

# DOWA

# Fiscal 2012

# Business Results

**May 10, 2013**

**Dowa Holdings Co., Ltd.**

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

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# **Operating Results**

**Fiscal 2012**

# Summary of Fiscal 2012

Billion yen

	FY2011 Results			FY2012 Results			Change					
	H1	H2	Full Year	H1	H2	Full Year	H1		H2		Full Year	
Net Sales	188.9	203.5	392.4	193.2	226.1	419.3	4.3	2%	22.5	11%	26.9	7%
Operating Income	10.8	11.1	22.0	11.3	13.2	24.5	0.4	5%	2.0	19%	2.5	11%
Ordinary Income	9.8	11.0	20.9	12.3	14.9	27.2	2.5	26%	3.8	35%	6.3	30%
Net Income	4.7	5.8	10.6	5.8	9.3	15.2	1.0	23%	3.5	60%	4.6	43%

- Both sales and income rose year on year, with operating income up 11%, to 24.5 billion yen, ordinary income up 30%, to 27.2 billion yen, and net income up 43% to 15.2 billion yen.

## ■ Market situation

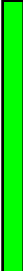




- Environmental management & recycling-related market: Domestic waste volume was low, but the Asia market continued to expand.
- Automotive-related market:  
Domestic...In the first half, production remained firm, buoyed by government subsidies for eco-friendly car purchases. However, in the second half, production weakened with a decline in exports to China.  
Overseas...Production was strong thanks to market growth in Asia and economic recovery in North America.
- Electronic components and semiconductor-related market: While demand in the computers and mobile phones sector was lackluster, demand for multifunctional portable devices grew.
- Construction equipment and machine tool-related market: Given the decline in demand from China, conditions remained generally weak.

## ■ Metal prices and foreign exchange rates

- Metal prices: Prices were generally weak, mainly due to the European sovereign debt crisis and slowdown in the emerging market economies.
- Foreign exchange rates: The tendency toward yen appreciation became firmly established, with the foreign exchange rate for the dollar and yen at 70 - 80 yen against the dollar. However, since the end of the year, the yen has been weakening on expectations for monetary easing.

# Major Products:

## Production/Sales/Treatment Volume Results

		FY2011 Results				FY2012 Results				
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
	Environmental Management & Recycling	Waste processing volume	100	93	101	83	87	92	96	95
		Soil remediation volume at Hanaoka	100	91	106	80	83	118	65	81
		Home electric appliance recycling volume	100	104	77	59	53	49	45	38
	Nonferrous Metals	Silver production amount (Kosaka)	100	90	142	106	125	119	147	149
		Zinc production amount (Akita)	100	77	124	112	121	91	126	119
	Electronic Materials	Compound semiconductor	100	125	107	104	110	92	86	65
		LED	100	100	111	128	141	157	150	141
		Silver powder	100	81	53	81	143	84	75	98
	Metal Processing	Copper strip products	100	120	130	126	129	126	112	113
	Heat Treatment	Heat treatment	100	114	117	116	108	102	102	107

Indexes (100 for Q1 of FY2011)

# Income Statements

Million yen

	FY2011			FY2012			Change		
	H1	H2	Full Year	H1	H2	Full Year	H1	H2	Full Year
<b>Net Sales</b>	<b>188,907</b>	<b>203,560</b>	<b>392,468</b>	<b>193,242</b>	<b>226,147</b>	<b>419,390</b>	<b>4,335</b>	<b>22,587</b>	<b>26,922</b>
Cost of Sales	164,542	178,473	343,015	167,652	198,311	365,963	3,110	19,837	22,948
<b>Gross Profit</b>	<b>24,365</b>	<b>25,087</b>	<b>49,453</b>	<b>25,590</b>	<b>27,836</b>	<b>53,427</b>	<b>1,224</b>	<b>2,749</b>	<b>3,974</b>
Selling, General, and Administrative Expenses	13,536	13,906	27,443	14,272	14,591	28,863	735	684	1,419
<b>Operating Income</b>	<b>10,829</b>	<b>11,180</b>	<b>22,009</b>	<b>11,318</b>	<b>13,245</b>	<b>24,564</b>	<b>489</b>	<b>2,064</b>	<b>2,554</b>
Other Income	1,611	1,705	3,316	2,833	3,751	6,584	1,221	2,046	3,267
Interest and dividend income	386	284	671	326	253	579	(59)	(31)	(91)
Equity in earnings of affiliates	0	0	0	1,189	1,935	3,125	1,189	1,935	3,125
Other income	1,225	1,420	2,645	1,316	1,562	2,879	91	142	233
Other Expenses	2,606	1,802	4,408	1,812	2,058	3,871	(793)	255	(537)
Interest expenses paid	1,004	964	1,968	866	830	1,697	(137)	(133)	(271)
Equity in losses of affiliates	696	(510)	186	0	0	0	(696)	510	(186)
Other expenses	905	1,348	2,253	946	1,227	2,174	41	(120)	(79)
<b>Ordinary Income</b>	<b>9,834</b>	<b>11,083</b>	<b>20,918</b>	<b>12,338</b>	<b>14,938</b>	<b>27,277</b>	<b>2,504</b>	<b>3,855</b>	<b>6,359</b>
Extraordinary Profits	480	824	1,304	412	54	466	(67)	(770)	(838)
Gain on sale of property, plant and equipment	17	155	173	88	24	112	70	(131)	(60)
Gain on sale of investment securities	0	344	344	0	0	0	0	(344)	(344)
Subsidy	342	86	429	0	29	29	(342)	(56)	(399)
Other profits	119	237	357	324	0	324	204	(237)	(32)
Extraordinary Losses	1,623	1,647	3,270	3,157	735	3,893	1,534	(911)	623
Loss on disposal of property, plant and equipment	245	178	424	226	379	606	(18)	200	182
Loss on valuation of investment securities	250	101	352	2,552	0	2,552	2,301	(101)	2,199
Impairment loss	104	(2)	102	58	64	122	(46)	66	20
Loss on revision of retirement benefit plan	0	27	27	0	0	0	0	(27)	(27)
Loss on disaster	611	304	915	147	(90)	56	(464)	(394)	(859)
Other	410	1,037	1,448	172	383	555	(237)	(654)	(892)
<b>Income Before Income Taxes and Minority Interests</b>	<b>8,691</b>	<b>10,260</b>	<b>18,952</b>	<b>9,592</b>	<b>14,257</b>	<b>23,850</b>	<b>901</b>	<b>3,996</b>	<b>4,898</b>
Income Taxes	3,663	3,768	7,431	3,649	4,560	8,210	(14)	792	778
Minority Interests in Income	261	648	909	111	314	426	(149)	(333)	(483)
<b>Net Income</b>	<b>4,766</b>	<b>5,844</b>	<b>10,610</b>	<b>5,831</b>	<b>9,382</b>	<b>15,213</b>	<b>1,065</b>	<b>3,537</b>	<b>4,603</b>

# Consolidated Results: Year-on-Year Comparison

## (by Segment for Full Year) ①

Billion yen

	FY2011 Results			FY2012 Results			Change			Breakdown of Sales and Operating Income
	Net Sales	Operating Income	Ordinary Income	Net Sales	Operating Income	Ordinary Income	Net Sales	Operating Income	Ordinary Income	
<b>Environmental Management &amp; Recycling</b>	91.0	4.4	4.4	104.0	6.4	6.7	13.0	1.9	2.2	The waste treatment business posted gains in sales and profits, reflecting strengthening of the collection network, in addition to expansion of the low-concentration PCB waste treatment business. The soil remediation business maintained nearly the same level of profit as the previous year due to the introduction of new clean-up technology. Overseas business expansion in regions such as Southeast Asia also went well, resulting in increased income.
<b>Nonferrous Metals</b>	177.6	4.2	4.5	205.0	4.6	7.2	27.4	0.4	2.6	Smelting plant operations went well and progress in strengthening the recovery of new metals was made. Consequently, the production volume and actual sales difference increased, resulting in higher income. The depreciation of the yen also helped push up profit. However, the business environment remained difficult, with decline in metal prices and deterioration in terms for purchasing mined ores, and this restrained profit growth.
<b>Electronic Materials</b>	82.7	5.4	5.9	71.3	5.7	6.5	(11.3)	0.3	0.5	The semiconductor business posted an increase in income due to expanded sales of products for smartphone and nitride semiconductors (HEMT), offsetting decline in demand for products such as computer lasers. The electronic materials business reported higher income mainly attributable to a rise in the sales volume of silver powder for solar batteries. In functional materials, income decreased due to inventory adjustments among users and decline in overseas demand.

# Consolidated Results: Year-on-Year Comparison

## (by Segment for Full Year) ②

	FY2011 Results			FY2012 Results			Change			Breakdown of Sales and Operating Income
	Net Sales	Operating Income	Ordinary Income	Net Sales	Operating Income	Ordinary Income	Net Sales	Operating Income	Ordinary Income	
<b>Metal Processing</b>	77.1	4.5	4.7	73.9	4.8	5.1	(3.2)	0.3	0.3	In the rolled copper products business, products for auto parts performed solidly in the first half, but were affected by the decline in auto exports to China in the second half. Demand for semiconductor-related products and bars and rods in the second half was also weak, but efforts to improve productivity helped secure an increase in income. The plating business reported income more or less unchanged from the previous year, reflecting efforts to expand market share. The circuit substrates business posted declines in sales and profits, as products for industrial machinery were affected by weakening overseas demand.
<b>Heat Treatment</b>	18.6	1.9	1.8	24.5	1.5	1.6	5.9	(0.4)	(0.2)	The industrial furnace business achieved gains in sales and income, reflecting efforts to tap into overseas demand coinciding with an increase in overseas auto production. The heat treatment business posted increased sales and decreased income, reflecting comparatively firm orders despite the impact of the scaling back of auto production in the second half on the one hand and profit-squeezing factors such as higher energy costs on the other.
<b>Other/ Elimination</b>	(54.7)	1.3	(0.7)	(59.6)	1.1	(0.0)	(4.8)	(0.1)	0.6	
<b>Total</b>	392.4	22.0	20.9	419.3	24.5	27.2	26.9	2.5	6.3	

# Analysis of Factors in Increase/Decrease in Ordinary Income

(Year-on-Year Comparison by Segment for Full Year)

Billion yen

FY2012 - FY2011		Environmental Management & Recycling	Nonferrous Metals	Electronic Materials	Metal Processing	Heat Treatment	Other	Total
Effect of various measures, increase/ decrease in sales, etc.		1.8	1.8	0.4	0.1	(0.4)	(0.1)	3.5
(Free metal income difference [volume difference])		—	1.3	—	—	—	—	1.3
Free metal income difference (price difference)		—	(0.7)	—	—	—	—	(0.7)
Raw material conditions (difference in foreign exchange rates and base conditions)		—	(1.0)	—	—	—	—	(1.0)
Difference between the market value and book value at sale and between market value and valuation prices at fiscal term end		—	0.5	—	—	—	—	0.5
Other special factors		—	(1.1)	—	—	—	—	(1.1)
Depreciation		0.2	1.0	(0.1)	0.2	(0.0)	(0.0)	1.3
Increase/decrease in operating income		1.9	0.4	0.3	0.3	(0.4)	(0.1)	2.5
Effect of non-operating income/expenses	Equity method income or loss	0.3	2.0	0.0	(0.0)	—	1.1	3.3
	Other	0.0	0.2	0.3	0.1	0.2	(0.3)	0.4
Increase/decrease in ordinary income		2.2	2.6	0.5	0.3	(0.2)	0.6	6.3



# Balance Sheets (Consolidated Results)

Million yen

Accounts	March 31, 2012	March 31, 2013	Change	Accounts	March 31, 2012	March 31, 2013	Change
<b>Assets</b>				<b>Liabilities</b>			
<b>Current Assets</b>	<b>150,816</b>	<b>171,287</b>	<b>20,470</b>	<b>Current Liabilities</b>	<b>109,271</b>	<b>133,125</b>	<b>23,854</b>
Cash and time deposits	4,824	6,163	1,338	Notes and accounts payable	34,886	42,403	7,516
Notes and accounts receivable	59,394	71,829	12,435	Short-term borrowings	46,741	52,514	5,773
Inventories	72,780	80,282	7,502	Corporate bonds due within one year			
Deferred tax assets	4,170	3,287	(883)	Accrued income taxes, etc.	2,159	5,353	3,193
Other current assets	9,878	9,783	(94)	Ingot leasing liabilities	6,177	9,519	3,341
Allowance for doubtful accounts	(231)	(59)	171	Other current liabilities	19,306	23,335	4,029
				<b>Long-Term Liabilities</b>	<b>88,585</b>	<b>74,260</b>	<b>(14,325)</b>
<b>Fixed Assets</b>	<b>168,848</b>	<b>178,500</b>	<b>9,651</b>	Corporate bonds	10,000	10,000	
Tangible fixed assets	100,775	103,647	2,871	Long-term debt	60,928	44,623	(16,305)
Intangible fixed assets	8,557	11,217	2,659	Reserve for employees' retirement benefits	10,519	10,990	470
Investments in securities	52,429	56,187	3,757	Deferred tax liabilities	1,743	2,969	1,226
Deferred tax assets	4,682	3,976	(705)	Other long-term liabilities	5,393	5,676	283
Other investments	2,537	3,638	1,100	<b>Total Liabilities</b>	<b>197,857</b>	<b>207,386</b>	<b>9,529</b>
Allowance for doubtful accounts	(133)	(165)	(32)	<b>Net Assets</b>			
				<b>Shareholders' Equity</b>	<b>112,850</b>	<b>125,291</b>	<b>12,441</b>
				Common stock	36,437	36,437	
				Additional paid-in capital	26,362	26,362	
				Retained earnings	55,737	68,180	12,442
				Treasury stock, at cost	(5,686)	(5,688)	(1)
				<b>Adjustments for Valuation Foreign</b>			
				<b>Currency Translation and Others</b>	<b>958</b>	<b>8,302</b>	<b>7,344</b>
				Unrealized gains on available-for-sale securities	4,390	8,990	4,600
				Net deferred hedge income	(179)	89	269
				Foreign currency translation adjustments	(3,252)	(777)	2,474
				<b>Minority Interests</b>	<b>7,999</b>	<b>8,807</b>	<b>807</b>
				<b>Total Net Assets</b>	<b>121,807</b>	<b>142,400</b>	<b>20,593</b>
<b>Total Assets</b>	<b>319,665</b>	<b>349,787</b>	<b>30,122</b>	<b>Total Liabilities and Net Assets</b>	<b>319,665</b>	<b>349,787</b>	<b>30,122</b>
				Interests-bearing debt	117,670	107,138	(10,531)
				Cash and time deposits	4,824	6,163	1,338
				Actual balance	112,846	100,975	(11,869)
				Equity ratio	35.6%	38.2%	2.6%
				ROA	6.3%	8.1%	1.8%

# Consolidated Statements of Cash Flows

Million yen

	FY2011	FY2012	Change
<b>I. Cash Flows from Operating Activities</b>			
Income before income taxes and minority interest	18,952	23,850	4,898
Adjustments (non-cash)			
Depreciation	18,846	17,504	(1,341)
Equity in (earnings) losses of affiliates	186	(3,125)	(3,311)
Structural reform expense, impairment loss	102	580	477
(Gain) loss due to sale or disposal of securities, property, plant and equipment	(92)	528	620
Loss on valuation of investment securities	352	2,552	2,199
Increase in allowance for doubtful accounts	(47)	663	711
Interest income and expenses and dividends	1,851	1,566	(284)
Income taxes paid	(4,589)	(3,432)	1,157
Other, net	(670)	915	1,585
<b>Total for profit/loss items</b>	<b>34,891</b>	<b>41,603</b>	<b>6,712</b>
Increase/decrease in assets/liabilities			
Increase/decrease in trade receivable/payable	(2,736)	(4,859)	(2,122)
Increase/decrease in inventories	7,289	(6,837)	(14,126)
Other, net	(7,945)	5,063	13,008
<b>Total for balance sheet items</b>	<b>(3,392)</b>	<b>(6,633)</b>	<b>(3,241)</b>
<b>Total</b>	<b>31,499</b>	<b>34,970</b>	<b>3,470</b>

Free cash flow

15,326 17,098 1,771

	FY2011	FY2012	Change
<b>II. Cash Flows from Investing Activities</b>			
Acquisition of property, plant and equipment	(16,172)	(17,871)	(1,699)
Sale and acquisition of securities	(4,976)	(1,742)	3,234
Change in loans	(354)	(310)	44
Proceeds from disposal and sale of property, plant and equipment	487	643	155
Other, net	1,524	(74)	(1,598)
<b>Total</b>	<b>(19,491)</b>	<b>(19,354)</b>	<b>136</b>
<b>III. Cash Flows from Financing Activities</b>			
Change in borrowings and corporate bonds	(20,480)	(11,466)	9,013
Purchases of treasury stock and issuance of common stock	(1)	(1)	0
Cash dividends paid	(3,177)	(3,167)	10
Other, net	(474)	(346)	127
<b>Total</b>	<b>(24,134)</b>	<b>(14,982)</b>	<b>9,151</b>
Effect of Exchange Rate Changes on Cash and Cash Equivalents	(66)	261	328
<b>Net Decrease in Cash and Cash Equivalents</b>	<b>(12,193)</b>	<b>894</b>	<b>13,087</b>

Cash and Cash Equivalents of Newly Consolidated Subsidiaries	239	446	206
Cash and Cash Equivalents at Beginning of Term	16,741	4,788	(11,953)
Cash and Cash Equivalents at End of Term	4,788	6,129	1,341

(For reference)

Balance of interest-bearing debt

117,670 107,138 (10,531)

# Forecasts for Fiscal 2013

Billion yen

	<b>FY2012 Results</b>	<b>FY2013 Estimate</b>	<b>Change</b>	
<b>Net Sales</b>	<b>419.3</b>	<b>450.0</b>	<b>30.7</b>	<b>7%</b>
<b>Operating Income</b>	<b>24.5</b>	<b>29.0</b>	<b>4.5</b>	<b>18%</b>
<b>Ordinary Income</b>	<b>27.2</b>	<b>31.0</b>	<b>3.8</b>	<b>14%</b>
<b>Net Income</b>	<b>15.2</b>	<b>18.0</b>	<b>2.8</b>	<b>18%</b>

## ■ Market outlook

### ➤ Environment management and recycling-related market

The domestic market is expected to remain unchanged, while continued growth in demand for waste and soil remediation and recycling in Asia is forecast.

### ➤ Automotive-related market

Domestic auto production is likely to stage a modest recovery, while overseas production is predicted to expand, bolstered by economic recovery in North America and market growth in Asia.

### ➤ Electronic components and semiconductor-related market

Growth in the smartphone-related and power semiconductor markets is forecast. Sales to solar battery manufacturers will be solid, while sales to TV and PC manufacturers will remain flat.

# Assumed Conditions for Fiscal 2013 and Sensitivity (Operating Income/Year)

## Exchange rate and metal prices

	FY2012		FY2013 Estimate	(Reference) Nearest
	H1 average	Full year	Full year	April 2013, average
<b>Exchange rate: (¥/\$)</b>	<b>79.4</b>	<b>83.1</b>	<b>90.0</b>	<b>97.7</b>
<b>Copper: (\$/t)</b>	<b>7,792</b>	<b>7,855</b>	<b>7,000</b>	<b>7,203</b>
<b>Zinc: (\$/t)</b>	<b>1,908</b>	<b>1,950</b>	<b>1,900</b>	<b>1,853</b>
<b>Indium: (\$/kg)</b>	<b>494</b>	<b>499</b>	<b>550</b>	<b>528</b>

## Sensitivity (Operating Income/Year)

Million yen

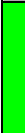




	Assumptions	Fluctuation	<b>Sensitivity</b> (Volume differences and raw material conditions)
<b>¥/\$</b>	<b>90.0 ¥/\$</b>	<b>±¥1 /\$</b>	<b>380</b>
<b>Copper</b>	<b>7,000 \$/t</b>	<b>±100 \$/t</b>	<b>30</b>
<b>Zinc</b>	<b>1,900 \$/t</b>	<b>±100 \$/t</b>	<b>290</b>
<b>Indium</b>	<b>550 \$/kg</b>	<b>±100 \$/kg</b>	<b>600</b>

\* Sensitivity is based on assumptions that the Company assumes to be reasonable at the time of publication. Actual effects may differ materially due to a variety of factors.

# Forecasts of Consolidated Results

## Year-on-Year Comparison (by Segment)

Billion yen

	FY2012 Results			FY2013 Forecasts			Change		
	Net Sales	Operating Income	Ordinary Income	Net Sales	Operating Income	Ordinary Income	Net Sales	Operating Income	Ordinary Income
 Environmental Management & Recycling	104.0	6.4	6.7	104.0	8.1	8.1	(0.0)	1.6	1.3
 Nonferrous Metals	205.0	4.6	7.2	225.0	4.8	7.3	19.9	0.1	0.0
 Electronic Materials	71.3	5.7	6.5	77.0	6.8	7.4	5.6	1.0	0.8
 Metal Processing	73.9	4.8	5.1	78.0	5.4	5.5	4.0	0.5	0.3
 Heat Treatment	24.5	1.5	1.6	26.0	2.7	2.4	1.4	1.1	0.7
Other/ Elimination	(59.6)	1.1	(0.0)	(60.0)	1.2	0.3	(0.3)	0.0	0.3
Total	419.3	24.5	27.2	450.0	29.0	31.0	30.6	4.4	3.7

# Changes in Investment and Depreciation

Billion yen

	FY2010 (results)			FY2011 (results)			FY2012 (results)			FY2013 (forecasts)		
	Capital and stock investment	R&D investment	Total	Capital and stock investment	R&D investment	Total	Capital and stock investment	R&D investment	Total	Capital and stock investment	R&D investment	Total
Environmental Management & Recycling	6.8	0.3	7.1	5.4	0.4	5.8	5.8	0.4	6.2	8.0	0.5	8.5
Nonferrous Metals	5.1	0.8	5.9	5.1	0.7	5.9	2.8	0.6	3.5	2.0	0.8	2.8
Electronic Materials	3.5	2.4	6.0	4.1	2.9	7.0	3.6	2.8	6.5	2.5	2.7	5.2
Metal Processing	1.1	0.3	1.5	1.6	0.3	1.9	1.9	0.4	2.3	5.0	0.4	5.4
Heat Treatment	2.2	0.2	2.4	4.2	0.2	4.4	4.0	0.3	4.3	3.0	0.3	3.3
Companywide, Other	0.1	0.0	0.2	0.7	0.0	0.6	1.7	0.0	1.6	2.0	0.0	2.0
Total	19.1	4.2	23.4	21.3	4.6	25.9	20.1	4.6	24.7	22.5	5.0	27.5

## Depreciation Expenses

Billion yen

	FY2010 (results)	FY2011 (results)	FY2012 (results)	FY2013 (forecasts)
Environmental Management & Recycling	5.1	5.0	4.7	4.7
Nonferrous Metals	6.5	6.0	5.0	4.4
Electronic Materials	2.0	2.7	2.7	2.7
Metal Processing	2.6	2.3	2.2	2.4
Heat Treatment	1.5	1.6	1.7	1.8
Companywide, Other	0.4	0.4	0.4	0.5
Total	18.4	18.3	16.9	16.8

Major capital and share investments during fiscal 2012

- Environmental Management & Recycling: Improvement of waste treatment facilities
- Electronic Materials: Expansion of facilities for LED and nitride semiconductors
- Heat Treatment: Construction of plant in Indonesia

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# **Challenges in Our Business and Focus for the Futures**

### Outlook for FY2013 (Year-on-Year Comparison)

#### ◆ Waste treatment

##### Intermediate Treatment sales:

110% for 1st half and 105% for 2nd half  
(Improvement of capacity utilization at Eco-System Chiba)

#### ◆ Soil remediation

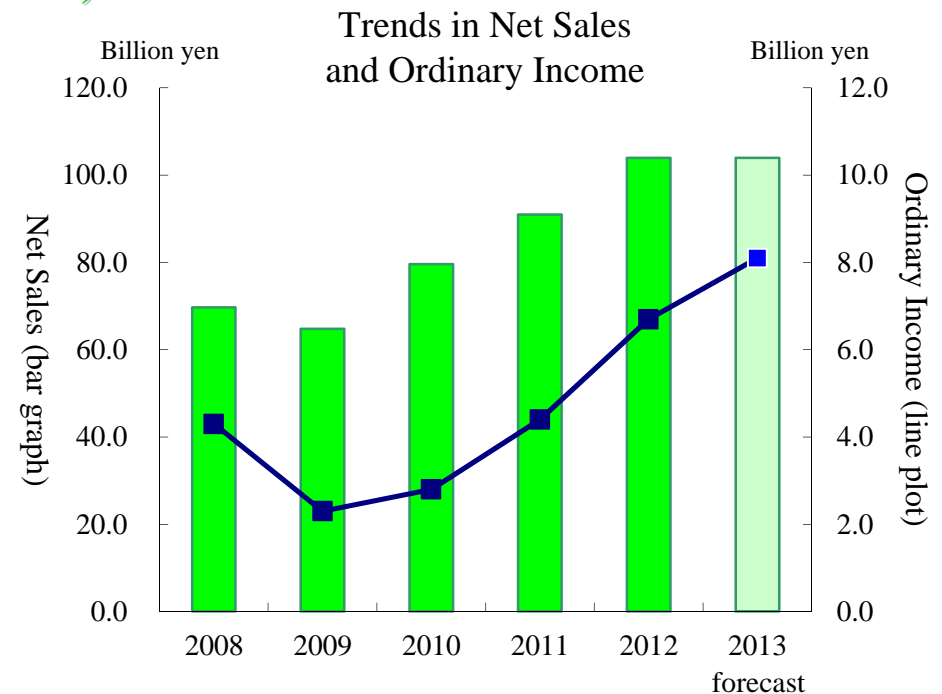
##### Net sales: 105% for 1st half and 100% for 2nd half

(Slight increase in contracts as a result of modest improvement in real estate market conditions)

#### ◆ Recycling

##### Net sales: 105% for 1st half and 100% for 2nd half

(Scrap precious metal volumes are firm as a result of recovery in electronic component-related market conditions)



### Future actions

#### ■ Waste treatment

- Expand and improve the low concentration PCB waste treatment: Continue full operations at Eco-System Sanyo, and construct new furnace at Eco-System Akita.

#### ■ Soil remediation

- Practically apply new onsite cleanup technology, and expand orders overseas.

#### ■ Recycling

- Strengthen precious metal recycling business by expanding and improving treatment techniques and recovered metals.

#### ■ Southeast Asia

- Strengthen oil drilling sludge treatment business in Indonesia.
- Expand collection of recycling materials for Singapore from within Southeast Asia region.



# Strengthen earnings momentum for waste treatment business

## ■ Eco-System Chiba

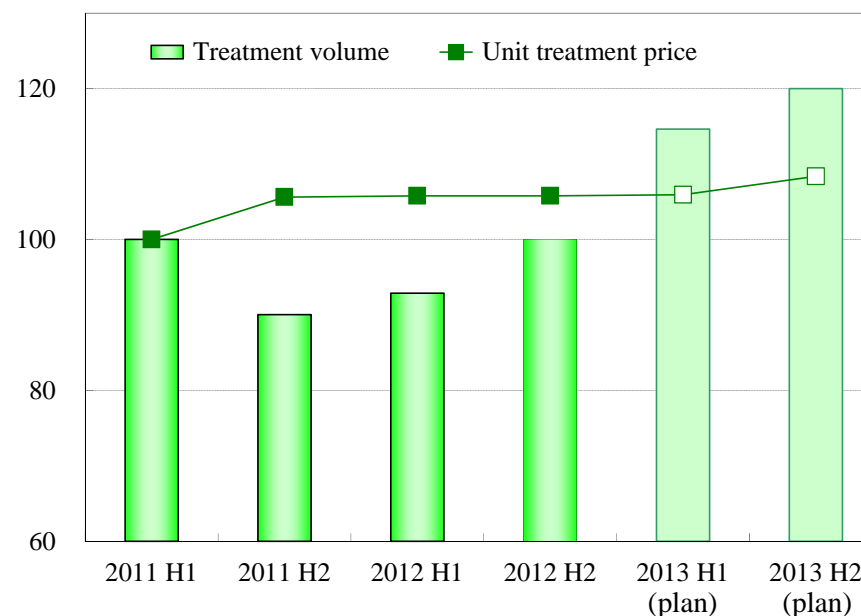
- Made progress securing final treatment sites, and brought back to full-operating capacity in 4Q FY2012.
- > In FY2013, the Company plans to increase treatment volume by 20% from the previous year.
- Continued to strengthen ability to handle hard-to-treat waste by expanding waste receiving and conveying facilities, etc.
- > Maintaining efforts to increase unit treatment price.

## ■ Eco-System Sanyo

- Low concentration PCB treatment facilities continued brisk operations.
- > Aiming to expand received waste, including large equipment, through the construction of pre-treatment facilities, etc.

Changes in treatment volumes and unit treatment prices

\* Expressed in index values with 1H of FY2011 set as 100



# Business expansion in Southeast Asia

## ■ Situation since acquisition of MAEH Group

- Market for both intermediate treatment and final disposal is expanding due to industrial growth in Southeast Asia.

### Intermediate treatment (Thailand, Singapore)

Significantly improved operating efficiency through the introduction of technology for the management of incineration facilities.

### Final disposal (Indonesia, Thailand)

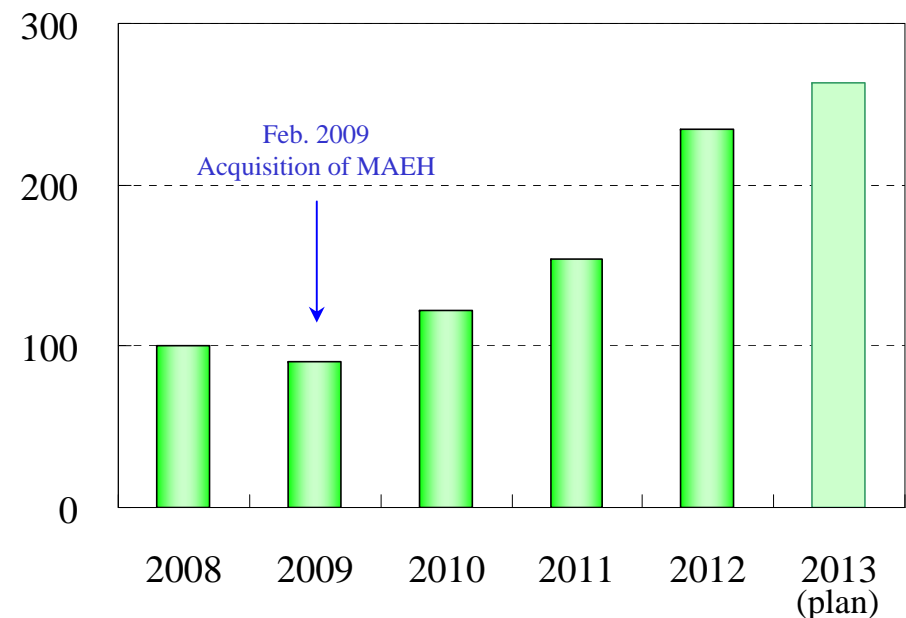
Expanded business scope to include treatment of oil drilling sludge, dismantling and sorting of electronic equipment in addition to existing waste treatment

### Metal recycling (Singapore)

Achieved smooth start-up following commencement of operation in April 2012.

- **Plan to step up business expansion in areas such as recycling, in addition to existing waste treatment.**
- **Examining expanding operation bases sequentially in response to market growth.**

Changes in net sales of Environment Management and Recycling Business in Southeast Asia



\* Expressed in index values with FY2008 set as 100 (yen-basis)

\* The figures from 2008 to 2011 are the net sales of the four operating companies of the MAEH Group, while the figures for 2012 and 2013 are the net sales of the four operating companies of the MAEH Group and Eco-System Singapore (five companies in total).

### Outlook for FY2013 (Year-on-Year Comparison)

#### ◆ Copper

**Sales volume: 100% for 1st half and 95% for 2nd half**

(Recovery trend in demand for construction; slight decrease in demand for domestic automobile production)

#### ◆ PGM

**Collection of raw materials:**

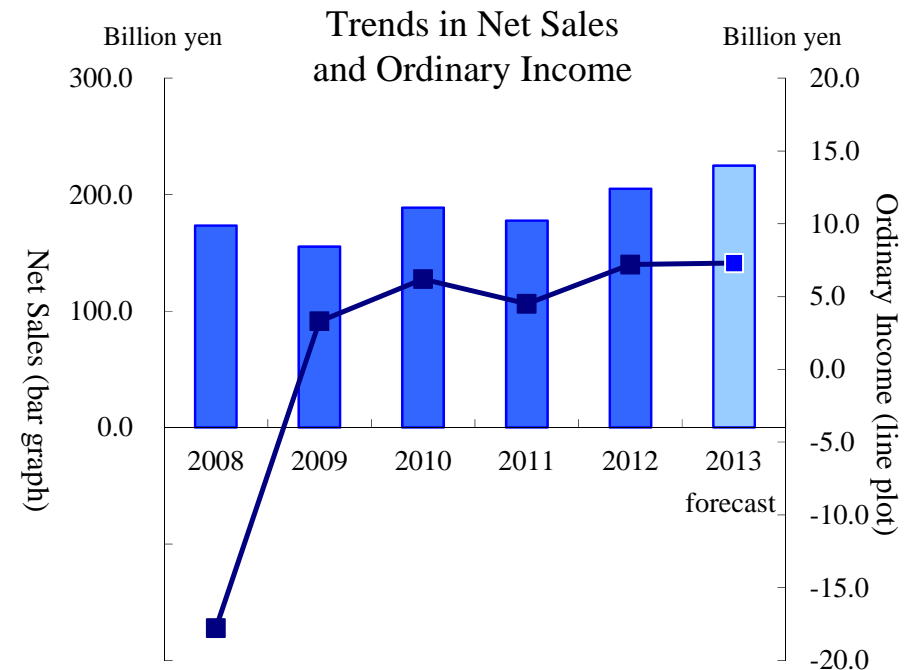
**110% for 1st half and 115% for 2nd half**

(Active collections from overseas, including North America)

#### ◆ Zinc

**Sales volume: 100% for 1st half and 100% for 2nd half**

(Slight decline in domestic demand for automobiles, etc., growth in shipments to Asia)



### Future actions

#### ■ Precious metals and copper

- Expand recovery of rare metals, etc. (increased production of tin and antimony, etc.)
- Increase production of silver at Kosaka Smelting & Refining.

#### ■ PGM

- Strengthen collection structure, including increasing sales personnel at facilities in North America and Europe.

#### ■ Zinc

- Reduce energy costs at Akita Zinc by further improving electric current efficiency and electric power consumption rate.
- Build zinc processing plant in Thailand and put it into operation.

#### ■ Resources

- Participate in Palmer exploration project, and expand copper mine in Gibraltar.

# Strengthening of foundation for Smelting & Refining Business

## ■ Strengthening earnings momentum through increased production

### Silver

Actively treated silver concentrates at Kosaka Smelting & Refining.  
=> Increase silver production (125% compared to previous year).

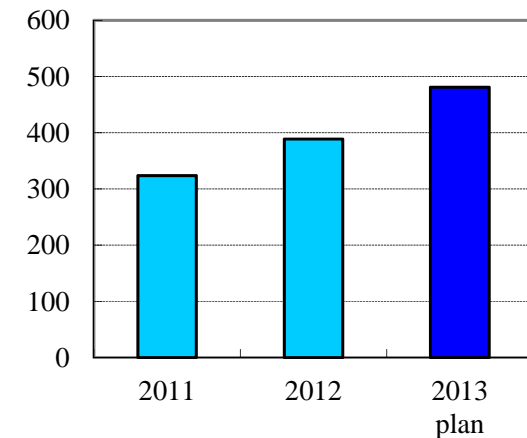
### Tin

Expanded capacity in October 2012 (40 t/month → 60 t/month)  
=> Plan to increase production to 120% compared to previous year through recovery from recycled materials, etc.

### Indium

Increased production (110% compared to previous year) through increased treatment of ores with high indium content.  
=> Strengthen earnings momentum of zinc business.

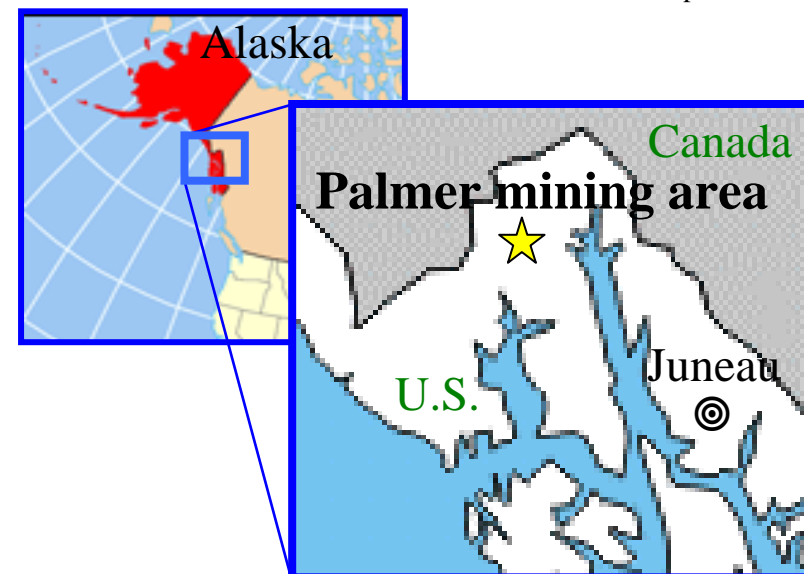
Changes in silver production volumes at  
Kosaka Smelting & Refining (t/year)



## ■ Efforts to secure resources

### Participation in Palmer exploration project (Alaska)

- Signed exploration agreement with option to purchase 49% ownership interest.
  - Proved ore reserves to date: 5 million tons
  - Aim to increase ore reserves and develop mine as a result of exploration.
- => Work to increase proprietary ore ratio by acquiring zinc and copper concentrates.



### Outlook for FY2013 (Year-on-Year Comparison)

#### ◆ Semiconductors

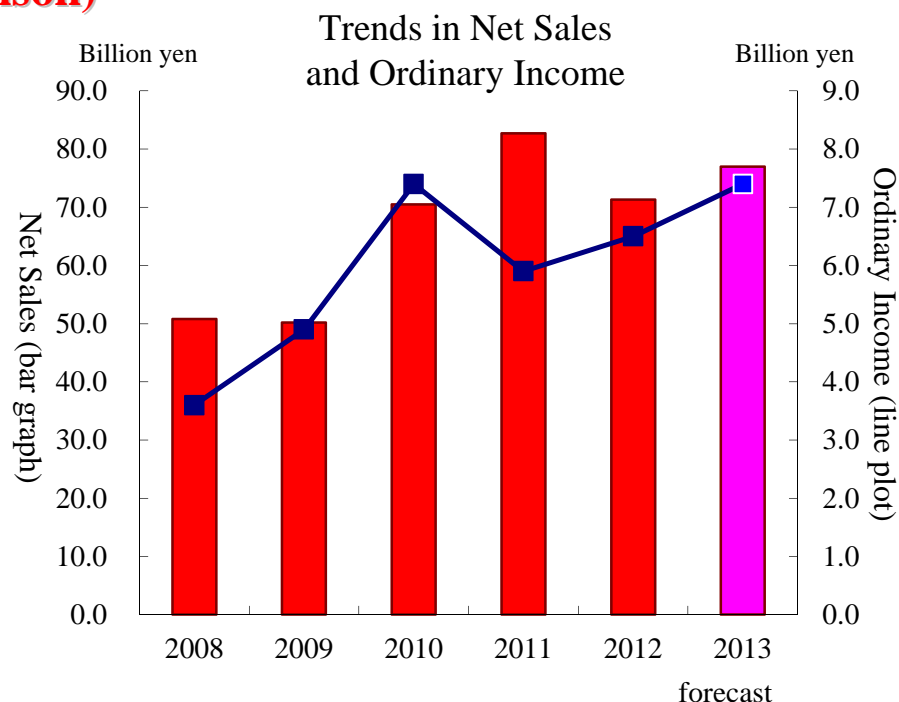
Net sales: 105% for 1st half and 120% for 2nd half  
(Increased demand for LEDs used as sensors, HEMT market take-off)

#### ◆ Electronic materials

Sales volume of silver powder:  
100% for 1st half and 115% for 2nd half  
(Firm demand for solar batteries)

#### ◆ Magnetic materials

Sales volume of metal powder:  
80% for 1st half and 130% for 2nd half  
(Recovery in demand for data tape)  
Sales volume of carrier powder:  
95% for 1st half and 125% for 2nd half  
(Increased sales due to expansion in market share)



### Future actions

- **Semiconductors**
  - LED: Respond to increased production of new high output LEDs used as proximity sensors, etc. and expand sales.
  - HEMT: Establish system to boost production capacity in line with switch to mass production among users.
- **Electronic materials**
  - Silver powder: Expand sales for next-generation pastes and enter markets for new applications.
- **Magnetic materials**
  - Metal powder: Respond to mass production of magnetic powder for LTO6, and improve characteristics for next-generation products.
  - Carrier powder: Gain new users by improving characteristics.
- **New development**
  - Expand sales by developing next generation products in electrode materials for fuel cell applications and achieve early commercialization of products such as deep-UV LED and silver nano paste.

# Actions to address growing and new markets

## ■ Nitride semiconductors HEMT

- From FY2013, users began to switch to mass production for applications such as inverters for home appliances.
  - => Establish system to boost production capacity and work to gain new users by improving characteristics.

## ■ Silver powder for solar batteries

- 2013 solar battery demand: Expected to increase 14% year on year.
  - => Improve characteristics for next-generation pastes and work to expand market share.

## ■ Recently developed products

### Electrode materials for fuel cells

- Develop for next-generation products and new users.
- Raise productivity by improving

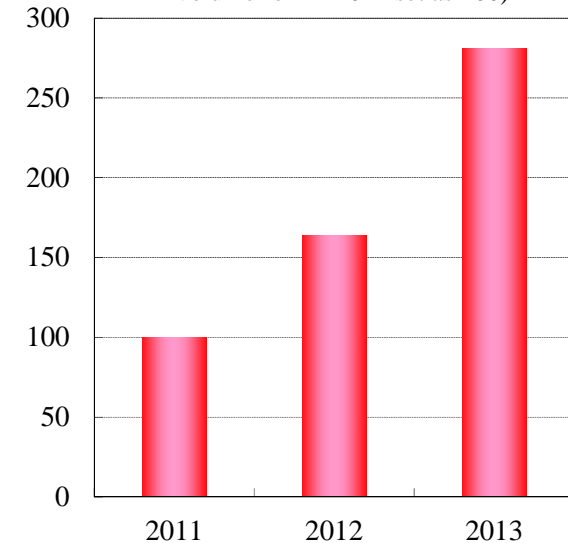
### Deep UV LEDs

- Improve characteristics and achieve early commercialization for use in sterilization.

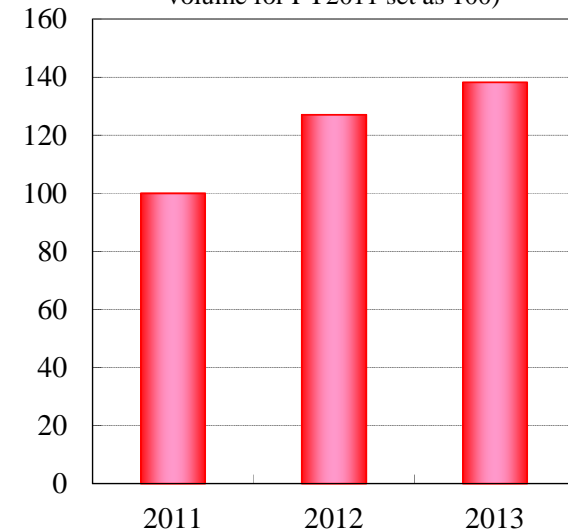
### Silver nano paste

- Promote development as material for joining semiconductor chips that can be used in high temperature environments and as a substitute for lead solder.

Sales Volume of Nitride Semiconductor HEMT  
(Expressed in index values with sales volume for FY2011 set as 100)



Sales Volume of Silver Powder  
(Expressed in index values with sales volume for FY2011 set as 100)



### Outlook for FY2013 (Year-on-Year Comparison)

#### ◆ Copper strip products

**Sales volume: 95% for 1st half and 115% for 2nd half**

(Firm demand for use in automobiles, driven by overseas production; firm demand for use in multifunctional portable devices despite weak demand for use in computers)

#### ◆ Electroplating

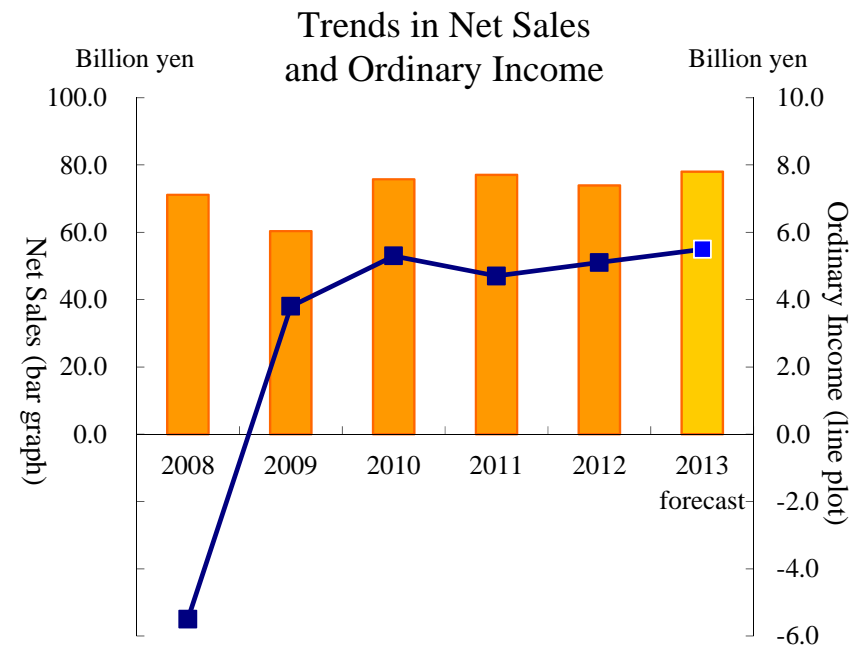
**Processing sales: 90% for 1st half and 105% for 2nd half**

(Firm demand for use in automobiles, driven by overseas production)

#### ◆ Metal-ceramic substrates

**Net sales: 110% for 1st half and 120% for 2nd half**

(Recovery for industrial machinery applications, expansion for railway and wind power generation applications)



### Future actions

#### ■ Copper strip products

- For use in automobiles: Increase market share by expanding sales to growth markets such as the hybrid car market and emerging economies.
- For use in semiconductors and electronic components: Expand earnings by increasing the sales ratio of connector materials.

#### ■ Electroplating

- Strengthen earnings momentum through advancements in plating technology, including local plating.
- Expand production facilities in Thailand in response to the trend towards local procurement in Southeast Asia.

#### ■ Metal-ceramic substrates

- Expand sales to European and Chinese markets in the railway sector.
- Promote a shift towards the mass production of products for new forms of energy (wind and solar power generation).

# Actions to address growing markets

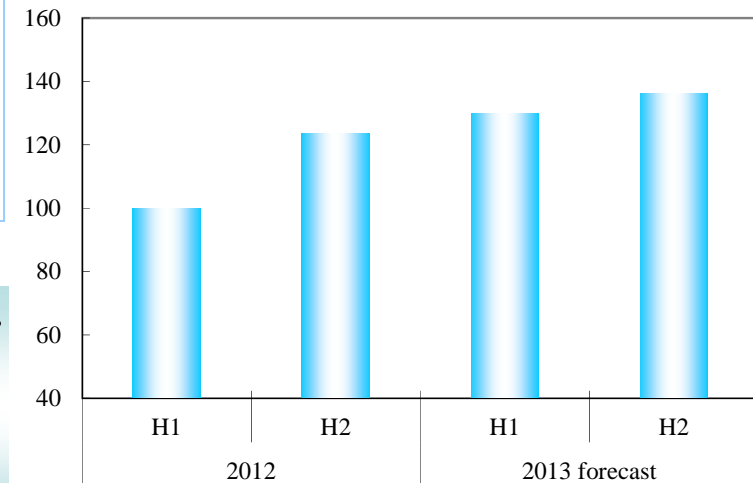
## ■ Expanding sales of connector materials for electronic components

- For semiconductors (lead frames):  
Weak demand for computers, etc.
- For electronic components (connectors):  
Growth in demand driven by multifunctional portable devices, etc.

- Expand earnings by increasing the sales ratio of connector materials.
- Increase productivity and reduce costs by improving production facilities.
- Expand sales by using sales bases in Shenzhen in China, and Singapore.

Changes in sales volume of DOWA METANIX products for connector materials

Expressed in index values with net sales for 1H of FY2012 set as 100



## ■ Expanding substrate business

For industrial machinery

FY2012: Hit by slowdown in Chinese market, etc.  
FY2013: Tap into recovering demand

For railways

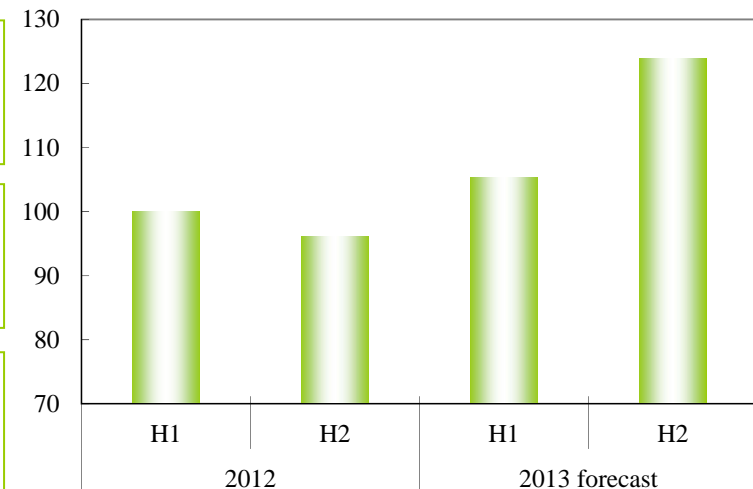
Expand sales to the Chinese market where demand is expected to grow, in addition to European markets.

For new forms of energy

Promote shift to mass production of heat dissipation substrates by increasing productivity.

Changes in net sales of substrate business

Expressed in index values with net sales for 1H of FY2012 set as 100





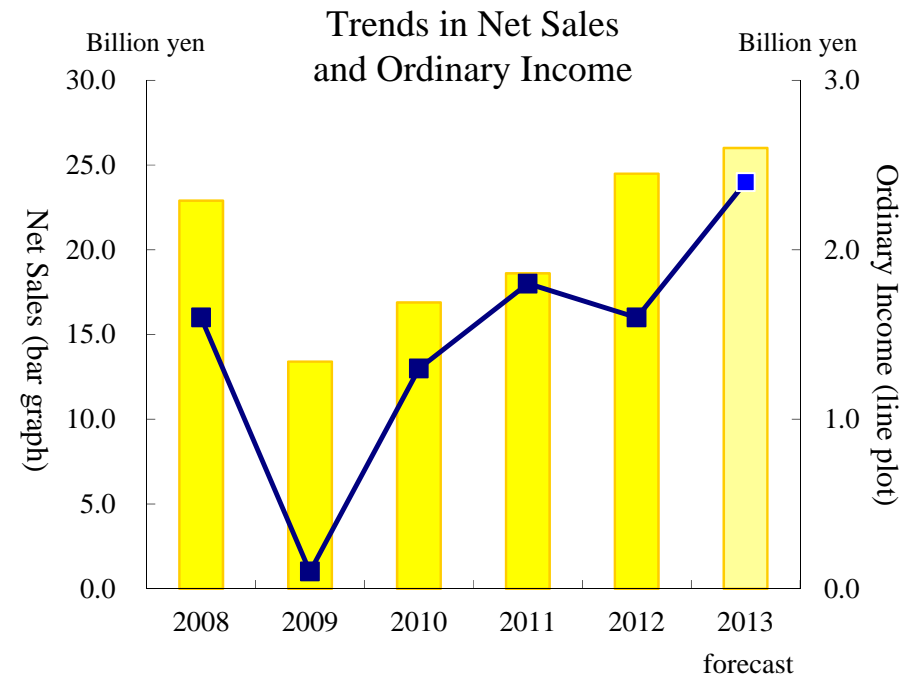
### Outlook for FY2013 (Year-on-Year Comparison)

#### ◆ Industrial furnaces

**Net sales: 100% for 1st half and 125% for 2nd half**  
(Continued growth, driven by demand for new furnaces for overseas local production)

#### ◆ Heat Treatment

**Net sales: 105% for 1st half and 115% for 2nd half**  
(Virtually no change in domestic automobile production from previous year, expansionary tendency in overseas automobile production)



### Future actions

- **Overseas business**
  - Expand existing bases (North America and Thailand).
  - Launch heat treatment processing business in Indonesia (September 2013 ~ )
- **Domestic business**
  - Raise productivity by reallocating production items among domestic plants.
  - Reduce costs through procurement of components and materials from China, India, etc. and sharing of components.
- **R&D**
  - Develop low-cost small heat treatment furnaces combining compactness and high productivity.

# Strengthening overseas operations

## Industrial furnace business

### Overseas production of Japanese auto manufacturers:

Annual growth of 10%, driven by North America, Southeast Asia, etc.

#### <Industrial furnace manufacturing>

- Transfer of overseas production of standard furnaces (India, China)
- Expand lineup of facilities.  
(vacuum sintering furnace, plasma nitriding furnace, etc.)

#### <Maintenance business>

- Expand overseas maintenance bases (India, Indonesia)

## Heat treatment business

### <Existing bases: Thailand, North America>

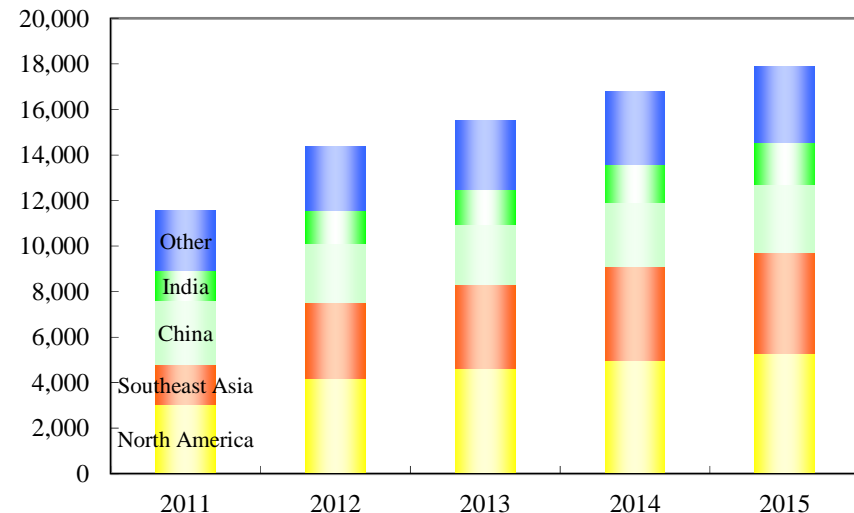
=> FY2013: Expand facilities  
(Thailand: 8 → 11, North America: 18 → 23)

### <New bases: Indonesia>

=> Start heat treatment processing in September 2013.

**Expand and improve overseas bases ,  
and respond to expanding overseas markets.**

Projected overseas production volume of  
Japanese auto manufacturers  
(thousand units)



Changes in net sales of industrial furnaces for  
Japan and for overseas

Expressed in index values with net sales for FY2011 set as 100.

