GS YUASA
Creating the Future of Energy

Six Months Ended September 30, 2022(FY2022) Result Briefing

November 10, 2022

GS Yuasa Corporation

Contents

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Creating the Future of Energy

FY2022 2nd Quarter Financial Results

1. Net Sales, Profits

(Billion yen)

	FY2021 Apr-Sep (Six Months)	FY2022 Apr-Sep (Six Months)	Change	(YoY%)
Net Sales	195.1	Record 235.2	+40.1	(+20.6%)
Operating income	5.2	Record 8.2	+3.0	(+57.3%)
(Operating income ratio)	2.7%	3.5%	+0.8P	
Operating income before amortization of goodwill	6.4	Record 8.8	+2.4	
(Operating income ratio before amortization of goodwill)	3.3%	3.7%	+0.4P	
Ordinary income	6.6	6.0	-0.6	(-8.4%)
Extraordinary income	1.5	1.5	-0.0	
Extraordinary loss	1.7	0.3	-1.4	
Profit before income taxes	6.4	7.2	+0.8	
Income taxes	2.1	3.2	+1.1	
Profit attributable to non-controlling interests	2.2	2.3	+0.1	
Profit attributable to owners of parent	2.2	1.7	-0.5	(-22.4%)
(Net profit ratio)	1.1%	0.7%	-0.4P	
Profit attributable to owners of parent before amortization of goodwill	3.2	2.2	-1.0	
(Net profit ratio before amortization of goodwill)	1.6%	0.9%	-0.7P	
Domestic lead price quote	¥305,200/t	¥341,700/t	+¥36,500/t	
LME	2,234US$/t	2,090US$/t	-144US$/t	
Exchange rate	¥110.10/US$	¥135.30/US$	+¥25.20/US$	

First is an overview of net sales and profits.

We registered 235.2 billion yen in consolidated net sales, a year-on-year increase of 40.1 billion yen.

This was primarily due to an increase in sales of lithium-ion batteries for hybrid electric vehicles, the consolidation of our site in Turkey, and the impact of a weaker yen.

Operating income stood at 8.2 billion yen, for a year-on-year increase of 3 billion yen.

I will be discussing the details later on in today's presentation.

Profit attributable to owners of parent stood at 1.7 billion yen, on account of non-operating losses in the form of investment losses accounted for using the equity method, and a worsening of foreign exchange gains and losses in some regions.

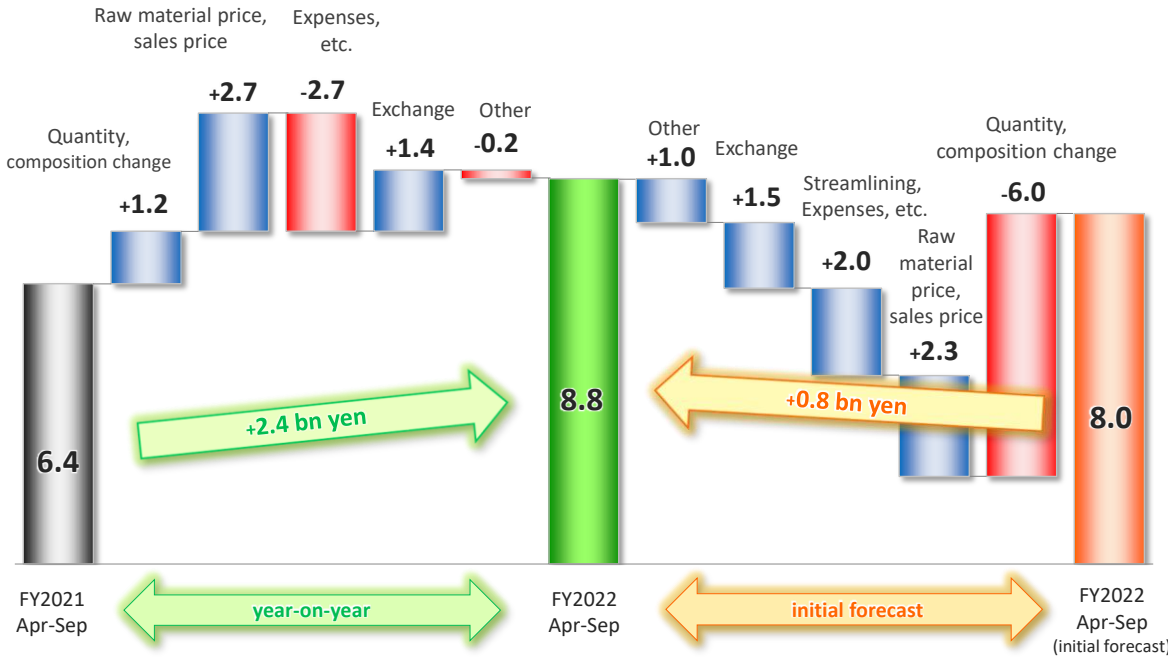
This represents a year-on-year decrease of 500 million yen.

Furthermore, these results represent a record second quarter performance in terms of net sales and operating income.

1. Net Sales, Profits

Factors for Operating Income Change (year-on-year / initial forecast comparison)

(Billion yen)



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

Shown here are the factors for operating income change.

While operating income was negatively impacted by an increase in personnel and other expenses, the execution of cost pass-throughs to reflect surging raw material prices and foreign exchange gains allowed us to deliver a year-on-year increase.

2. Segment Results

(Billion yen)

		FY2021 Apr-Sep (Six Months)		FY2022 Apr-Sep (Six Months)		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	35.2	1.8 (5.0)	37.7	1.8 (4.7)	+2.5	-0.0 (-0.3)
	Overseas	87.6	4.3 (4.9)	121.8	6.1 (5.0)	+34.2	+1.8 (+0.1)
Industrial Batteries and Power Supplies		46.0	-0.2 (-0.3)	40.4	0.8 (1.9)	-5.6	+1.0 (+2.2)
Automotive Lithium-ion Batteries		18.4	0.2 (0.9)	27.3	0.2 (0.7)	+8.9	+0.0 (-0.2)
Specialized Batteries and Others		7.9	0.2 (2.9)	8.0	-0.0 (-0.5)	+0.1	-0.2 (-3.4)
Total		195.1	6.4 (3.3)	235.2	8.8 (3.7)	+40.1	+2.4 (+0.4)

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

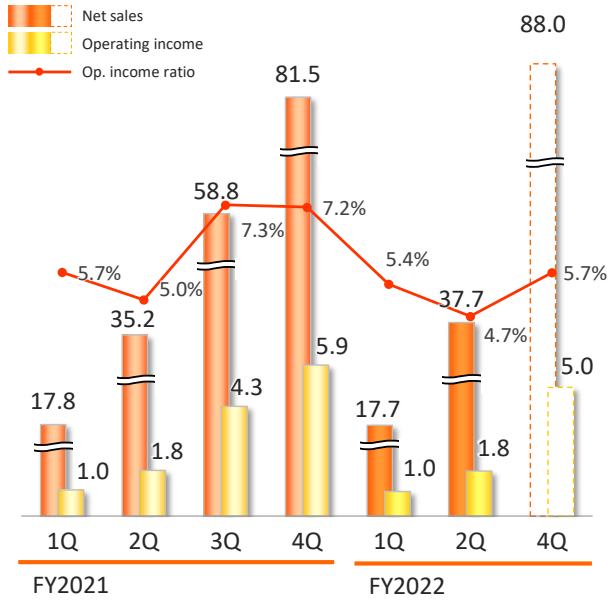
2. Segment Results (Automotive Batteries (Japan))

Automotive Batteries (Japan)

Sales increased, Profit declined

(Billion yen)

Net Sales, Operating income, Op. income ratio



FY2022 2Q 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 performed well due to the impact of increase in continuous use of owned cars

Main Profit Change Factors

Quantity, composition change	-0.5
Raw material prices, sales prices	+0.3
Streamlining, expenses, etc.	+0.2

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

I would now like to go over the segment results, starting with the Automotive Battery segment in Japan.

In this segment, net sales increased while operating income decreased.

The highlights are as follows.

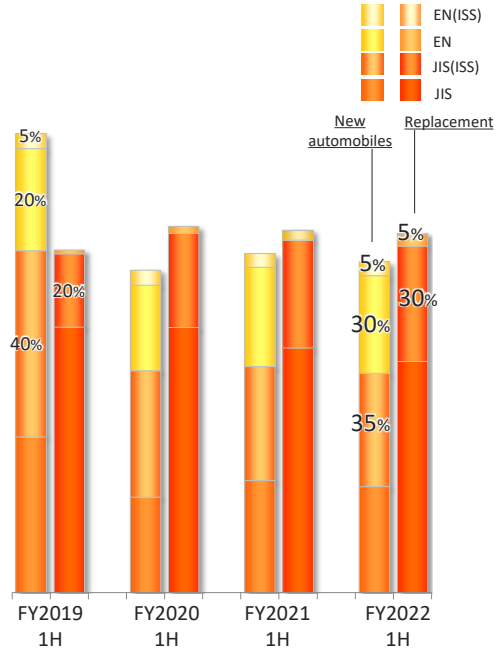
Sales volume of batteries for new automobiles decreased because of a production decrease of automakers due to the semiconductor shortage continuing.

Additionally, sales volume of replacement batteries performed well due to the impact of an increase in continuous use of owned cars.

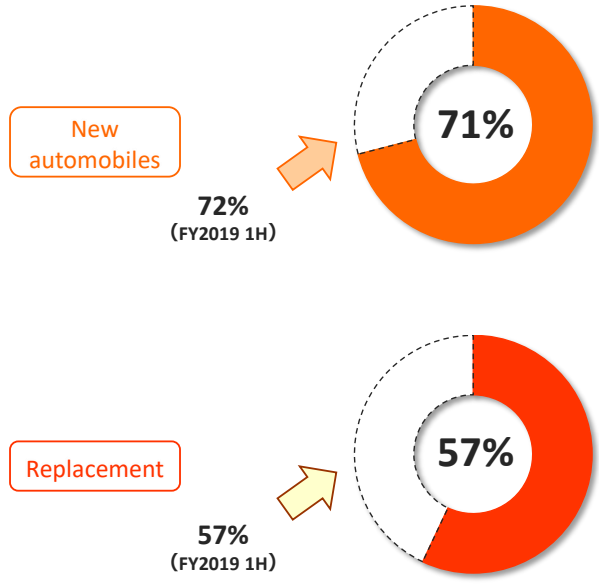
2. Segment Results (Automotive Batteries (Japan))

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

Ratio of Shipped Batteries



Market Share (FY2022 1H/Group total)



*In-house research (excluding imported batteries)

This page shows our market share for batteries for new automobiles and replacement batteries in Japan.

Our market share in batteries for new automobiles and for replacement remains unchanged from fiscal year 2019 levels - pre-COVID-19.

In the replacement market, the share of batteries for start and stop vehicles continues a steady climb, and so does the share associated with European Standard-compliant (abbreviated as "EN") batteries - a type of battery GS Yuasa has a competitive advantage in.

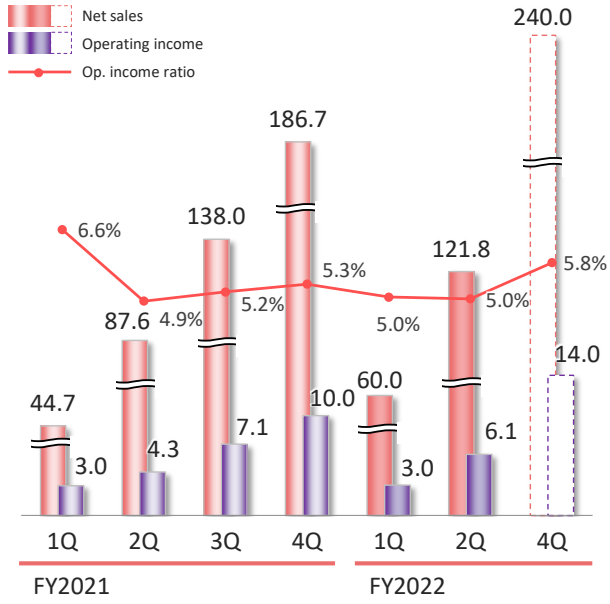
2. Segment Results (Automotive Batteries (Overseas))

Automotive Batteries (Overseas)

Sales and profit increased

(Billion yen)

Net Sales, Operating income, Op. income ratio



FY2022 2Q Sales Overview

- In Southeast Asia, sales volume of batteries for automobiles and motorcycles remained strong
- Sales volume of batteries for automobiles increased due to consolidation of our site in Turkey
- Sales increased thanks to the impact of weaker yen

Main Profit Change Factors

Quantity, composition change	+0.2
Raw material prices, sales prices	+2.1
Expenses, etc.	-1.9
Exchange	+1.4

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

Next are the results in the Overseas Automotive Battery segment.

In this segment, both net sales and operating income registered a year-on-year increase.

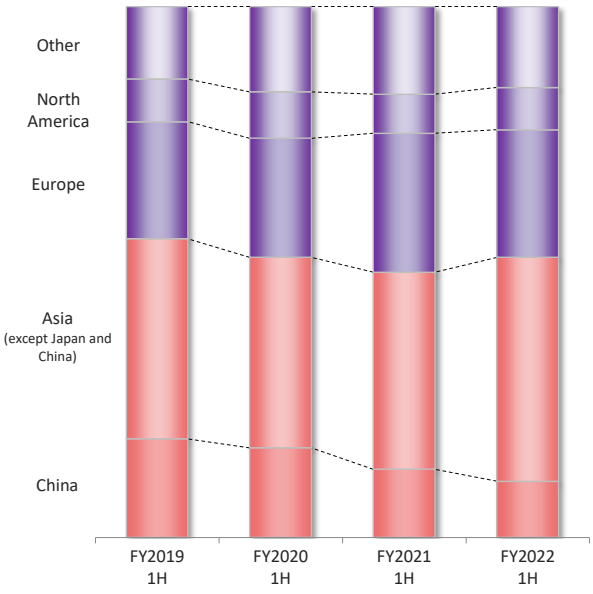
In Southeast Asia, sales volume of batteries for automobiles and motorcycles remained strong.

Additionally, sales volume of batteries for automobiles increased due to the consolidation of our site in Turkey, and lastly, sales increased thanks to the impact of a weaker yen.

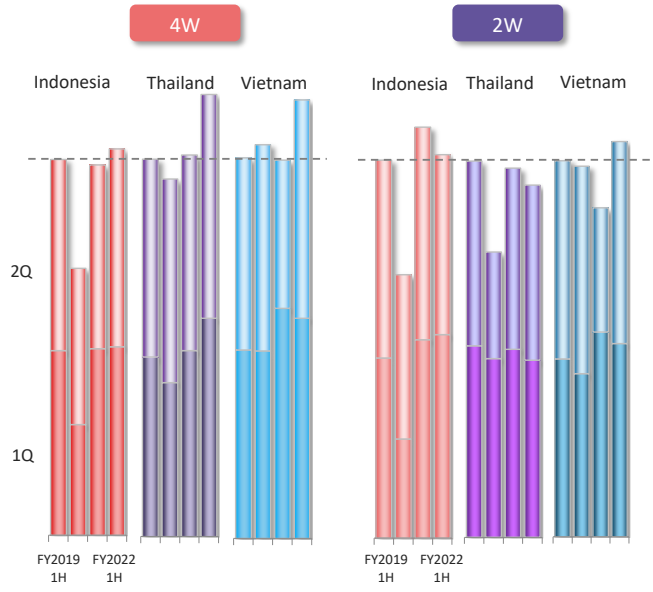
2. Segment Results (Automotive Batteries (Overseas))

Sales by Region / Ratio of Shipped Batteries in Indonesia, Thailand, Vietnam

Sales by Region (include industrial)



Ratio of Shipped Batteries in Indonesia, Thailand, Vietnam



*Including equity method affiliates

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This page discusses sales and market share by region globally, in the Overseas Automotive Battery segment, as well as the ratio of shipped batteries in ASEAN - where GS Yuasa has a significant presence.

As you can see, globally, the sales share for the ASEAN region continues on an upward trend, growing with each passing year.

GS Yuasa aims to maintain a high market share in ASEAN, while at the same time working toward further profitability improvements through the introduction of new products and optimal production systems.

Allow me to direct your attention to the vertical bar graphs to the right, representing the ratio of shipped batteries for use in 4-wheel and 2-wheel vehicles.

Market conditions in Indonesia, Thailand, and Vietnam continue to approach and exceed pre-COVID-19, fiscal year 2019 levels.

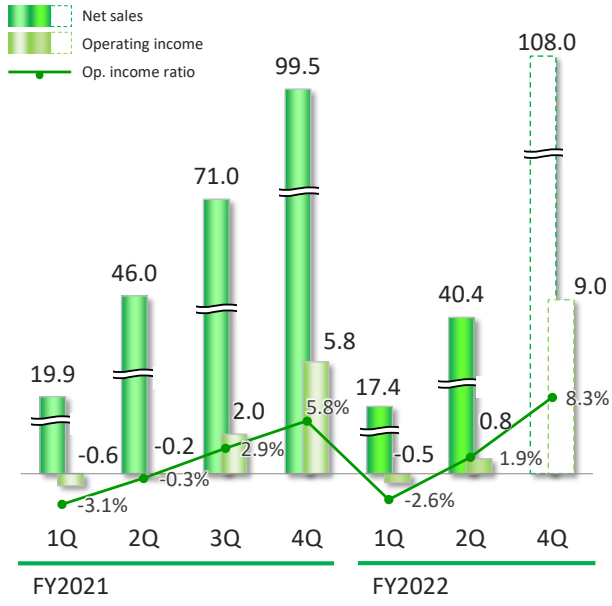
2. Segment Results (Industrial Batteries and Power Supplies)

Industrial Batteries and Power Supplies

Sales declined, Profit increased

(Billion yen)

Net Sales, Operating income, Op. income ratio



FY2022 2Q Sales Overview

- Sales decreased because supply of lithium-ion batteries for interconnected system of large wind power generation in Hokkaido finished in the previous fiscal year
- Sales of backup batteries and power supplies decreased due to long delivery times for mini-UPS components
- Sales volume of replacement batteries for forklifts progressed steadily

Main Profit Change Factors

Quantity, composition change	+0.8
Raw material prices, sales prices	-0.1
Streamlining, expenses, etc.	+0.3

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Next are the results in the Industrial Battery and Power Supply segment.

In this segment, we registered a decrease in net sales, accompanied by an increase in operating income.

The highlights are as follows.

Sales decreased because supply of lithium-ion batteries for the interconnected system of large wind power generation in Hokkaido finished in the previous fiscal year.

Sales of backup batteries and power supplies decreased due to long delivery times for mini-UPS components.

Lastly, sales volume of replacement batteries for forklifts and trucks progressed steadily.

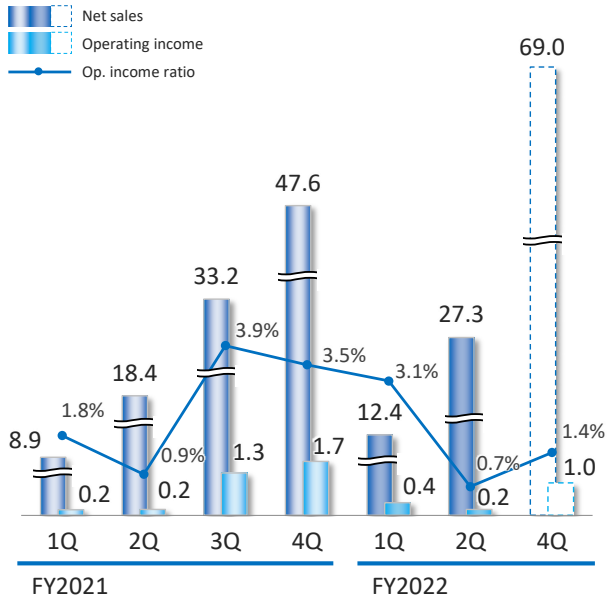
2. Segment Results (Automotive Lithium-ion Batteries)

Automotive Lithium-ion Batteries

Sales and profit increased

(Billion yen)

Net Sales, Operating income, Op. income ratio



FY2022 2Q Sales Overview

- [Blue Energy]
  Sales volume of lithium-ion batteries for hybrid vehicles (HEVs) increased because No.2 Plant started operation
- [Lithium Energy Japan]
  Sales volume of plug-in hybrid vehicles (PHEVs) models equipped with our lithium-ion batteries increased

Main Profit Change Factors

Quantity, composition change	+0.7
Raw material prices, sales prices	+0.4
Expenses, etc.	-1.1

Next are the results in the Automotive Lithium-ion battery segment.

In this segment, we registered a year-on-year increase in net sales and operating income.

The highlights are as follows.

Starting with Blue Energy, sales volume of lithium-ion batteries for hybrid vehicles increased because the No.2 Plant started operation.

Regarding Lithium Energy Japan, sales volume of plug-in hybrid vehicle models equipped with our lithium-ion batteries increased.

Additionally, in this segment, we newly established a “Battery for BEV Development Department,” so this led to an increase in R&D expenses.

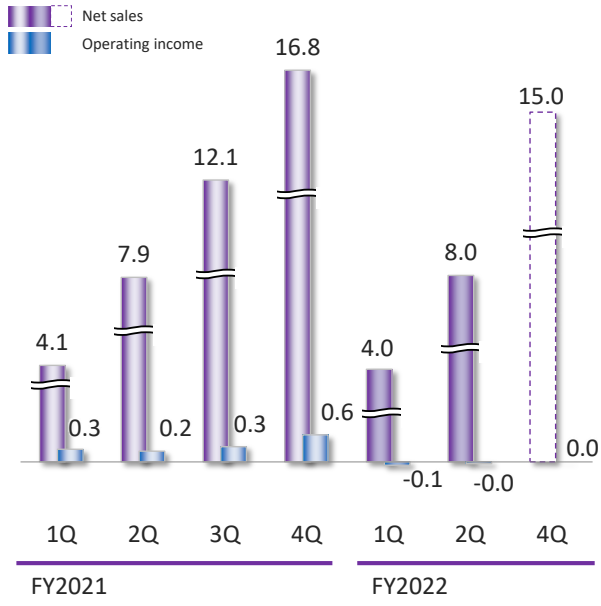
2. Segment Results (Specialized Batteries and Others)

Specialized Batteries and Others

Sales increased, Profit declined

(Billion yen)

Net Sales, Operating income



FY2022 2Q Sales Overview

- Sales of lithium-ion batteries for submarines decreased due to the relation of standard for progress of construction works
- Sales volume of lithium-ion batteries for aircraft mainly to airlines (for replacement) increased

Main Profit Change Factors

Profit decreased due to increase in expenses

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Next are the results in the segment of Specialized Batteries and Others.

The core company in this segment is GS Yuasa Technology, which manufactures and sells specialized batteries.

In this segment, we registered a year-on-year increase in net sales, accompanied by a decrease in operating income.

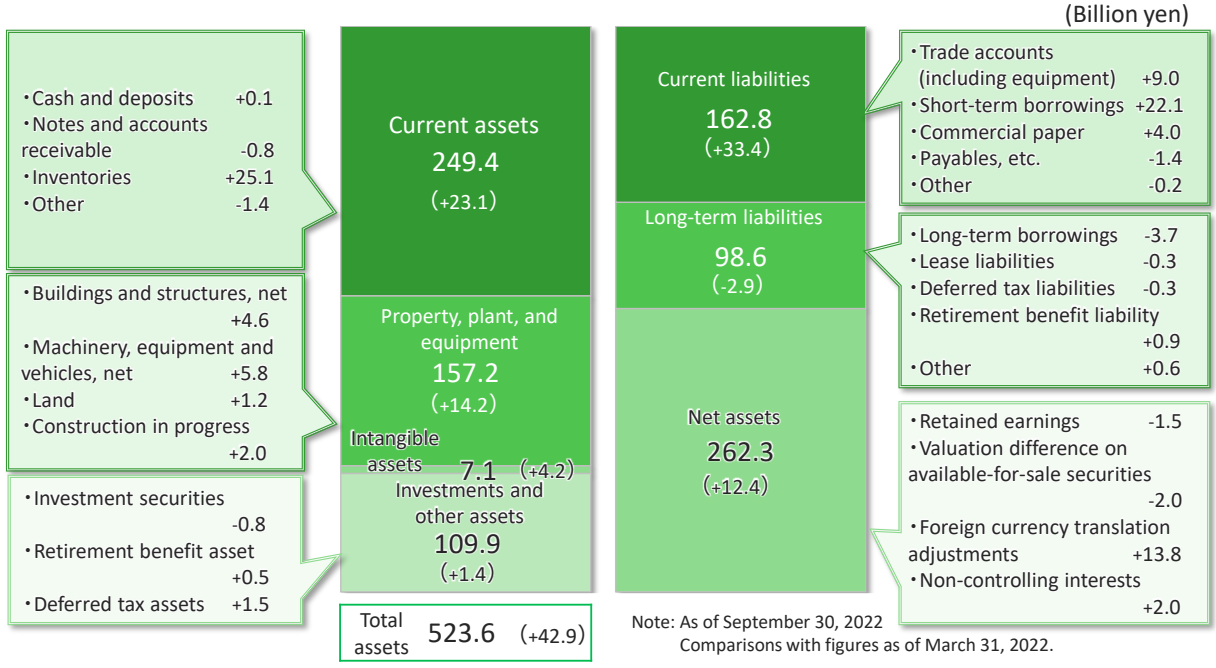
The segment highlights are as follows.

Sales of lithium-ion batteries for submarines decreased due to the relation of standard for progress of construction works.

Additionally, sales volume of lithium-ion batteries for aircraft mainly to airlines - for replacement - increased.

3. Balance Sheet

(Billion yen)



Note: As of September 30, 2022
Comparisons with figures as of March 31, 2022.

	3/31/2022	9/30/2022
Equity ratio	44.8%	43.1%
Total borrowings	¥82.5bn	¥104.8bn

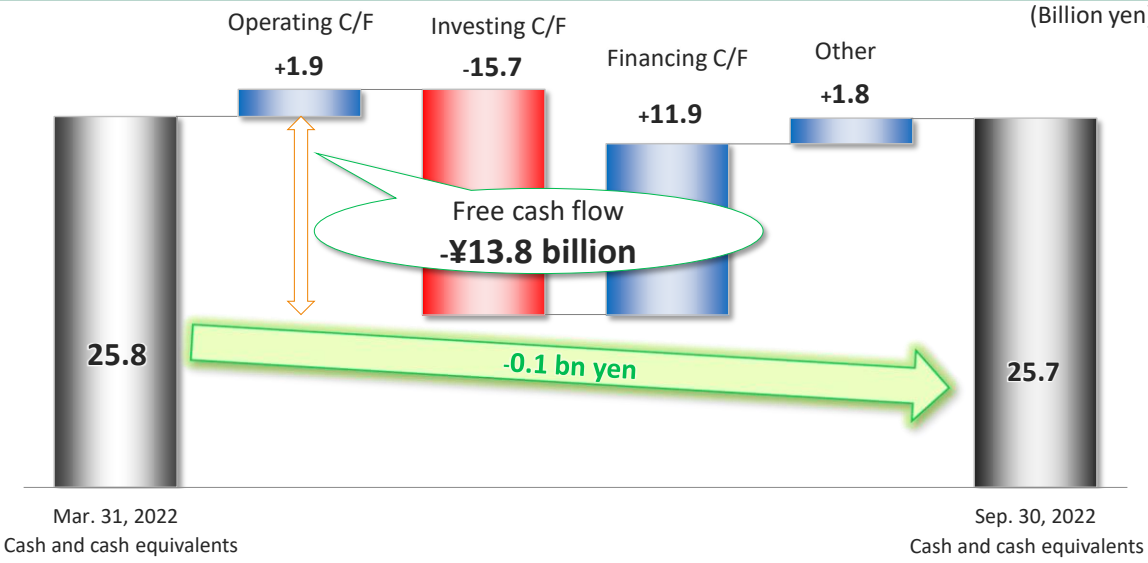
Next is the balance sheet.

The highlights are as shown in the text boxes.

Production cuts on the part of automakers, prompted by supply chain issues, and longer times in the procurement of parts have translated into an increase in working capital, on account of an increase in inventories.

We offset this increase primarily through external financing, primarily through borrowings, and this has led to an increase in the balance of interest-bearing debt.

4. Cash Flow Statements



Highlights

- Operating cash flow totaled ¥1.9 billion mainly due to increase in inventories although ensured ¥7.2 billion profit before income taxes
- Investing cash flow came to -¥15.7 billion due to capital investment for BEC No.2 plant etc.
- Free cash flow came to -¥13.8 billion and allocated to shareholder returns etc. through conducting debt

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I would now like to discuss the cash flow statements.

The highlights are as follows.

While we ensured 7.2 billion yen in profit before income taxes, operating cash flow only totaled 1.9 billion yen, mainly due to the aforementioned increase in inventories.

Investing cash flow came to negative 15.7 billion yen, due to capital investment for Blue Energy's No.2 plant, etc.

These factors resulted in free cash flows of negative 13.8 billion yen, although we conducted debt financing in order to allocate to shareholder returns, etc.

5. Capital Investment, Depreciation, R&D Costs

(Billion yen)

		FY2021 1H	FY2022 1H	FY2021 Full year	FY2022 Full year (Forecast)
Capital Investment		13.3	13.9	28.6	32.0
Automotive Batteries	Japan	1.7	0.9	3.8	4.0
	Overseas	2.3	2.7	5.3	7.0
Industrial Batteries and Power Supplies		0.6	1.9	1.3	4.0
Automotive Lithium-ion Batteries		2.8	4.7	11.0	8.0
Specialized batteries and Others		6.0	3.7	7.2	9.0
Depreciation		8.3	9.3	16.8	18.0
Automotive Lithium-ion Batteries		1.5	1.8	3.1	4.0
R&D Expenses		6.1	6.4	12.4	13.5
(Ratio of R&D expenses to net sales)		3.1%	2.7%	2.9%	2.6%

6. Revision to Segment Results Forecast

(Billion yen)

		FY2021 Actual		FY2022 Initial Forecast (A)		FY2022 Revised Forecast (B)		Change ((B) – (A))	
		Net sales	Operating income (Op. income ratio: %)	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)	88.0	5.0 (5.7)	-4.0	- (+0.3)
	Overseas	186.7	10.0 (5.3)	236.0	14.0 (5.9)	240.0	14.0 (5.8)	+4.0	- (-0.1)
Industrial Batteries and Power Supplies		99.5	5.8 (5.8)	108.0	9.0 (8.3)	108.0	9.0 (8.3)	-	- (-)
Automotive Lithium-ion Batteries		47.6	1.7 (3.5)	70.0	1.0 (1.4)	69.0	1.0 (1.4)	-1.0	- (-)
Specialized Batteries and Others		16.8	0.6 (3.4)	14.0	0.0 (-)	15.0	0.0 (-)	+1.0	- (-)
Total		432.1	23.9 (5.5)	520.0	29.0 (5.6)	520.0	29.0 (5.6)	-	- (-)

Reason for revision

- Revised net sales forecast by segment considering the impact of production decrease of automakers and change in prerequisites

	Initial forecast	2H forecast
Domestic lead price quote	¥341,000/t	¥340,000/t
LME	2,300US$/t	1,950US$/t
Exchange rate	¥120.0/US$	¥142.5/US$

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

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The initial forecast for the fiscal year ending March 31, 2023 remains the same, the only changes being slight upward and downward revisions to the sales forecast for some segments.

However, the following forecasts remain unchanged: 520 billion yen in total consolidated net sales, 29 billion yen in operating income before the amortization of goodwill, 28 billion yen in operating income, 28 billion yen in ordinary income, and 12 billion yen in profit attributable to owners of parent.

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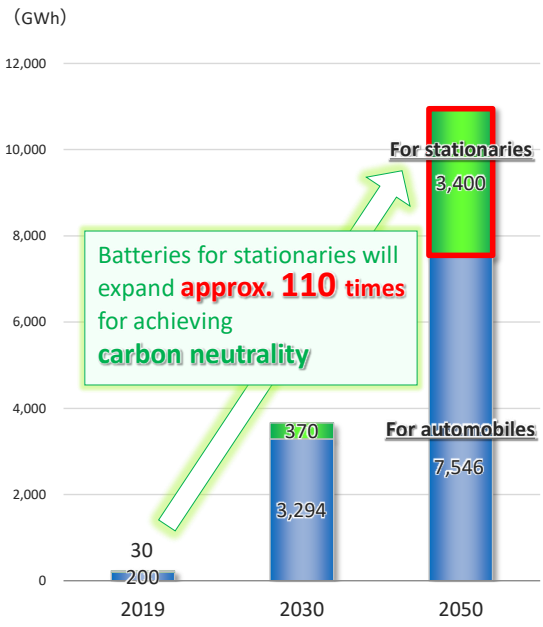
Environment and Strategies Surrounding Storage Batteries

Next, I will be discussing the environment surrounding storage batteries and GS Yuasa's strategies in this area.

1. Storage Battery Market Expansion and Storage Battery Industry Strategy of Japan

Forecast of storage batteries installation (Global)



Source：Prepared based on data from IRENA Global Renewables outlook 2020 "Energy Transformation 2050"

"Storage Battery Industry Strategy" aiming to expand the presence of Japanese storage battery manufacturers

1st Target：Establishment of manufacturing infrastructure for liquid type lithium-ion batteries

≪Target of manufacturing capacity (Japan)≫

By 2030 at the latest：**150GWh / year**

2nd Target：Ensuring global presence

≪Target of manufacturing capacity (Global)≫

In 2030：**600GWh / year**

Global market share：**20%**

3rd Target：Capturing next-generation batteries market

≪Target of research and development capacity≫

Circa 2030：**Commercialize all-solid-state batteries and continue to lead technology development**

Source：Prepared based on data from "Storage Battery Industry Strategy" by the Ministry of Economy, Trade and Industry (METI)

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Demand is expected to continue growing at a tremendous pace in the global market for storage batteries, in light of the acceleration of the electrification of mobility solutions like automobiles.

Against this backdrop, demand for stationary storage batteries is also expected to continue growing, toward raising the share of renewables and making renewable energy the main source of energy.

In particular, as shown in the vertical bar graph, demand for stationary storage batteries stood at 30 GWh in 2019, but this figure is expected to increase approximately 110-fold by 2050.

Toward raising the share of renewables and making renewable energy the world's main source of energy, storage batteries are indispensable devices in the execution of supply and demand adjustments of electricity.

Against this backdrop, the Japanese government's "Storage Battery Industry Strategy" has set a target domestic manufacturing capacity for storage batteries, both for automotive and stationary use, of 150 GWh per year, by 2030.

In the global market, the Japanese government has also outlined a production output target of 600 GWh per year from Japan and Japanese manufacturers, also in the interest of securing buying capacity and securing influence regarding the formulation of international rules.

Furthermore, the Japanese government has also stated a vision for Japan to secure a position as world leader as it pertains to storage battery technology, becoming a world leader in the development of next-generation batteries and in the full-fledged commercialization of all-solid-state batteries.

2. Practical use of Storage Batteries in Renewable Energy Market

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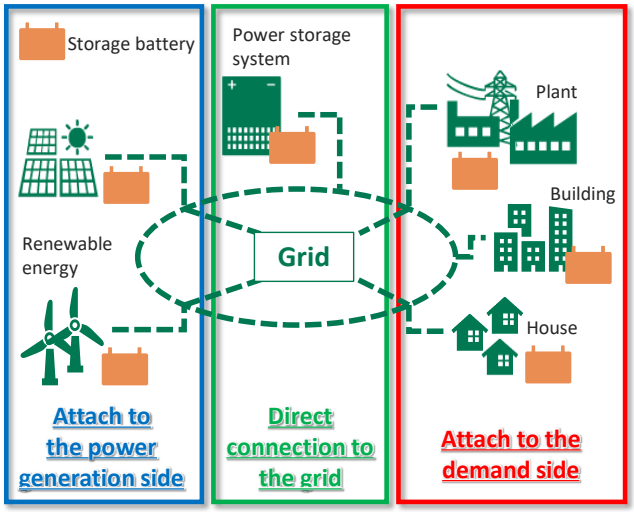
Storage batteries connection to the grid (power grid)



As the introduction of renewable energy expands, **storage batteries**, which are connected to the grid and are indispensable for strengthening the regulating power of the power grid, will become even more important.

Examples of Supplying GS Yuasa's Lithium-ion Batteries

Kushiro Town Toritoushi Wildland Solar Power Plant
(Kushiro-gun, Hokkaido)

- Operator：Obayashi Clean Energy Corp.
- Output ：10MW
- Capacity ：6,750kWh

Contribute to reduce the output fluctuation of solar power generation

Overall view of the power plant

Hagigaoka Water Treatment Plant
(Wakkanai City, Hokkaido)

- Operator：Wakkanai City, Hokkaido
- Capacity：2MWh

Stabilize supply and demand of grid electricity in "self-consignment system"*

Wind power storage system
The power storage system container in situ

* The self-consignment system makes it possible for companies, local governments, and other organizations with their own electricity generation facilities to send the power they generate to their own distantly located bases via the power grids of regional electricity network operators.

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This page discusses the practical use of storage batteries in the renewable energy market.

In order to raise the share of renewables and make renewable energy the main source of energy, there is a need to stabilize electricity output and, to this end, installing storage batteries is indispensable for the purpose of supply and demand adjustments.

The diagram on the left illustrates this dynamic, as connection of storage batteries to the grid can primarily be divided into three categories.

Shown on the left side is the category of attaching storage batteries to the power generation side, with direct connection to the grid shown in the middle diagram.

Lastly, the right section of the diagram illustrates the category of attaching storage batteries to the demand side.

Installing storage batteries in the three manners outlined here has the effect of improving grid stability, and through the grid, the electricity accumulated in storage batteries can be supplied to renewable energy and power transmission operators, as conditioning power.
Another of a wide variety of use cases is VPPs, that is, virtual power plants, as distributed power supplies.

Allow me to direct your attention to the right-hand side of the page, which showcases stationary storage battery facilities GS Yuasa has supplied in the past.

Shown at the top is a storage battery facility in Kushiro, Hokkaido, established for the purpose of contributing to reducing the output fluctuations of solar power generation.

Shown at the bottom is a storage battery facility established in Wakkanai City, Hokkaido.
This is a demand-side operation for the purpose of stabilizing supply and demand of grid electricity in a "self-consignment system."

Additionally, as shown on page 21, another project is the world's largest storage battery facility, located in Toyotomi-cho, Hokkaido, built for the purpose of contributing to grid stability through output fluctuation mitigation in wind power generation. This project has a capacity of 720 MWh, and we supplied batteries to this site.

3. GS Yuasa's Efforts in Renewable Energy Market

Expand importance of **storage batteries**

The power system is the backbone of the nation's infrastructure and high quality and safety are required

Emphasizing "domestic production" and "safety"
Enhancing value provided to customers with all-in-one solutions

1. Complete packages of power conditioners and storage batteries
2. Offer from products to installation and maintenance as integrated systems

Enhancing presence in renewable energy market

Introducing New Products in Renewable Energy Market

Enter renewable energy market → **Enhance profitability with all-in-one solutions** → **Further enhance competitiveness**

➢ **Supply to world's largest storage battery facilities (Toyotomi-cho, Hokkaido)**

Installation completed in FY2021

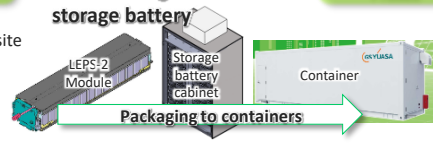
Panoramic view of the site

➢Operator：North Hokkaido Wind Energy Transmission Corporation
➢Cells：The first generation of storage battery（LEPS-1）
➢Output ：240MW
➢Capacity：720MWh

Contributing to output fluctuation mitigation in wind power generation

➢ **Power storage systems with the second generation of storage battery**

Plan to start sales in second half of FY2022



➢ **Develop the third generation of storage battery**

New lithium-ion batteries with higher energy density and improved cost competitiveness

Develop lithium-ion batteries for renewable energy

	The first generation (LEPS-1)	The second generation (LEPS-2)	The third generation
Nominal capacity	65Ah	75Ah	Undecided
Output	450W	526W	

≪Compared to the first generation≫
Longer life
Improve capacity maintenance rate
Increasing capacity
Approx. 15% increased

Aiming for even higher capacity from second generation batteries

Source：North Hokkaido Wind Energy Transmission Corporation
（https://www.hokubusouden.com/progress/869/#contents）

GS Yuasa's efforts and initiative policies in the renewable energy market are toward high-quality, highly reliable, and safe manufacturing working as the support and backbone of the nation's infrastructure.

We have achieved high quality and high reliability, securing the safe and stable supply of storage batteries and power supplies, including power conditioners to convert direct current to alternating current, through domestic production.

Additionally, we are developing storage batteries and power supplies as an all-in-one package system, planning the offering of a system product presenting an attractive value proposition.

We are currently developing stationary lithium-ion batteries with higher energy densities compared to current products and with improved cost competitiveness.

In the market for stationary storage batteries, as well, we will be establishing a robust position for ourselves.

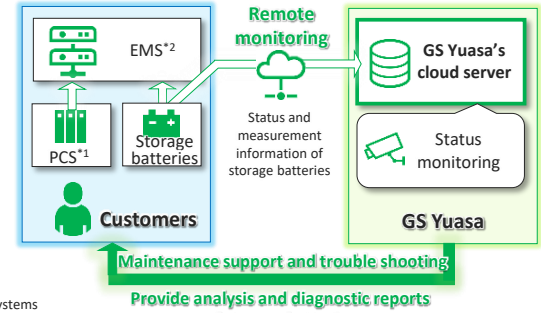
4. GS Yuasa's Strengths in Renewable Energy Market

Network -Maintenance and operational services using DX-

Network
Maintenance and operational services using DX

- Provide preventive maintenance services using AI and DX to maintain stable operation and optimal control, which are essential for power generation facilities used for long periods of time

Outline of STARELINK Service



*1 Power conditioners
*2 Energy management systems

Overview of STARELINK Service

Remote monitoring -Utilizing cloud-

Install monitoring equipment in storage battery systems, connect to the cloud environment, and remotely monitor

- Confirm soundness
- Confirm measurement (detailed) information
- Accumulate long-term data

Analysis & diagnosis -Utilizing AI-

Analyze data stored in the cloud and submit reports of operational status and deterioration of storage battery systems

- Analyze operational condition
- Diagnosis storage battery deterioration
- Predict storage battery abnormality

Capacity guarantee -Predictive technology-

- Estimate storage battery deterioration
- Maintain guaranteed capacity
- Propose operational improvements

Predict storage battery deterioration based on expected operations and guarantee required capacity for 15 years (maximum 20 years)

Maintenance & preservation -Utilizing IT-

- Confirm soundness through periodic inspections
- Prevent failure through periodic parts replacement
- Repair and restore when abnormalities occur

Repair and restore equipment when abnormalities occur in addition to preventive maintenance by periodic inspections and parts replacement

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GS Yuasa's initiatives in the renewable energy market aren't restricted to the development of device hardware, as we are making progress in providing STARELINK, our proprietary preventive maintenance service leveraging AI-based predictive technology, IT, and cloud technology.

Power generation facilities have a long usable lifespan of between 15 and 20 years.

Consequently, we would like to offer long-term support across four different domains to our clients, in order to maintain stable operations and optimal control, which are essential.

Shown at the bottom is an overview of this service, across the following components.

The first component is remote monitoring, which involves confirming the soundness of storage batteries and accumulating data pertaining to the status of these facilities.

The second component of this service is analysis and diagnosis, which involves carrying out an analysis of the data accumulated and submitting reports of the operational status and deterioration of storage battery systems, as well as of predicted abnormalities.

The third component is capacity guarantee, which consists of estimating storage battery deterioration and proposing operational improvements.

The final component is maintenance and preservation, involving the execution of periodic inspections, periodic parts replacement, and repairs and restoration when abnormalities occur.

In other words, this is a preventive maintenance system.

Therefore, through preventive maintenance services, we provide technology allowing our clients to enjoy even more confidence and peace of mind when using our highly-reliable storage battery systems.

4. GS Yuasa's Strengths in Renewable Energy Market

Footwork -Support services are available 24 hours a day, 365 days a year-

Footwork
Support services are available 24 hours a day, 365 days a year

- Utilize our network of more than 100 service locations throughout Japan. With one of the best support systems in the industry, we can provide safe and secure services 24 hours a day, 365 days a year, leading to BCP support

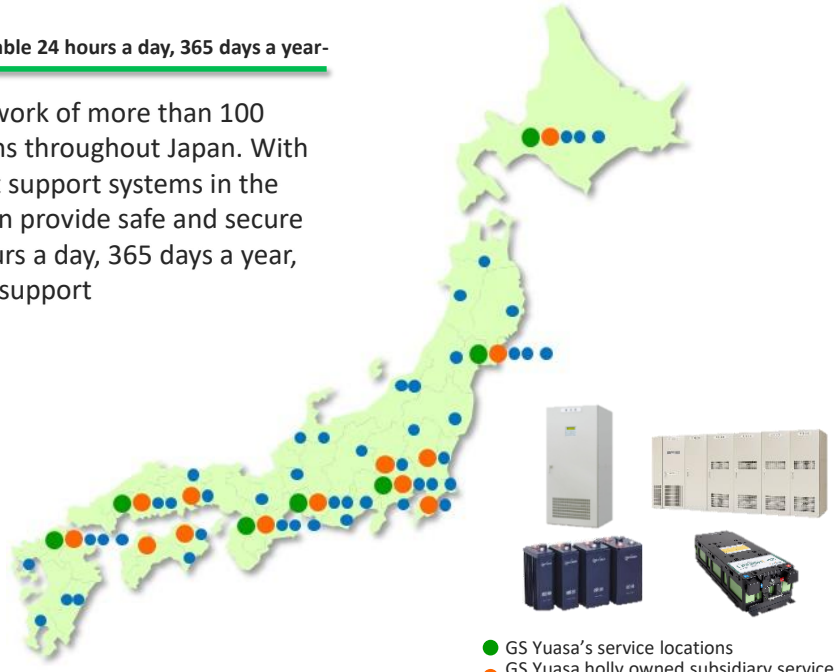
Service provision flow

GS YUASA

GS Yuasa

On-site installation work and maintenance and servicing

Customers



GS Yuasa's service locations
GS Yuasa holly owned subsidiary service locations
GS Yuasa's sole agent service locations

Abundant service personnel：approx. **1,000**
*Persons with expertise in storage batteries certified by GS Yuasa

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GS Yuasa's strengths aren't limited to these, as our support services are available 24 hours a day, 365 days a year, and we boast a network of more than 100 service locations throughout Japan, with 1,000 professionals with expertise in the field of storage batteries.

Because we offer support systems capable of dealing with situations when simply having a strong network alone isn't enough when it comes to on-site maintenance and servicing, this allows us to secure the trust of customers while providing them with peace of mind.

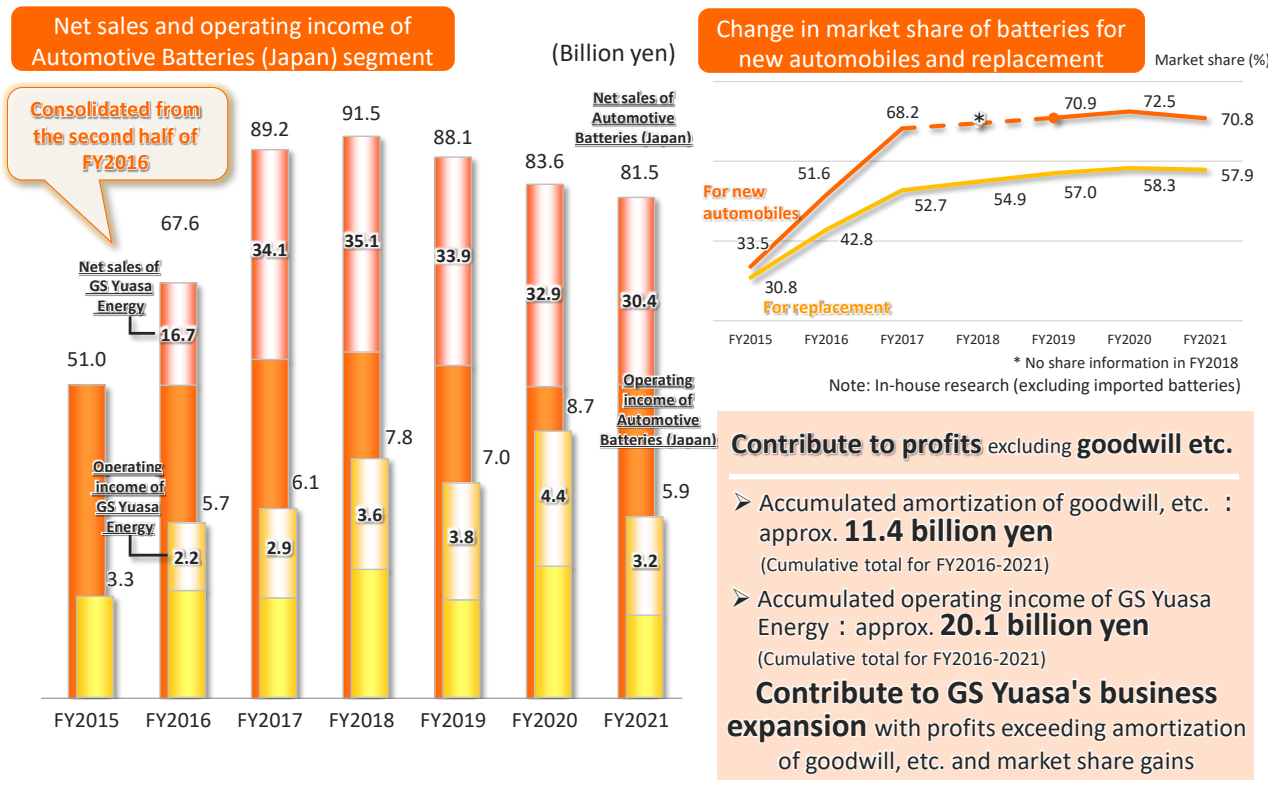
We possess a network leveraging IT, and a highly responsive footwork offering in-person, on-site support 24 hours a day, 365 days a year, so we would like to leverage this to function as a backbone to vital infrastructure, also within the renewable energy market.

GS YUASA
Creating the Future of Energy

Creating Synergistic Effect with GS Yuasa Energy Co., Ltd.

I would now like to give you a brief summary of the creation of synergistic effects with GS Yuasa Energy Co., Ltd., which corresponds to the old operations by the Panasonic Corporation.

1. Performance and Market Share after the Transfer



In the second half of fiscal year 2016, we took over the lead-acid battery business by transfer from the Panasonic Corporation.

Since the amortization of goodwill was completed last fiscal year, we have decided to take this opportunity to give you a summary of the synergies resulting from this transfer.

The vertical bar graph on the left shows the trend over time in net sales and operating income of the Automotive Battery segment in Japan.

The accumulated operating income of GS Yuasa Energy following the transfer stands at approximately 20.1 billion yen.

The accumulated amortization of goodwill associated with the transfer was approximately 11.4 billion yen, so, as you can see, this business has been able to deliver profits approximately 8.7 billion yen in excess of the costs of amortization.

Allow me to direct your attention to the graph on the top right corner.

As shown here, market share also grew significantly after the transfer, from a baseline of around 30%.
The market share of batteries for new automobiles has therefore grown to around 70%, and to approximately 60% for replacement batteries.

This business makes a contribution to the expansion of GS Yuasa's business, both in terms of profits and market share.

We have therefore established a solid foundation in the market for automotive batteries in Japan.

2. Creating Synergistic Effect

Joint Purchasing

Centralize procurement

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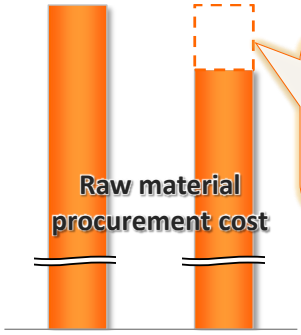

Reduce raw material procurement cost of lead-acid batteries
Approx. 200 million yen / year

Synergistic effect

- Reduce cost through increase in amount of material resources
- Reduce cost through sharing raw material price

Mutual Supply of Storage Batteries

Large storage batteries (For business vehicles), EN batteries
【approx. 100,000 units / year】

GS YUASA ⇄ GS Yuasa Energy

Small storage batteries, VRLA batteries
【approx. 400,000 units / year】

Start supplying EN batteries from global sites to GS Yuasa Energy

Synergistic effect

- Lineup expansion
- Maximize sales opportunities through supply capacity flexibility
- Investment restraint

Other Synergies

- **Support introducing manufacturing facilities**
- **Share technological knowhow mutually**

Synergistic effect

- Improve manufacturing process through collaboration between two companies
- Increase speed of development and evaluation

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We have also unlocked other synergistic effects alongside profits and market share, the first one listed here being synergies resulting from joint purchasing.

The joint purchase of raw materials, such as lead, allows us to reduce raw material procurement costs by approximately 200 million yen per year.

Second, another synergy results from the mutual supply of storage batteries.

GS Yuasa supplies large storage batteries and European Standard-compliant (abbreviated as "EN") batteries to GS Yuasa Energy.

Conversely, GS Yuasa Energy provides small storage batteries and VRLA sealed batteries to GS Yuasa.

Through this, we have enhanced both company's product lineups, minimized defective products by sharing supply capacity between the two companies, and maximized sales opportunities.

Furthermore, other synergies include support introducing manufacturing facilities and sharing technological knowhow mutually.

Through these, we have and continue to rationalize production and development.

Going forward, we would like to continue integrating each company's respective technologies in order to unlock further synergistic effects and maximize profits.

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

External ratings of Sustainability activities

Sustainability evaluations

(As of October 31, 2022)

	ESG rating by MSCI (U.S.)*1	ESG rating by FTSE (English)*2	CSR assessment by Toyo Keizai Inc.*3				CDP (English) assessments *4
			HR utilization	Environment	Corporate governance	Sociality	
2022	BBB	3.6	AA	AAA	AA	AA	A-
2021	A	3.6	AAA	AAA	AA	AA	B
2020	A	3.4	AA	AAA	AA	AA	B
2019	A	3.2	AA	AA	AA	AA	B
2018	AA	2.5	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: ESG rating of FTSE (English) is five-grade evaluation of 1, 2, 3, 4, 5.

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

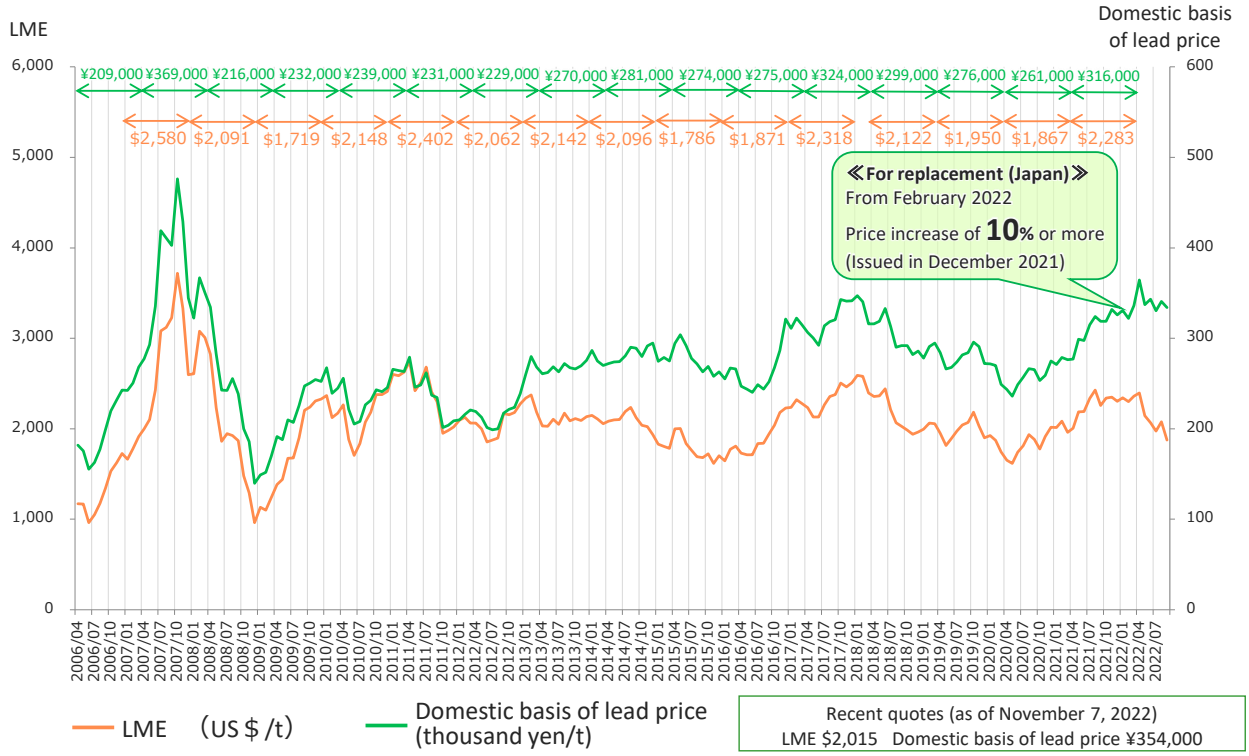
*4: CDP (English) is eight-grade evaluation of A、A-、B、B-、C、C-、D、D-.

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

Reference

Raw Materials Prices

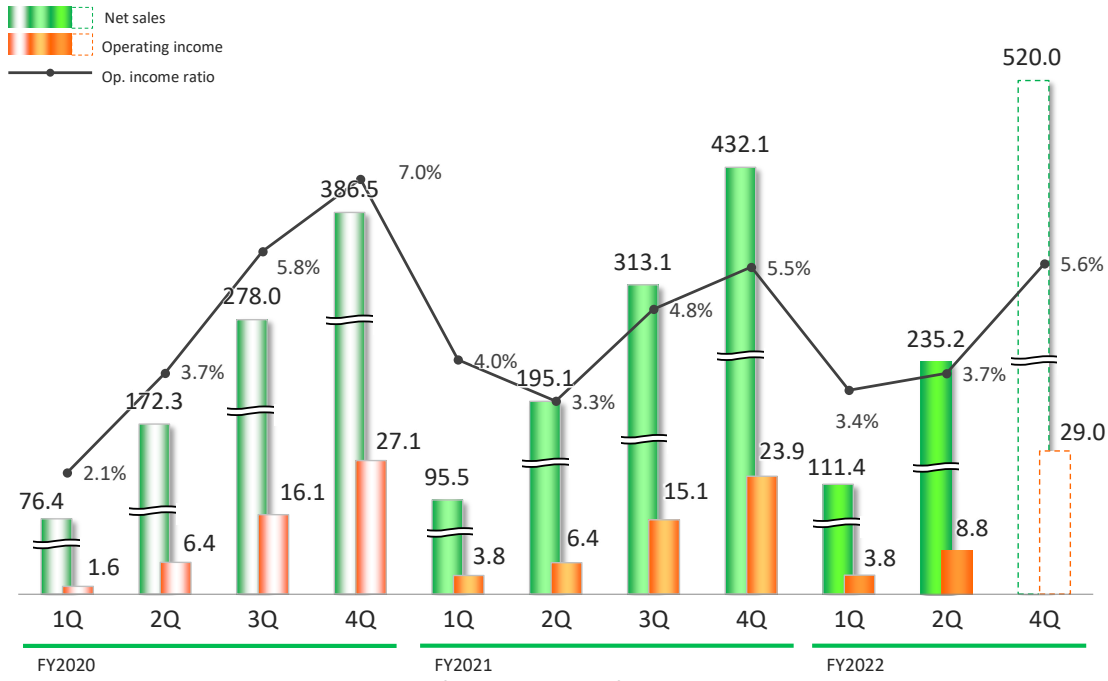


Recent quotes (as of November 7, 2022)
LME $2,015 Domestic basis of lead price ¥354,000

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.