GS YUASA
Creating the Future of Energy

Fiscal Year Ended March 31, 2022(FY2021) Result Briefing

May 18, 2022

GS Yuasa Corporation

Contents

GS YUASA
Creating the Future of Energy

FY2021 Financial Results

1. Net Sales, Profits

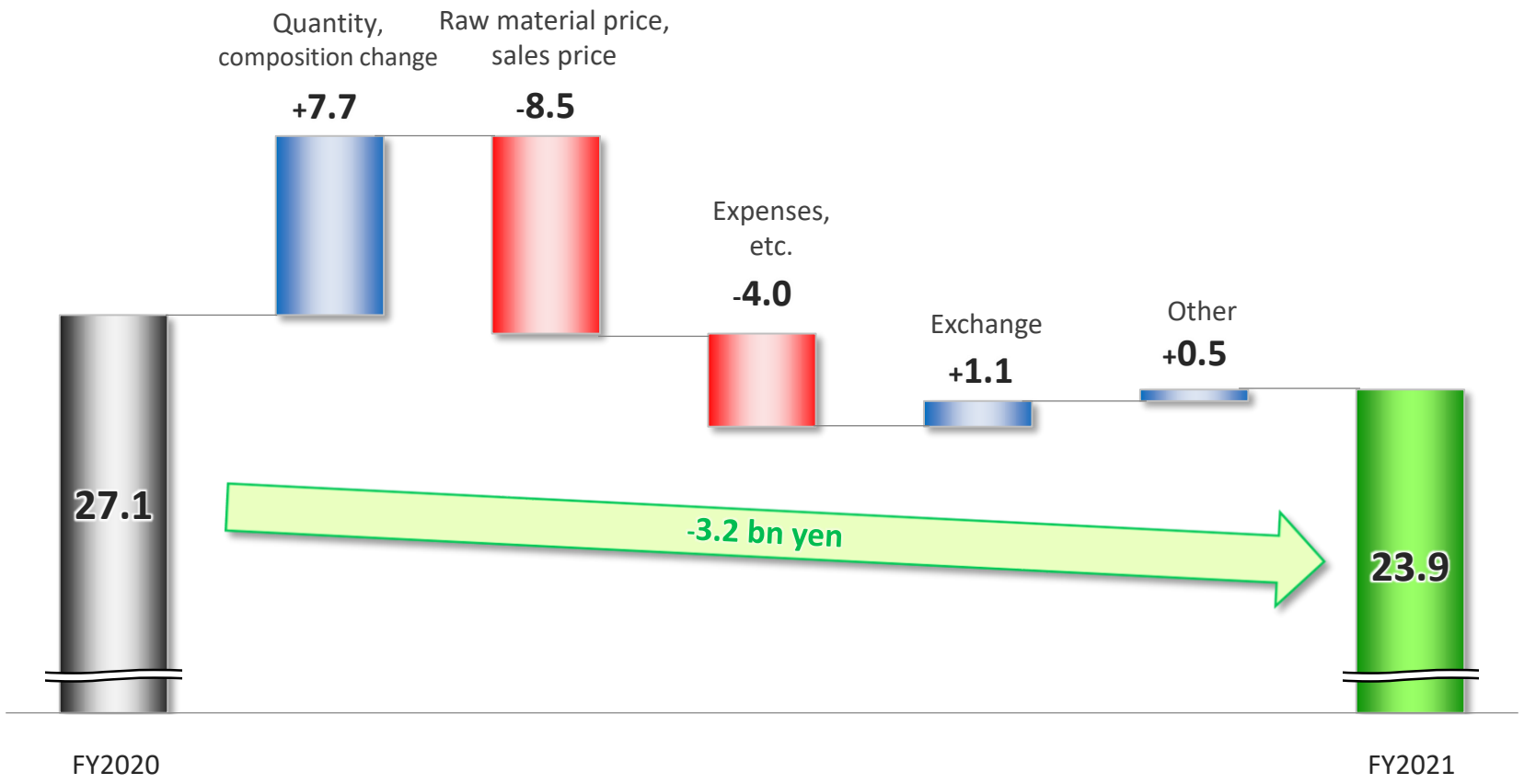
(Billion yen)

	FY2020	FY2021	Change	(YoY%)	[Reference] Feb. 2022 forecast
Net sales	386.5	432.1	+45.6	(+11.8%)	440.0
Operating income	24.8	22.7	-2.1	(-8.6%)	21.0
(Operating income ratio)	6.4%	5.2%	-1.2P		4.8%
Operating income before amortization of goodwill	27.1	23.9	-3.2		22.0
(Operating income ratio before amortization of goodwill)	7.0%	5.5%	-1.5P		5.0%
Ordinary income	27.3	24.7	-2.6	(-9.5%)	24.0
Extraordinary income	1.7	2.4	+0.7		-
Extraordinary loss	4.1	7.8	+3.7		-
Profit before income taxes	24.8	19.2	-5.6		-
Income taxes	10.1	6.7	-3.4		-
Profit attributable to non-controlling interests	3.3	4.1	+0.8		-
Profit	11.5	8.5	-3.0	(-26.1%)	8.0
(Profit ratio)	3.0%	2.0%	-1.0P		1.8%
Profit before amortization of goodwill	13.5	9.5	-4.0		9.0
(Profit ratio before amortization of goodwill)	3.5%	2.2%	-1.3P		2.0%
Domestic lead price quote (¥10,000/t)	26.09	31.64	+5.55		33.0
LME (US$/t)	1,867	2,283	+416		2,300
Exchange rate (¥/US$)	105.94	113.04	+7.10		110.0
Annual dividend (¥/share)	¥50	¥50 (Plan)	±¥0		¥50 (Plan)
Purchase of treasury stock	-	-	-		-
Total return ratio	29.8%	42.4%	+12.6P		-

1. Net Sales, Profits

Factors for Operating Income Change (year-on-year comparison)

(Billion yen)



Note : Operating income is operating income before amortization of goodwill.

2. Segment Results

(Billion yen)

		FY2020		FY2021		Change		[Reference] Feb. 2022 forecast	
		Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: pp)	Net sales	Operating income (Op. income ratio: %)
Auto-motive Batteries	Japan	83.6	8.7 (10.4)	81.5	5.9 (7.2)	-2.1	-2.8 (-3.2)	83.0	5.5 (6.6)
	Overseas	165.3	12.2 (7.4)	186.7	10.0 (5.3)	+21.4	-2.2 (-2.1)	187.0	10.0 (5.3)
Industrial Batteries and Power Supplies		84.0	6.9 (8.2)	99.5	5.8 (5.8)	+15.5	-1.1 (-2.4)	101.0	5.5 (5.4)
Automotive Lithium-ion Batteries		36.0	-0.9 (-2.4)	47.6	1.7 (3.5)	+11.6	+2.6 (+5.9)	51.0	1.5 (2.9)
Specialized Batteries and Others		17.6	0.1 (0.8)	16.8	0.6 (3.4)	-0.8	+0.5 (+2.6)	18.0	-0.5 (-2.8)
Total		386.5	27.1 (7.0)	432.1	23.9 (5.5)	+45.6	-3.2 (-1.5)	440.0	22.0 (5.0)

Note : Operating income is operating income before amortization of goodwill and operating income ratio is operating income ratio before amortization of goodwill.

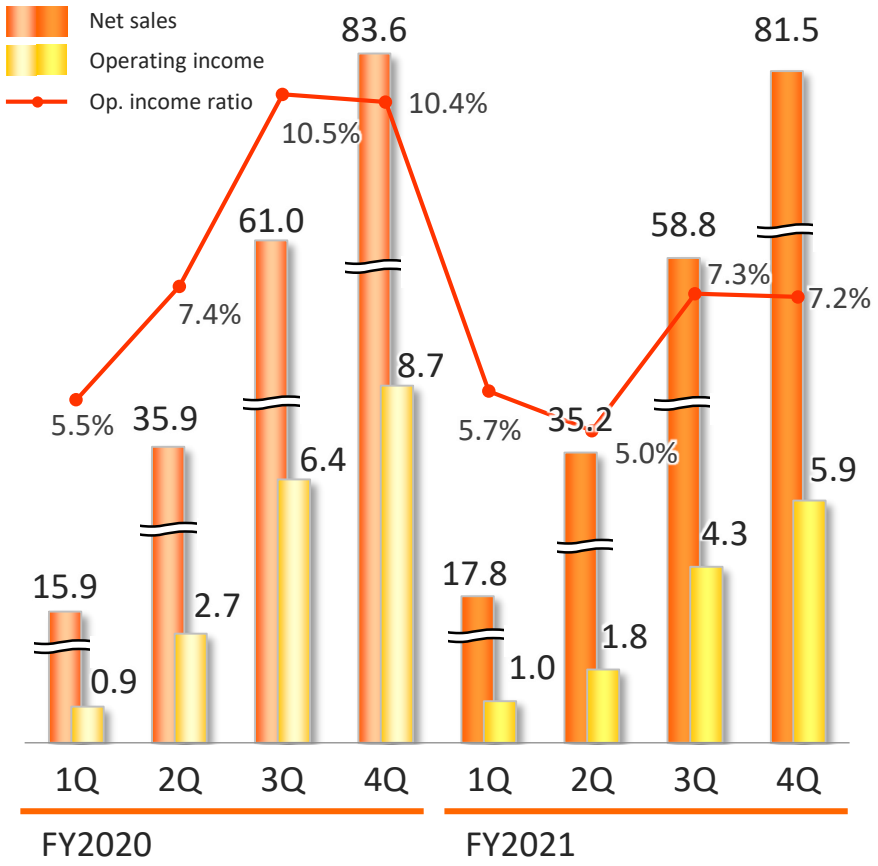
2. Segment Results (Automotive Batteries (Japan))

Automotive Batteries (Japan)

Sales and profit declined

(Billion yen)

Net Sales, Operating income, Op. income ratio



FY2021 Sales Overview

- Sales volume of batteries for new automobiles decreased because production decrease of automakers due to semiconductor shortage, etc. has continued
- Sales volume of replacement batteries was strong due to increase of continuing to use owned cars due to supply shortage of new automobiles and active used car market, etc.

Main Profit Change Factors

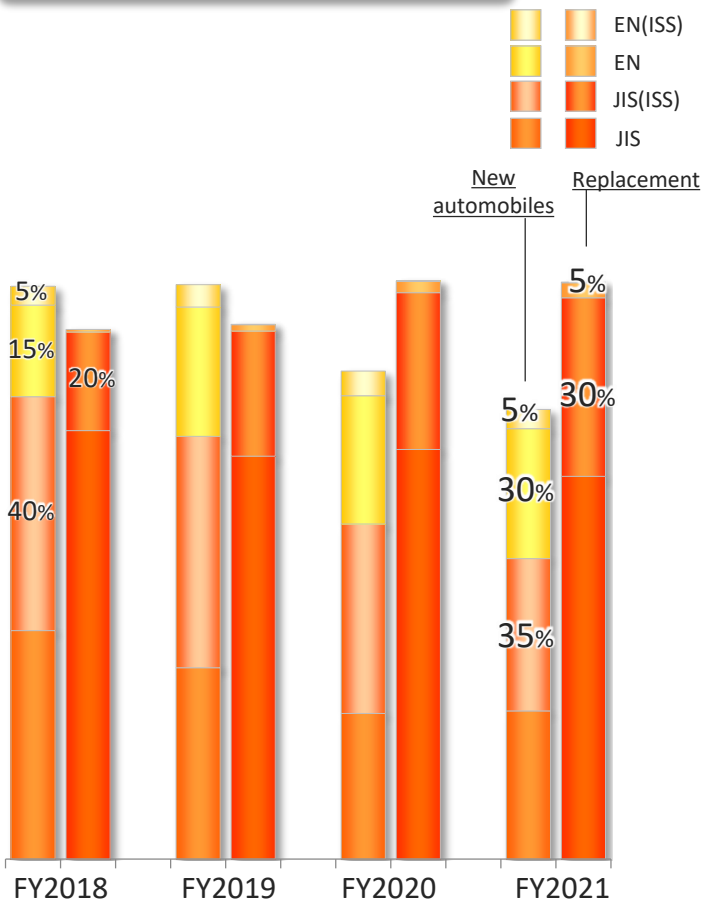
Quantity, composition change	+0.0
Lead prices, sales prices	-2.7
Streamlining, expenses, etc.	-0.1

Note: Operating income is operating income before amortization of goodwill and Op. income ratio is Op. income ratio before amortization of goodwill.

2. Segment Results (Automotive Batteries (Japan))

Ratio of Shipped Batteries for New Automobiles and Replacement / Market share

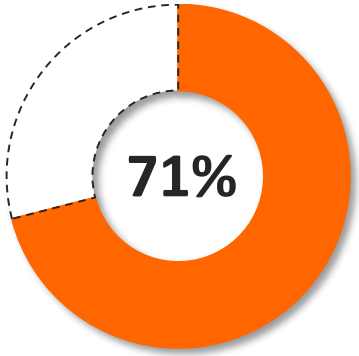
Ratio of Shipped Batteries



Market Share (FY2021/Group total)

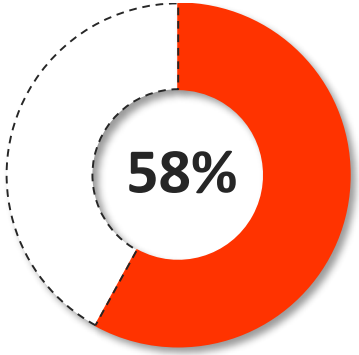
New automobiles

71% (FY2019)



Replacement

57% (FY2019)



*In-house research (excluding imported batteries)

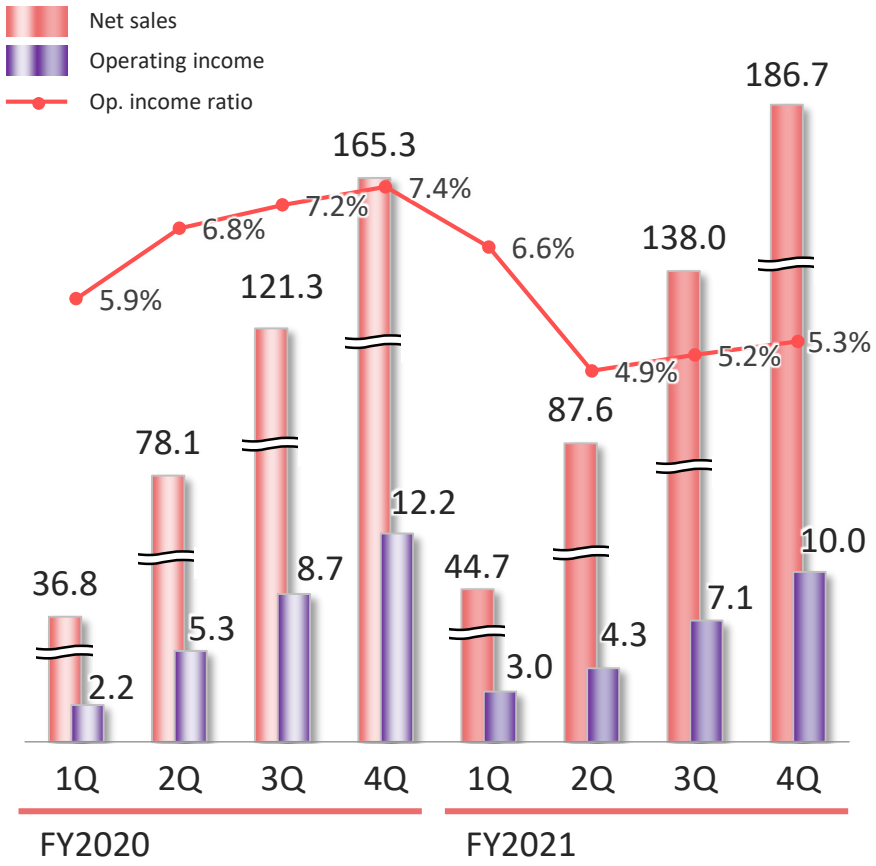
3. Segment Results (Automotive Batteries (Overseas))

Automotive Batteries (Overseas)

Sales increased, profit declined

(Billion yen)

Net Sales, Operating income, Op. income ratio



FY2021 Sales Overview

- In Indonesia and Thailand, sales volume of batteries for automobiles and motorcycles increased. Sales in Vietnam recovered in the 2nd half from the impact of COVID-19 in the 1st half and progressed as well as the previous fiscal year
- In Europe, sales volume of replacement batteries and industrial batteries increased
- In China, sales of batteries for new automobiles and replacement decreased because the competition became intense
- Sales increased thanks to the impact of weaker yen and the impact of higher selling prices because of higher prices of lead

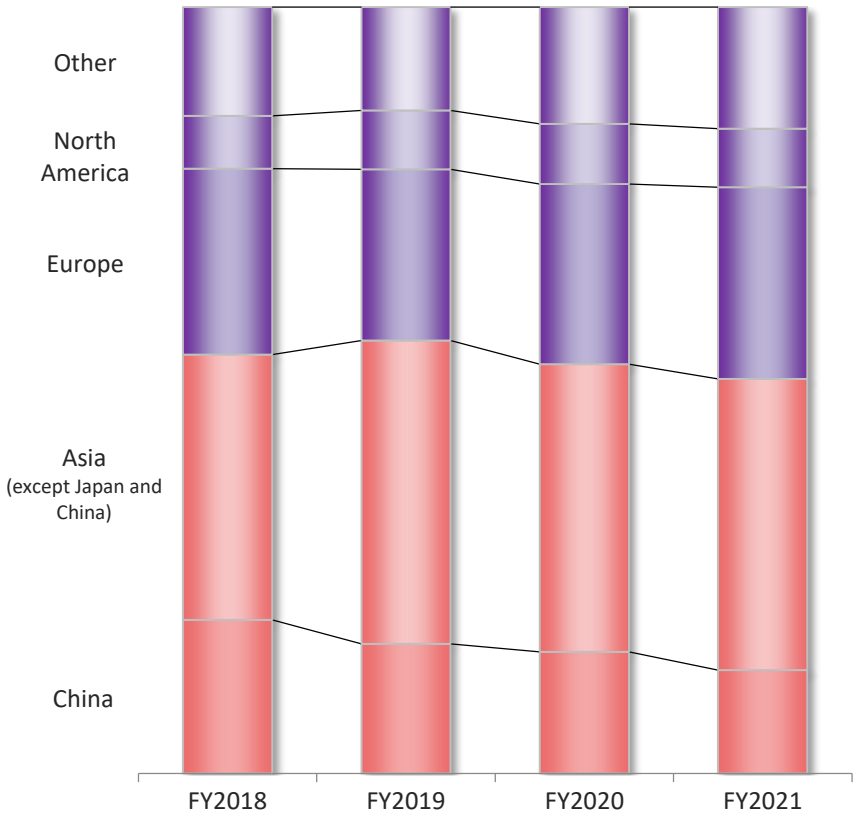
Main Profit Change Factors

Quantity, composition change	+2.1
Lead prices, sales prices	-2.8
Streamlining, expenses, etc.	-2.6
Exchange	+1.1

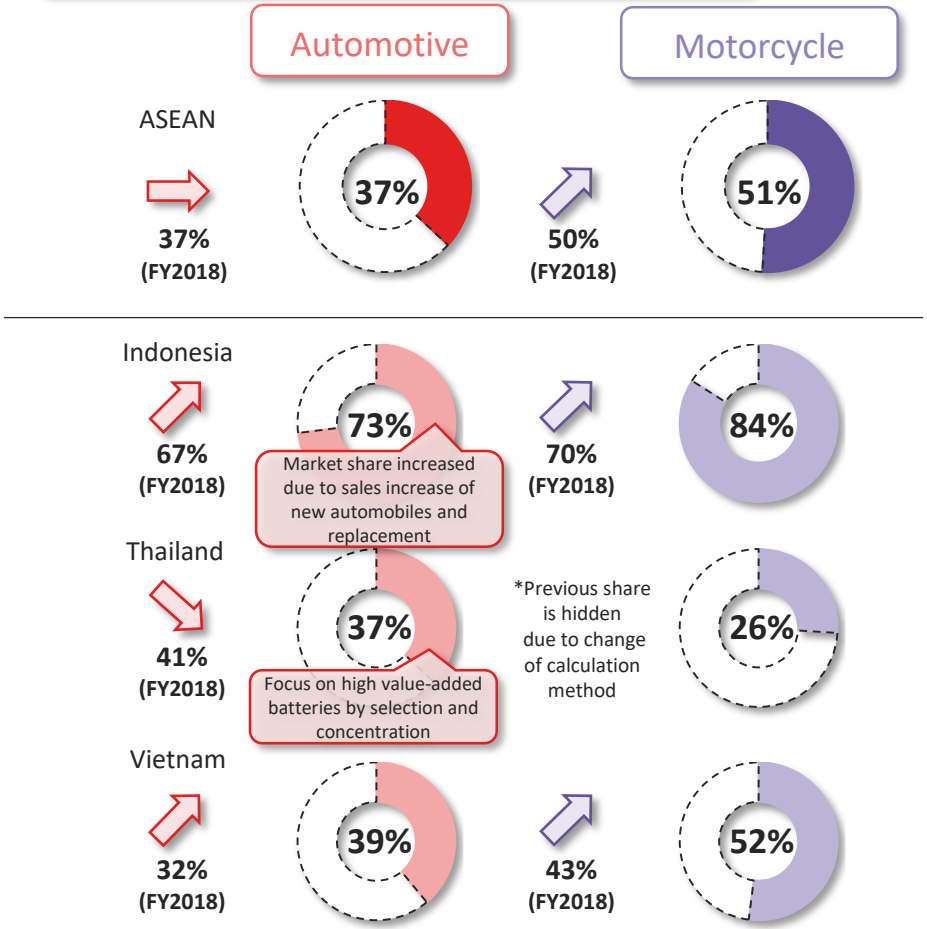
2. Segment Results (Automotive Batteries (Overseas))

Sales / Market share by region

Sales by Region (include industrial)



Market share by region (FY2021/Group total)



*In-house research

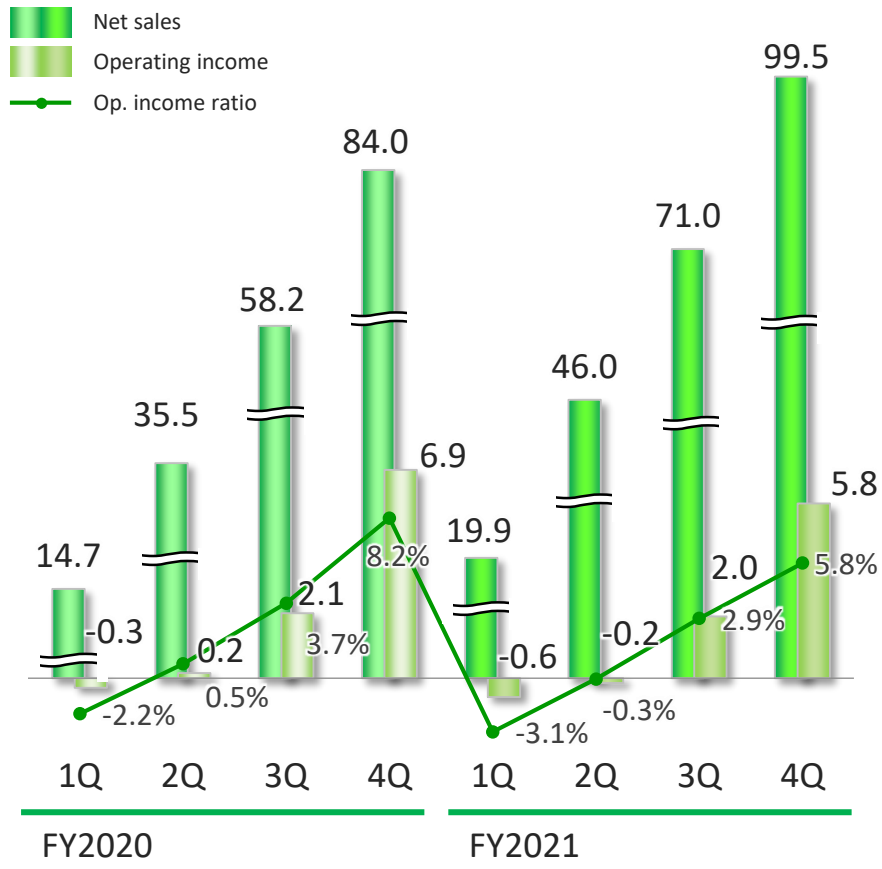
3. Segment Results (Industrial Batteries and Power Supplies)

Industrial Batteries and Power Supplies

Sales increased, Profit declined

(Billion yen)

Net Sales, Operating income, Op. income ratio



FY2021 Sales Overview

- Supply of lithium-ion batteries for interconnected system of large wind power generation in Hokkaido completed as scheduled
- Sales volume of batteries and power supplies for backup decreased due to the impact of shortage of components in power supplies
- Sales volume of batteries for forklifts increased due to the progress of transition from engine-powered to battery-powered
- Infrastructure business of Sanken Electric Co., Ltd. was added as consolidation target by acquisition

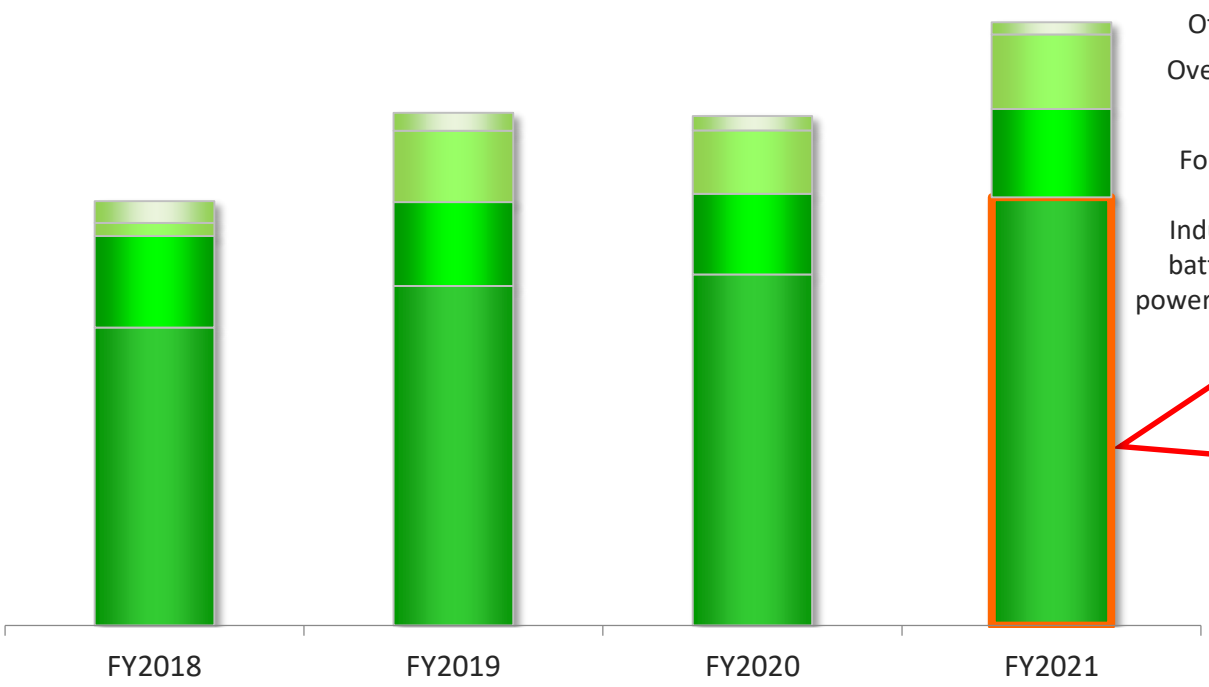
Main Profit Change Factors

Quantity, composition change	-0.4
Lead prices, sales prices	-0.7
Streamlining, expenses, etc.	-0.0

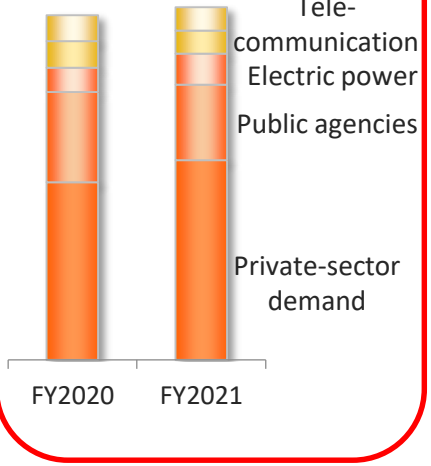
2. Segment Results (Industrial Batteries and Power Supplies)

Net sales by model

Net sales by model



Net sales by demand source



- Transferred **special machine business**
- **Some categories** in the automotive batteries (overseas) business were transferred

Some consolidated subsidiaries in the automotive batteries (overseas) business were transferred

Supplied world-class storage battery facilities (FY2020/2021)

*Image

Acquired social infrastructure business from Sanken Electric Co., Ltd. (GS Yuasa Infrastructure Systems Co., Ltd.,)

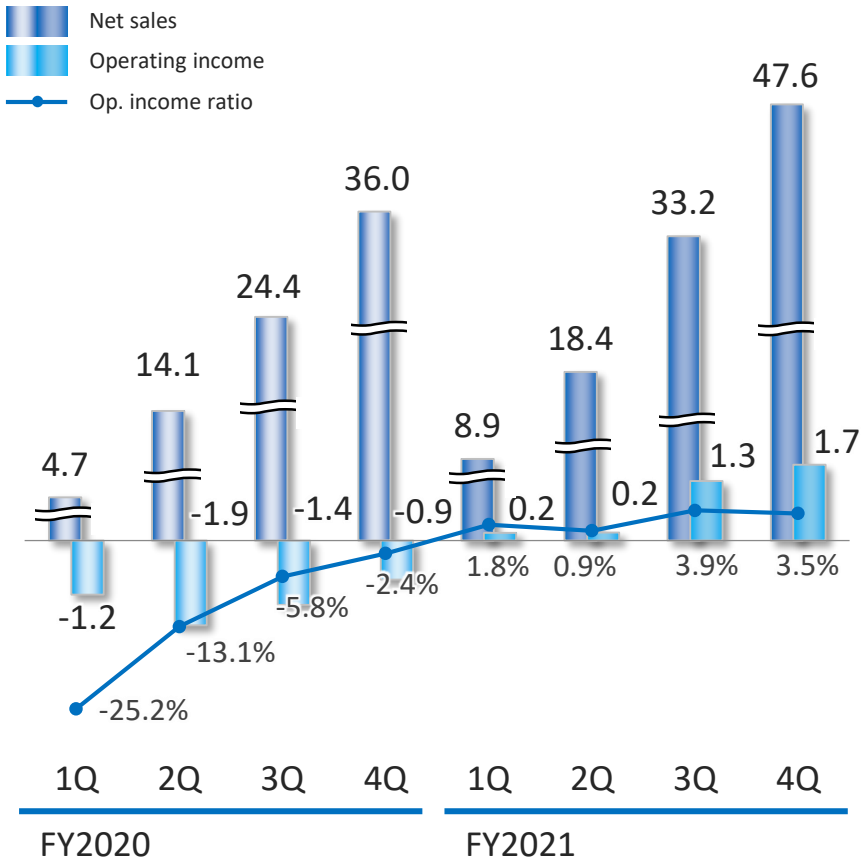
2. Segment Results (Automotive Lithium-ion Batteries)

Automotive Lithium-ion Batteries

Sales and profit increased

(Billion yen)

Net Sales, Operating income, Op. income ratio



FY2021 Sales Overview

- [Blue Energy (BEC)]
  Sales volume of lithium-ion batteries for hybrid vehicles (HEVs) increased due to starting trade with Toyota Motor Co., Ltd. from the previous fiscal year and increase of number of vehicle models installing our batteries
- [Lithium Energy Japan (LEJ)]
  Sales of vehicle model installing our lithium-ion batteries for plug-in hybrid electric vehicles (PHEVs) continued strong

Main Profit Change Factors

- Profit of Blue Energy increased due to increase of sales volume
- Profit of Lithium Energy Japan increased due to increase of sales volume etc.

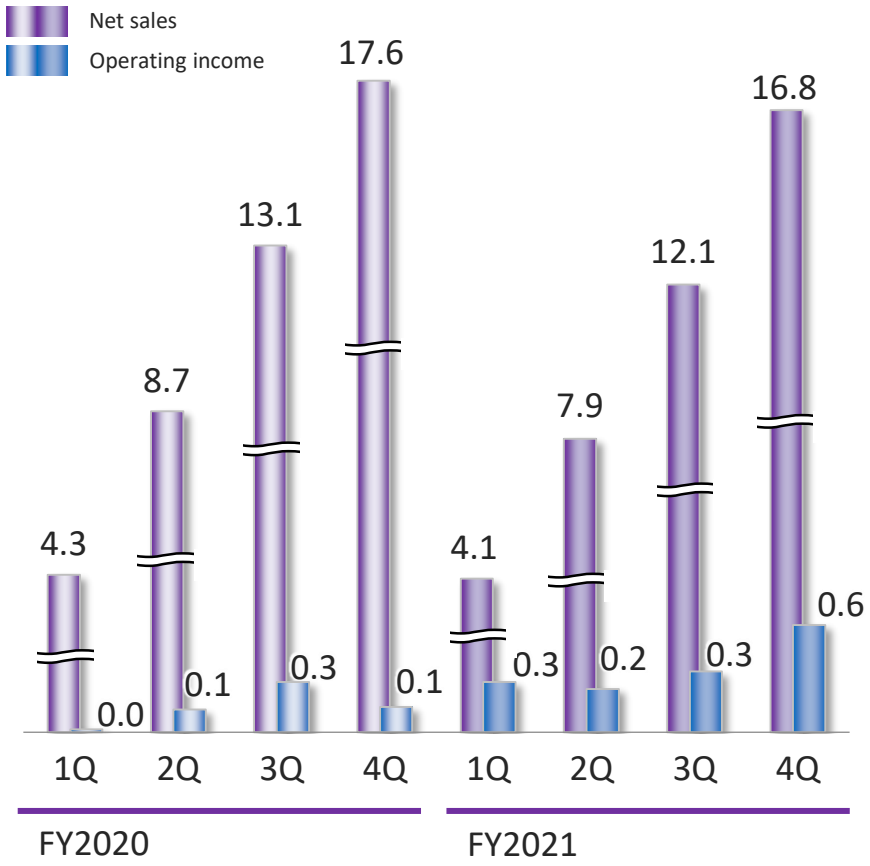
2. Segment Results (Specialized Batteries and Others)

Specialized Batteries and Others

Sales declined, profit increased

(Billion yen)

Net Sales, Operating income



FY2021 Sales Overview

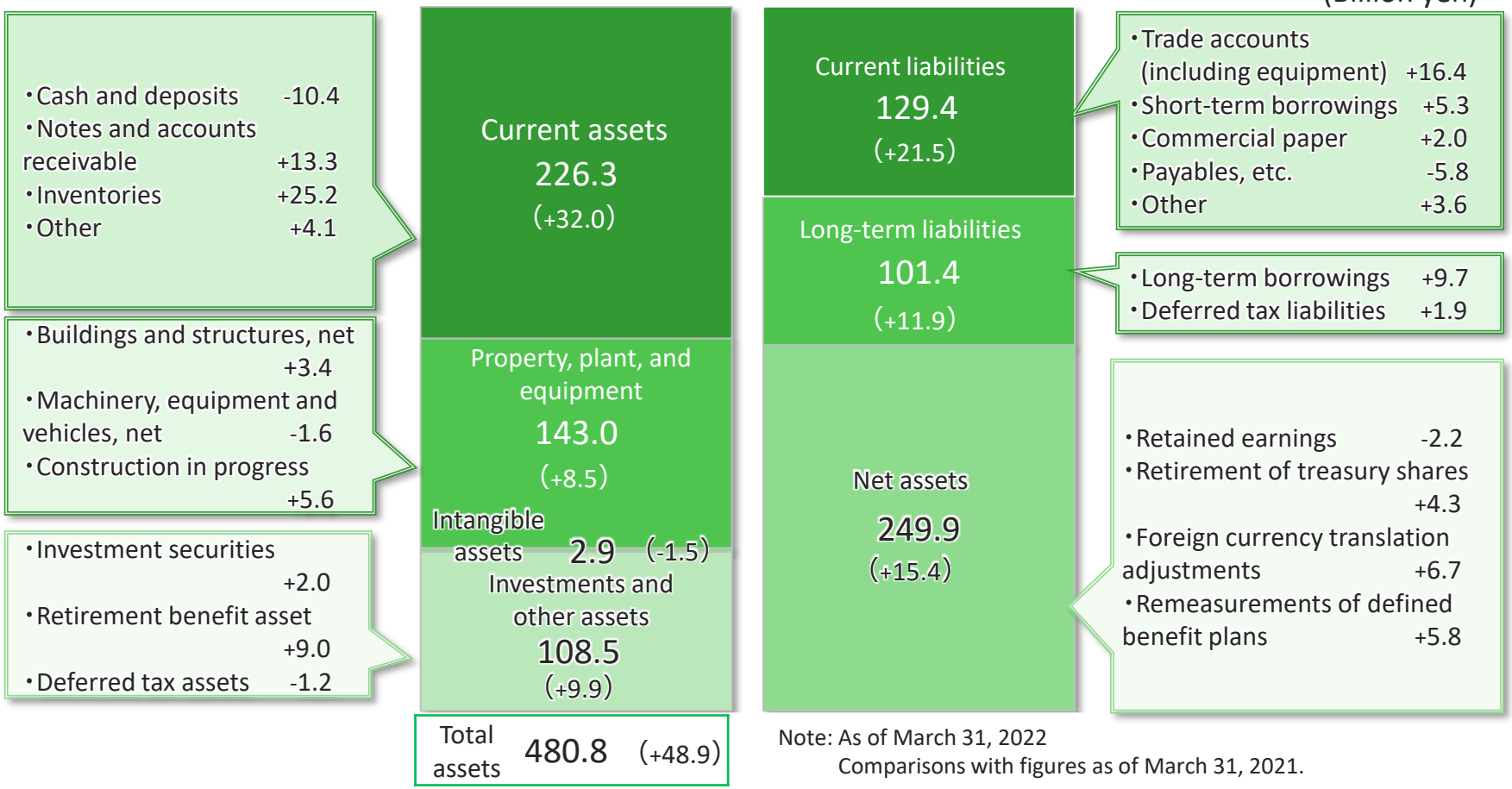
- Sales of lithium-ion batteries for submarines decreased due to the relation of standard for progress of construction works
- Sales of lithium-ion batteries for aircrafts increased because sales for airlines (for replacement) progressed steadily, despite sales for new aircrafts (OEM) was slowing down

Main Profit Change Factors

Profit increased due to decrease of expenses

3. Balance Sheet

(Billion yen)

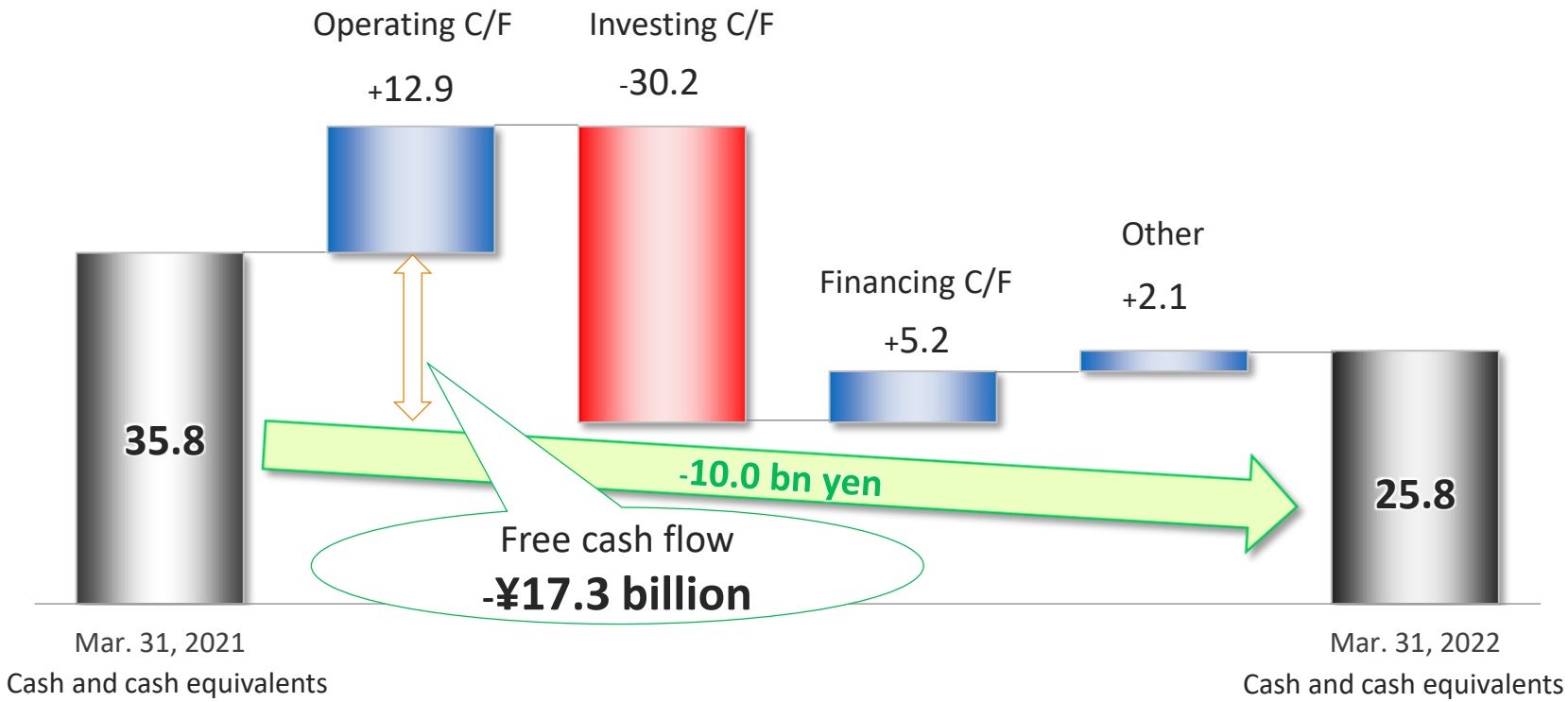


Note: As of March 31, 2022
Comparisons with figures as of March 31, 2021.

	3/31/2021	3/31/2022
Equity ratio	46.8%	44.8%
ROE (return on equity)	7.2%	4.6%
Total borrowings	¥65.4bn	¥82.5bn

4. Cash Flow Statements

(Billion yen)



Highlights

- Operating C/F totaled ¥12.9 billion due to increase of inventories or trade receivables despite ensuring ¥19.2 billion profit before income taxes
- Investing C/F came to -¥30.2 billion due to the capital investment for Blue Energy No.2 plant etc.
- Free cash flow came to -¥17.3 billion, however, withdraw cash and cash equivalents or enforced long-term debt to allocate to shareholder returns etc.

5. Capital Investment, Depreciation, R&D Costs

(Billion yen)

		FY2020	FY2021	Change
Capital Investment		23.2	29.9	+6.7
Automotive Batteries	Japan	2.5	3.8	+1.3
	Overseas	5.1	5.2	+0.1
Industrial Batteries and Power Supplies		1.4	1.3	-0.1
Automotive Lithium-ion Batteries		5.7	11.6	+5.9
Others		8.5	7.9	-0.6
Depreciation		16.2	16.8	+0.6
Automotive Lithium-ion Batteries		3.4	3.1	-0.3
R&D Costs		11.2	12.4	+1.2
(Ratio of R&D expenses to net sales)		2.9%	2.9%	-0.0P

GS YUASA
Creating the Future of Energy

FY2022 Financial Results Forecast & Initiatives

1. Net Sales, Profits Forecast

(Billion yen)

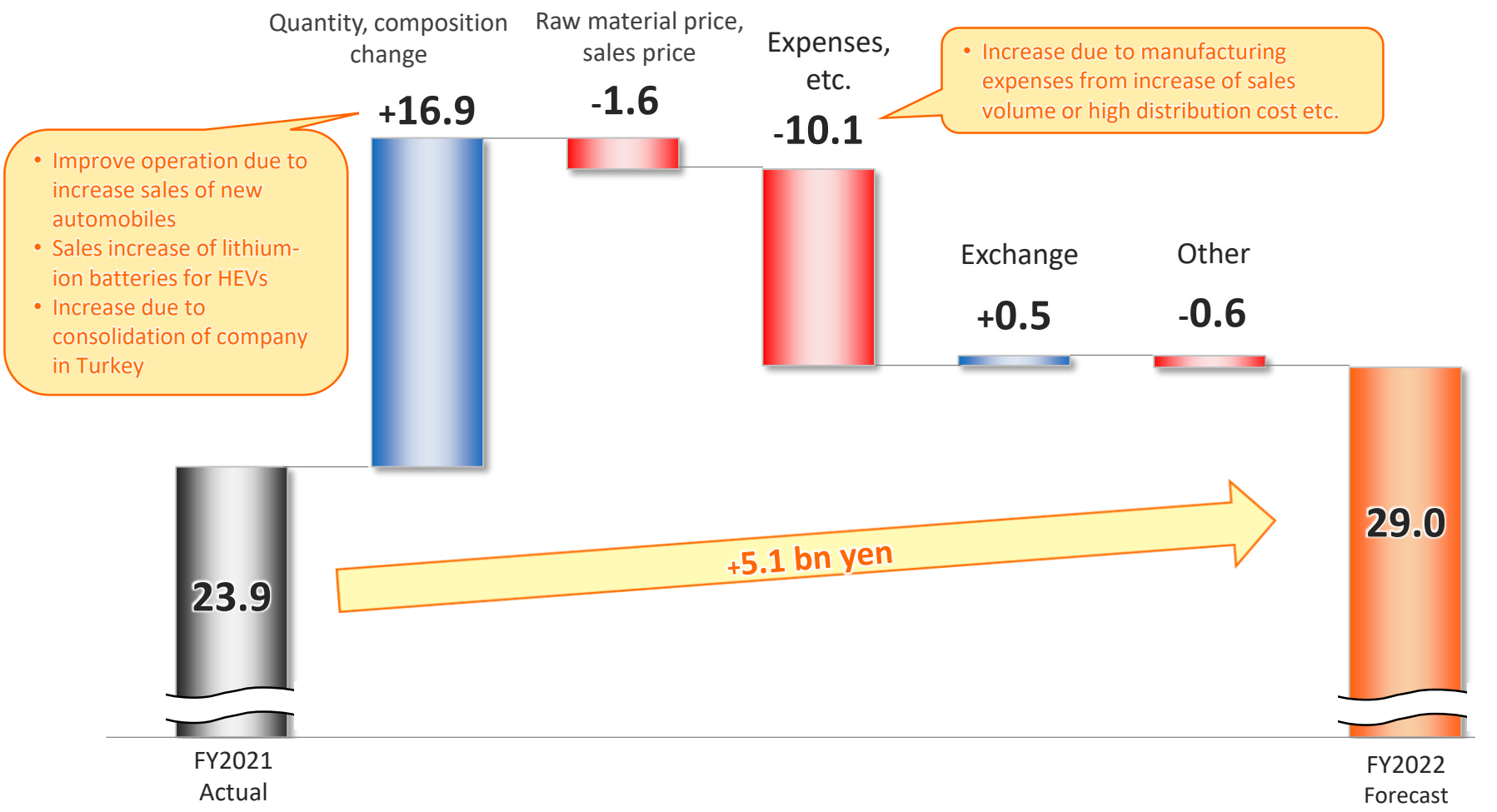
	FY2021 Actual	FY2022 Forecast	Change
Net Sales	432.1	520.0	+87.9
Operating income	22.7	28.0	+5.3
(Operating income ratio)	5.2%	5.4%	+0.2P
Operating income before amortization of goodwill	23.9	29.0	+5.1
(Operating income ratio before amortization of goodwill)	5.5%	5.6%	+0.1P
Ordinary income	24.7	28.0	+3.3
Profit	8.5	12.0	+3.5
(Profit ratio)	2.0%	2.3%	+0.3P
Profit before amortization of goodwill	9.5	13.0	+3.5
(Profit ratio before amortization of goodwill)	2.2%	2.5%	+0.3P
ROE (return on equity)	4.6%	-	-
Dividend	50 yen/share(plan)	50 yen/share(forecast)	±0 yen/share
Purchase of treasury stock (amount planned for the next fiscal year)	-	-	-
Total return ratio	42.4%	-	-
Domestic lead price quote	¥316,400/t	¥341,000/t	+¥24,600/t
LME	$US 2,283/t	$US 2,300/t	+$US 17/t
Exchange rate	¥113.04/$US	¥120.0/$US	+¥6.96/$US

Note: ROE and total return ratio are based on profit before amortization of goodwill.

1. Net Sales, Profits Forecast

Factors for Operating Income Change (actual vs. forecast)

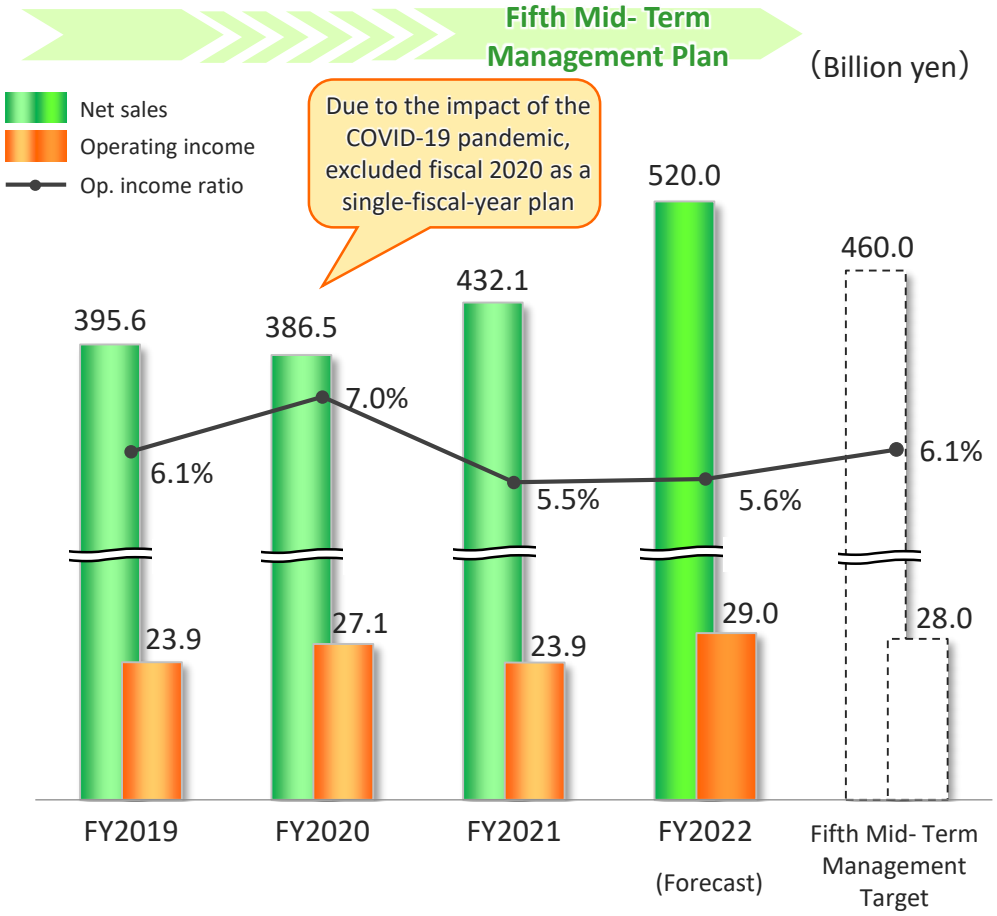
(Billion yen)



Note: Operating income is operating income before amortization of goodwill.

2. Comparison to Fifth Mid-Term Management Target

Net Sales, Operating income, Operating income ratio



Factor of difference between FY2022 Forecast and Fifth Mid-Term Management Target

- Launch Blue Energy No.2 Plant
  (Sales and profit will increase)
- Supply of large wind power generation in Hokkaido completed
  (Sales will decline, profit will increase)
- Acquisition of social infrastructure business of Sanken Electric Co., Ltd.
  (Sales and profit will increase)
- Consolidation of company in Turkey
  (Sales and profit will increase)

【Changes of Market Conditions】

- Change of precondition

	Fifth Mid-Term Management Plan	FY2022 Forecast
Domestic lead price quote	¥300,000/t	¥341,000/t
LME	$US 2,100/t	$US 2,300/t
Exchange rate	¥110.0/$US	¥120.0/$US

*1 Operating income has been operating income before amortization of goodwill and the operating income ratio has been the operating income ratio before amortization of goodwill.

*2 The Fifth Mid-Term Management Plan originally covered the period from fiscal 2019 to fiscal 2021. Due to the impact of the COVID-19 pandemic, however, we have excluded fiscal 2020 as a single-fiscal-year plan and changed the fifth plan to a four-year plan ending in fiscal 2022 (the term ending in March 2023).

3. Segment Results Forecast

(Billion yen)

		FY2021 Actual		FY2022 Forecast		Change	
		Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: %)	Net sales	Operating income (Op. income ratio: pp)
Automotive Batteries	Japan	81.5	5.9 (7.2)	92.0	5.0 (5.4)	+10.5	-0.9 (-1.8)
	Overseas	186.7	10.0 (5.3)	236.0	14.0 (5.9)	+49.3	+4.0 (+0.6)
Industrial Batteries and Power Supplies		99.5	5.8 (5.8)	108.0	9.0 (8.3)	+8.5	+3.2 (+2.5)
Automotive Lithium-ion Batteries		47.6	1.7 (3.5)	70.0	1.0 (1.4)	+22.4	-0.7 (-2.1)
Others		16.8	0.6 (3.4)	14.0	0.0 (-)	-2.8	-0.6 (-)
Total		432.1	23.9 (5.5)	520.0	29.0 (5.6)	+87.9	+5.1 (+0.1)

Note: Operating income is operating income before amortization of goodwill and operating income ratio is operating income ratio before amortization of goodwill.

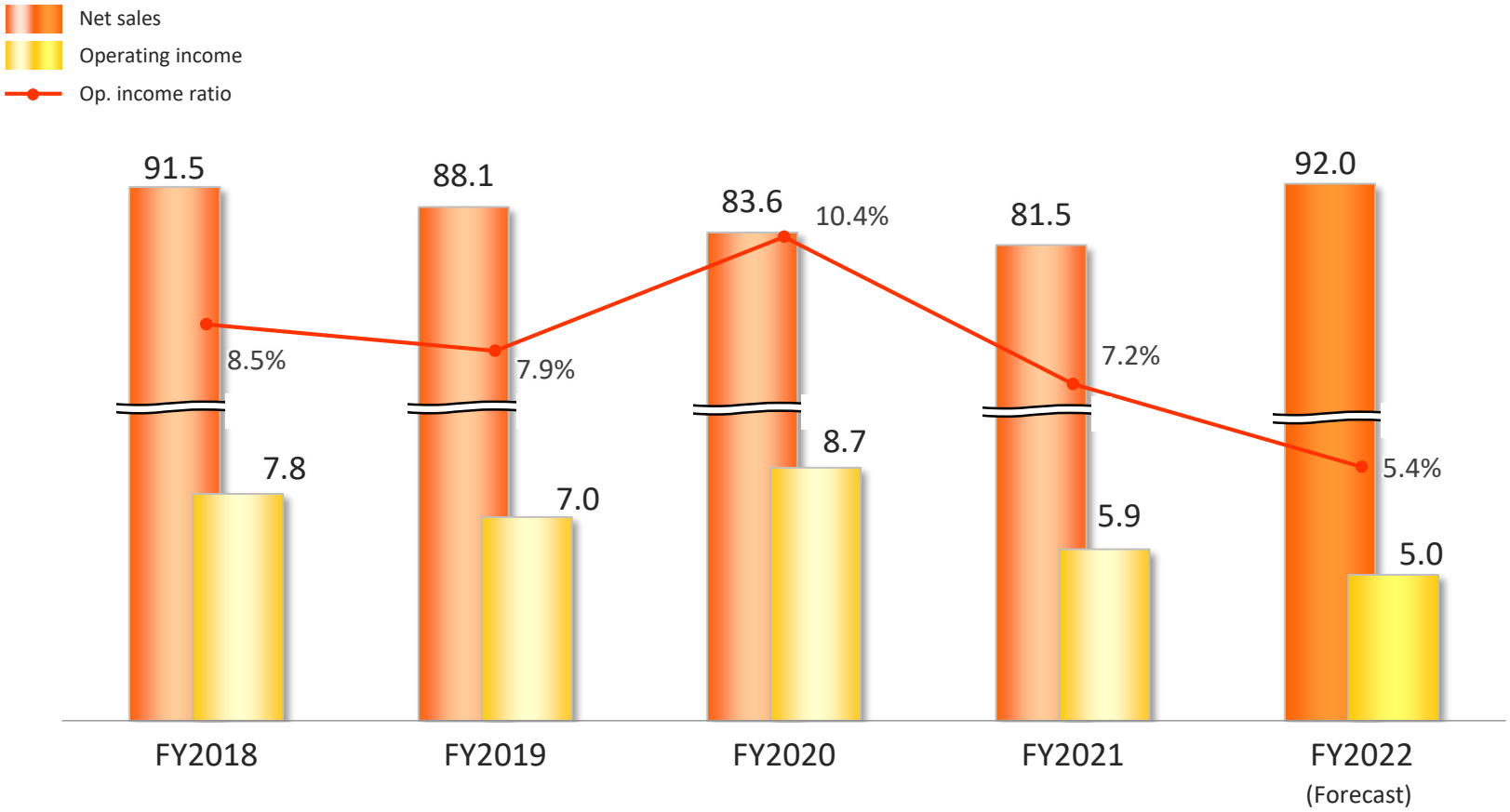
3. Segment Results Forecast (Automotive Batteries (Japan))

Automotive Batteries (Japan)

Sales increased, profit declined

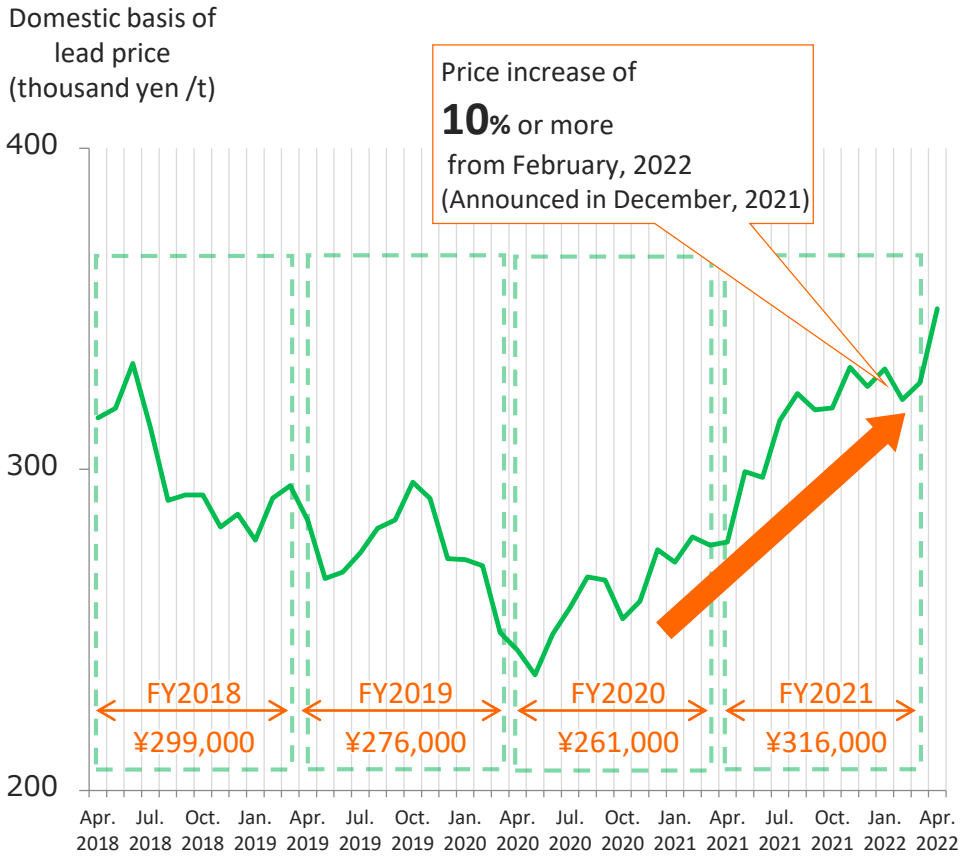
Net Sales, Operating income, Op. income ratio

(Billion yen)



Note: Operating income is operating income before amortization of goodwill and Op. income ratio is Op. income ratio before amortization of goodwill.

3. Segment Results Forecast (Automotive Batteries (Japan))



Response to **rising lead prices**

For new automobiles

Contract to adjust selling prices reflecting domestic basis of lead price
(Lead price sliding scale plan)

For replacement

Shipped from February 1st, 2022
Lead-acid batteries for automobiles
price increase of **10% or more**

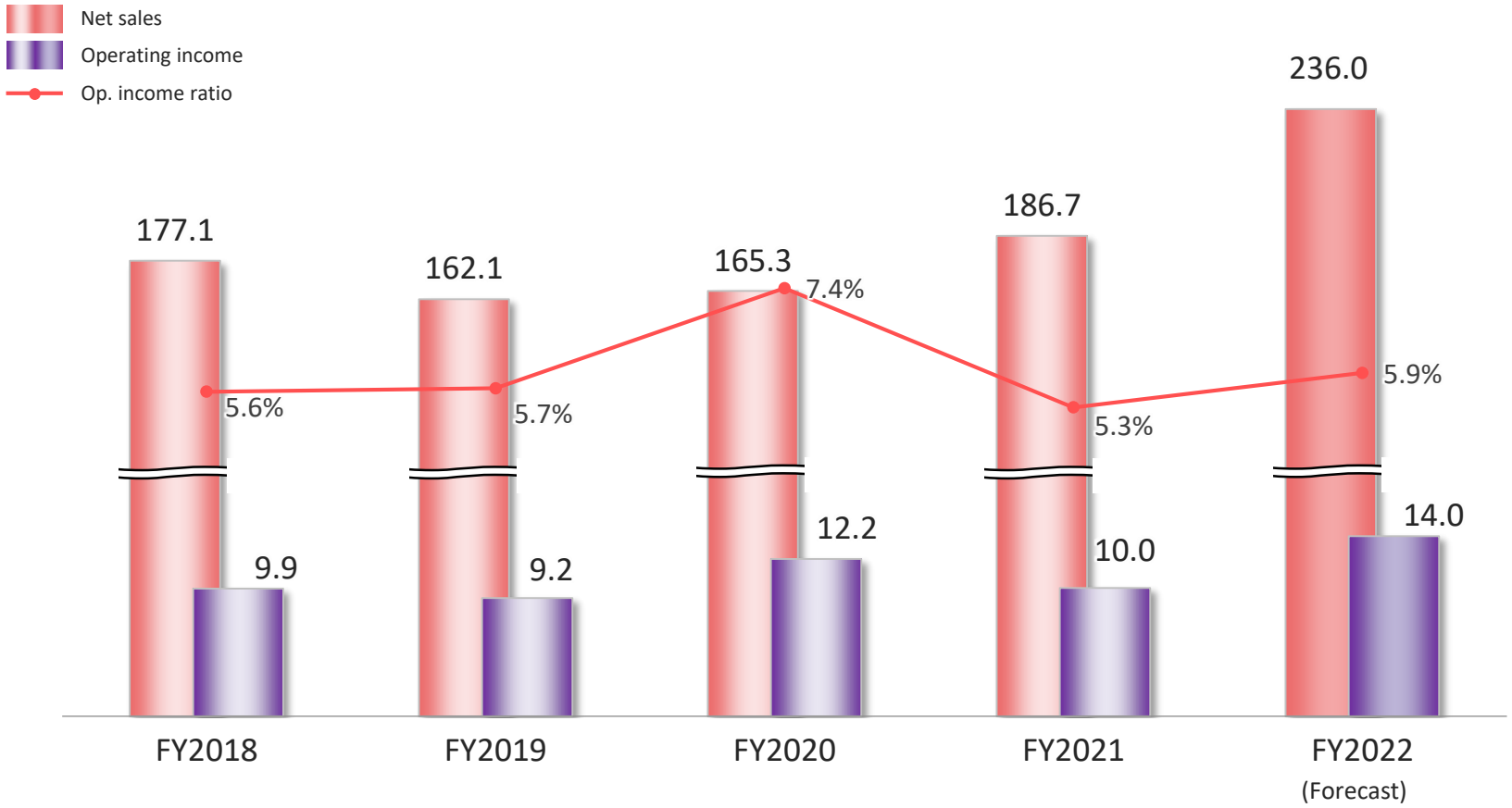
3. Segment Results Forecast (Automotive Batteries (Overseas))

Automotive Batteries (Overseas)

Sales and profit increased

Net Sales, Operating income, Op. income ratio

(Billion yen)



Note: From FY2019, some consolidated subsidiaries that were included in "Automotive Batteries-Overseas" have been reclassified to "Industrial Batteries and Power Supplies." Segment information for FY2018 has been recast to conform to this revision.

3. Segment Results Forecast (Automotive Batteries (Overseas))

Convert **joint venture company in Turkey** into consolidated subsidiary

Change in investment ratio

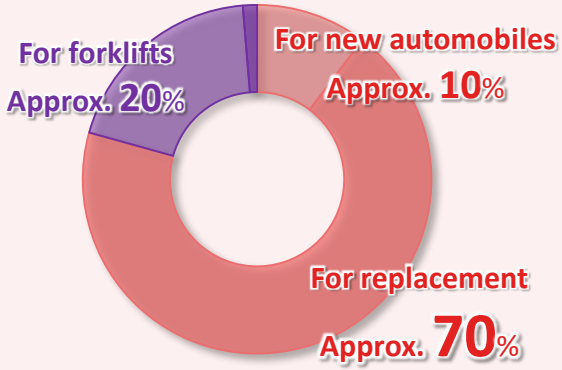
Company name	Inci GS Yuasa Aku Sanayi ve Ticaret Anonim Sirketi		
Establishment	October, 2015		
Location	Manisa Province, Turkey		
Business	Manufacture and sales of lead-acid storage batteries for automobiles and forklifts		
Investors Investment ratio		Before change	After change
	GS Yuasa International Ltd.	50%	**60%**
	Inci Holding A.S.	50%	**40%**

Strengthen production capacity and expand sales in European market

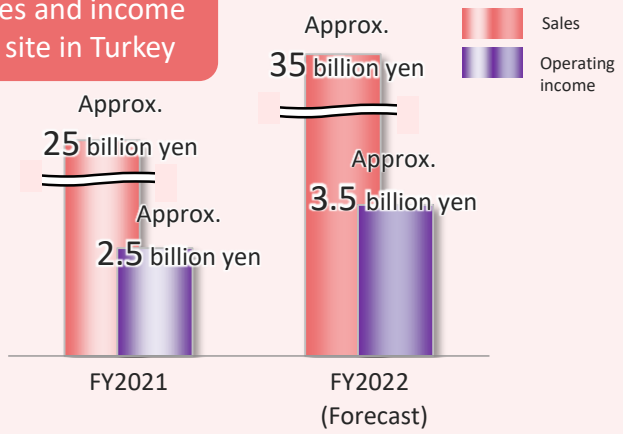
- Establish supplying framework as an important site to focus on Europe and Middle East area

	FY2019		FY2022
Production capacity	4 million units /year	▷	**6.3** million units /year

Sales ratio of site in Turkey (Jan.-Dec. in 2021)



Sales and income of site in Turkey



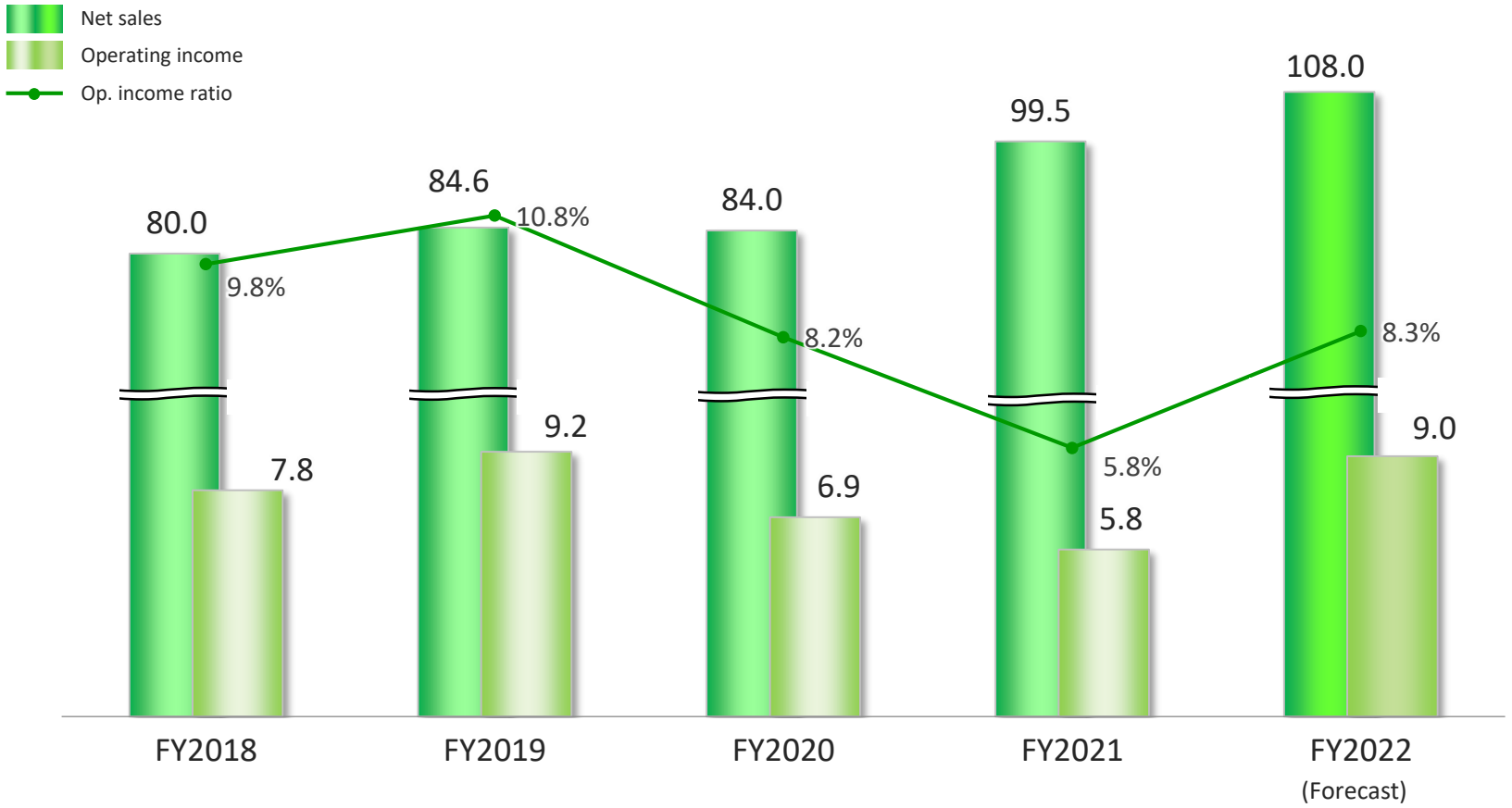
3. Segment Results Forecast (Industrial Batteries and Power Supplies)

Industrial Batteries and Power Supplies

Sales and profit increased

Net Sales, Operating income, Op. income ratio

(Billion yen)



Note: From FY2019, some consolidated subsidiaries that were included in "Automotive Batteries-Overseas" have been reclassified to "Industrial Batteries and Power Supplies." Segment information for FY2018 has been recast to conform to this revision.

3. Segment Results Forecast (Industrial Batteries and Power Supplies)

Initiatives for **Regular use**

- **Introduce new lithium-ion batteries that offer even greater price competitiveness**
  - ➢ Capture demand for renewable energy for achieving carbon neutrality
    - ・FY2022 Sales target：Approx. **100MWh**
  - ➢ Develop products to strengthen greater price competitiveness
    - ・Develop ESS* integrated with new type batteries and containers
- **Response to demand for strengthen adjusting electric power system**
  - ➢ Strengthen receiving order of ESS using subsidy to accelerate to introduce renewable energy
- **Strengthen maintenance and inspection services business utilizing DX**
  - ➢ In the intense price competitive market of regular use, maintain an advantage by GS Yuasa's service
    - ・**Over 100** service sites

【Service details (Excerpt)】

- Monitor power supplies, total voltage (24h)
- Hand over monitoring report (Accumulate past data)
- Long term warranty

*ESS：Energy Storage System

Initiatives for **Emergency use**

- **Maximize synergy with Sanken Electric Co., Ltd. social infrastructure systems business**
  - ➢ Self-manufacture of batteries
  - ➢ Strengthen power supplies for telecommunication field
  - ➢ Integrate sales models etc.
- **Expand demands for backup batteries and power supplies for emergency use**
  - ➢ Demand for BCP*
  - ➢ Demand for building national resilience
  - ➢ Demand for datacenters
- **Pass on price to sales price properly with a response to rising raw material price**

*BCP：Business Continuity Plan

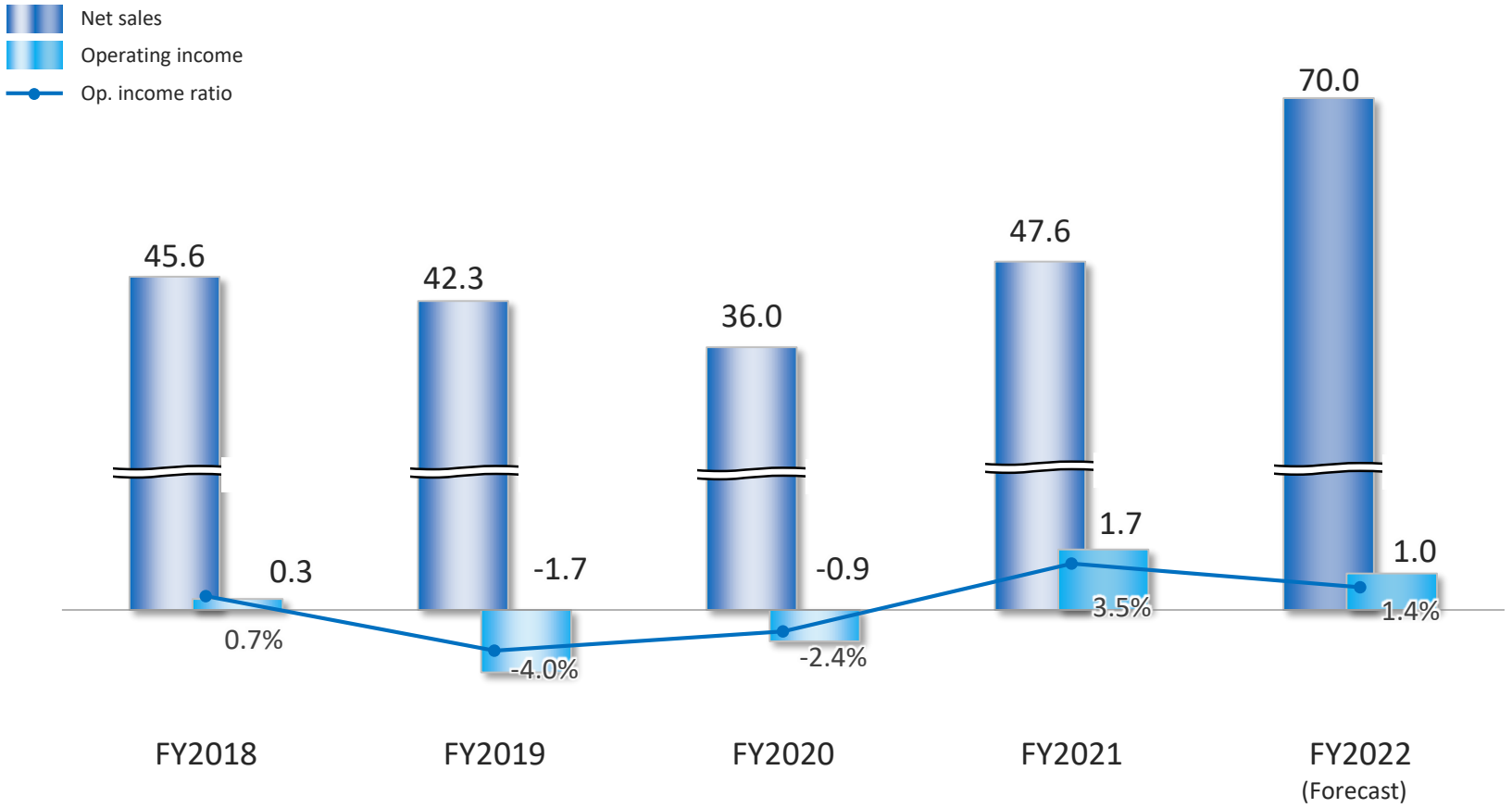
3. Segment Results Forecast (Automotive Lithium-ion Batteries)

Automotive Lithium-ion Batteries

Sales increased, profit declined

Net Sales, Operating income, Op. income ratio

(Billion yen)



3. Segment Results Forecast (Automotive Lithium-ion Batteries)

Initiatives for LiB for HEVs

Blue Energy's No.2 Plant started operation

- Started to operate from April and expand production capacity
  - Increase numbers of installing models
  - Strengthen sales activities for developing new customers

Production capacity

FY2020
20 million cells /year

▽

FY2022 2nd half
50 million cells /year

▽▽

Late 2020s
70 million cells /year

Initiatives for LiB for EVs and PHEVs

Supply LiB for PHEVs and receive orders

- Supply stably for existing customers and develop new customers
  - Maintain systems for stable supply of LiB for PHEVs
  - Strengthen sales activities of LiB for PHEVs

Supply LiB for Commercial EVs and receive orders

- Supply Commercial EVs stably and reduce costs
  - Integrated initiatives with development, preparing for mass production and cost reducing activities

Establish "Battery for BEV Development Department"

- Response toward full-scale entry to the market of LiB for EVs
  - Establish department in Lithium-ion Battery Business Unit for focusing on LiB for BEVs

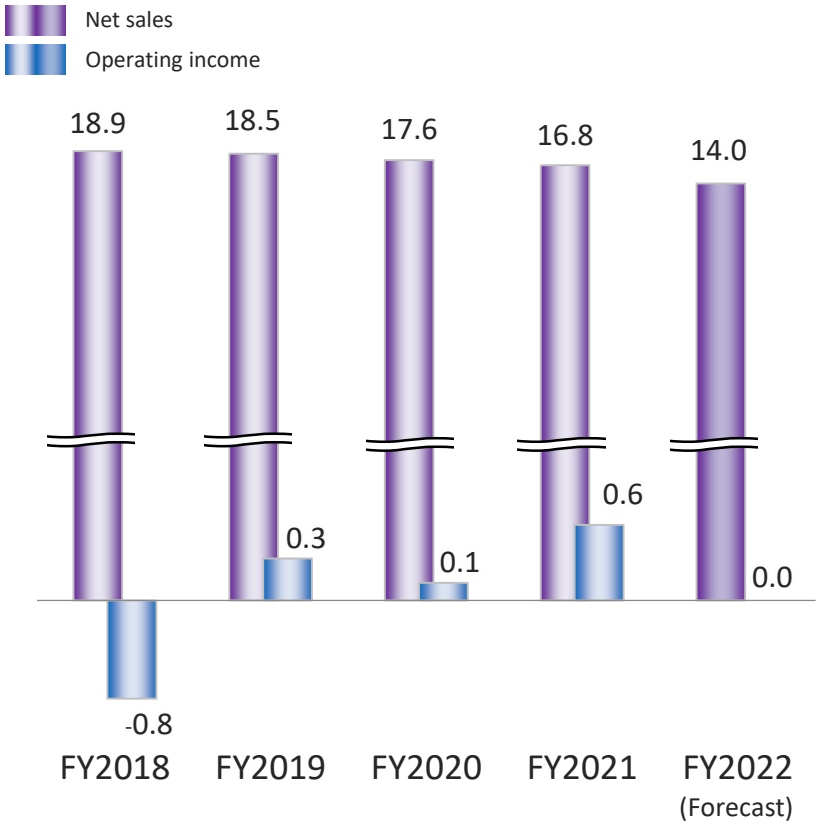
3. Segment Results Forecast (Specialized Batteries and Others)

Specialized Batteries and Others

Sales and profit declined

(Billion yen)

Net Sales, Operating income



FY2022 Initiatives

- Stable supply of lithium-ion batteries for submarines
- Increase receiving orders of batteries for satellites and ocean
- Establish manufacturing system to expand production
- Develop batteries for lunar rovers
- Receive orders of lithium-ion batteries for Gateway

4. R&D Topics

GS Yuasa was selected for NEDO Green Innovation Fund's
Next-Generation Storage Battery Development Project and accelerate development

Research and development of high-performance storage batteries

- Quick commercialization of the all-solid-state batteries
  - Target：Enhance energy density more than double (More than 700～800Wh/L)
    ⇒ Pursue high performance by utilizing proprietary high-performance solid electrolytes or surface processing technology of materials and combing various types of positive electrode materials and negative electrode materials

- GS Yuasa's development targets for the project
  1. Development of a solid electrolyte that combines high ionic conductivity with excellent water resistance
  2. Development of high-capacity positive electrodes with low cobalt content
  3. Development of negative electrodes with long-life performance and high capacity
  4. Development of cell design and manufacturing processes that facilitate mass production

Establish specialized department that promote technological development of the all-solid-state batteries

- Establish specialized department and accelerate development toward quick commercialization of the all-solid-state batteries

5. Capital Investment, Depreciation, R&D Costs

(Billion yen)

		FY2021 Actual	FY2022 Forecast	Change
Capital Investment		29.9	32.0	+2.1
Automotive Batteries	Japan	3.8	4.0	+0.2
	Overseas	5.2	7.0	+1.8
Industrial Batteries and Power Supplies		1.3	4.0	+2.7
Automotive Lithium-ion Batteries		11.6	8.0	-3.6
Others		7.9	9.0	+1.1
Depreciation		16.8	18.0	+1.2
Automotive Lithium-ion Batteries		3.1	4.0	+0.9
R&D Costs		12.4	13.0	+0.6
(Ratio of R&D expenses to net sales)		2.9%	2.5%	-0.4P

6. Financial Status

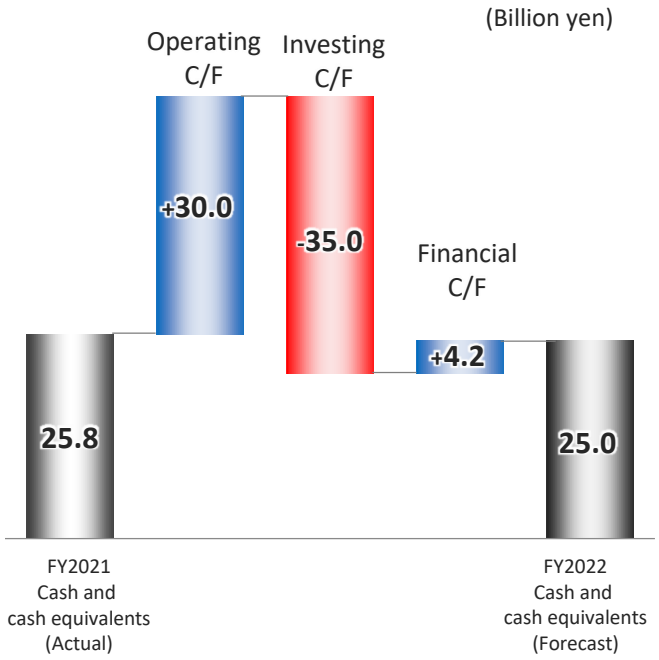
About financial security

- Total assets will increase due to conversion joint venture company in Turkey into consolidated subsidiary and capital investment for Blue Energy No.2 plant

  ⇒Maintain financial security although financial indicators will get worse

Balance sheet and cash flow statements (Forecast) (End of FY2022)

Cash flow statements (Forecast)
(FY2022)



Balance sheet (Forecast)
(End of FY2022)

(Billion yen)

Current assets 240.0 (+13.7)	Current liabilities 150.0 (+20.6)
	Long-term liabilities 105.0 (+3.6)
Long-term assets 270.0 (+15.5)	Net assets 255.0 (+5.0)

Note: Comparisons with figures as of March 31, 2022.

Financial indicators	FY2021 (Actual)	FY2022 (Forecast)	Fifth Mid-Term Management Plan target
Debt to cash flow ratio	7.0 year	Less than 3 year	Less than 3 year
Equity ratio	44.8%	42% or more	45% or more
Return on equity (ROE)	4.6%	6.0%	8% or more
Return on invested capital (ROIC)	9.7%	11.0%	-
Debt	82.5 billion yen	Less than 90.0 billion yen	-

Note 1: ROE refers to operating income before amortization of goodwill and ROIC refers to profit before amortization of goodwill
Note 2: Financial indicators "Debt" is total liabilities

GS YUASA
Creating the Future of Energy

Initiatives for TCFD (the Task Force on Climate-Related Financial Disclosures)

1. Governance, Risk management, Social Conditions

Governance and Risk Management

Governance Structures

Board of Directors

Management Meeting

Executive Conference
Responsible person：President

CSR Committee
Chairman：Director in charge of CSR

Risk Management

①Identification of risks and opportunities

②Evaluation of the degree of impact

③Investigation of responsive measures

Identification and evaluation of risks and opportunities

① Identification of risks and opportunities relating to the TCFD framework
② Evaluation of the degree of impact using companywide risk management criteria
③ Identification of significant risks and opportunities considering the degree of impact and investigation of responsive measure

Assumed Time Axis and Change of Social Conditions

Assumed Time Axis

Short term	Medium term	Long term
2025	2030	2050

Change of Social Conditions

1.5°C scenario	3°C scenario
➢ Prices will decline due to expand demands for batteries ➢ Structural changes in the automobile industry and expand electrification ➢ Expand demand of renewable energy and backup applications ➢ Expand demands for lithium resources and intensifying competition to secure raw materials	➢ Increase natural disasters such as flooding or rising sea levels ➢ Expansion of business relating to disaster countermeasures

2. Risks and Opportunities, Business Strategies, Metrics and Targets

Risks and Opportunities, Business Strategies

Risks and Opportunities

	Risks	Opportunities
1.5°C scenario	➢ Declining demand for starting batteries ➢ Declining demand for LiB used in HEVs and PHEVs (Long term) ➢ Difficulty procuring and rising price for raw materials ➢ Increased costs for energy saving, renewable energy and carbon costs etc.	➢ Higher demand for batteries for auxiliary equipment ➢ Increasing demand for LiB used in HEVs and PHEVs (Short to medium term) ➢ Increasing demand for LiB used in EVs ➢ Increasing demand for Energy storage systems (ESS) for renewable energy ➢ Expand business due to next-generation batteries
3°C scenario	➢ Damage such as business suspension due to disasters ➢ Increased costs for air conditioning and cooling processes	➢ Increased demand for emergency power supplies as countermeasures against disaster

Business Strategies

1.5°C scenario	3°C scenario
➢ Capture demand for batteries used in electric vehicles including next-generation batteries ➢ Capture demand for ESS toward carbon neutrality	➢ Countermeasures against intensifying disasters by backup power supplies

Metrics and Targets

GY 2030 Long-Term Greenhouse Gas Target

Reduce CO_2 emissions **by at least 30%** by 2030
(compared to FY2018)

<Topic>Convert electric power of Kyoto Head plant to **100% renewable energy**

ICP (Internal Carbon Pricing)

The price will be set at **¥8,600/t-CO_2**

for use as information when making investment decisions regarding energy-saving and renewable energy measures

Although this document has been prepared with information believed to be correct, GS Yuasa Corporation does not guarantee the accuracy or the completeness of such information. Also, the information herein contains forward-looking statements regarding the Company's plans, outlooks, strategies and results for the future. All the forward-looking statements are based on judgments derived from information available to the Company at the time of release. Certain risks and uncertainties could cause the Company's actual results to differ materially from any projections presented herein.

GS YUASA
Creating the Future of Energy

Reference

Reference：TCFD (Changes of Social Conditions)

1.5°C scenario		Social conditions under scenario		
		Through 2025 (short term)	Through 2030 (medium term)	Through 2050 (long term)
Operations	Social demand for emissions reduction	-20%	-40%	-100%
	Carbon price	$75/t-$CO_2$	$130/t-$CO_2$	$250/t-$CO_2$
Automotive related business	Changes in the automobile market	• Expansion of automobile electrification • Structural changes in the automobile industry in conjunction with electrification	Passenger vehicles (global) • Ratio of EVs, PHEVs, and FCVs Sales: 60%, ownership: 20% • Number of vehicles sold and owned (compared to now) Sales: 1.3 times, ownership: 1.6 times Two-wheeled and three-wheeled vehicles (global) • Ratio of EVs Sales: 85%, ownership: 54%	Passenger vehicles • Ratio of EVs, PHEVs, and FCVs Sales: 100%, ownership: 86% • Number of vehicles sold and owned Ownership: 2.1 times compared to now Two-wheeled and three-wheeled vehicles • Ratio of EVs Sales and ownership: 100%
	Development of alternative technologies to replace lead-acid batteries	• In conjunction with increasing demand for batteries for applications relating to transportation and electric power, prices will decline for alternative technologies, such as lithium-ion batteries, to take the place of lead-acid batteries		
Industrial battery and power supply related business	Changes in energy-related markets	• In conjunction with the rapid expansion of solar and wind power generation, demand for batteries used for electric power will expand • Batteries for storing excess power from renewable energy sources will increasingly be converted to use for backup applications		
	Development of alternative technologies to replace lead-acid batteries	• In conjunction with increasing demand for batteries for applications relating to transportation and electric power, prices will decline for alternative technologies, such as lithium-ion batteries, to take the place of lead-acid batteries		
Supply chains R&D	Raw materials	• Demand for lithium, nickel, and other metal resources will increase rapidly as demand for lithium batteries increases for use with energy storage technologies and renewable energy • Competition to sustainably secure raw materials will intensify		
	Acceleration of the circular economy*	• Needs for products adapted to a recycling-oriented society will increase year-by-year		
	Emergence and spread of alternative technologies to replace lithium-ion batteries		• As battery demand for transportation and electric power related applications expands, the development and spread of battery technologies with higher added value in terms of safety, energy density, cost, charging speed, and life span will progress	

3°C scenario		Through 2025 (short term)	Through 2030 (medium term)	Through 2050 (long term)
Operations	Storm and flood damage, storm surges			• The frequency of flooding will more than double compared to now in Japan and other regions • Sea levels will rise about approximately 0.3 m • The frequency of intense storms in the vicinity of Japan will increase
Industrial battery and power supply related business	Storm and flood damage, storm surges	• Expansion of business relating to disaster countermeasures		

* An economic mechanism for the circulation of resources without waste. Positioned as a medium- to long-term economic growth policy, particularly in European countries.

Reference：TCFD (Risks and Opportunities)

1.5°C scenario	Business risks and opportunities*	Explanation
Operations	**Introduction of carbon tax and renewable energy** • Risk: Increased costs for energy saving and renewable energy to reduce CO_2 emissions • Risk: Increased carbon costs for the company's emissions in conjunction with the introduction of a carbon tax • Risk: Increased carbon costs for emissions in upstream segments of supply chains	Under the 1.5°C scenario, targets for a major reduction of CO_2 will be required and carbon taxes will be introduced to achieve carbon neutrality. Cost increases are expected due to the introduction of energy-saving equipment and renewable energy to reduce CO_2 emissions in order to achieve carbon neutrality.
Automotive related business	• Opportunity: Higher demand for batteries in conjunction with increased sales and ownership of passenger vehicles **Starting batteries and batteries for auxiliary equipment** • Opportunity: Higher demand for batteries for auxiliary equipment used in EVs and PHEVs • Opportunity/Risk: Replacement of lead-acid batteries with lithium-ion batteries • Risk: Declining demand for starting batteries used in internal combustion engine vehicles **Batteries for HEVs, PHEVs, and EVs** • Opportunity: Higher demand for batteries used in EVs and PHEVs • Opportunity/Risk: Changes in demand for batteries used in HEVs and PHEVs (higher demand over the short to medium term and declining demand over the long term)	**Starting batteries and batteries for auxiliary equipment** In conjunction with the expansion of the market for EVs, PHEVs, and other such vehicles, demand for starting batteries used in internal combustion engine vehicles is expected to decline while demand for batteries for auxiliary equipment is expected to increase. Also, a shift of a certain number of lead-acid batteries to lithium-ion batteries is expected. **Batteries for HEVs, PHEVs, and EVs** It is expected that over the short to medium term, demand for batteries used in HEVs and PHEVs will increase, but in the long term, as sales of EVs increase substantially and account for approximately 100% of sales in 2050, the battery market will change.
Industrial battery and power supply related business	**Lead-acid batteries for backup applications and forklifts** • Opportunity: Higher demand for batteries • Risk: Replacement of lead-acid batteries with lithium-ion batteries **Energy storage systems (ESS) for renewable energy** • Opportunity: Higher demand for batteries and peripheral systems and devices	**Lead-acid batteries for backup applications and forklifts** Demand for batteries used in transportation and electric power related applications is expected to increase, but as technological innovation progresses, it is expected that prices for lithium-ion batteries and other such products will fall and that a certain number of lead-acid batteries will be replaced by lithium-ion batteries. **Energy storage systems (ESS) for renewable energy** It is expected that in conjunction with the increased introduction of solar, wind, and other renewable energy generation, demand for batteries and peripheral systems and devices for electricity load leveling and the like will increase.
Supply chains R&D	**Raw materials procurement and circular economy** • Opportunity: Improvement in the superiority of recyclable lead in a recycling-oriented society • Risk: Difficulty procuring and rising price for metal resources • Risk: Difficulty sustainably procuring and rising price for sustainable raw materials **Technological innovation** • Opportunity/Risk: Increased business opportunities as a result of leading development of next-generation batteries technologies (all-solid-state batteries, etc.)	**Raw material procurement and circular economy** Risks such as rising resource prices and difficult securing resources are expected over the short to medium term. On the other hand, with the development of alternative technologies, it is expected that tight supply and demand situations will be alleviated over the long term. It is also expected that competition relating to sustainable procurement of raw materials will intensify in terms of the environment and society. **Technological innovation** It is expected that the development and spread of high-value-added battery technologies (all-solid-state batteries, metal-air batteries, sulfur batteries, etc.) for transportation and electric power related applications will advance. In cases where the company can lead the development of new technologies, business opportunities will arise.

3°C scenario	Business risks and opportunities	Explanation
Operations	**Natural disasters and temperature rise** • Risk: Increased damage to facilities due to storm and flooding disasters and increased loss of profit due to business suspension • Risk: Business suspension due to damage to supply chains • Risk: Increased costs for air conditioning and cooling processes	Due to increased storm and flooding damage, there is a risk of greater impact including property damage to facilities and machinery at the company's plants, loss of profit from business suspension, and the inability of workers to report to work. Interruption of supply chains is also anticipated.
Industrial battery and power supply related business	**Emergency power supplies** • Opportunity: Increased demand for emergency power supplies as countermeasures against severe disaster	It is expected that demand for emergency power supplies will increase out of concern regarding intensification of natural disasters due to climate change.

*Those items that were determined in the risk assessment to be of particular importance in the short to long term are listed.

Reference：TCFD (Business Strategies)

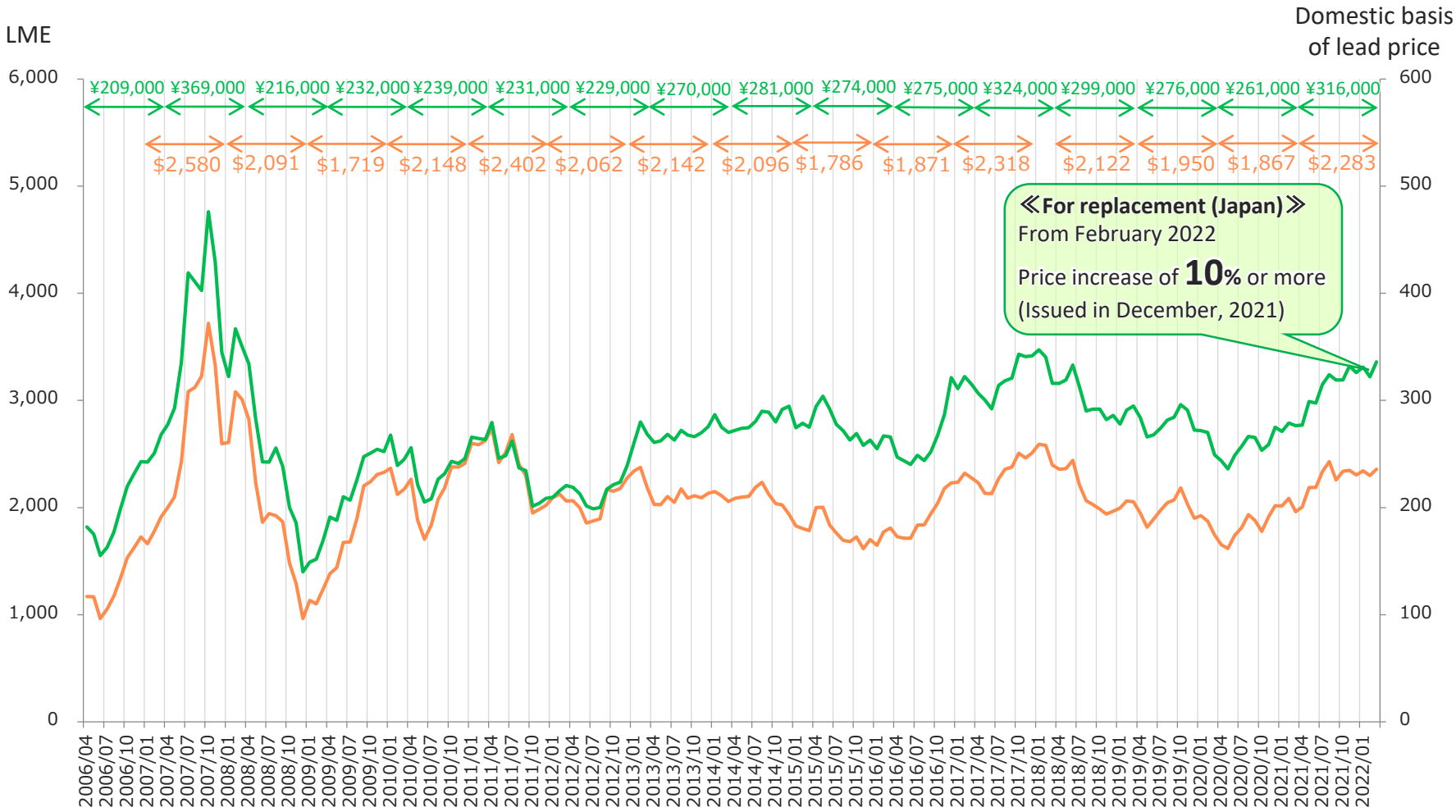
1.5°C scenario	Response strategies
Operations	**Reduce CO_2 emissions by at least 30% by 2030** Implement measures for energy conservation and use of renewable energy **Further accelerate measures for achieving carbon neutrality** Further implement measures for energy conservation and procurement of renewable energy
Automotive related business	**Securing profits from lead-acid batteries for internal combustion engine vehicles** Introduce differentiated products, strengthen our sales capabilities, and increase sales of high-value-added products with a focus on regions where internal combustion engine business remains such as ASEAN **Capture demand for batteries for auxiliary equipment used in electric vehicles** Capture demand for 12 V lead-acid or lithium-ion batteries for auxiliary equipment used in electric vehicles as well (for new automobiles and for replacement) **Capture demand for redundant batteries used in electric vehicles** Capture demand for lithium-ion batteries used for backup of self-driving vehicles **Expand production of lithium-ion batteries for HEVs and PHEVs** Production will increase, particularly for Japanese automakers, but will decline in the future **Full-scale entry into EV lithium-ion battery market** Invest development resources to enter the market for lithium-ion batteries used in EVs, which are used under demanding environments and must be highly reliably
Industrial battery and power supply related business	**Apply automotive lithium-ion battery know-how to industrial applications** Establish a lineup that includes both lead-acid batteries and lithium-ion batteries for industrial applications according to market needs **Focus on the renewable energy and energy management fields** Strengthen operation, maintenance and inspection services, develop more price-competitive batteries, and introduce products and services aligned customer needs to capture demand for renewable energy Capture demand for peak cutting, peak shifting, and other energy management services for business sites
Supply chains R&D	**Develop the market for lead-acid batteries with high recycling rates** Commercialize lead-acid batteries compatible with the needs of a recycling-oriented society **Conduct R&D of and commercialize rare metal-free batteries** Promote R&D on and commercialize rare metal-free batteries such as sulfur cathode batteries **Conduct R&D of and commercialize post-lithium-ion batteries** Promote R&D of all-solid-state batteries and put them into practical application, promote R&D of and commercialize Si anode batteries, Li metal anode batteries, and sulfur cathode batteries

3°C scenario	Response strategies
Operations	**Countermeasures against intensifying disasters** Evaluate future risks including climate risks, implement countermeasures as necessary, and undertake BCP including supply chains
Industrial battery and power supply related business	**Contribute to countermeasures against intensifying disasters using backup power supplies** Focus on market expansion conditions and respond to needs

Now → 2050

Reference

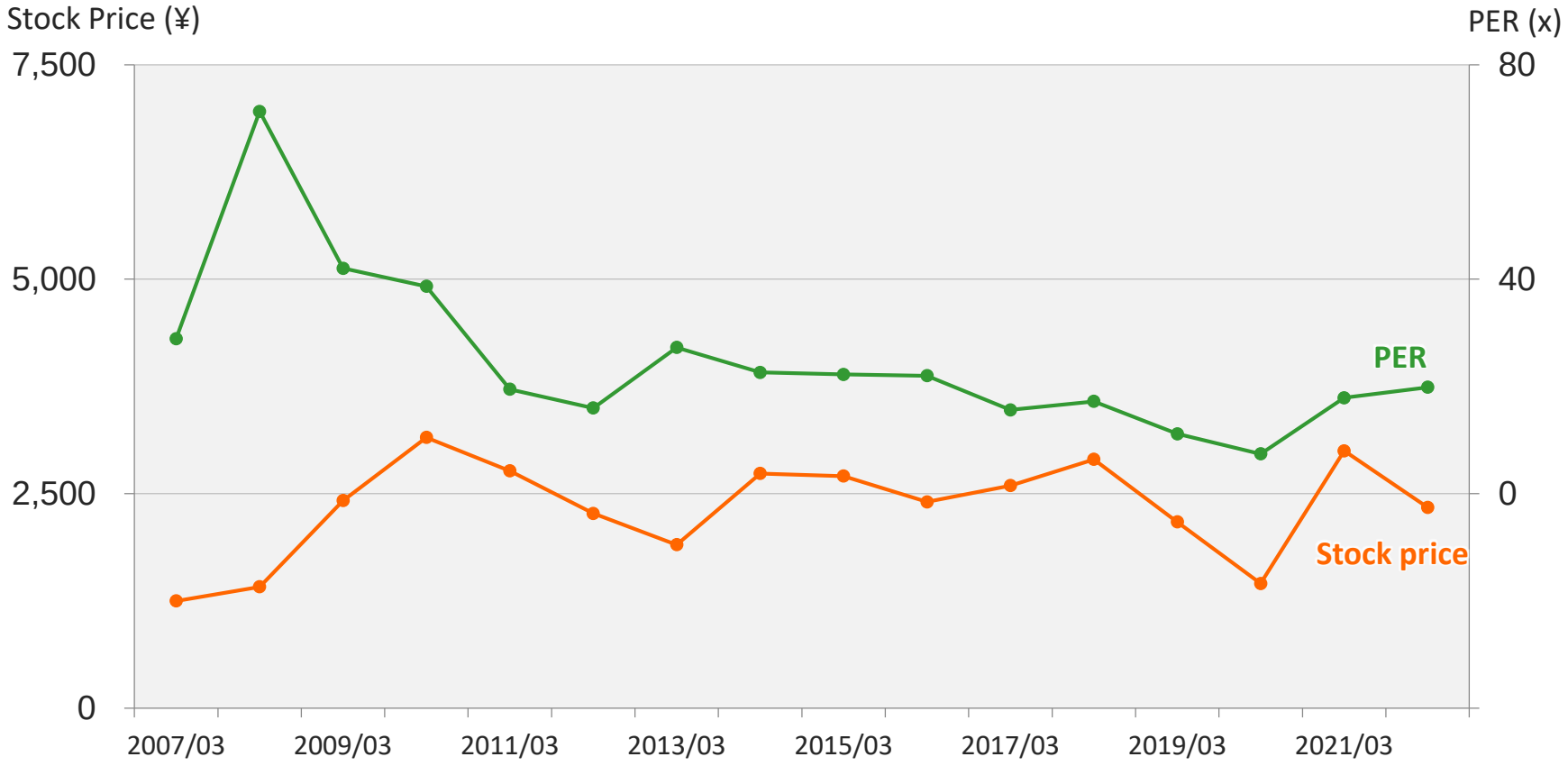
Raw Materials Prices



Recent quotes (as of May 10, 2022)
LME $2,117 Domestic basis of lead price ¥357,000

Reference

Stock Price, Price to Earnings Ratio (PER)



Notes: 1. Closing price on the last trading day of March.
2. PER is based on profit before amortization of goodwill.
3. GS Yuasa carried out a five-to-one reverse stock split of its common stock upon changing the number of shares per trading unit from 1,000 to 100 shares (effective date Oct. 1, 2018), and Stock Price and PER take into account the share consolidation.

Reference

Fiscal year		2017	2018	2019	2020	2021
Operating income ratio	(%)	5.9	6.1	6.1	7.0	5.5
Return on equity（ROE）	(%)	8.2	9.0	9.0	7.2	4.6
Return on invested capital（ROIC）	(%)	10.9	11.3	10.9	12.0	9.7
Earnings per share（EPS）	(¥)	168.55	194.58	195.92	167.72	118.02
Dividend per share	(¥)	50	50	50	50	50 (planned)
Purchase of treasury stock (amount planned for the next fiscal year)	(¥bn)	0.9	1.4	1.5	0.0	0.0
Total return ratio	(%)	36.3	34.3	34.9	29.8	42.4

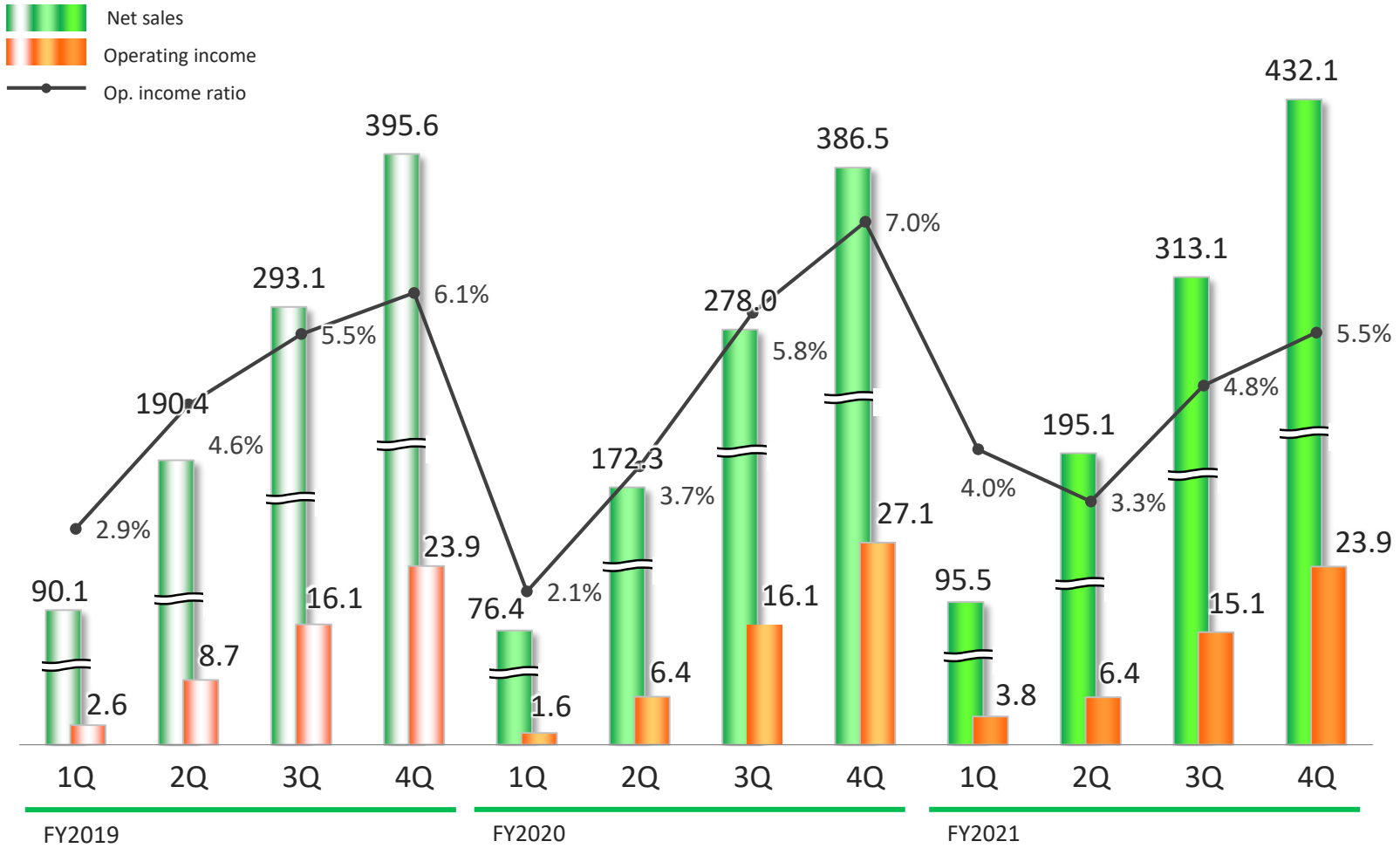
Fiscal year		2017	2018	2019	2020	2021
Total borrowings	(¥bn)	75.1	66.9	64.5	65.4	82.5
D/E ratio	(x)	0.50	0.42	0.42	0.41	0.50
Equity ratio	(%)	45.2	46.4	45.8	46.8	44.8
Debt to cash flow ratio	(year)	3.5	2.2	2.2	2.2	7.0

Notes: 1. The above indices for FY2016 onward are based on profit before amortization of goodwill (operating income, profit).
2. ROIC is calculated as follows: Operating income before amortization of goodwill ÷ invested capital (fixed assets [excl. goodwill amortization] + working capital). Invested capital is the average of amount at beginning and end of term.
3. GS Yuasa carried out a five-to-one reverse stock split of its common stock upon changing the number of shares per trading unit from 1,000 to 100 shares (effective date Oct. 1, 2018), and EPS and Dividend per share take into account the share consolidation.

Reference

Net Sales, Operating Income, Op. Income Ratio

(Billion yen)



Note: Operating income is operating income before amortization of goodwill and op. income ratio is op. income ratio before amortization of goodwill.

External ratings of Sustainability activities

Sustainability evaluations

	ESG rating by MSCI (U.S.)*1 (As of May 2022)	CSR assessment by Toyo Keizai Inc.*2 (As of November 2021)				CDP (English) assessments*3 (As of December 2021)
		HR utilization	Environment	Corporate governance	Sociality	
2022	A	-	-	-	-	-
2021	A	AA	AAA	AA	AA	A-
2020	A	AAA	AAA	AA	AA	B
2019	A	AA	AAA	AA	AA	B
2018	AA	AA	AA	AA	AA	B

*1: ESG rating of MSCI (U.S.) is done by Japan ESG Select Leaders Index and is seven-grade evaluation of AAA, AA, A, BBB, BB, B and CCC.

*2: Toyo Keizai Inc.'s CSR assessment is five-grade evaluation of AAA, AA, A, B and C.

*3: CDP (English) is eight-grade evaluation of A、A-、B、B-、C、C-、D、D-

Evaluation, certification and accreditation for GS Yuasa's Sustainability-related efforts

- Selected as a certified company of the Company with Excellent Health Management 2022 by the Ministry of Economy, Trade and Industry
- Received the highest rank "particularly excellent in terms of initiatives for employees' health" from DBJ Employees' Health Management Rating
- Received Platinum Kurumin certification as a company that supports child care by the Ministry of Health, Labour and Welfare
- Selected as a "Nadeshiko Brand" jointly selected by the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange