabilities of foreign subsidiaries are converted into Japanese yen at the spot exchange rates prevailing on the balance sheet date of the foreign subsidiaries. Revenues and expenses of foreign subsidiaries are converted into Japanese yen at the average exchange rate for the accounting period of foreign subsidiaries. Translation differences are included as non-controlling interests and foreign currency translation adjustments in equity.

(20) Derivatives and Hedging Activities

The Group uses derivative financial instruments to manage its exposures to fluctuations in nonferrous metal, foreign exchange, and interest rates.

Nonferrous metal forward contracts, foreign exchange forward contracts, and interest rate swaps are utilized by the Group to reduce risks of fluctuation in nonferrous metal rates, foreign currency exchange, and interest rates. The Group does not enter into derivatives for trading or speculative purposes.

Derivative financial instruments and foreign currency transactions are classified and accounted for as follows:

a) All derivatives are recognized as either assets or liabilities and measured at fair value and gains or losses on derivative transactions are recognized in the consolidated statement of income.

b) For derivatives used for hedging purposes, if derivatives qualify for hedge accounting because of high correlation and effectiveness between the hedging instruments and the hedged items, gains or losses on derivatives are deferred until maturity of the hedged transactions.

Foreign exchange forward contracts employed to hedge foreign exchange exposures for export sales and import purchases are measured at fair value and the unrealized gains or losses are mainly recognized in income.

Forward contracts applied for forecasted (or committed) transactions are also measured at fair value, but the unrealized gains or losses are deferred until the underlying transactions are completed.

Interest rate swaps which qualify for hedge accounting and meet specific matching criteria are not remeasured at market value but the differential paid or received under the swap agreements is recognized and included in interest expense.

(21) Per Share Information

Basic net income per share is based on the weighted-average number of shares of common stock of the Company issued and outstanding during the respective year.

The Company effected a one-for-five reverse split of common stock on October 1, 2017.

(22) New Accounting Pronouncements

(a)Revenue Recognition

On March 30, 2018, the ASBJ issued ASBJ Statement No. 29, "Accounting Standard for Revenue Recognition," and ASBJ Guidance No. 30, "Implementation Guidance on Accounting Standard for Revenue Recognition." The core principle of the standard and guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. An entity should recognize revenue in accordance with that core principle by applying the following steps:

Step 1: Identify the contract(s) with a customer
Step 2: Identify the performance obligations in the contract
Step 3: Determine the transaction price
Step 4: Allocate the transaction price to the performance obligations in the contract
Step 5: Recognize revenue when (or as) the entity satisfies a performance obligation

The accounting standard and guidance are effective for annual periods beginning on or after April 1, 2021. Earlier application is permitted for annual periods beginning on or after April 1, 2018.

The Company expects to apply the accounting standard and guidance for annual periods beginning on or after April 1, 2021, and is in the process of measuring the effects of applying the accounting standard and guidance in future applicable periods.

(b)Leases

On January 13, 2016, the International Accounting Standards Board issued a new accounting standard for leases, IFRS16, "Leases", under which lessees are required to recognize almost of all lease assets and liabilities on the balance sheet regardless of the distinction between operating leases and finance leases.

Foreign subsidiaries, which prepare consolidated financial statements in accordance with IFRS, apply IFRS16 for the fiscal year ended March 31, 2020.

The effect of applying IFRS16 will be immaterial.

3. Cash and Cash Equivalents

Cash and cash equivalents at March 31, 2019 and 2018, consisted of the following:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Cash and time deposits	**¥ 20,118**	¥ 16,935	**$ 181,259**
Time deposits with deposit terms of over three months	**(1,115)**	(462)	**(10,053)**
Cash and cash equivalents	**¥ 19,002**	¥ 16,472	**$ 171,206**

4. Investment

Investment securities as of March 31, 2019 and 2018, consisted of the following:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Investments in and advances to nonconsolidated subsidiaries and associates	**¥ 74,098**	¥ 54,306	**$ 667,611**
Available-for-sale securities with market quotations	**24,437**	29,788	**220,181**
Unlisted securities	**2,720**	881	**24,512**
Total	**¥ 101,256**	¥ 84,976	**$ 912,305**

The net unrealized gains on the available-for-sale securities with market quotations as of March 31, 2019 and 2018, were ¥13,106 million (U.S. $118,089 thousand) and ¥18,456 million, respectively.

The information for available-for-sale securities which were sold during the years ended March 31, 2019 and 2018, is as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Proceeds from sales	**¥ 236**	¥ 141	**$ 2,133**
Gain on sales	**158**	102	**1,426**
Loss on sales	**—**	—	**—**

5. Long-lived Assets

(2019)

The Group reviewed its long-lived assets for impairment as of March 31, 2019. As a result, the Group recognized an impairment loss of ¥212 million (U.S. $1,912 thousand) included in other expenses related to the building and machinery asset group for the waste treatment business in Thailand and the goodwill of nonferrous metals business in the United States due to significant decreases of business profitability, and the idle asset group due to significant decreases in fair value. The carrying amount of the relevant assets were written down to the recoverable amount for the year ended March 31, 2019.

(2018)

The Group reviewed its long-lived assets for impairment as of March 31, 2018. As a result, the Group recognized an impairment loss of ¥270 million in other expense related to the machinery and equipment asset group for advanced fine materials production in Okayama City due to significant decreases of business profitability, and the idle asset group due to significant decreases in fair value. The carrying amount of the relevant assets were written down to the recoverable amount for the year ended March 31, 2018.

6. Short-term Borrowings and Long-term Debt

Short-term borrowings from banks and other financial institutions were represented by short-term borrowings bearing interest at 0.33% to 8.35% (an approximate average rate of 1.10%) per annum at March 31, 2019, and 0.35 % to 4.79% (an approximate average rate of 0.73%) per annum at March 31, 2018.

Commercial paper was represented by commercial paper bearing interest at an approximate average rate of -0.005% per annum at March 31, 2019, and an approximate average rate of -0.005% per annum at March 31, 2018.

It is customary in Japan for short-term borrowings to be rolled over each year.

At March 31, 2019 and 2018, long-term debt consisted of the following:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
0.00% to 9.40% loans, principally from banks and due between 2019 and 2033:			
Collateralized	**¥ 3,103**	¥ 11,980	**$ 27,958**
Unsecured	**54,360**	25,233	**489,777**
0.20% straight bonds due 2019	**10,000**	10,000	**90,098**
0.14% straight bonds due 2023	**10,000**	—	**90,098**
Lease obligations	**470**	540	**4,240**
Total	**77,934**	47,754	**702,173**
Long-term debt, bonds, and lease obligations (due within one year)	**18,271**	7,094	**164,623**
Long-term debt (due after one year)	**¥ 59,662**	¥ 40,659	**$ 537,549**

At March 31, 2019 and 2018, the following assets were pledged as collateral for short-term borrowings and the long-term debt of the Group:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Cash and time deposits	**¥ 4**	¥ 451	**$ 36**
Property, plant, and equipment, less accumulated depreciation, and land	**240**	245	**2,169**
Investments in and advances to affiliates	**15,201**	15,536	**136,962**
Investments in securities	**5,929**	10,080	**53,419**
Total	**¥ 21,375**	¥ 26,314	**$ 192,588**

Annual maturities of long-term debt excluding lease obligtions as of March 31, 2019, for the next five years and thereafter were as follows:

	Millions of yen	Thousands of U.S. dollars (Note 1)
2019	**¥ 18,107**	**$ 163,147**
2020	**6,792**	**61,199**
2021	**13,325**	**120,056**
2022	**9,798**	**88,284**
2023 and thereafter	**29,439**	**265,244**
Total	**¥ 77,463**	**$ 697,932**

7. Contingent Liabilities

At March 31, 2019 and 2018, the Group guaranteed loans incurred by nonconsolidated subsidiaries and associates in the amount of ¥70 million (U.S. $635 thousand) and ¥4,096 million, respectively.

The Company sold notes and accounts receivable amounts to a finance company. As part of the finance agreement, under certain circumstances, the Company has the obligation to repurchase a part of these amounts. At March 31, 2019 and 2018, in connection with this structured finance agreement and the maximum repurchase commitment, the Company's exposure was ¥247 million (U.S. $2,233 thousand) and ¥304 million, respectively.

8. Equity

Japanese companies are subject to the Companies Act of Japan (the "Companies Act"). The significant provisions in the Companies Act that affect financial and accounting matters are summarized below:

(a) Dividends

Under the Companies Act, companies can pay dividends at any time during the fiscal year in addition to the year-end dividend upon resolution at the shareholders'meeting. Additionally, for companies that meet certain criteria including (1) having a Board of Directors, (2) having independent auditors, (3) having an Audit & Supervisory Board, and (4) the term of service of the directors being prescribed as one year rather than the normal two-year term by its articles of incorporation, the Board of Directors may declare dividends (except for dividends in kind) at any time during the fiscal year if the company has prescribed so in its articles of incorporation.

The Company meets all the above criteria and accordingly, the Board of Directors may declare dividends (except for dividends-in-kind) at any time during the fiscal year.

Semiannual interim dividends may also be paid once a year upon resolution by the board of directors if the articles of incorporation of the company so stipulate. The Companies Act provides certain limitations on the amounts available for dividends or the purchase of treasury stock. The limitation is defined as the amount available for distribution to the shareholders, but the amount of net assets after dividends must be maintained at no less than ¥3 million.

(b) Increases/decreases and transfer of common stock, reserve, and surplus

The Companies Act requires that an amount equal to 10% of dividends must be appropriated as a legal reserve (a component of retained earnings) or as additional paid-in capital (a component of capital surplus), depending on the equity account charged upon the payment of such dividends, until the aggregate amount of legal reserve and additional paid-in capital equals 25% of the common stock.

Under the Companies Act, the total amount of additional paid-in capital and legal reserve may be reversed without limitation. The Companies Act also provides that common stock, legal reserve, additional paid-in capital, other capital surplus, and retained earnings can be transferred among the accounts within equity under certain conditions upon resolution of the shareholders.

(c) Treasury stock and treasury stock acquisition rights

The Companies Act also provides for companies to purchase treasury stock and dispose of such treasury stock by resolution of the board of directors. The amount of treasury stock purchased cannot exceed the amount available for distribution to the shareholders, which is determined by a specific formula. Under the Companies Act, stock acquisition rights are presented as a separate component of equity. The Companies Act also provides that companies can purchase both treasury stock acquisition rights and treasury stock. Such treasury stock acquisition rights are presented as a separate component of equity or deducted directly from stock acquisition rights.

9. Income Taxes

The Company and its domestic subsidiaries are subject to Japanese national and local income taxes which, in the aggregate, resulted in normal effective statutory tax rates of approximately 31.5% for each of the years ended March 31, 2019 and 2018.

The tax effects of significant temporary differences and tax loss carryforwards which resulted in deferred tax assets and liabilities at March 31, 2019 and 2018, are as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Deferred tax assets			
Reserve for employees' retirement benefits	**¥ 5,452**	¥ 5,266	**$ 49,129**
Unrealized earnings	**2,705**	2,924	**24,378**
Loss on devaluation of investment securities	**2,051**	1,919	**18,481**
Consolidated subsidiaries' deficit	**1,715**	1,256	**15,454**
Loss on impairments of property, plant and equipment	**1,546**	1,645	**13,933**
Accrued bonus	**1,267**	1,240	**11,416**
Deferred losses on derivatives under hedge accounting	**1,171**	1	**10,557**
Loss on devaluation of inventories	**973**	1,115	**8,767**
Accrued enterprise tax	**256**	340	**2,307**
Loss on disposal of property, plant and equipment	**253**	285	**2,279**
Reserve for directors' and Audit & Supervisory Board members' retirement benefits	**194**	225	**1,752**
Excess depreciation	**142**	146	**1,285**
Allowance for doubtful accounts	**26**	36	**238**
Others	**3,589**	2,981	**32,342**
Total	**21,346**	19,383	**192,325**
Less valuation allowance for tax loss carryforwards(*2)	**(1,522)**	—	**(13,716)**
Less valuation allowance for temporary differences	**(5,877)**	—	**(52,956)**
Total valuation allowance(*1)	**(7,400)**	(6,182)	**(66,672)**
Total deferred tax assets	**13,946**	13,201	**125,652**
Deferred tax liabilities			
Unrealized gain on available-for-sale securities	**(3,563)**	(5,040)	**(32,105)**
Unrealized gain on land	**(732)**	(732)	**(6,595)**
Reserve for overseas investment loss	**(52)**	(52)	**(475)**
Deferred gain on derivatives under hedge accounting	**(24)**	(553)	**(220)**
Enterprise tax receivable	**(8)**	(18)	**(75)**
Special depreciation reserve	**(2)**	(4)	**(18)**
Others	**(3,938)**	(3,034)	**(35,481)**
Total deferred tax liabilities	**(8,321)**	(9,437)	**(74,973)**
Net deferred tax assets	**¥ 5,624**	¥ 3,764	**$ 50,679**

(*1) The amount of valuation allowance for 2019 increased by ¥1,217 million (U.S. $10,972 thousand) compared to 2018. This increase mainly resulted from the recognition of a valuation allowance for the temporary difference of ¥680 million (U.S. $6,131 thousand) related to an organizational restructuring of consolidated subsidiaries and tax loss carryforwards of ¥492 million (U.S. $4,441 thousand)

(*2) The expiration of tax loss carryforwards, the related valuation allowances and the resulting net deferred tax assets as of March 31, 2019 and 2018, were as follows:

Millions of yen

March 31, 2019	1 year or less	After 1 year through 2 years	After 2 years through 3 years	After 3 years through 4 years	After 4 years through 5 years	After 5 years	Total
Deferred tax assets relating to tax loss carryforwards (a)	357	233	134	60	15	914	1,715
Less valuation allowances for tax loss carryforwards	(220)	(229)	(117)	(60)	(13)	(880)	(1,522)
Net deferred tax assets relating to tax loss carryforwards	136	3	16	—	1	33	(b)192

Thousands of U.S. Dollars

March 31, 2019	1 year or less	After 1 year through 2 years	After 2 years through 3 years	After 3 years through 4 years	After 4 years through 5 years	After 5 years	Total
Deferred tax assets relating to tax loss carryforwards (a)	3,217	2,103	1,210	548	135	8,238	15,454
Less valuation allowances for tax loss carryforwards	(1,983)	(2,068)	(1,058)	(548)	(121)	(7,935)	(13,716)
Net deferred tax assets relating to tax loss carryforwards	1,234	34	152	—	13	303	(b)1,737

(a) Tax loss carryforwards were calculated using the statutory tax rate.

(b) Out of tax loss carryforward of ¥1,715 million (U.S. $15,454 thousand) was calculated using the statutory tax rate. Deferred tax assets of ¥192 million (U.S. $1,737 thousand) were recognized, because utilization of such assets are supported by probable future taxable net income.

A reconciliation between the normal effective statutory tax rates and the actual effective tax rates reflected in the accompanying consolidated statement of income for the year ended March 31, 2019 with the corresponding figures for 2018, is as follows:

	2019	2018
Normal effective statutory tax rate	**31.3 %**	31.5 %
Equity in earnings of affiliates	**(4.0)**	(3.6)
Tax credits	**(2.2)**	(2.4)
Nontaxable items, including dividend income	**(0.0)**	(0.1)
Valuation allowance	**4.6**	(2.6)
Retained earnings of affiliated companies	**2.2**	2.5
Nondeductible items, including entertainment expenses	**1.0**	0.8
Foreign source taxes	**0.8**	0.3
Inhabitants' tax	**0.5**	0.3
Others	**1.5**	1.0
Actual effective tax rate	**35.7 %**	27.8 %

Note: Prior to 2019, "Foreign source taxes" was included in others. It is disclosed separately for 2019 due to the increase in tax rates. Certain reclassification have been made for 2018 to conform to the classification used in 2019.

10. Research and Development Costs

Research and development costs charged to income were ¥5,171 million (U.S. $46,594 thousand) and ¥4,874 million for the years ended March 31, 2019 and 2018, respectively.

11. Leases

The minimum rental commitments under noncancelable operating leases due at March 31, 2019 and 2018, were as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Operating leases (lessee)			
Within one year	**¥ 336**	¥ 333	**$ 3,036**
Over one year	**1,315**	793	**11,848**
Total	**¥1,652**	¥1,126	**$ 14,885**

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Operating leases (lessor)			
Within one year	**¥ 0**	¥ 3	**$ 8**
Over one year	**—**	—	**—**
Total	**¥ 0**	¥ 3	**$ 8**

12. Retirement and Pension Plans

The Company and its consolidated subsidiaries have adopted lump-sum benefit plans as their defined benefit pension plans and the Company and certain consolidated subsidiaries have adopted contributory defined benefit pension plans. In addition, certain consolidated subsidiaries have adopted the Smaller Enterprise Retirement Allowance Mutual Aid (SERAMA) Scheme. Moreover, the payment of a premium severance amount that falls outside the scope of retirement benefit obligations based on computations that comply with accounting standards for retirement benefits may arise at the time of an employee's retirement.

Further, the lump-sum benefit plans adopted by certain consolidated subsidiaries calculate the liabilities for employees' retirement benefits and retirement benefit expenses using the simplified method.

Defined benefit plans excluding plans applying the simplified method

(1) The changes in defined benefit obligations relating to defined benefit plans in the consolidated fiscal years ended March 31, 2019 and 2018, were as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Balance at beginning of year	**¥ 11,170**	¥ 10,463	**$ 100,648**
Service cost	**805**	840	**7,260**
Interest expense	**36**	43	**328**
Actuarial (gains) losses	**(131)**	155	**(1,189)**
Benefits paid	**(377)**	(308)	**(3,405)**
Other	**(19)**	(23)	**(174)**
Balance at end of year	**¥ 11,483**	¥ 11,170	**$ 103,467**

(2) Reconciliation between the liability recorded in the consolidated balance sheet and the balances of defined benefit obligation and plan assets was as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Funded defined benefit obligation	**¥ —**	¥ —	**$ —**
Plan assets	**—**	—	**—**
	—	—	**—**
Unfunded defined benefit obligation	**11,483**	11,170	**103,467**
Net liability arising from defined benefit obligation	**¥ 11,483**	¥ 11,170	**$ 103,467**

(3) The components of net periodic benefit costs for the years ended March 31, 2019 and 2018, were as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Service cost	**¥ 805**	¥ 840	**$ 7,260**
Interest expense	**36**	43	**328**
Recognized actuarial (gains) losses	**237**	238	**2,137**
Other	**—**	0	**—**
Net periodic benefit costs	**¥ 1,079**	¥ 1,122	**$ 9,725**

(4) Amounts recognized in other comprehensive income (before income tax effect) in respect of defined retirement benefit plans for the years ended March 31, 2019 and 2018, were as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Actuarial (gains) losses	**¥413**	¥ 57	**$ 3,725**
Total	**¥413**	¥ 57	**$ 3,725**

(5) Amounts recognized in accumulated other comprehensive income (before income tax effect) in respect of defined retirement benefit plans as of March 31, 2019 and 2018, were as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Unrecognized actuarial (gains) losses	**¥343**	¥756	**$ 3,092**
Total	**¥343**	¥756	**$ 3,092**

(6) Matters concerning the assumptions for the main actuarial calculations related to defined benefit plans as of March 31, 2019 and 2018, were as follows:

	2019	2018
Discount rate	**0.08 %**	0.08 %

The Company used the index of salary increases by age at March 31, 2019 and 2018, as the expected rate of future salary increases.

Defined benefit plans applying the simplified method

(7) The changes in defined benefit obligations related to defined benefit plans to which the simplified method is applied in the consolidated fiscal years ended March 31, 2019 and 2018, were as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Balance at beginning of year	**¥ 6,240**	¥ 5,965	**$ 56,228**
Retirement benefit expenses	**752**	704	**6,777**
Benefits paid	**(494)**	(401)	**(4,456)**
Other	**(15)**	(27)	**(135)**
Balance at end of year	**¥ 6,483**	¥ 6,240	**$ 58,413**

(8) Reconciliation between the liability recorded in the consolidated balance sheet and the balances of defined benefit obligation and plan assets that apply the simplified method as of March 31, 2019 and 2018, were as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Funded defined benefit obligation	**¥ —**	¥ —	**$ —**
Plan assets	**—**	—	**—**
	—	—	**—**
Unfunded defined benefit obligation	**6,483**	6,240	**58,413**
Net liability arising from defined benefit obligation	**¥ 6,483**	¥ 6,240	**$ 58,413**

(9) The retirement benefit costs related to defined benefit plans calculated by the simplified method in the consolidated fiscal years ended March 31, 2019 and 2018, were as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Retirement benefit costs calculated by the simplified method	**¥752**	¥704	**$ 6,777**

Defined contribution plans

(10) The required contributions to defined contribution plans of the Company and its consolidated subsidiaries in the consolidated fiscal years ended March 31, 2019 and 2018, were as follows:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Required contributions to defined contribution plans	**¥534**	¥504	**$ 4,811**

13. Loss on Devaluation of Inventories

The Group recorded the following loss on devaluation of inventories held for ordinary sales purposes due to impairments reflecting a drop in profitability for the years ended March 31, 2019 and 2018:

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2019	2018	**2019**
Cost of sales	**¥ 2,953**	¥ 2,085	**$ 26,614**

14. Financial Instruments

(1) Status of Financial Instruments

(a) Policy for financial instruments

The Group manages its funds using short-term deposits and bond repurchase agreements.

Financial instruments used for financing are mainly bank loans and other instruments, including corporate bonds and electronic commercial paper, based on the Group's policy of diversifying financing methods, sources, and maturities, etc.

Derivatives are used to avoid the market fluctuation risks of interest on borrowings and the sale and purchase prices of inventories, etc., only within the range of the hedged items, and the Group's policy is to not use derivatives for speculative purposes.

(b) Nature, extent of risks, and risk management for financial instruments

Notes and accounts receivable, which are operating receivables, are exposed to customer credit risk. The Group manages the credit risk of receivables by monitoring the payment terms and balances for each customer.

Listed securities, which are among the equity instruments in investments in securities, are exposed to the risk of market price fluctuations. The Group has a system to periodically monitor and assess the fair values of listed securities, although the securities are held neither for pure investment purposes nor short-term trading purposes.

Payment terms of notes and accounts payable, which are operating debt, are mostly less than one year.

Borrowings are exposed to liquidity risk and interest rate fluctuation risk. In order to mitigate these risks, the Group uses multiple financial institutions and staggers the redemption dates of loans. With regard to a portion of long-term debt, the Group uses interest rate swaps as hedging instruments to avoid fluctuation risks of interest rates. The Group periodically compiles cash flow plans and performance and the status of financing is reported at the management meeting monthly.

In addition to interest rate swaps, the Group enters into derivative financial instruments, namely foreign exchange forward contracts and nonferrous metal forward contracts. The former are used to avoid risks of foreign exchange fluctuations associated with the sale of finished products and purchases of inventories (mainly imported raw materials), which are denominated in foreign currencies. The latter are used to avoid fluctuation risks in market prices for raw materials and finished goods that are influenced by nonferrous metal market prices.

Monthly meetings are held regarding derivative transactions, with the attendance of directors who are in charge of hedge transactions and the head of each business division. At the meetings, the implementation policies for hedge transactions are determined, the execution of derivative transactions is managed and reported, and hedge effectiveness is evaluated. In accordance with the policies, each derivative transaction is executed based on internal guidelines, which regulate the credit limit amount and procedures of transactions and reporting. Evaluation of hedge effectiveness is omitted for interest rate swaps as the swaps qualify for hedge accounting and meet specific matching criteria for interest rate swaps. The Group has a policy to diversify transactions through multiple counterparties with high credit standings in order to mitigate credit risk.

(c) Supplementary explanation to fair values of financial instruments

Fair values of financial instruments are based on quoted prices in active markets. If a quoted price is not available, other rational valuation techniques are used instead. Such techniques include variable factors, and the results of valuation may differ depending on prerequisites. The contract or notional amounts of derivatives which are shown in Note 15. Derivatives do not represent the amounts exchanged by the parties and do not measure the Group's exposure to credit or market risk.

(2) Fair Value of Financial Instruments

The table below shows the amounts of financial instruments recorded in the consolidated balance sheet and their fair values. Financial instruments whose fair values are not readily determinable are not included (refer to (b) below).

	Millions of yen			Thousands of U.S. dollars (Note 1)		
As of March 31, 2019	Carrying amount	Fair value	Difference	Carrying amount	Fair value	Difference
(1) Cash and time deposits	**¥ 20,118**	**¥ 20,118**	**¥ —**	**$ 181,259**	**$ 181,259**	**$ —**
(2) Notes and accounts receivable (*1)	**84,399**	**84,399**	**—**	**760,421**	**760,421**	**—**
(3) Investments in securities (*2)	**39,639**	**34,683**	**(4,956)**	**357,147**	**312,491**	**(44,656)**
Total	**¥ 144,156**	**¥ 139,200**	**¥ (4,956)**	**$ 1,298,828**	**$ 1,254,172**	**$ (44,656)**
(1) Notes and accounts payable (*3)	**43,449**	**43,449**	**—**	**391,476**	**391,476**	**—**
(2) Short-term borrowings	**28,777**	**28,777**	**—**	**259,284**	**259,284**	**—**
(3) Commercial paper	**29,000**	**29,000**	**—**	**261,284**	**261,284**	**—**
(4) Long-term debt (including repayments due within one year) (*4)	**77,463**	**77,739**	**275**	**697,932**	**700,414**	**2,481**
Total	**¥ 178,691**	**¥ 178,966**	**¥ 275**	**$ 1,609,977**	**$ 1,612,459**	**$ 2,481**
Derivatives (*5)	**¥ (4,566)**	**¥ (4,566)**	**¥ —**	**$ (41,141)**	**$ (41,141)**	**$ —**

	Millions of yen		
As of March 31, 2018	Carrying amount	Fair value	Difference
(1) Cash and time deposits	¥ 16,935	¥ 16,935	¥ —
(2) Notes and accounts receivable (*1)	87,615	87,615	—
(3) Investments in securities (*2)	45,325	41,546	(3,778)
Total	¥ 149,876	¥ 146,097	¥ (3,778)
(1) Notes and accounts payable (*3)	37,338	37,338	—
(2) Short-term borrowings	37,613	37,613	—
(3) Commercial paper	25,000	25,000	—
(4) Long-term debt (including repayments due within one year) (*4)	47,213	47,212	(1)
Total	¥ 147,165	¥ 147,164	¥ (1)
Derivatives (*5)	¥ 2,045	¥ 2,045	¥ —

(*1) Assets (2): Notes and accounts receivable as of March 31, 2019 and 2018, stated above, are obtained by subtracting advances paid of ¥347 million (U.S. $3,128 thousand) and ¥304 million, respectively, accounts receivable other of ¥3,295 million (U.S. $29,690 thousand) and ¥5,283 million, respectively, and loans of ¥199 million (U.S. $1,800 thousand) and ¥690 million, respectively, from the amount of notes and accounts receivable of ¥88,241 million (U.S. $795,040 thousand) and ¥93,894 million, respectively, presented in the consolidated balance sheet.

(*2) Assets (3): Investments in securities as of March 31, 2019 and 2018, stated above, are obtained by subtracting financial instruments whose fair values are not readily determinable of ¥28,518 million (U.S. $256,947 thousand) and ¥29,741 million, respectively, and long-term loans of ¥33,098 million (U.S. $298,210 thousand) and ¥9,908 million, respectively, from the sum of investments in securities of ¥27,158 million (U.S. $244,694 thousand) and ¥30,669 million, respectively, and investments in and advances to nonconsolidated subsidiaries and associates of ¥74,098 million (U.S. $667,611 thousand) and ¥54,306 million, respectively, presented in the consolidated balance sheet.

(*3) Liabilities (1): Notes and accounts payable as of March 31, 2019 and 2018, stated above are obtained by subtracting accounts payable other of ¥5,383 million (U.S. $48,508 thousand) and ¥4,620 million, respectively, and deposits received of ¥595 million (U.S. $5,368 thousand) and ¥720 million, respectively, from notes and accounts payable of ¥49,429 million (U.S. $445,353 thousand) and ¥42,680 million, respectively, presented in the consolidated balance sheet.

(*4) Liabilities (4): Long-term debt as of March 31, 2019 and 2018, stated above, is obtained by subtracting lease obligations of ¥470 million (U.S. $4,240 thousand) and ¥540 million, respectively, from the sum of current maturities of long-term debt of ¥18,271 million (U.S. $164,623thousand) and ¥7,094 million, respectively, and long-term debt of ¥59,662 million (U.S. $537,549 thousand) and ¥40,659 million, respectively, presented in the consolidated balance sheet.

(*5) Derivative transactions stated above are stated net of assets and liabilities.

(a) Fair value measurement of financial instruments and matters regarding securities and derivatives

Assets

(1) Cash and time deposits and (2) Notes and accounts receivable

The fair value of these accounts approximates their book value because of their short maturities.

(3) Investments in securities

The fair value of equity instruments is measured using market prices from stock exchanges.

Liabilities

(1) Notes and accounts payable, (2) Short-term borrowings, and (3) Commercial paper

The fair value of these accounts approximates their book value because of their short maturities.

(4) Long-term debt (including repayment due within one year)

The fair value of long-term debt is determined by discounting the future cash flows related to the debt at the Group's assumed corporate borrowing rate for loans from banks and the market price for bonds. Long-term debt with variable interest rates qualifies for special treatment under hedge accounting (refer to Note 15. Derivatives). The fair value of these accounts is calculated by discounting the total of interest and principal, including the relevant interest rate swap, by an interest rate reasonably estimated assuming similar borrowings are taken out.

Derivatives

Refer to Note 15. Derivatives.

(b) Financial instruments whose fair values are not readily determinable

	Millions of yen		Thousands of U.S. dollars (Note 1)
Classification	2019	2018	2019
Unlisted securities and others (carrying amount)	¥28,518	¥29,741	$ 256,947

These financial instruments are not included in Assets (3) Investments in securities, as they have no quoted market prices and their fair values are not readily determinable.

(c) Maturity analysis for financial assets with contractual maturities

	Millions of yen			
As of March 31, 2019	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Cash and time deposits	¥ 1,958	¥—	¥—	¥—
Notes and accounts receivable	84,399	—	—	—
Total	¥86,357	¥—	¥—	¥—

	Thousands of U.S. dollars (Note 1)			
As of March 31, 2019	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Cash and time deposits	$ 17,646	$—	$—	$—
Notes and accounts receivable	760,421	—	—	—
Total	$ 778,067	$—	$—	$—

	Millions of yen			
As of March 31, 2018	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Cash and time deposits	¥ 1,195	¥—	¥—	¥—
Notes and accounts receivable	87,615	—	—	—
Total	¥88,811	¥—	¥—	¥—

(d) Maturity analysis for long-term debt

See Note 6. Short-term Borrowings and Long-term Debt

15. Derivatives

(1) Derivative Transactions to which Hedge Accounting is Not Applied

Currency-related transactions (2019)

	Millions of yen				Thousands of U.S. dollars(Note 1)			
Type	Contract amount	Over 1 year	Fair value	Unrealized gains/losses	Contract amount	Over 1 year	Fair value	Unrealized gains/losses
Forward Exchange Contract Transactions								
Selling								
U. S. dollars	¥ 15,891	¥—	¥ (229)	¥ (229)	$ 143,179	$—	$ (2,070)	$ (2,070)
Thai baht	1,606	—	(35)	(35)	14,474	—	(322)	(322)
Total	¥ —	¥—	¥ —	¥ (265)	$ —	$—	$ —	$ (2,392)

Commodity-related transactions (2019)

	Millions of yen				Thousands of U.S. dollars(Note 1)			
Type	Contract amount	Over 1 year	Fair value	Unrealized gains/losses	Contract amount	Over 1 year	Fair value	Unrealized gains/losses
Nonferrous Metal Forward Contracts								
Selling								
Gold	¥ 1,387	¥—	¥ 5	¥ 5	$ 12,502	$—	$ 54	$ 54
Silver	1,821	—	22	22	16,408	—	206	206
Zinc	1,057	—	(174)	(174)	9,526	—	(1,573)	(1,573)
Copper	2,039	—	(100)	(100)	18,374	—	(907)	(907)
Lead	0	—	(0)	(0)	2	—	(0)	(0)
Nickel	120	—	(9)	(9)	1,084	—	(87)	(87)
Buying								
Silver	¥ 31	¥—	¥ (1)	¥ (1)	$ 286	$—	$ (14)	$ (14)
Nickel	8	—	1	1	78	—	14	14
Total	¥ —	¥—	¥ —	¥ (256)	$ —	$—	$ —	$ (2,308)

Currency-related transactions (2018)

Type	Millions of yen Contract amount	Over 1 year	Fair value	Unrealized gains/losses
Forward Exchange Contract Transactions				
Selling				
U. S. dollars	¥ 19,791	¥—	¥469	¥469
Thai baht	1,794	—	22	22
Total	¥ —	¥—	¥ —	¥492

Commodity-related transactions (2018)

Type	Millions of yen Contract amount	Over 1 year	Fair value	Unrealized gains/losses
Nonferrous Metal Forward Contracts				
Selling				
Gold	¥ 1,084	¥—	¥ 9	¥ 9
Silver	1,992	—	84	84
Zinc	1,025	—	8	8
Copper	2,662	—	116	116
Nickel	42	—	0	0
Total	¥ —	¥—	¥ —	¥ 221

(Note) Fair value was calculated using quotations obtained from the commodity futures market and the exchange futures market as of March 31, 2019 and 2018.

(2) Derivative Transactions to which Hedge Accounting is Applied

Currency-related transactions (2019)

			Millions of yen			Thousands of U.S. dollars (Note 1)		
Treatment	Type	Hedged item	Contract amount	Over 1 year	Fair value	Contract amount	Over 1 year	Fair value
Standard treatment	Forward exchange contract transactions	Accounts receivable						
	Selling							
	U. S. dollars		**¥ 11,323**	**¥—**	**¥ (246)**	**$ 102,026**	**$—**	**$ (2,219)**
	Thai baht		**604**	**—**	**(4)**	**5,447**	**—**	**(41)**
Currency swaps under designated hedge accounting	Forward exchange contract transactions	Accounts receivable						
	Selling							
	U. S. dollars		**¥ 2,558**	**¥—**	**(*1)**	**$ 23,054**	**$—**	**(*1)**
	Thai baht		**828**	**—**	**(*1)**	**7,462**	**—**	**(*1)**
Total			**¥ —**	**¥—**	**¥ —**	**$ —**	**$—**	**$ —**

Interest-related transactions (2019)

			Millions of yen			Thousands of U.S. dollars (Note 1)		
Treatment	Type	Hedged item	Contract amount	Over 1 year	Fair value	Contract amount	Over 1 year	Fair value
Interest rate swaps under special accounting treatment	Interest rate swaps	Long-term debt						
	Fixed rate payment, Floating rate receipt		**¥ 2,670**	**¥ 2,212**	**(*2)**	**$ 24,062**	**$ 19,929**	**(*2)**
Total			**¥ —**	**¥ —**	**¥ —**	**$ —**	**$ —**	**$ —**

Commodity-related transactions (2019)

			Millions of yen			Thousands of U.S. dollars (Note 1)		
Treatment	Type	Hedged item	Contract amount	Over 1 year	Fair value	Contract amount	Over 1 year	Fair value
Standard treatment	Nonferrous Metal Forward Contracts	Inventory						
	Selling							
	Gold		**¥ 4,772**	**¥ —**	**¥ (39)**	**$ 42,997**	**$ —**	**$ (354)**
	Silver		**4,320**	**—**	**66**	**38,926**	**—**	**595**
	Zinc		**17,695**	**—**	**(2,758)**	**159,437**	**—**	**(24,856)**
	Copper		**14,116**	**—**	**(1,186)**	**127,189**	**—**	**(10,685)**
	Lead		**131**	**—**	**0**	**1,184**	**—**	**0**
	Buying							
	Silver		**¥ 302**	**¥ —**	**¥ 5**	**$ 2,727**	**$ —**	**$ 45**
	Zinc		**1,241**	**6**	**120**	**11,181**	**59**	**1,084**
	Copper		**71**	**—**	**0**	**646**	**—**	**1**
Total			**¥ —**	**¥ —**	**¥ —**	**$ —**	**$ —**	**$ —**

Currency-related transactions (2018)

Treatment	Type	Hedged item	Millions of yen Contract amount	 Over 1 year	 Fair value
Standard treatment	Forward exchange contract transactions	Accounts receivable			
	Selling				
	U. S. dollars		¥ 17,463	¥—	¥ 383
	Thai baht		404	—	(8)
Currency swaps under designated hedge accounting	Forward exchange contract transactions	Accounts receivable			
	Selling				
	U. S. dollars		¥ 2,399	¥—	(*1)
	Thai baht		1,026	—	(*1)
Total			¥ —	¥—	¥ —

Interest-related transactions (2018)

Treatment	Type	Hedged item	Millions of yen Contract amount	 Over 1 year	 Fair value
Interest rate swaps under special accounting treatment	Interest rate swaps Fixed rate payment, Floating rate receipt	Long-term debt	¥ 5,672	¥ 4,835	(*2)
Total			¥ —	¥ —	¥ —

Commodity-related transactions (2018)

Treatment	Type	Hedged item	Millions of yen Contract amount	 Over 1 year	 Fair value
Standard treatment	Nonferrous Metal Forward Contracts	Inventory			
	Selling				
	Gold		¥ 3,628	¥ —	¥ 30
	Silver		4,352	—	211
	Zinc		12,575	—	270
	Copper		10,875	—	524
	Lead		120	—	0
	Buying				
	Silver		¥ 761	¥ —	¥ (24)
	Zinc		1,251	9	(18)
	Copper		1,156	—	(37)
Total			¥ —	¥ —	¥ —

(Note) Fair value was calculated using quotations obtained from the commodity futures market and the exchange futures market as of March 31, 2019 and 2018.

(*1) The fair values of currency swaps under designated hedge accounting are included in the fair values of accounts receivable because they are accounted for as an integral part of accounts receivable, which are hedged items.

(*2) The fair values of interest rate swaps under special accounting treatment are included in the fair values of long-term debt because they are accounted for as an integral part of long-term debt, which are hedged items.

16. Comprehensive Income

The components of other comprehensive income for the years ended March 31, 2019 and 2018, were as follows:

	Millions of yen 2019	 2018	Thousands of U.S. dollars (Note 1) 2019
Unrealized gain (loss) on available-for-sale securities:			
Gain (loss) arising during the year	¥ (5,319)	¥ (801)	$ (47,923)
Reclassification adjustments to profit or loss	(30)	—	(278)
Amount before income tax effect	(5,349)	(801)	(48,202)
Income tax effect	1,477	351	13,308
Total	¥ (3,872)	¥ (449)	$ (34,893)
Deferred gain (loss) on derivatives under hedge accounting:			
Gain (loss) arising during the year	¥ (3,074)	¥ (240)	$ (27,702)
Reclassification adjustments to profit or loss	(2,642)	1,856	(23,804)
Amount before income tax effect	(5,716)	1,615	(51,506)
Income tax effect	1,700	(492)	15,321
Total	¥ (4,016)	¥ 1,122	$ (36,185)
Foreign currency translation adjustments:			
Adjustments arising during the year	¥ (1,444)	¥ (510)	$ (13,015)
Reclassification adjustments to profit or loss	(227)	(93)	(2,049)
Amount before income tax effect	(1,672)	(604)	(15,064)
Income tax effect	—	—	—
Total	¥ (1,672)	¥ (604)	$ (15,064)
Defined retirement benefit plan:			
Adjustments arising during the year	¥ 134	¥ (156)	$ 1,209
Reclassification adjustments to profit or loss	279	213	2,516
Amount before income tax effect	413	57	3,725
Income tax effect	(105)	(17)	(953)
Total	¥ 307	¥ 40	$ 2,772
Share of other comprehensive income in associates:			
Gain (loss) arising during the year	¥ (886)	¥ 427	$ (7,987)
Reclassification adjustments to profit or loss	53	(245)	481
Total	¥ (833)	¥ 182	$ (7,505)
Total other comprehensive income	¥ (10,086)	¥ 291	$ (90,877)

17. Subsequent Event

The following appropriation of retained earnings at March 31, 2019, was approved at the Board of Directors' meeting held on May 20, 2019:

	Millions of yen	Thousands of U.S. dollars (Note 1)
Year-end cash dividends, ¥90 (U.S. $0.81) per share	¥ 5,409	$ 48,735

18. Segment Information

(1) Outline of reportable segments

The Company's reportable segments are the components of the Group about which separate financial information is available. These segments are subject to periodic examinations to enable the Company's Board of Directors to decide how to allocate resources and assess performance.

The Company's operations are classified into five product and service segments based on its operating companies.

Each segment's businesses are as follows:

In the Environmental Management & Recycling segment, the Group conducts waste treatment, soil remediation, resource recycling, logistics, and other operations.

In the Nonferrous Metals segment, the Group produces and sells copper, zinc, lead, gold, silver, zinc alloys, platinum, palladium, rhodium, indium, sulfuric acid, tin, antimony, and other materials.

In the Electronic Materials segment, the Group produces and sells high-purity metal materials, compound semiconductor wafers, LEDs, conductive materials, battery materials, magnetic materials, reduced iron powder, and other materials.In the Metal Processing segment, the Group produces and sells copper, brass and copper alloy strips, electroplated products, brass rods, metal-ceramic substrates, and other materials.

In the Heat Treatment segment, the Group provides heat and surface treatment of metallic materials, such as automobile components, and manufactures, sells, and provides maintenance of industrial furnaces and ancillary equipment.

(2) Method for calculating sales, income (loss), assets, liabilities, and other items by reportable segment

The accounting treatment and methods for the reportable segments are largely consistent with Note 1. Basis of Presentation of the Consolidated Financial Statements, and Note 2. Summary of Significant Accounting Policies.

Segment income is reconciled to ordinary income. Ordinary income is calculated by adding share of profit (loss) of entities accounted for using equity method, interest and dividend income, royalty income, etc. and deducting interest expense, environmental expenses, etc. from operating profit (loss).

The presentation of segment income has been changed from being reconciled to operating income to being reconciled to ordinary income in the fiscal year ended March 31, 2019 in order to reflect the increasing importance of nonoperating income and expenses, such as the share of profit (loss) of entities accounted for using the equity method. The segment income for the fiscal year ended March 31, 2018 has been restated based on the above policy.Intersegment sales and transfers are measured based on prices that reflect actual market conditions.

(3) Information on sales, income (loss), assets, liabilities, and other items by reportable segment

Segment information as of March 31, 2019 and 2018, are summarized as follows:

	Millions of yen									
	Reportable segment									
2019	Environmental Management & Recycling	Nonferrous Metals	Electronic Materials	Metal Processing	Heat Treatment	Total	Others (*1)	Total	Reconciliations (*2)	Consolidated
Net sales										
Outside customers	¥ 65,014	¥ 201,838	¥ 62,689	¥ 91,981	¥ 29,702	¥ 451,227	¥ 1,700	¥ 452,928	¥ —	¥ 452,928
Intersegment	39,421	19,830	2,294	88	36	61,671	9,928	71,599	(71,599)	—
Total	¥ 104,436	¥ 221,668	¥ 64,984	¥ 92,069	¥ 29,739	¥ 512,899	¥ 11,628	¥ 524,528	¥ (71,599)	¥ 452,928
Segment income (*3)	¥ 6,271	¥ 4,624	¥ 3,142	¥ 6,448	¥ 2,572	¥ 23,059	¥ 846	¥ 23,905	¥ 403	¥ 24,309
Segment assets	99,501	204,200	58,748	78,747	47,088	488,286	9,387	497,674	(2,991)	494,683
Other items:										
Depreciation	5,356	4,115	2,898	2,751	2,333	17,455	232	17,687	941	18,628
Amortization of goodwill	348	19	—	—	141	509	—	509	—	509
Investment in affiliates accounted for by the equity method	3,352	13,210	326	383	—	17,272	—	17,272	15,321	32,594
Increase in property, plant, and equipment and intangible fixed assets	¥ 6,647	¥ 3,407	¥ 3,825	¥ 4,295	¥ 4,870	¥ 23,046	¥ 186	¥ 23,232	¥ 854	¥ 24,087

	Thousands of U.S. dollars (Note 1)									
	Reportable segment									
2019	Environmental Management & Recycling	Nonferrous Metals	Electronic Materials	Metal Processing	Heat Treatment	Total	Others (*1)	Total	Reconciliations (*2)	Consolidated
Net sales										
Outside customers	$ 585,769	$ 1,818,531	$ 564,824	$ 828,739	$ 267,617	$ 4,065,482	$ 15,322	$ 4,080,805	$ —	$ 4,080,805
Intersegment	355,184	178,665	20,673	794	327	555,645	89,452	645,097	(645,097)	—
Total	$ 940,953	$ 1,997,197	$ 585,498	$ 829,533	$ 267,944	$ 4,621,128	$ 104,775	$ 4,725,903	$ (645,097)	$ 4,080,805
Segment income (*3)	$ 56,503	$ 41,664	$ 28,310	$ 58,100	$ 23,180	$ 207,759	$ 7,628	$ 215,387	$ 3,638	$ 219,026
Segment assets	896,488	1,839,812	529,312	709,504	424,260	4,399,378	84,583	4,483,961	(26,955)	4,457,005
Other items:										
Depreciation	48,263	37,080	26,117	24,786	21,020	157,268	2,095	159,363	8,479	167,843
Amortization of goodwill	3,141	178	—	—	1,271	4,592	—	4,592	—	4,592
Investment in affiliates accounted for by the equity method	30,208	119,024	2,940	3,453	—	155,625	—	155,625	138,043	293,669
Increase in property, plant, and equipment and intangible fixed assets	$ 59,893	$ 30,703	$ 34,463	$ 38,705	$ 43,878	$ 207,645	$ 1,678	$ 209,324	$ 7,700	$ 217,024

2018	Millions of yen Reportable segment Environmental Management & Recycling	Nonferrous Metals	Electronic Materials	Metal Processing	Heat Treatment	Total	Others (*1)	Total	Reconciliations (*2)	Consolidated
Net sales										
Outside customers	¥ 60,256	¥ 197,370	¥ 75,441	¥ 90,486	¥ 28,208	¥ 451,764	¥ 2,990	¥ 454,754	¥ —	¥ 454,754
Intersegment	39,120	20,535	2,352	138	0	62,147	9,244	71,391	(71,391)	—
Total	¥ 99,377	¥ 217,905	¥ 77,794	¥ 90,624	¥ 28,208	¥ 513,911	¥ 12,234	¥ 526,145	¥(71,391)	¥ 454,754
Segment income (*3)	¥ 5,724	¥ 13,014	¥ 6,146	¥ 7,567	¥ 2,505	¥ 34,957	¥ 767	¥ 35,725	¥ 630	¥ 36,355
Segment assets	91,537	179,864	58,584	73,718	42,917	446,622	8,236	454,859	1,671	456,530
Other items:										
Depreciation	4,325	4,625	2,717	2,423	2,064	16,157	221	16,378	833	17,212
Amortization of goodwill	348	26	—	—	152	528	—	528	—	528
Investment in affiliates accounted for by the equity method	3,221	14,238	249	375	—	18,085	—	18,085	15,656	33,742
Increase in property, plant, and equipment and intangible fixed assets	¥ 8,229	¥ 3,431	¥ 4,687	¥ 2,862	¥ 4,547	¥ 23,757	¥ 266	¥ 24,024	¥ 583	¥ 24,608

(*1) The Others segment comprises business operations that are not included in the reportable segments. These operations primarily comprise intergroup transactions, including real estate leasing, plant construction, civil engineering, construction and engineering, office administration services, technological development support, and other operations.

(*2) Reconciliations for the fiscal years ended March 31, 2019 and 2018, were as follows:

(1) The reconciliations to segment income of ¥403 million (U.S. $3,638 thousand) and ¥630 million include non-operating income and expenses not allocated to any reportable segment (dividends, Share of profit (loss) of entities accounted for using equity method, interest expense, etc.) of ¥398 million (U.S. $3,588 thousand) and ¥715 million, respectively, and eliminations for intersegment unrealized earning of ¥33 million (U.S. $305 thousand) and ¥44 million, respectively.

(2) The reconciliations to segment assets of ¥2,991 million (U.S. $26,955 thousand) and ¥1,671 million include corporate assets of ¥53,484 million (U.S. $481,886 thousand) and ¥57,580 million that are not allocated to any reportable segment, respectively, and intersegment eliminations of ¥56,476 million (U.S. $508,841 thousand) and ¥56,353 million, respectively. The main components of corporate assets are surplus working capital (cash and deposits), long-term investments (investments in securities), and assets of administrative department.

(*3) Segment income is reconciled with ordinary income.

Related Information

1. Information by product and service (2019)

The Company has omitted such disclosure herein because equivalent information appears in the segment information.

2. Information by geographic region (2019)

(1) Net sales

Millions of yen

Japan	North America	Europe	China	Asia (excluding Japan and China)	Other	Total
¥344,539	**¥6,360**	**¥24,661**	**¥33,999**	**¥42,391**	**¥ 976**	**¥452,928**

Thousands of U.S. dollars (Note 1)

Japan	North America	Europe	China	Asia (excluding Japan and China)	Other	Total
$3,104,242	**$ 57,302**	**$ 222,198**	**$ 306,326**	**$ 381,937**	**$ 8,797**	**$4,080,805**

(2) Total property, plant, and equipment

Millions of yen

Japan	North America	Europe	China	Asia (excluding Japan and China)	Other	Total
¥113,968	**¥1,669**	**¥ 135**	**¥ 839**	**¥17,752**	**¥—**	**¥134,365**

Thousands of U.S. dollars (Note 1)

Japan	North America	Europe	China	Asia (excluding Japan and China)	Other	Total
$ 1,026,838	**$ 15,042**	**$ 1,217**	**$ 7,561**	**$ 159,950**	**$—**	**$1,210,609**

3. Information by major customer (2019)

Name of corporate customer	Net sales (Note 1)	Name of involved segment
TANAKA KIKINZOKU KOGYO K.K.	**¥53,791 million (U.S. $484,656 thousand)**	**Mainly the Nonferrous Metals segment**

4. Information on impairment losses on fixed assets by reportable segment (2019)

2019	Millions of yen Reportable segment Environmental Management & Recycling	Nonferrous Metals	Electronic Materials	Metal Processing	Heat Treatment	Total	Others	Total	Eliminations	Consolidated
Impairment losses on fixed assets	**¥94**	**¥85**	**¥ —**	**¥13**	**¥—**	**¥ 194**	**¥—**	**¥ 194**	**¥18**	**¥ 212**

2019	Thousands of U.S. dollars (Note 1) Reportable segment Environmental Management & Recycling	Nonferrous Metals	Electronic Materials	Metal Processing	Heat Treatment	Total	Others	Total	Eliminations	Consolidated
Impairment losses on fixed assets	**$ 855**	**$ 773**	**$ —**	**$ 118**	**$—**	**$1,748**	**$—**	**$1,748**	**$ 164**	**$1,912**

5. Amortization of goodwill and unamortized balance of goodwill by reportable segment (2019)

Millions of yen

2019	Reportable segment: Environmental Management & Recycling	Nonferrous Metals	Electronic Materials	Metal Processing	Heat Treatment	Total	Others	Total	Eliminations	Consolidated
Unamortized balance at fiscal year end	**¥3,487**	**¥ —**	**¥—**	**¥—**	**¥1,133**	**¥4,620**	**¥—**	**¥4,620**	**¥—**	**¥4,620**

Thousands of U.S. dollars (Note 1)

2019	Reportable segment: Environmental Management & Recycling	Nonferrous Metals	Electronic Materials	Metal Processing	Heat Treatment	Total	Others	Total	Eliminations	Consolidated
Unamortized balance at fiscal year end	**$31,419**	**$ —**	**$—**	**$—**	**$ 10,209**	**$41,629**	**$—**	**$41,629**	**$—**	**$ 41,629**

(Note) The Company has omitted disclosure of amortization of goodwill because equivalent information appears in the segment information

1. Information by product and service (2018)

The Company has omitted such disclosure herein because equivalent information appears in the segment information.

2. Information by geographic region (2018)

(1) Net sales

Millions of yen

Japan	North America	Europe	China	Asia (excluding Japan and China)	Other	Total
¥346,532	¥4,933	¥16,432	¥36,432	¥49,529	¥ 894	¥454,754

(2) Total property, plant, and equipment

Millions of yen

Japan	North America	Europe	China	Asia (excluding Japan and China)	Other	Total
¥105,263	¥1,552	¥ 193	¥ 691	¥16,623	¥—	¥124,324

3. Information by major customer (2018)

Name of corporate customer	Net sales	Name of involved segment
TANAKA KIKINZOKU KOGYO K.K.	¥52,981 million	Mainly the Nonferrous Metals segment

4. Information on impairment losses on fixed assets by reportable segment (2018)

Millions of yen

2018	Reportable segment: Environmental Management & Recycling	Nonferrous Metals	Electronic Materials	Metal Processing	Heat Treatment	Total	Others	Total	Eliminations	Consolidated
Impairment losses on fixed assets	¥ —	¥—	¥ 249	¥9	¥—	¥ 259	¥—	¥ 259	¥11	¥ 270

5. Amortization of goodwill and unamortized balance of goodwill by reportable segment (2018)

Millions of yen

2018	Reportable segment: Environmental Management & Recycling	Nonferrous Metals	Electronic Materials	Metal Processing	Heat Treatment	Total	Others	Total	Eliminations	Consolidated
Unamortized balance at fiscal year end	¥3,835	¥ 108	¥—	¥—	¥1,306	¥5,250	¥—	¥5,250	¥—	¥5,250

(Note) The Company has omitted disclosure of amortization of goodwill because equivalent information appears in the segment information.

19. Related Party Disclosures

Transactions with related parties

2019

Type	Company	Address	Capital or contribution to capital	Contents of business	Ratio of voting rights ownership	Relationship with related parties	Content	Transaction amount	Account items	Balance at the end of the period
Affiliate	MINERA PLATA REAL, S. DE R.L. DE C.V.	LOMAS DE CHAPUL TEPEC 11000, MEXICO, D.F.	$168,867 thousand	Smelting	30.0% indirectly	Fund loan	Long-term fund loan	¥22,792 million ($205,351 thousand)	Long-term loan	¥30,019 million ($270,465 thousand)
							Interest on loans	¥821 million ($7,397 thousand)	—	—

(Note) The interest rate of the loan is determined taking market interest rate into account.

2018

Type	Company	Address	Capital or contribution to capital	Contents of business	Ratio of voting rights ownership	Relationship with related parties	Content	Transaction amount	Account items	Balance at the end of the period
Affiliate	MINERA PLATA REAL, S. DE R.L. DE C.V.	LOMAS DE CHAPUL TEPEC 11000, MEXICO, D.F.	$168,867 thousand	Smelting	30.0% indirectly	Fund loan	Long-term fund loan	¥7,117 million	Long-term loan	¥7,117 million
							Interest on loans	¥33 million	—	—

(Note) The interest rate of the loan is determined taking market interest rate into account.

Report of Independent Auditors

Deloitte.

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INDEPENDENT AUDITOR'S REPORT

To the Board of Directors of Dowa Holdings Co., Ltd.:

We have audited the accompanying consolidated balance sheet of Dowa Holdings Co., Ltd. and its consolidated subsidiaries as of March 31, 2019, and the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information, all expressed in Japanese yen.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Dowa Holdings Co., Ltd. and its consolidated subsidiaries as of March 31, 2019, and the consolidated results of their operations and their cash flows for the year then ended in accordance with accounting principles generally accepted in Japan.

Convenience Translation

Our audit also comprehended the translation of Japanese yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made in accordance with the basis stated in Note 1 to the consolidated financial statements. Such U.S. dollar amounts are presented solely for the convenience of readers outside Japan.

Deloitte Touche Tohmatsu LLC

June 25, 2019

Member of
Deloitte Touche Tohmatsu Limited