



**TRE HOLDINGS**

未来へ、捨てない創造力を。

**TRE HOLDINGS CORPORATION**  
(Code: 9247, Prime Market, Tokyo Stock Exchange)

**Supplemental materials**  
**for the Fiscal Year ended March 31, 2022**

May 16, 2022

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## Summary of Consolidated Cumulative FY03/22 Results

In the waste treatment and recycling businesses, **increased added value and commercialization of transported materials were successful**, and in the Resource Recycling business, **higher recovery volumes of valuable materials** resulting from enhanced sorting and **higher market prices for resources** helped as well. These factors made substantial contributions to overall earnings, so **operating profit reached JPY7.6bn.**

(millions of yen)

	FY03/22		
	Full-year Results	Full-year Forecast	Progress
Net sales	<b>68,234</b>	67,400	101.2%
Operating profit	<b>7,659</b>	7,430	103.1%
Ordinary profit	<b>7,547</b>	7,220	104.5%
Profit attributable to owners of parent	<b>4,742</b>	4,420	107.3%

Dividends		FY03/22
Dividend per share	Ordinary dividend	JPY20.0
	Commemorative dividend	JPY5.0
	Total	<b>JPY25.0</b>

### Payout ratio: Over 30%

\* Calculating based on dividends of JPY25 per share for results from October 2021- March 2022, plus TAKEEI's interim dividend of 15 yen for Q2 of the fiscal year. The payout ratio is more than 36.1%.

	FY03/22
Earnings per share	<b>JPY110.79</b>

\* TRE HOLDINGS CORPORATION was established as a joint holding company on October 1, 2021, and for accounting purposes, TAKEEI CORPORATION is the acquiring company and REVER HOLDINGS CORPORATION is the acquired company. As a result, the consolidated financial results for the current fiscal year (April 1, 2021 to March 31, 2022) reflects the consolidated financial results for April 1, 2021 to March 31, 2021 for TAKEEI CORPORATION and the consolidated financial results for October 1, 2021 to March 31, 2022 for REVER HOLDINGS CORPORATION.

\* YoY comparisons are not provided as this is the first fiscal year since the establishment of the Company.

\* Earnings forecast shows figures revised upward on February 14, 2022.

Challenges in the macro environment

<b>Earth</b>	<b>Global warming</b> <b>Resource depletion</b> <b>Plastic pollution</b>	<b>Japan</b>	<b>Population decline</b> <b>Market contraction</b> <b>Aging infrastructure</b>	<b>Industry</b>	<b>Inefficient management</b> <b>Low reliability</b> <b>Succession issues</b>
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Social needs



Our response

**Two companies sharing the same passion for the global environment decided to come together to jointly invest capital and boost efficiency.**

On October 1, 2021, TAKEEI CORPORATION and REVER HOLDINGS CORPORATION established a joint holding company with the aim of leveraging all economic resources to create synergies.



## TREホールディングス株式会社

*Try*

↓

*Technology*  
*Recycling*  
*Renewable Energy*

*Earth Ecology*

*Try*

*Developing new technologies*  
*Enhancing the Recycling business*  
*Promoting the Renewable Energy business*  
*Preserving the Global Environment*

<b>Corporate Philosophy</b>	To contribute to the preservation of the global environment.
<b>Establishment</b>	October 1, 2021
<b>Headquarters</b>	Chiyoda-ku, Tokyo
<b>Representative Directors</b>	Naoto Matsuoka, Chairman and CEO Mitsuo Abe, President and COO
<b>Capital stock</b>	JPY10.0 billion
<b>Number of employees</b>	2,103 employees (on a consolidated basis)
<b>Group Businesses</b>	Waste treatment and recycling, resource recycling, renewable energy, environmental engineering, environmental consulting
<b>Subsidiaries, etc.</b>	39 subsidiaries, 6 equity-method affiliates
<b>Number of locations</b>	60 locations in Tokyo metropolitan area as well as Tohoku, Hokuriku, Koshin and Kansai regions, 1 overseas location in Thailand
<b>Key customers</b>	Major construction companies, home builders, major steel companies, trading companies, etc.

As of End-December 2021

# Resource Circulation Business Scheme (1)

## Waste treatment and recycling business

## Resource recycling business

We operate mainly in the Kanto area, which has a large amount of waste and strong demand for recycled products and renewable energy.

With one of the largest processing capacities, numerous locations, and a large fleet of vehicles, we are able to meet the social needs of a circular economy.

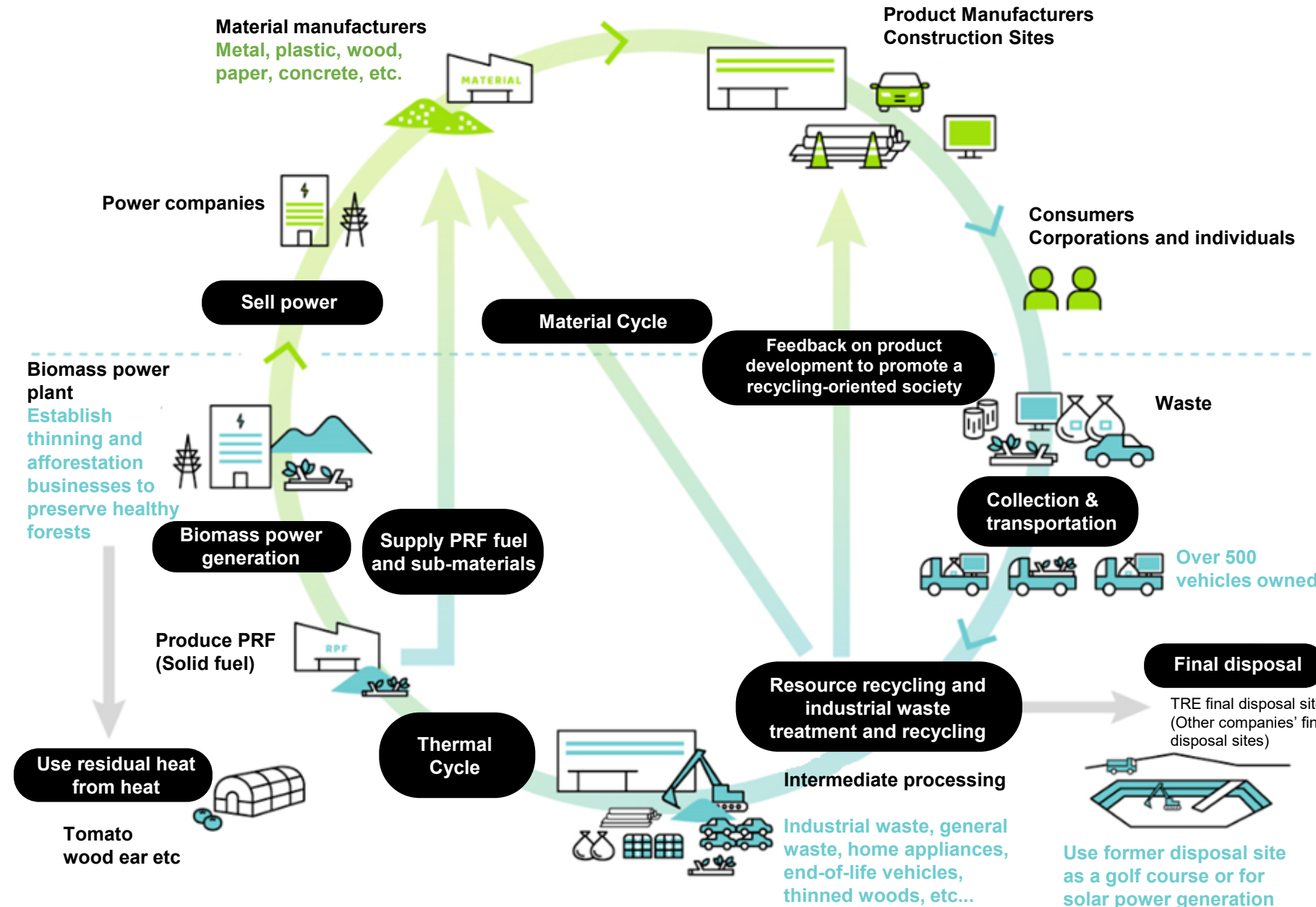
**Group volume** Appx. **2 million tons** per year

**Intermediate processing and recycling facilities** **60** locations

**vehicles owned** Appx. **500** vehicles

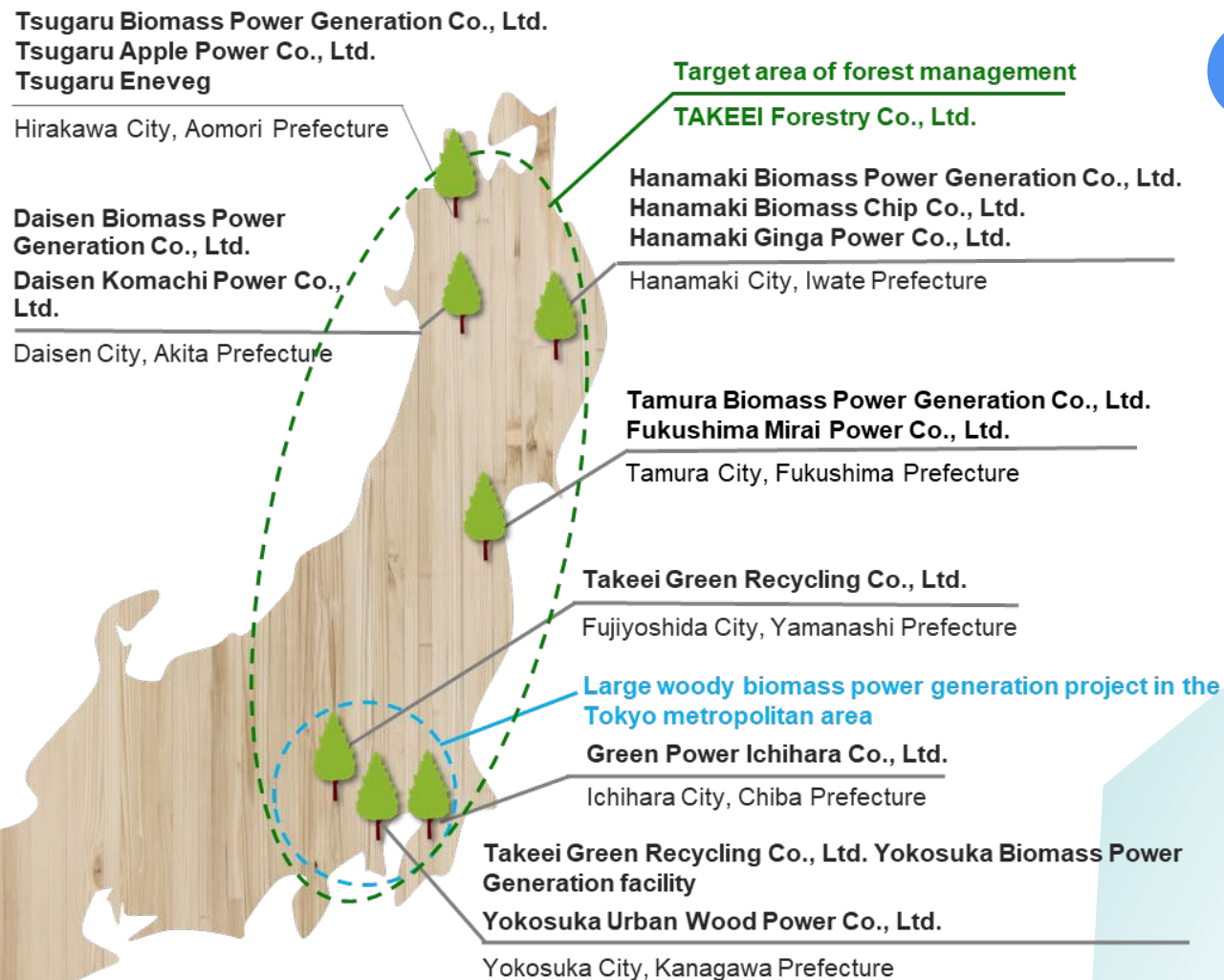
**Number of large crushers** **6** crushers in Kanto region

Note: Large crushers refer to crushers with a main body horsepower of at least 1,000 horsepower.





# Resource Circulation Business Scheme (2)



## Renewable Energy business

RPF: A solid fuel made mainly from waste paper and plastics. It is high in calories and emits less CO2 than fossil fuels.

We operate **four** woody biomass power plants centered on eastern Japan, mainly in the Tohoku region using unused forest resources such as thinned wood and logged wood as fuel, and **two** plants in the Kanto region using scrap wood and some RPF as fuel.

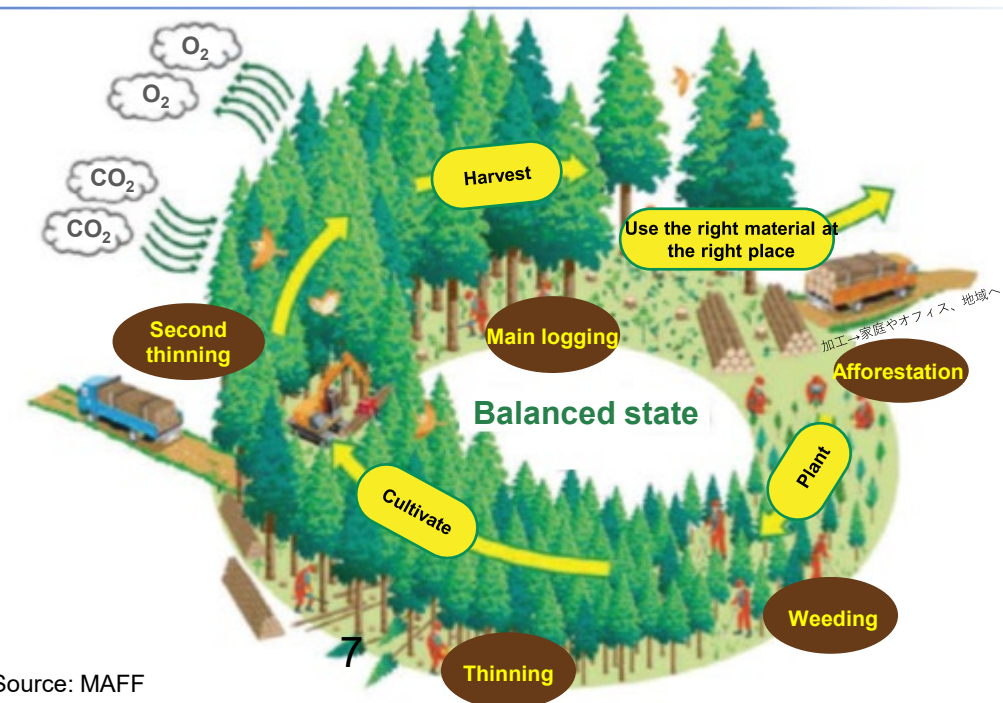
In addition, we are strengthening our efforts in forest management (planning, staged logging, and afforestation) and promoting the expansion of our renewable energy business where resource circulation is viable.

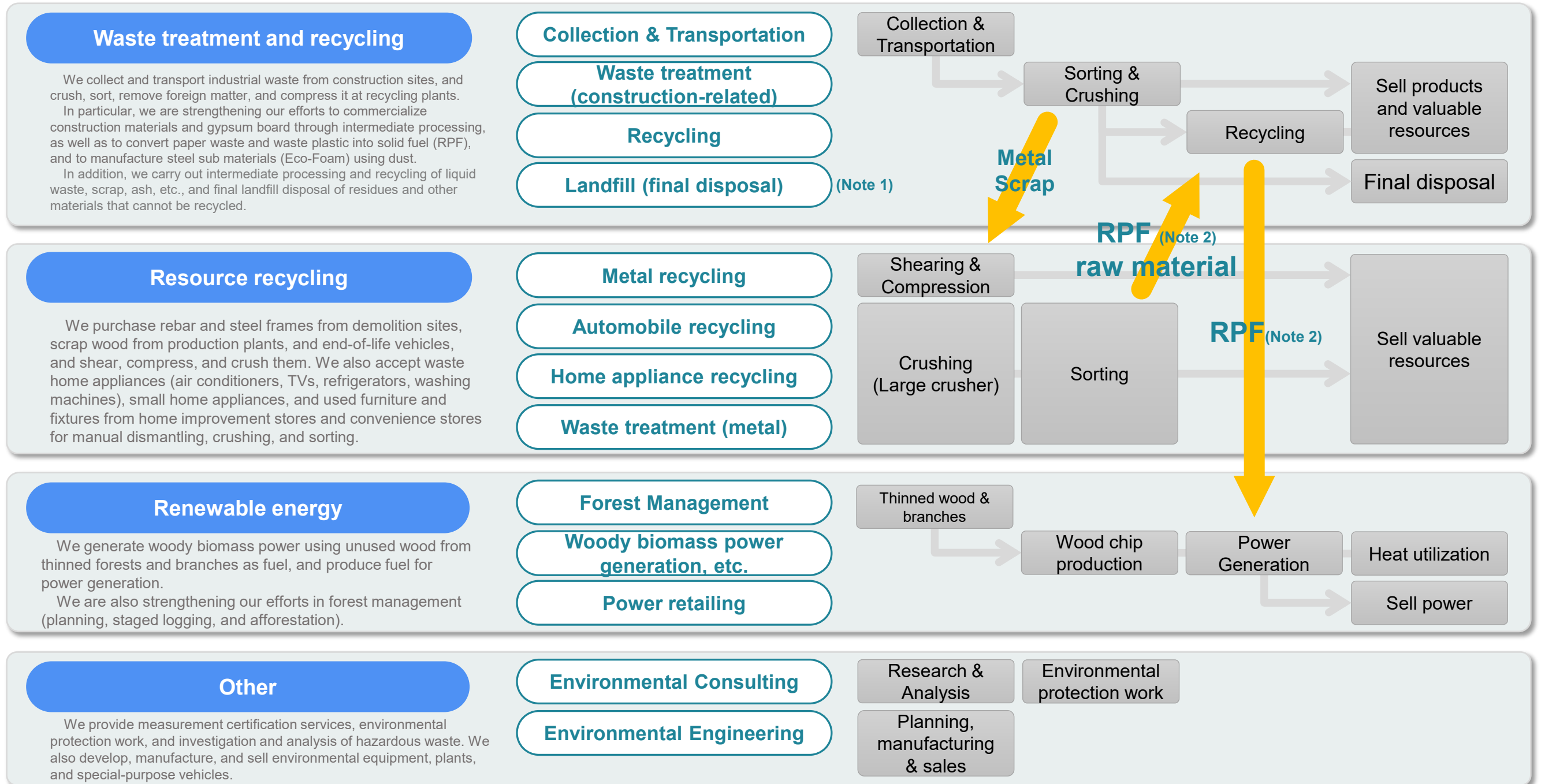
Annual woody biomass volume: **600,000 tons** RPF: **50,000 tons**

Annual power generated: Appx. **661,320 MWh**

## Environmental Engineering & Environmental Consulting businesses

As for other business segments, we operate an environmental engineering business that plans, manufactures, and sells environmental equipment, and an environmental consulting business that conducts measurement certification operations, environmental protection work and investigates, and analyzes hazardous waste.





Note 1: Use former disposal site as a golf course or for solar power generation

Note 2: RPF is a solid fuel made mainly from recycled paper and waste plastics. It is high in calories and emits less CO2 than fossil fuels.



# FY03/22 Results

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**Market Environment**

**Net Sales and Operate Profit by Segment**

**Consolidated Cash Flow Trends**

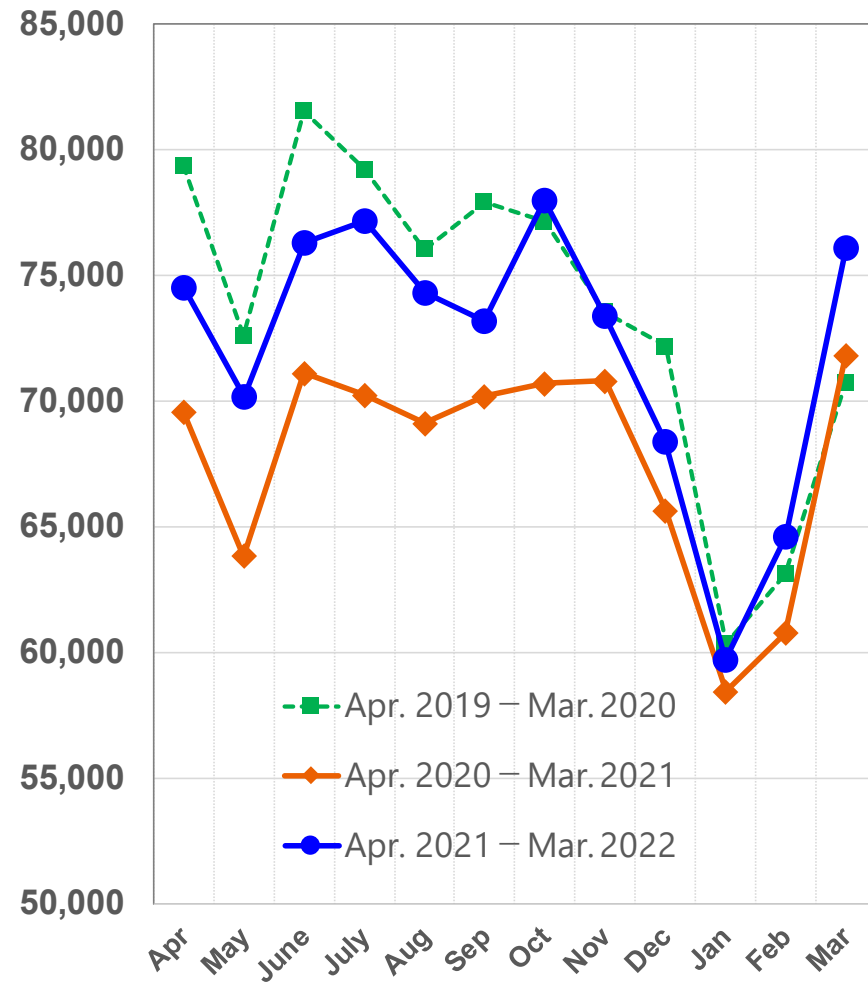
**Capital expenditures, Depreciation**

**FY03/23 Earnings Forecast**

## Market Environment

### ■ Number of New housing starts

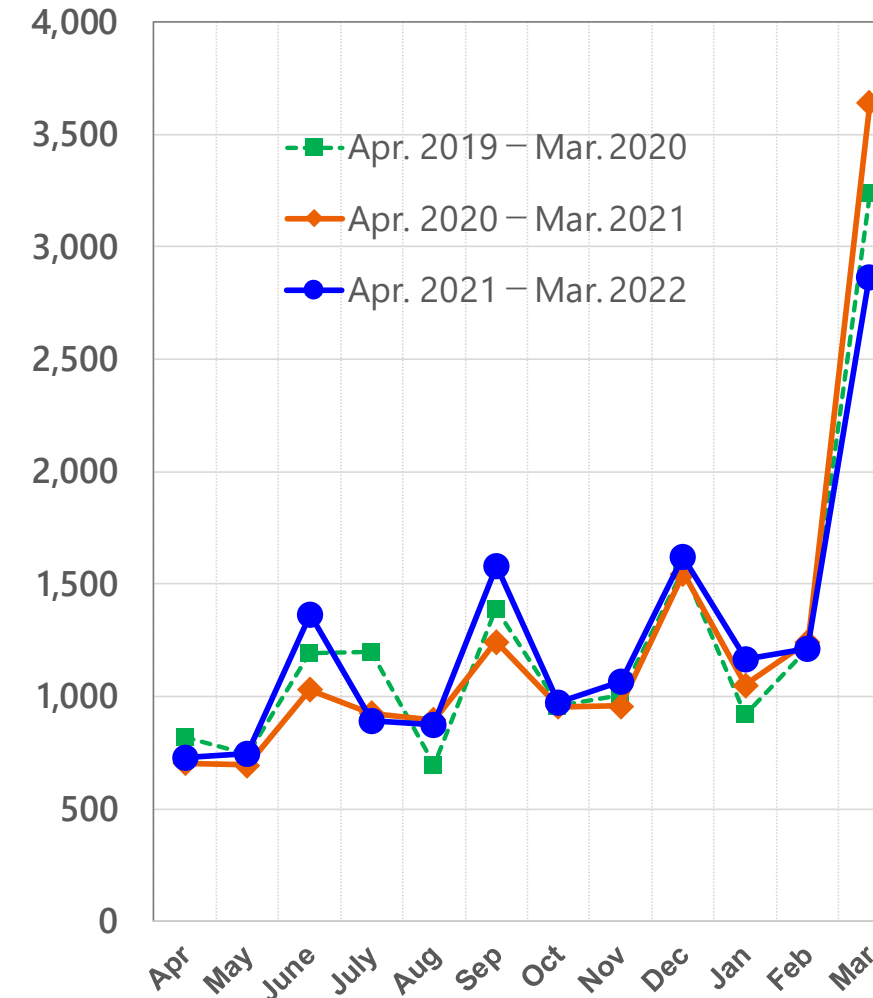
Number of homes



The market has **continued recovering**, each month saw YoY increases, aided by consumers' high interest in the living environment resulting from the COVID-19 pandemic.

### ■ Construction orders (50 largest companies)

(billions of yen)



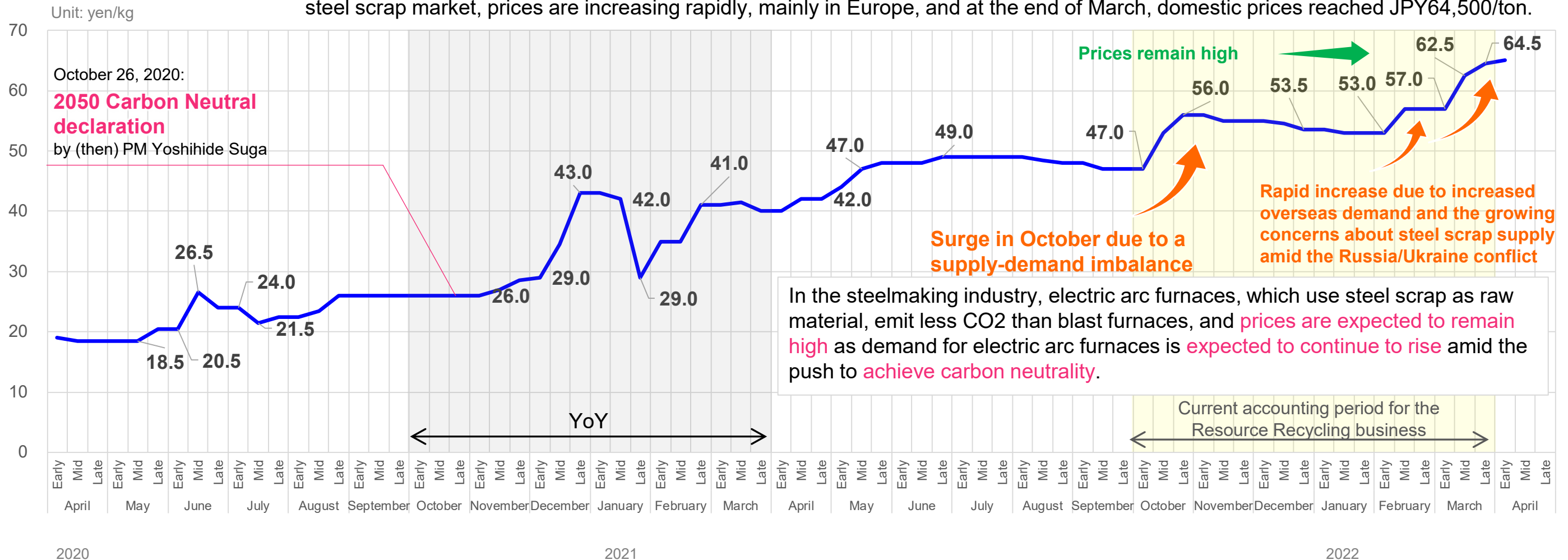
Amid strong movement, but orders fell YoY from February onward, and dropped 21.2% YoY in March. There are concerns about the effects of rapidly increasing material prices and other factors.

(Source: the Ministry of Land, Infrastructure, Transport and Tourism)

## Market Environment

### ■Steel Scrap Market

Steel scrap prices were at JPY47,000/ton (Tokyo Steel Utsunomiya Plant high grade price) at the beginning of October 2021, but skyrocketed to JPY56,000/ton by the end of the month due to a combination of sluggish steel scrap collection volume and higher demand from steelmakers. After that, prices fell gradually, adjusting the gap between domestic and export prices, but since February of 2022, in addition to increasing domestic prices driven by the rapid increase in export prices due to growing overseas demand, the conflict between Russia and Ukraine has led to increasing concerns about supply of iron and steel products from both countries. In the steel scrap market, prices are increasing rapidly, mainly in Europe, and at the end of March, domestic prices reached JPY64,500/ton.



## Cumulative Net Sales and Operating Profit by Segment

(millions of yen)

	FY03/22 Full-year results		
	Net sales	Operating profit	Operating profit margin
<b>Consolidated</b>	68,234	7,659	11.2%
Waste treatment and recycling (Note 1)	25,146	5,113	20.3%
Resource recycling (Note 2, 3)	24,068	2,787	11.6%
Renewable energy (Note 4)	12,617	(305)	—
Other businesses (Note 1, 5)	7,102	441	6.2%
<b>Adjustments (Note 6)</b>	(700)	(376)	—

Note 1: The Accounting Standard for Revenue Recognition, etc. has been applied from the beginning of Q1 FY03/22.

Note 2: For the resource recycling business, the consolidated results of REVER HOLDINGS CORPORATION, which is the acquired company for accounting purposes in the business integration, reflect only the results for the six-month period from October 1, 2021 to March 31, 2022.

Note 3: The resource recycling business includes JPY90 million of goodwill related to the business integration for the six months from October 1, 2021 to March 31, 2022.

Note 4: The renewable energy business includes JPY376 million of goodwill associated with the acquisition of Green Power Ichihara Co., Ltd.

Note 5: Other businesses consist of the environmental consulting business and the environmental engineering business.

Note 6: Adjustments to segment income and loss of -JPY376 million include -JPY383 million in companywide expenses that are not allocated to any reportable segment. Companywide expenses are general and administrative expenses that do not fall under any reportable segment.

### Waste treatment and recycling

- **Profitability initiatives were successful**; e.g., **Enhanced sorting of valuable materials**, and **higher added value** and **commercialization** of transported materials.
- In the gypsum board recycling business, **transported volumes increased** due to growth in new construction and demolition projects.

### Resource recycling

- **Gains on sales** of metals processed and sorted from waste **increased** due to continued high market prices and the **growing spread (profit margin)** amid rapidly increasing steel scrap market prices.

### Renewable energy

- Despite a steady trend in stable operation systems, some operating rates declined due to temporary repair works and an earthquake in March.
- Five electric power retailers were affected by high prices of LNG and other resources as well as increased purchase prices during the cold winter, but worked to mitigate the decline in profits in part by sales of electricity from power sources not subject to the Feed-in Tariff scheme.

## Consolidated Cash Flow Trends

(millions of yen)

	FY03/22
Cash flows from operating activities	11,017
Cash flows from investing activities	(2,149)
Cash flows from financing activities	(3,700)
Net increase (decrease) in cash and cash equivalents	5,167
Cash and cash equivalents at beginning of period	10,282
Increase in cash and cash equivalents resulting from stock transfer	8,564
Cash and cash equivalents at end of period	24,014

### ■ Main Breakdown

Cash flows from operating activities	FY03/22
Profit before income taxes	7,662
Depreciation	5,016
Amortization of goodwill	476
Income taxes paid	(2,657)
Cash flows from investing activities	FY03/22
Income from national subsidies	1,459
Purchase of property, plant and equipment	(4,395)
Cash flows from financing activities	FY03/22
Increase (decrease) in short-term borrowings	(3,866)
Proceeds from issuance of bonds	6,963
Redemption of convertible bonds	(596)
Proceeds from long-term borrowings	38
Repayments of long-term borrowings	(5,208)
Dividends paid	(839)



## Capital expenditures and Depreciation

(millions of yen)

	FY03/22 Full-year results (Note 1)	FY03/23 Full-year Forecast
Capital expenditures	4,395	12,547
Depreciation	5,016	6,189

Note 1: Consolidated results of REVER HOLDINGS CORPORATION, which is the acquired company for accounting purposes in the business integration, reflect only the results for the six-month period from October 1, 2021 to March 31, 2022.

### TRE Group Basic Policies on New Investments

- We will actively promote capital investment on facility improvements to implement advanced sorting and recycling technologies at each Group company, as well as to secure new locations, which will contribute to the realization of a circular economy. We will build a recycling business scheme targeting scrap plastic recycling and scrap solar panel recycling in particular.
- We will promote capital investment to increase the amount of renewable energy generation from non-fossil fuels, as well as research and development to build a recycling scheme that takes CCUS (Note 2) into consideration, in order to contribute more directly to a carbon-free society.
- We will promote DX to increase visibility of CO2 emissions in business activities, and strengthen proposal capabilities that tie into customers' contributions to a carbon-free society.

#### ■ Main capital expenditures

		Full-year	Plan
TAKEEI CORPORATION	Renewal of equipment and vehicles, expansion of disposal sites, etc.	¥1.17 billion	2.1 billion
Monzen Clean Park Co., Ltd.	Disposal site development work	¥390 million	1.4 billion
REVER CORPORATION	Newly installed dedicated line for electronic waste.	¥250 million	250 million
EQUAL ZERO Inc.	Renewal of equipment and vehicles	¥180 million	300 million
Takeei Green Recycling Co., Ltd.	Renewal of equipment and vehicles	¥110 million	300 million
Hanamaki Biomass Chip Co., Ltd.	Installation of intermediate processing facilities, etc.	¥190 million	300 million

#### ■ Main capital expenditures (plan)

		Plan
Monzen Clean Park Co., Ltd.	Disposal site construction etc.	3.68 billion
TAKEEI CORPORATION	Facility/vehicle upgrades, disposal site	3.5 billion
Shinshu Takeei Corporation	Facility/vehicle upgrades	490 million
REVER CORPORATION	Sorting line enhancements, etc.	410 million
Green Power Ichihara Co., Ltd.	Machinery parts replacement, etc.	310 million
Fuji Car Manufacturing Co., Ltd.	Facilities/software upgrades	300 million

Note 2: CCUS is a generic term for carbon capture and storage (CCS), a technology that separates and captures CO2 to be injected and stored in underground, and carbon capture Utilization (CCU), a technology that reuses the captured CO2 for fuel production and chemical products.

## FY03/23 Earnings Forecast

(millions of yen)

	FY03/22 (Note 1) (Full-year results)	FY03/23				
		(Full-year Forecast)	vs. sales	YoY	1H (Forecast)	2H (Forecast)
Net sales	<b>68,234</b>	<b>94,200</b>	—	+38.1%	<b>45,500</b>	<b>48,700</b>
Operating profit	<b>7,659</b>	<b>9,300</b>	9.9%	+21.4%	<b>3,800</b>	<b>5,500</b>
Ordinary profit	<b>7,547</b>	<b>9,300</b>	9.9%	+23.2%	<b>3,800</b>	<b>5,500</b>
Profit attributable to owners of parent	<b>4,742</b>	<b>5,900</b>	6.3%	+24.4%	<b>2,400</b>	<b>3,500</b>

Note 1: The consolidated financial results reflect the consolidated financial results for April 1, 2021 to March 31, 2021 for TAKEEI CORPORATION and the consolidated financial results for October 1, 2021 to March 31, 2022 (Q2 and Q3) for REVER HOLDINGS CORPORATION.

### Waste treatment and recycling

- Expect continued impact from profitability improvement initiatives; e.g., enhanced sorting of valuable materials, etc.
- Expect cost-reduction impact from capital investments in added value and commercialization of waste materials

### Resource recycling

- Expect a decline in resources received due to sluggish automotive production amid the semiconductor shortage, and a decline in waste home appliances because demand for replacement appliances has been moved up as more people stay at home.
- Expect a decline in sales and profit due to limited operations in building reconstruction at REVER CORPORATION Fujisawa Office.
- Planned selling unit price is JPY55,000/ton. Expect a temporary increase due to Russia/Ukraine conflict.

### Renewable energy

- Expect a decline in operating days due to statutory inspections at Green Power Ichihara Co., Ltd., Hanamaki Biomass Power Generation Co., Ltd., Daisen Biomass Power Generation Co., Ltd., and Tamura Biomass Power Generation Co., Ltd.
- At Takeei Green Recycling Co., Ltd., expect an increase in electricity sales unit prices due to increase in biomass ratio.

# Medium-term Business Plan

**Progress of Medium-term Business Plan (Review of 2<sup>nd</sup> and 3<sup>rd</sup> year numerical targets )**

**Progress of Financial Targets**

**Movement in Results and Plans (by Segment)**

**Progress in Integration Synergies**

**At End of First Year after Business Integration**

## Progress of Medium-term Business Plan (Review of 2nd and 3rd year numerical targets )

	Results					Plan					
	FY03/21	First year of Medium-term plan (FY03/22)			Second year of Medium-term plan (FY03/23)		Third year of Medium-term plan (FY03/24)				
	Full-year results (Note 1)	Full-year results (Note 1, 2)	YoY	First year of Medium-term plan (Note 4)	Progress	Second year of Medium-term plan	Second year after review Earning forecast (Note 2)	Change	Third year of Medium-term plan	Third year after review	Change
Net sales	73,470	<b>90,584</b>	+23.3%	<b>89,700</b>	101.0%	<b>90,000</b>	<b>94,200</b>	+4.7%	<b>92,000</b>	<b>98,000</b>	+6.5%
Operating profit	6,727	<b>10,326</b>	+53.5%	<b>10,100</b>	102.2%	<b>8,400</b>	<b>9,300</b>	+10.7%	<b>9,000</b>	<b>10,150</b>	+12.8%
Operating profit margin	9.2%	<b>11.4%</b>	+24.5%	<b>11.3%</b>	101.25%	<b>9.3%</b>	<b>9.9%</b>	+5.8%	<b>9.8%</b>	<b>10.4%</b>	+5.9%
Profit attributable to owners of parent	4,084	<b>7,248</b>	+77.5%	<b>6,930</b>	104.6%	<b>5,460</b>	<b>5,900</b>	+8.1%	<b>5,890</b>	<b>6,440</b>	+9.3%
Earnings per share (Note 3)	–	¥141.1	–	¥131.7	107.1%	¥106.3	¥114.8	+8.0%	¥114.6	¥125.3	+9.3%

As we presented earnings that far exceeded the medium-term plan announced in October 2021, we made an upward adjustment in the plan's first year forecast in February 2022, but we deferred reviews of the second and third year forecasts, because it was only the first year since the integration, and because of uncertainties around the pandemic.

Here, we have reviewed numerical targets for the second and third years, taking into account the current conditions, including rapidly increasing material market prices.

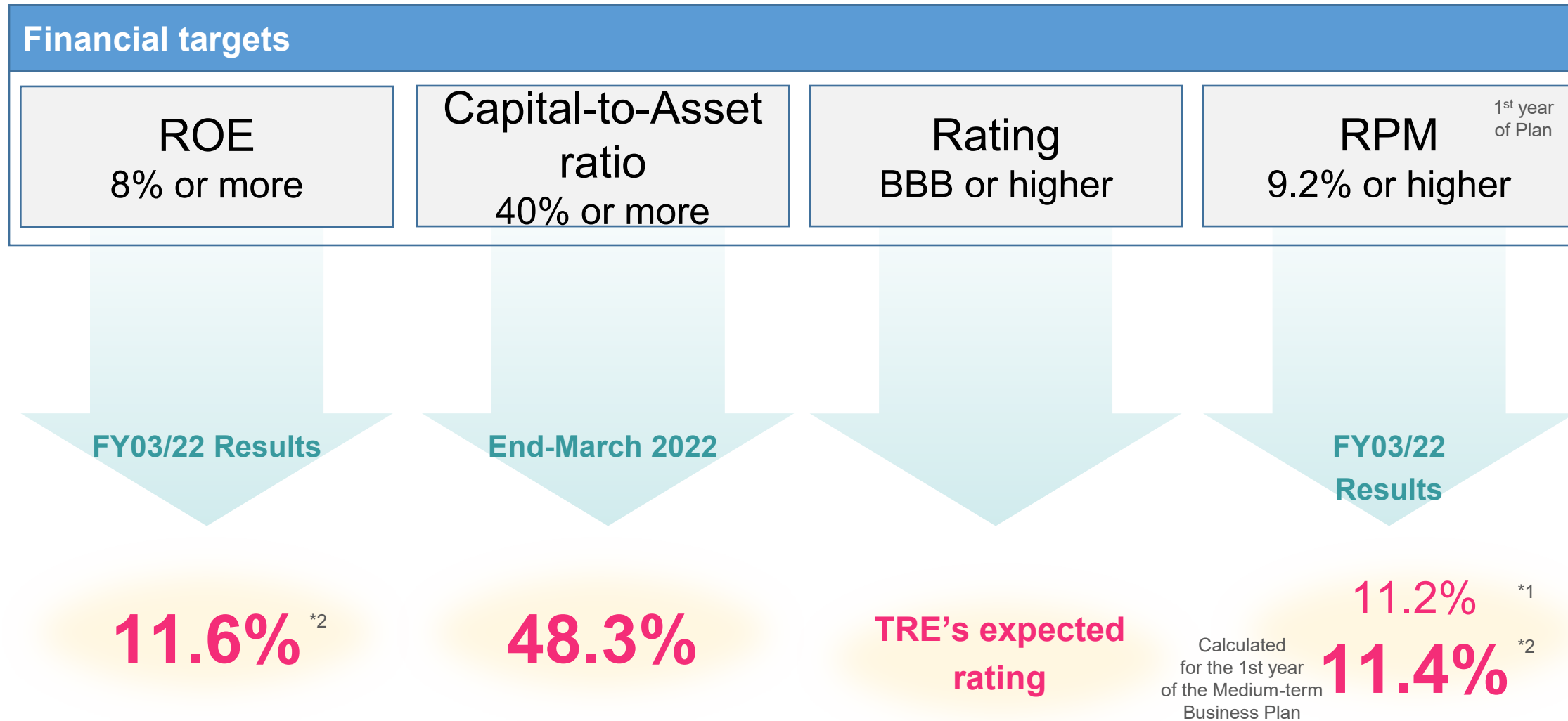
Note 1: Results for the merged companies, TAKEEI CORPORATION and REVER HOLDINGS CORPORATION, for the period from April to March of the following year, have been combined to make YoY comparisons.

Note 2: Forecasts for operating profit include impact from goodwill related to the business integration (JPY90 million for FY03/22, and JPY180 million for FY03/23 onward).

Note 3: Earnings per share is calculated based on 51,362,030 shares, which is the number of issued shares at the end of FY03/22 minus the number of treasury shares at the end of the same year, to facilitate understanding of the actual progress of the medium-term business plan.

Note 4: Forecasts for the first year of the medium-term management plan have also been adjusted upward based on the full-year consolidated earnings forecast disclosed on February 14, 2022.

## Progress of Financial Targets



\*1. Calculated for the period of FY03/22. (April 1, 2021 to March 31, 2022 for TAKEEI CORPORATION; October 1, 2021 to March 31, 2022 for REVER HOLDINGS CORPORATION)

\*2. Calculated for the 1st year of the Medium-term Business Plan. (April 1, 2021 to March 31, 2022 for both TAKEEI CORPORATION and REVER HOLDINGS CORPORATION)



## Movement in Results and Plans (by Segment)

		FY03/21	FY03/22		FY03/23		FY03/24	
		(Actual) (Note 1) Apr. 2020-Mar. 2021	(Actual) (Note 1,3) Apr. 2021-Mar. 2022	YoY	(Forecast) Apr. 2022-Mar. 2023	YoY	Third year of Medium-term plan Apr. 2023-Mar. 2024	YoY
<b>Consolidated</b>	Net sales	73,470	90,584	+23.3%	94,200	+4.0%	98,000	+4.0%
	Operating profit	6,727	10,326	+53.5%	9,300	-9.9%	10,150	+9.1%
	Operating profit margin	9.2%	11.4%	+24.5%	9.9%	-13.4%	10.4%	+4.9%
<b>Waste treatment and recycling</b>	Net sales	24,738	25,146	+1.6%	25,829	+2.7%	27,028	+4.6%
	Operating profit	3,468	5,113	+47.4%	4,786	-6.4%	4,836	+1.0%
	Operating profit margin	14.0%	20.3%	+45.0%	18.5%	-8.9%	17.9%	-3.4%
<b>Resource recycling (Note 1, 2)</b>	Net sales	31,408	46,418	+47.8%	47,100	+1.5%	49,500	+5.1%
	Operating profit	2,660	5,454	+105.0%	4,361	-20.0%	4,791	+9.9%
	Operating profit margin	8.5%	11.7%	+38.7%	9.3%	-21.2%	9.7%	+4.5%
<b>Renewable energy</b>	Net sales	11,457	12,617	+10.1%	14,088	+11.7%	15,151	+7.5%
	Operating profit	325	(305)	-	388	-	865	+122.9%
	Operating profit margin	2.8%	-	-	2.8%	-	5.7%	+107.3%
<b>Other businesses</b>	Net sales	6,828	7,102	+4.0%	7,893	+11.1%	8,841	+12.0%
	Operating profit	349	441	+26.4%	420	-4.8%	753	+79.3%
	Operating profit margin	5.1%	6.2%	+21.5%	5.3%	-14.3%	8.5%	+60.1%
<b>Adjustments</b>	Net sales	(962)	(700)		(710)		(2,520)	
	Operating profit	(76)	(376)		(655)		(1,095)	

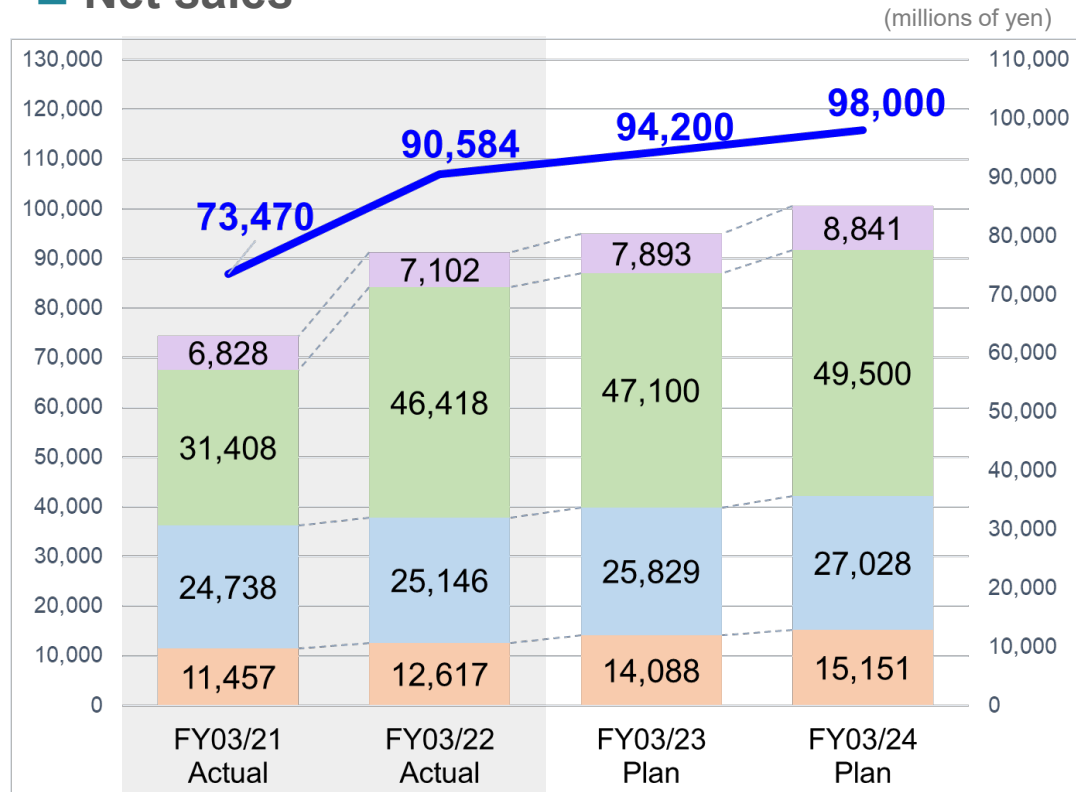
Note 1: Results of REVER HOLDINGS COPORRATION for the period from April to March of the following year are included in the resource recycling business, using the same method as the medium-term business plan targets, to facilitate understanding of the actual progress of the medium-term business plan and YoY comparisons.

Note 2: Figures for the Resource Recycling business include impact from goodwill related to the business integration (JPY90 million for FY03/22, and JPY180 million for FY03/23 onward).

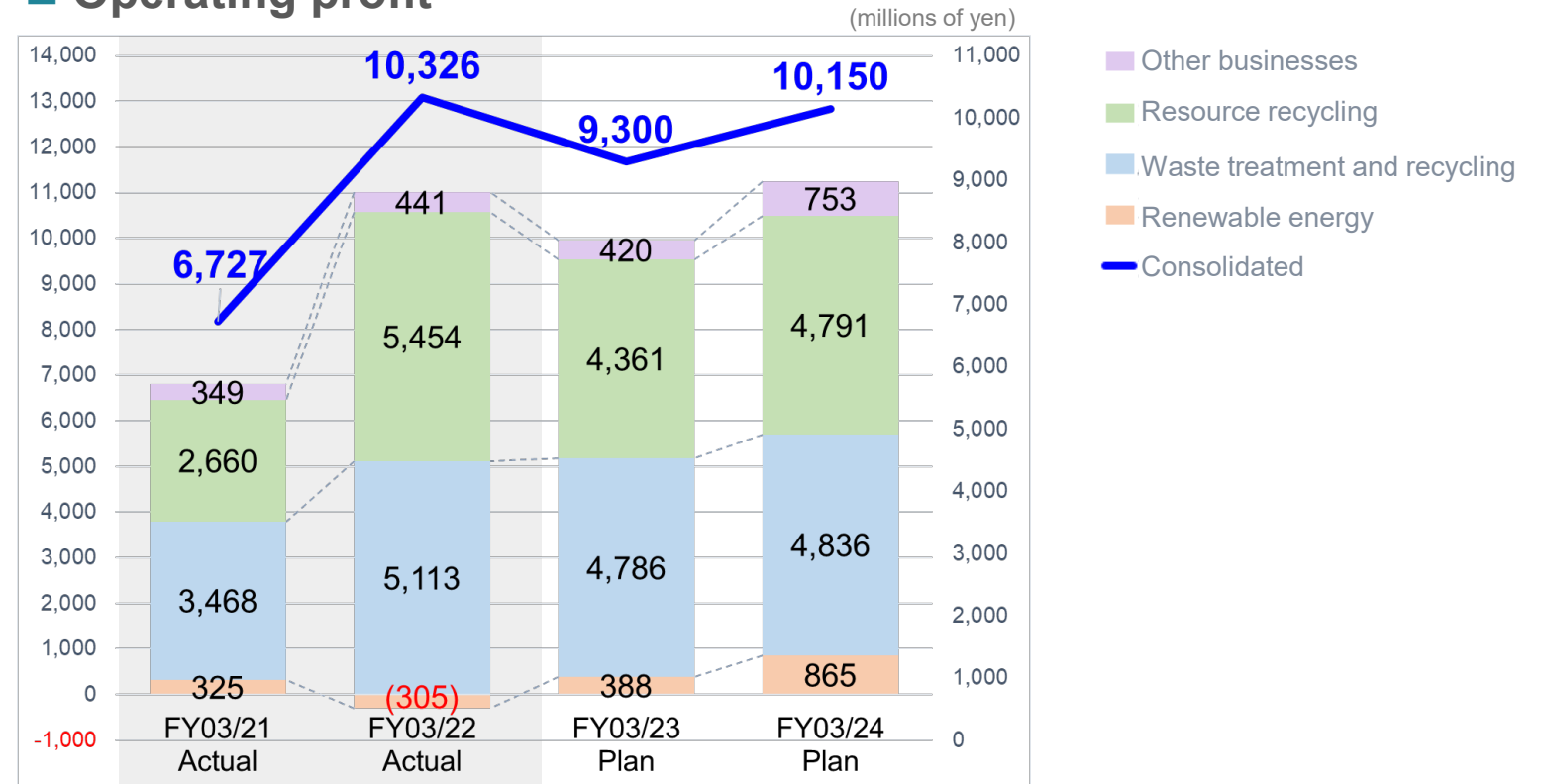
Note 3: The renewable energy business includes JPY376 million in goodwill associated with the acquisition of Green Power Ichihara Co., Ltd.

## Movement in Results and Plans (by Segment) \*FY03/21 and FY03/22: "Results"; FY03/23 and FY03/24: "Plan"

### Net sales



### Operating profit



### Waste treatment and recycling

- FY03/23: Expect decline in profits due to the end of disaster waste treatment support business in Fukushima and Nagano. TAKEEI CORPORATION to continue enhancing RPF and other manufacturing structures at recycling plants.
- FY03/24: Expect start of Monzen Clean Park Co., Ltd. to contribute to results.

### Resource recycling

- Planned selling unit price is JPY55,000/ton.
- FY03/23: Expect slowdown in automobile production, decline in waste home appliances, limitations on operations at REVER CORPORATION Fujisawa Office, and increased depreciation from capital investments.
- FY03/24: Regular operations at REVER CORPORATION Fujisawa Office.

### Renewable energy

- FY03/23: Expect establishment of stable operation systems at six biomass power plants.
- Expect change in biomass ratio at Takeei Green Recycling Co., Ltd..
- FY03/24: Expect improved profitability through review of maintenance systems at electric power retailers and power plants.

## Progress in Integration Synergies

Reviewed figures in Plan, but continued to promote basic strategies.

### Expand recycling business

- Promote creation of solar panel and automotive glass recycling business, where recycling needs are growing.
- Promote facilities improvements, and implement concepts for advanced sorting facilities.
- Add value to and commercialize unused resources (RPF, steelmaking sub-materials, etc.)

### Promote energy business

- Strengthen efforts to create forest management business that is open and useful to surrounding communities. Promote use of residual heat in agriculture.
- Expand supply of renewable power, including from our own power sources
- Promote plans for thermal waste utilization facilities in the Tokyo metropolitan area.

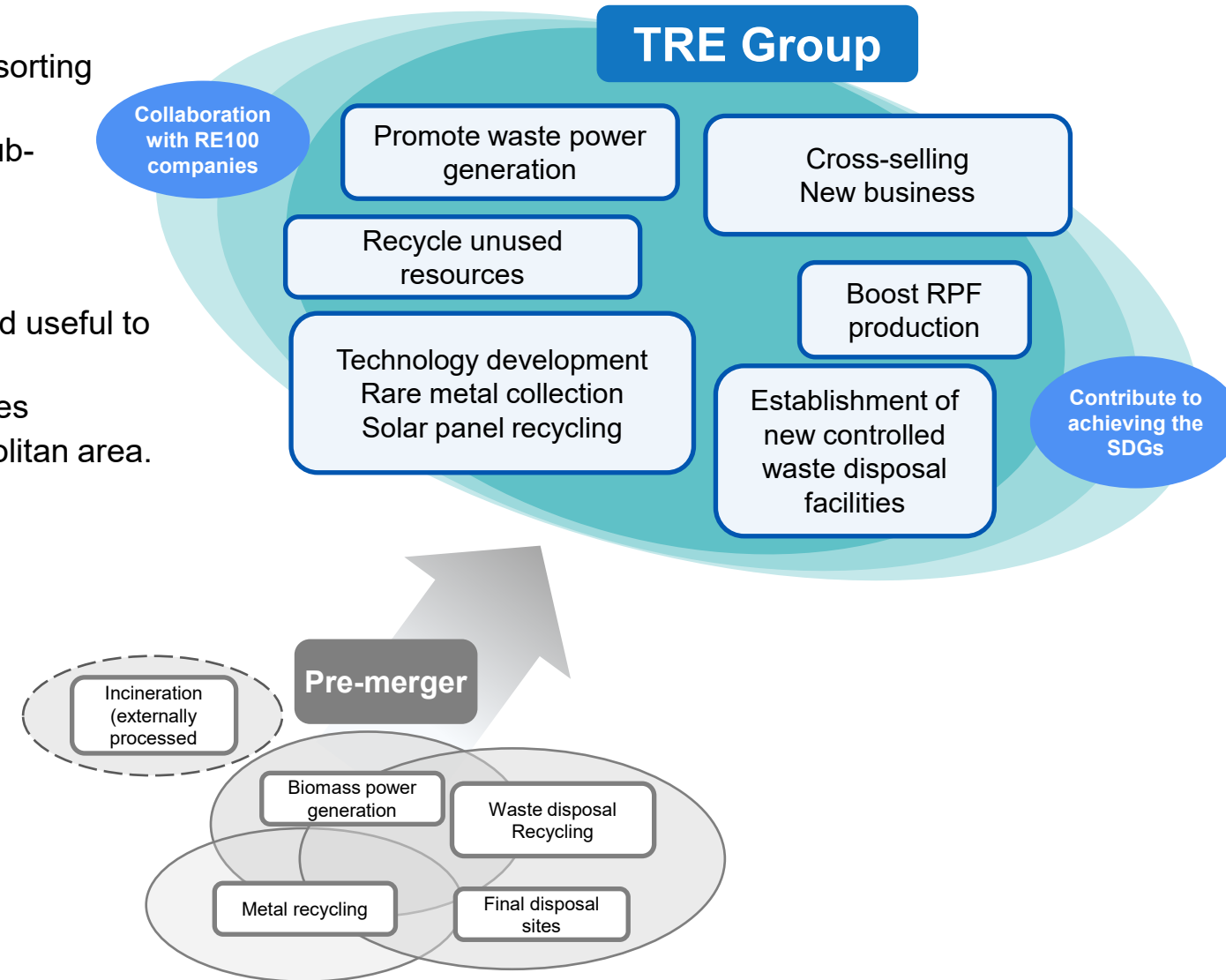
### Develop technologies (establish business models)

- Establish a waste plastic recycling business scheme
- Explore new recycling business plans centered on technological development

### Sustainability Management

- Promote transparency of CO2 emissions from business activities and risk response scenario analysis.
- All directors work together in contributing to achieving SDGs.

## <Image of growth based on Medium-term Business Plan>



## At End of First Year after Business Integration

### Formed a project team for disclosure of the integrated report

The TRE Group formed a cross-functional project team for the **disclosure of the integrated report**, in keeping with a proposal from the Task Force on Climate-related Financial Disclosures (TCFD). We have identified "materialities" for contributing to ESG management and to achieving SDG targets, identified medium and long-term risks and opportunities, and identified items for key sustainability activities. At the same time, we are preparing various types of data for disclosure.

### Activities of the TAKEEI Foundation for SDGs Promotion and change of name to "TRE HOLDINGS Foundation for SDGs Promotion"

Through the TAKEEI Foundation for SDGs Promotion, in FY03/22, we participated in the "Minato Ward Cleanup Campaign" hosted by Minato Ward, Tokyo, and also contributed to the Humanitarian Crisis Relief Fund for Ukraine via the Japan Red Cross Society.

The name of this Foundation will be changed to the "**TRE Foundation for SDGs Promotion**," so that the TRE Group can carry on and expand these activities. We will continue to contribute to achieving SDG targets, and conduct activities that will tie into increased awareness of the environment and human rights among all TRE Group employees.

### The TRE Group's disaster support

The TRE Group was involved in business supporting the treatment of waste and refuse arising from Typhoon No.19, which struck in October 2019, mainly through EQUAL ZERO Inc. During FY03/23, we will continue to contribute to the Great East Japan Earthquake Fukushima Recovery Project, and to leverage the experience that we have accumulated in various regions.

Membership in Japan Disaster Treatment Systems (<http://jdts.or.jp/>) will be switched from TAKEEI to TRE HOLDINGS, as the TRE Group actively undertakes disaster support activities.

# Topics

**Construction Progress at Monzen Clean Park Co., Ltd.**

**Accelerating Studies of Building a Business Scheme based on The Plastic Resource Circulation Act  
(enacted April 2022)**

**Circular Economy Initiatives**

**Recent Status of Renewable Energy Power Stations and Repair Plans for FY2022**

**Activities Targeting Glass Recycling**



## Construction Progress at Monzen Clean Park Co., Ltd.

Photo taken January 2022



	Phase 1	Phase 2	Phase 3	Total
Landfill area	5.16ha	8.46ha	5.75ha	17.26ha
Landfill capacity	836,000 m3	1,731,000 m3	864,000 m3	3,431,000 m3
Landfill period	11 years, 7 months	24 years, 6 months	11 years, 9 months	47 years, 10 months

(Note) The sum of the landfill areas for phase 1 through phase 3 do not match as some areas overlap.

### Future development

Construction is expected to last approximately four years. Current operations mainly consist of the construction of leachate treatment

Construction plan	2018	2019				2020				2021				2022				
	10~12	1~3	4~6	7~9	10~12	1~3	4~6	7~9	10~12	1~3	4~6	7~9	10~12	1~3	4~6	7~9	10~12	
Preparation	■																	
Logging		■								■				■				
Turbidity control work		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Landscape construction			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Disaster prevention pond construction				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Drainage, pipe construction			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Impermeable construction											■	■	■	■	■	■	■	■
Leachate treatment facility construction										■	■	■	■	■	■	■	■	■
Final cleanup, etc.																		■

Note: The construction plan is tentative and subject to change according to the progress of construction.

We will continue to carry out construction safely with the environment in mind.  
Phase 1 construction is scheduled to be completed in November 2022.



## Accelerating Studies of Building a Business Scheme based on The Plastic Resource Circulation Act (enacted April 2022)

The TRE Group uses large-scale facilities and various types of sorting equipment to respond to a wide range of recycling needs in the waste plastic recycling field. Especially, we are promoting the development of technology to improve sorting functions (materialization of the Sorting Center concept), and high-efficiency power generation, while building a new cooperative scheme with a view toward collaborations involving industry, academia, and government.

### Acceleration of sorting technology and process development

- We are working to materialize the concept of a facility that aims to strengthen the sorting process function through extensive demonstration opportunities, cooperation between engineering departments at arterial industry and the TRE Group (e.g., Fuji Car Manufacturing Co., Ltd.), and technological development through industry academia collaboration.

### Optimizing exit strategies

- With a view to collaborating with arterial industry, we are looking into providing products that match the needs of consumers in order to implement new recycling technologies (discussions are underway with several trading companies and manufacturers under a non-disclosure agreement).

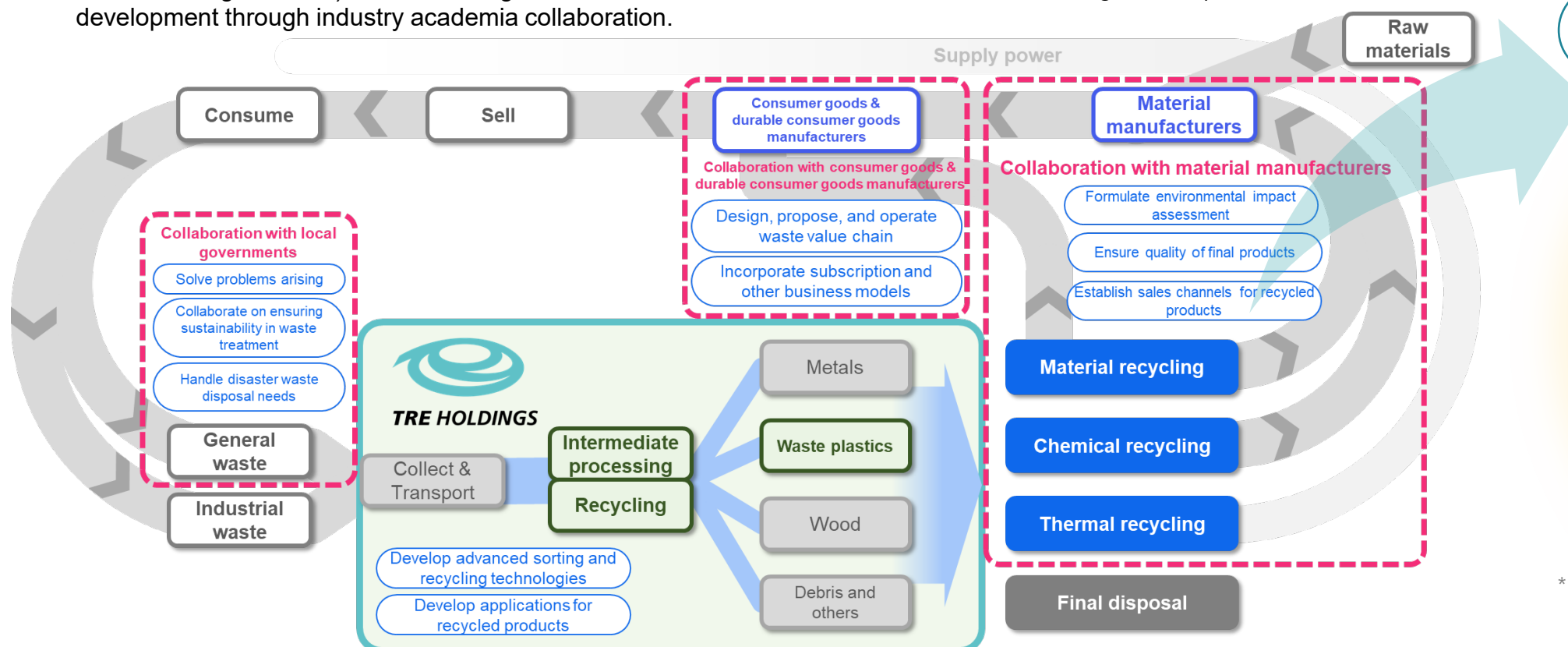
### Establishing a business scheme for recycling plastic resources

- We will establish recycling bases with a view toward accepting general waste and applying optimal recycling methods according to quality (currently exchanging opinions with universities, local governments, major companies.)

### Studies of tie-up with Sumitomo Chemical

We are investigating and analyzing waste plastics processed at the TRE Group's crushing and sorting plants, targeting the reuse of waste plastics from end-of-use vehicles. We also calculated environmental impact evaluations for recycled plastic products from manufacturing to recycling and compared them existing products made from virgin materials, and found that figures for **recycled plastic products using waste plastics were superior from the perspective of CO2 reductions in LCA\*1).** Moving forward, we will refine data and enhance selection using resin sorting lines at NNY Corp., and promote waste plastic material recycling to reduce environmental impact.

\*1 LCA: Life Cycle Assessment. A process for clarifying the environmental impact of products from material procurement to manufacturing and disposal.



## Circular Economy Initiatives

### Newly installed E-waste line at the Higashimatsuyama, REVER CORPORATION

Started operations  
on April 1, 2022



**Newly installed a dedicated E-waste (crusher) line in response to the global increase in E-waste.**

We will collaborate with the manual dismantling line for ATMs and other electronic devices containing confidential information operating at the Kumagaya Plant of Nakadaya Corp., and strengthen our efforts to add value by crushing and removing foreign substances from the circuit boards after dismantling. By crushing electronic scrap, we sort out iron and aluminum, then ship the gold, silver, and copper to major refining companies in Japan.

**Expected treatment volume: 700t/mon.**

\*Electronic scrap / circuit boards

Solar panels have been installed, and 26% of the electricity used to operate the facility will be provided by renewable energy sources



### Newly installed resin sorting line at Nasu Plant, NNY Corp.

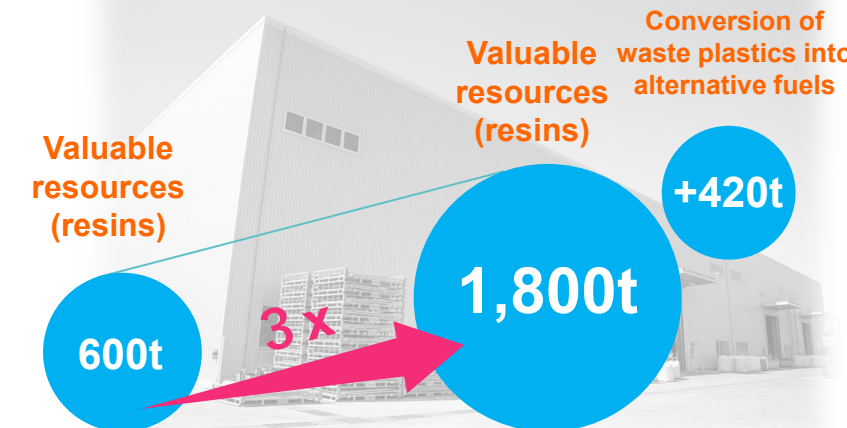
Installation  
complete



**Newly installed a dedicated sorting line to strengthen resin sorting in an effort to promote plastic recycling.**

At the Nasu Plant of NNY Corp., we are currently sorting 600 tons of resin and other materials per year from the dust (residue) that remains after sorting mixed metals (Note 1) for recycling. By introducing a new resin sorting line, we will boost our material recycling volume to 1,800 tons per year and contribute even more to recycling. In addition, we expect to be able to sort 420 tons of dust for use as alternative fuels such as RPF (Note 2).

Scheduled to start operation in July 2022



Note 1. Mixed metals: A mixture of non-ferrous metals such as aluminum, copper, stainless steel, etc., and plastics.

Note 2. RPF: A solid fuel made mainly from waste paper and plastics. It is high in calories and emits less CO2 than fossil fuels.



## Recent Status of Renewable Energy Power Stations and Repair Plans for FY2022

### Recent status (at end of FY2021)

Green Power Ichihara Co., Ltd.	: Stable operations continue despite the impact of facility repairs and additional construction work in Q1.
Takeei Green Recycling Co., Ltd.	: Stable operations gradually being established, as the outlook for changes in the biomass ratio becomes clear.
Tamura Biomass Power Generation Co., Ltd.	: Undertook in-house operation and maintenance of power generation facilities, and established a stable operation system.
Five electric power retailers	: The business environment was impacted by rapidly increasing market prices during the cold winter when electricity demand to come under pressure, so purchase prices increased temporarily. Nevertheless, these retailers are working to alleviate the decline in profits, for example through market sales of electric power generated using solid RPF (not subject to FIT) at Green Power Ichihara Co., Ltd.

### Regular repairs planned for FY2022

Company name	Description of repairs (E.g., regular repairs., facility enhancements)	Q1	Q2	Q3	Q4
Tsugaru Biomass Power Generation Co., Ltd.	Parts replacement, etc.	○		○	
Hanamaki Biomass Power Generation Co., Ltd.	Boilers	○		◎	
Daisen Biomass Power Generation Co., Ltd.	Boilers, turbines	◎		○	
Takeei Green Recycling Co., Ltd.	Parts replacement, etc.		○		○
Green Power Ichihara Co., Ltd.	Boilers, turbines	◎		○	
Tamura Biomass Power Generation Co., Ltd.	Boilers			◎	○

◎ : Statutory inspections, regular repairs (boilers: every 2 yrs.; turbines: every 4 yrs.) ○ : Regular inspections, regular repairs

## Activities Targeting Glass Recycling

### JW Glass Recycling Co., Ltd. joins TRE Group

In the recycling business, JW Glass Co., Ltd. collects sheet and bottle glass and sorts, removes foreign materials, and crushes the glass, and then sells this "cullet" to sheet and bottle glass manufacturers and glass wool manufacturers as raw materials.

	(millions of yen)		
	FY03/19	FY03/20	FY03/21
Net sales	1,174	1,236	1,194
Operating profit	149	210	178

\*JW Glass Recycling Co., Ltd. earnings are not included in FY03/23 earnings forecast.

Company name	JW Glass Recycling Co., Ltd.
Establishment	5 October, 2004
Headquarters	ShinKiba, Koto-ku, Tokyo
Representative Director	Hidekazu Yukimori
Capital	JPY30 million
Main areas of business	Collection, recycling, and sales of glass waste

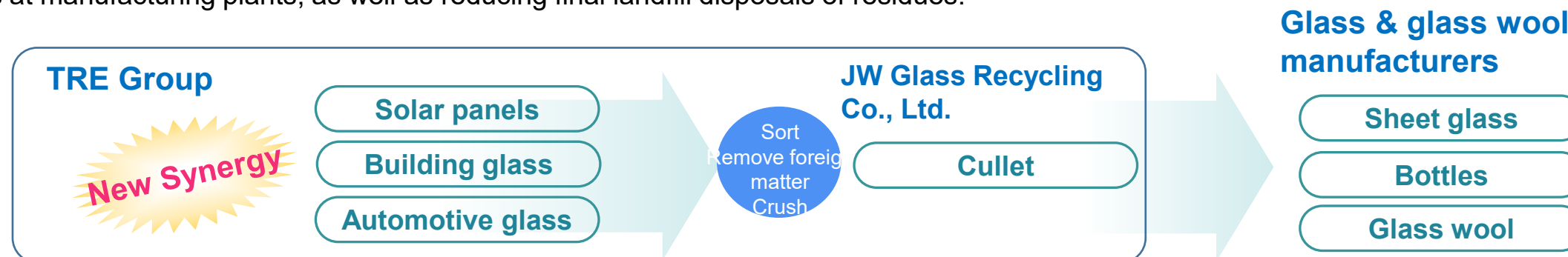
#### Operates 4 plants

<b>ShinKiba Plant</b>	Tokyo
<b>Namporo Plant</b>	Hokkaido
<b>Tatebayashi Plant</b>	Gunma
<b>Oigawa Plant</b>	Shizuoka

### What glass recycling means to TRE

Based on the corporate philosophy of "**contributing to the preservation of the global environment**," the TRE Group strives to be a Comprehensive Environment Enterprise that contributes to a highly advanced and sound material-cycle society and a carbon-free society, by expanding and diversifying its business fields.

Going forward, we will take on the challenge of recycling waste glass, including **glass from buildings** and **end-of-use vehicles**, as well as **solar panels**, where demand for disposal is expected to grow in the future. By recycling waste glass, we will reduce the consumption of natural resources, and contribute to reducing CO2 emissions at manufacturing plants, as well as reducing final landfill disposals of residues.





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