ENVIPRO HOLDINGS Inc.

Q2 Financial Results Briefing for the Fiscal Year Ending June 2020

February 19, 2020

Event Summary

[Company Name]	ENVIPRO HOLDINGS Inc.
[Event Type]	Earnings Announcement
[Event Name]	Q2 Financial Results Briefing for the Fiscal Year Ending June 2020
[Fiscal Period]	FY2019 Q2
[Date]	February 19, 2020
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[Time]	13:30 – 14:20 (Total: 50 minutes, Presentation: 43 minutes, Q&A: 7 minutes)
[Venue]	Nikkei Kayabacho Bekkan B1F, 2-6-1 Kayabacho Nihonbashi, Chuo-ku Tokyo 103-0025
[Venue Size]	238 m^2
[Participants]	34
[Number of Speakers]	3
	Tomikazu Sano — Representative Director and President, CEO
	Naoki Takekawa — Director
	Taiji Sugiyama — Manager of Finance

Presentation

Moderator: Now, we hold Q2 financial results briefing for the fiscal year ending June 2020 of ENVIPRO HOLDINGS Inc.

First of all, I would like to introduce the three people from the Company. Mr. Tomikazu Sano, Representative Director and President, CEO.

Sano: Sano. Thank you for today.

Moderator: Mr. Naoki Takekawa, Director and General Manager of Corporate Planning Department.

Takekawa: Takekawa. Thank you very much.

Moderator: Mr. Yasuji Sugiyama, Manager of Finance.

Sugiyama: Sugiyama. Thank you.

Moderator: Mr. Sano gives an explanation today. After that, we will have a time for a question & answer session.

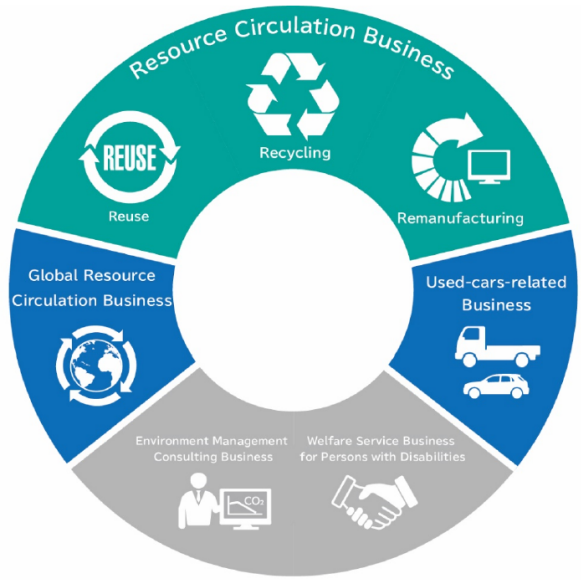
I think the questionnaire is included in the materials distributed to you. We would like to ask for your cooperation.

So, please.

Sano: Thank you very much for your attendance today. So, I will start the explanation.

First, I will provide an overview of the 2Q financial results and then explain the full-year forecasts. Then, I will discuss the future direction.

Business Segment



Business segment		Description
Resource Circulation	Reuse	Promoting the distribution of used products and maintenance parts without modifying their functionality or value.
	Recycling (Resource recovery)	Promoting recycling by developing highly advanced technologies that can shred metal scrap and waste, and physically sort them by material type based on their different properties.
	Remanufacturing	Manufacturing recycled raw materials and articles out of waste and scrap by taking the advancement of recycling technologies to the next level.
Global Resource Circulation		Promoting optimal global resource circulation through the import/export and trilateral trading of a wide range of resources including metals, plastic scrap, and biomass fuel.
Used-cars-related		Stocking high-quality Japanese used cars/heavy machinery and used car maintenance parts such as engines, and exporting them overseas as well as trilateral trading.
Others		Offering consulting services specialized in environmental management, including the provision of support for companies to develop their own environmental strategy and CO2 emission reduction plan. Further, undertaking the business to help persons with disabilities secure employment by offering on-the-job training to enhance their skills.

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Previously we had managed with a single segment, but since last year, we have managed with four business segments.

The first segment is Resource Circulation business. This business is mainly engaged in recycling in Japan. For example, there is a company named eCONeCOL, which has domestic department and trade department. This trade department is positioned as a Global Resource Circulation business.

Then there is a company named 3WM, which is engaged in the business of exporting used cars and components. The Others segment includes environment management consulting and the welfare service business for people with disabilities.

Highlights for the Six Months Ended December 31,2019

Financial Results

Net Sales	¥18,691 million	(up7.6%	year on year)
Operating Profit	¥660 million	(up57.8%	year on year)
Ordinary Profit	¥748 million	(up31.2%	year on year)
※Profit	¥549 million	(up75.0%	year on year)

Main Topics

- The ferrous scrap price (Tokyo Steel Tokkyu Grade (Japanese H2 Grade) Seaborne Price) fell below that of the previous fiscal year with an average price of ¥24,302 during the six months (¥35,082 during the same period of the previous year),however, we secured the amount of net sales by increasing our handling sales volume.
- The Group progressed with "further cultivation of existing businesses," "establishment of a new pillar" and "reinforcement of foundation," under our mission statement "Contribute to create a sustainable society."
- Ordinary loss related to new businesses (VOLTA,P2P, etc.) in the resource recycling business became ¥100 million.
- ¥700million in Capital Investment (Payment Base).
- The postponement of operation of recycling facilities for lithium ion rechargeable batteries.

※Profit＝Profit attributable to owners of parent

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Firstly, as we have already provided information on our financial results, etc., because the 1H of the previous year was extremely sluggish, in the 2Q, sales, operating income, ordinary income, and net income increased YoY. The average price of iron scrap for the period under review was approximately JPY24 thousand, compared to approximately JPY35 thousand in the previous fiscal year. However, we were able to increase sales by increasing the volume handled particularly in the global resource circulation business.

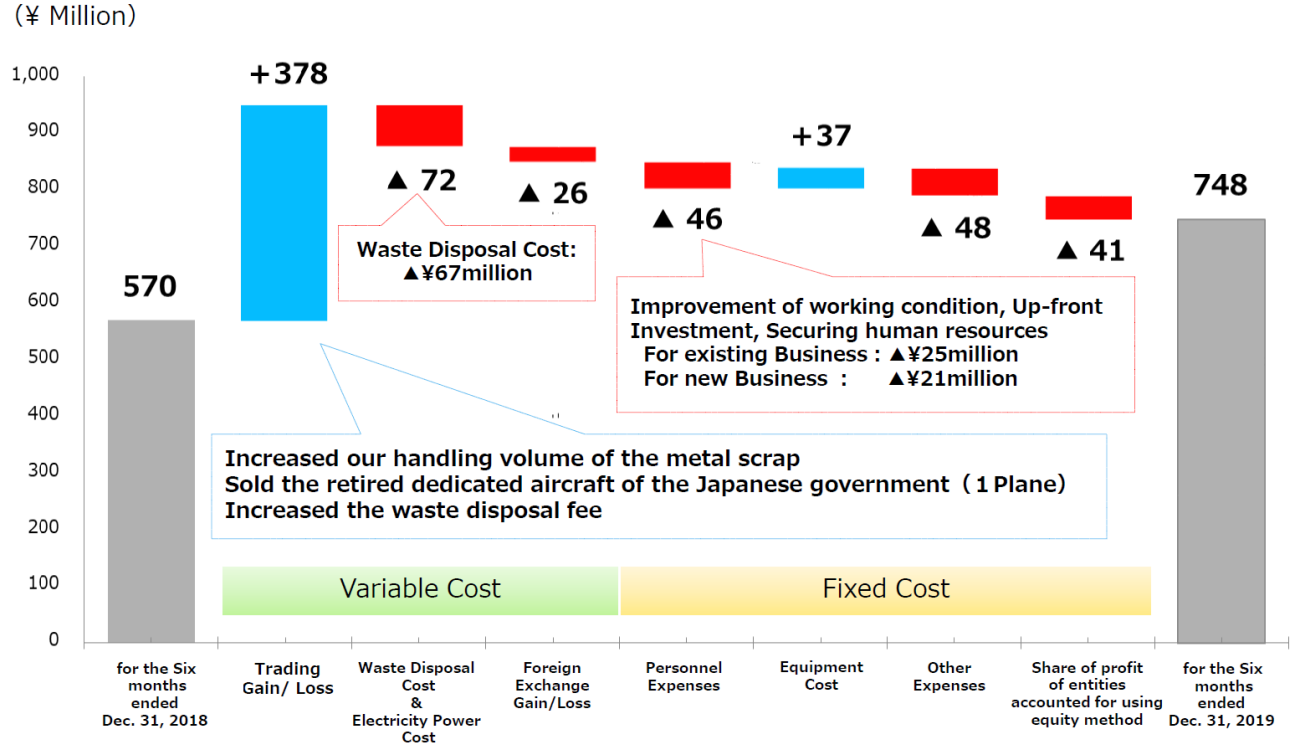
We have been working on three pillars: further cultivation of existing businesses, establishment of a new pillar, and reinforcement of foundations. I believe that some of the results have been achieved by steadily addressing these issues.

However, in the Resource Recycling business, we are still in the process of starting up the plant of new businesses such as VOLTA, recycling lithium-ion batteries, and P2P, recycling of plastics from end-of-life vehicles. As a result, ordinary loss was JPY100 million in the 1H alone.

Capital expenditures were JPY0.7 billion on a payment basis, although some of them were still in construction in progress.

As I mentioned earlier, the operation of a lithium battery plant is slightly behind schedule.

Analysis of Difference in Ordinary Profit



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Let's look at the analysis of the differences in ordinary income. The trade division (Global Resource Circulation Business) was able to secure gross profit by increasing the volume of metal scrap handled and selling products to customers in a declining market. In addition, we sold two retired dedicated aircrafts of Japanese government, one in the 2H of last year and one in the 1H of this year, and this profit also contributed.

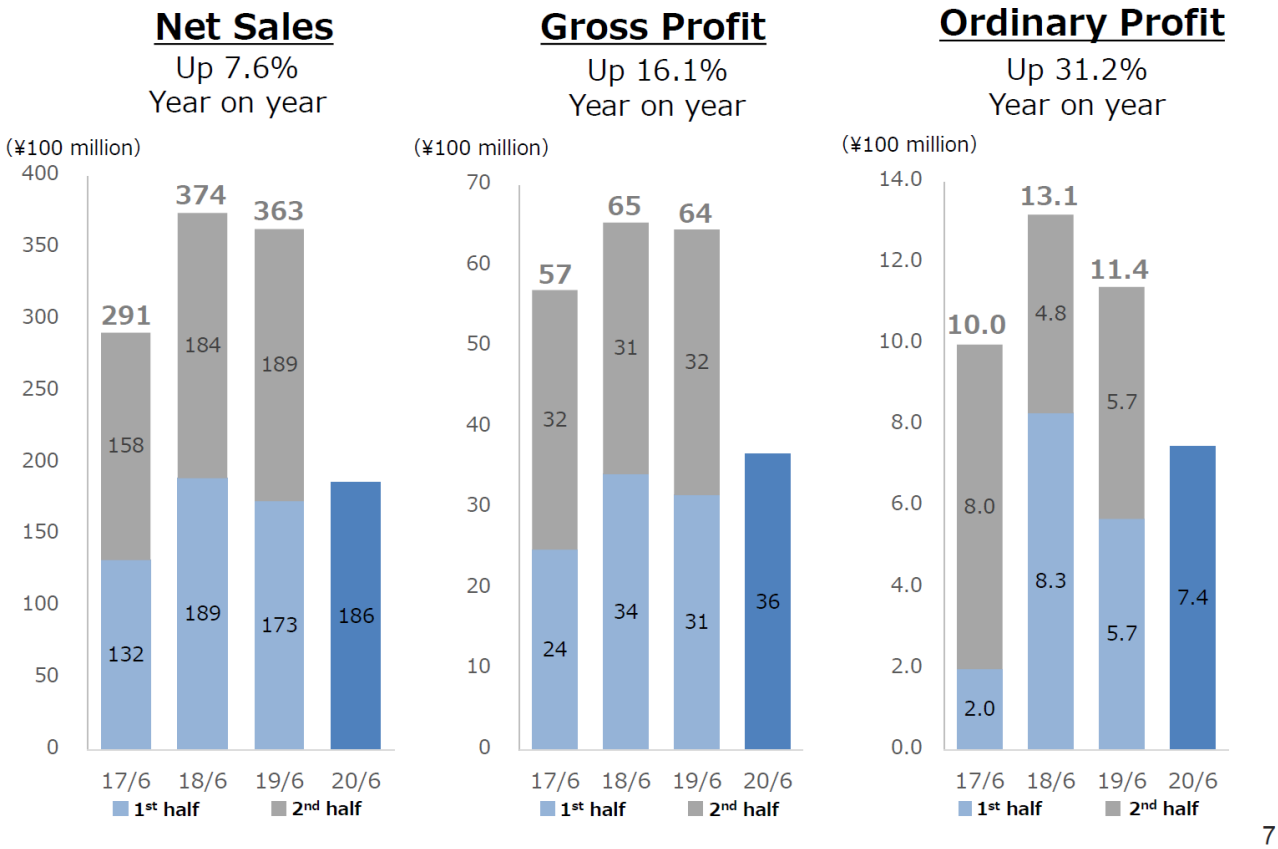
In addition, we have focused our efforts on increasing waste disposal fee. As a result, we were able to increase gross profit by JPY378 million.

However, the unit cost of waste disposal has risen. Therefore, the cost of waste disposal of JPY72 million was a negative factor.

We have continued to raise labor costs for the past three years. We have continued to raise bonuses by 0.25 month's per year, and hired personnel for new businesses, resulting in an increase of fixed costs, a negative factor.

As a result, we achieved ordinary income of JPY748 million.

Consolidated Financial Results



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This is a comparison for each fiscal year. While average unit price declined by about JPY10 thousand compared to JPY35 thousand in the previous year, we have achieved favorable sales.

Gross profit also increased from the previous year. The year before last was the most profitable year, but in the 1H of this fiscal year, gross profit was higher than that of the year before last.

As a result, ordinary income was JPY740 million, but this was due partly to the sales of aircraft, which led to an one-time increase.

Summary of Business Results by Segment for the Six Months Ended December 31, 2019

(¥ Million)

Net Sales	Six months ended December 31,2018	Six months ended December 31, 2019		Year on year
	Actual	Actual	Composition Ratio	Ratio
Consolidated	17,376	**18,691**	100.0%	7.6%
Resource Circulation Business	6,446	**5,775**	28.5%	▲ 10.4%
Global Resource Circulation Business	10,227	**11,007**	54.3%	7.6%
Used-car-related Business	3,087	**3,333**	16.5%	8.0%
Others※	269	**148**	0.7%	▲ 44.8%
Adjustment	▲ 2,653	**▲ 1,573**	-	-

Segment Profit	Six months ended December 31,2018	Six months ended December 31, 2019		Year on year
	Actual	Actual	Composition Ratio	Ratio
Consolidated	570	**748**	100.0%	31.2%
Resource Circulation Business	465	**310**	38.7%	▲ 33.3%
Global Resource Circulation Business	136	**394**	49.1%	188.4%
Used-car-related Business	▲ 0	**80**	10.1%	-
Others※	44	**17**	2.1%	▲ 61.5%
Adjustment	▲ 75	**▲ 53**	-	-

※Others includes the results of E3 Inc. up to December 2018

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By segment.

In the Resource Circulation business, net sales declined 10.4%, partly due to a slight decrease in shipments to factories and a decline in unit prices.

However, net sales in the Global Resource Circulation business rose 7.6%, due to an increase in the amount handled as mentioned earlier.

Sales in the Used-cars-related business increased by 8.0%, roughly same as the previous year.

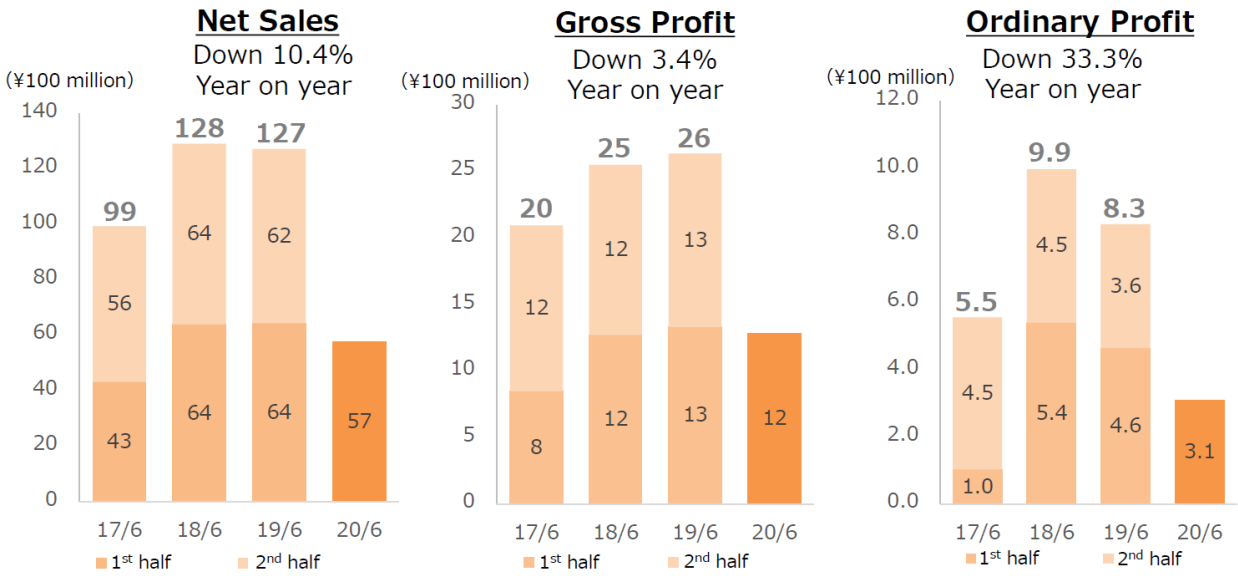
In the Others business, we had E3, solar power business, in the 1H of the previous fiscal year. Since that has disappeared due to MBO, net sales declined.

As for profit, in the Resource Circulation business, profit decreased by 30%. This was attributed to the fact that the Company was unable to dispose of dust, and had purchased it in line with this, and that the unit price of waste treatment expenses had risen as I mentioned earlier. The business in Japan is susceptible to market fluctuations because it is easier to generate profits when the scrap and metal prices are high.

In the Global Resource Circulation business, we were able to generate profits by increasing the volume of our products handled and making good use of the bear market, in addition to the sales of one aircraft.

As for used cars, sales were roughly the same, but fixed costs have been reduced, and as a result, profits have been generated compared to the previous year. The Others business posted profit of approximately JPY17 million.

Business Results by Business Segment 【Resource Circulation】



- Ferrous and nonferrous metal scrap prices showed signs of weakness and as a result it placed pressure on revenue.
- Affected by increases in waste disposal cost at final disposal sites and limitations placed on acceptance (also by the occurrence of the disaster waste).
- Secured a gross profit due to the progress of revisions to processing fee, despite a decrease in its handling volume of waste due to our restriction on acceptance.
- Have been postponed the operation of recycling facilities of Black Sand for lithium ion rechargeable batteries to the third quarter of the fiscal year or beyond.
- New business (VOLTA, P2P, etc.) Ordinary Loss 100 million yen (59 million yen during the same period of the previous year).

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This is a comparison of each period in the Resource Circulation business.

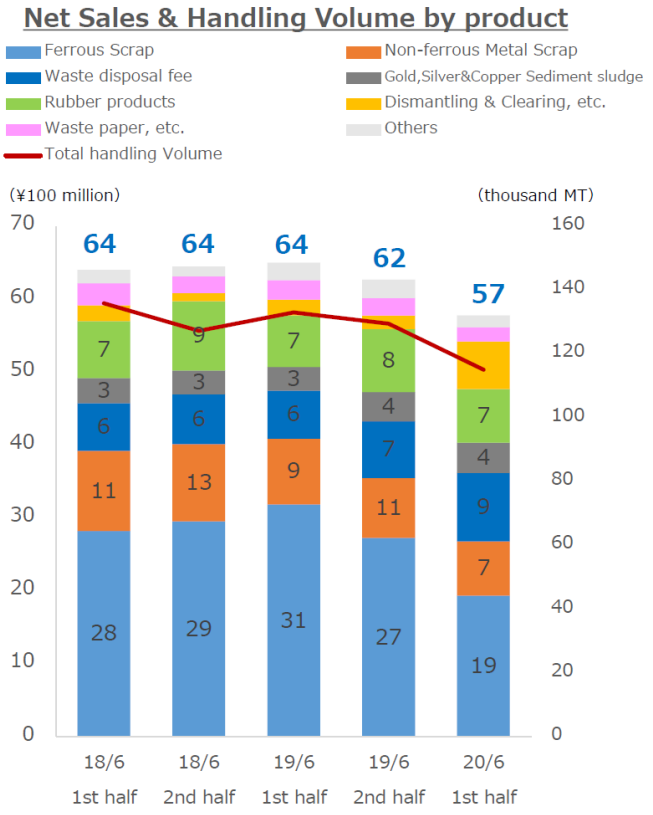
First, sales have not grown much due to the weakening of the market for steel scrap. In addition, there were the price increase of the waste disposal cost at the final disposal site and the restriction on acceptance due to the disaster waste.

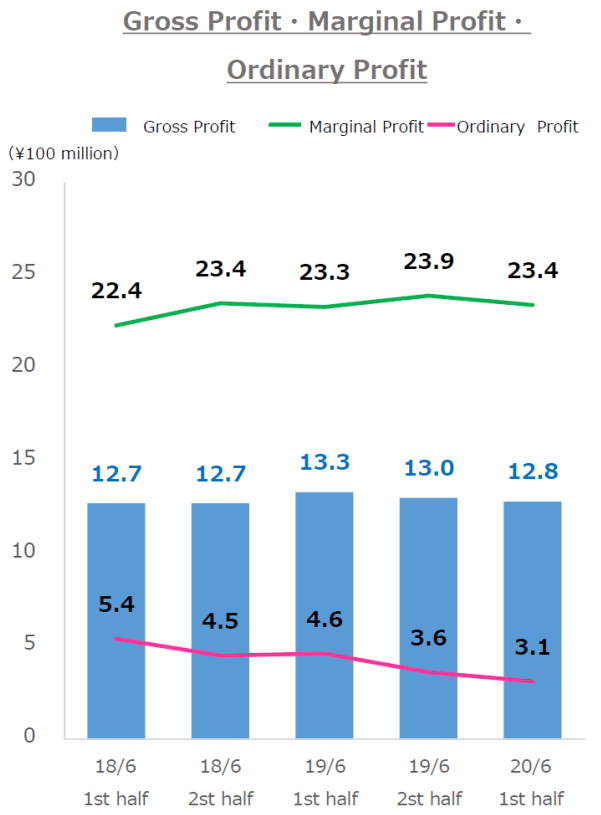
However, we were able to raise the price of the waste disposal cost for our customers. Recently, even the Nikkei Shimbun newspaper carries articles that the waste plastic has been stagnant and the disposal cost has been rising. This has made it easy for customers to understand the situation. In this way, we are able to secure profits.

However, in the black sand manufacturing business, VOLTA, the business of stripping the negative pole material of the electrodes has been steady for a while, but there are many difficulties in the production line for baking the material, since other companies are not doing it. We believe that if this is done well, it will be a factor that greatly reduces costs.

In addition, as I mentioned earlier, new businesses is currently a negative factor.

Business Results by Business Segment 【Resource Circulation】





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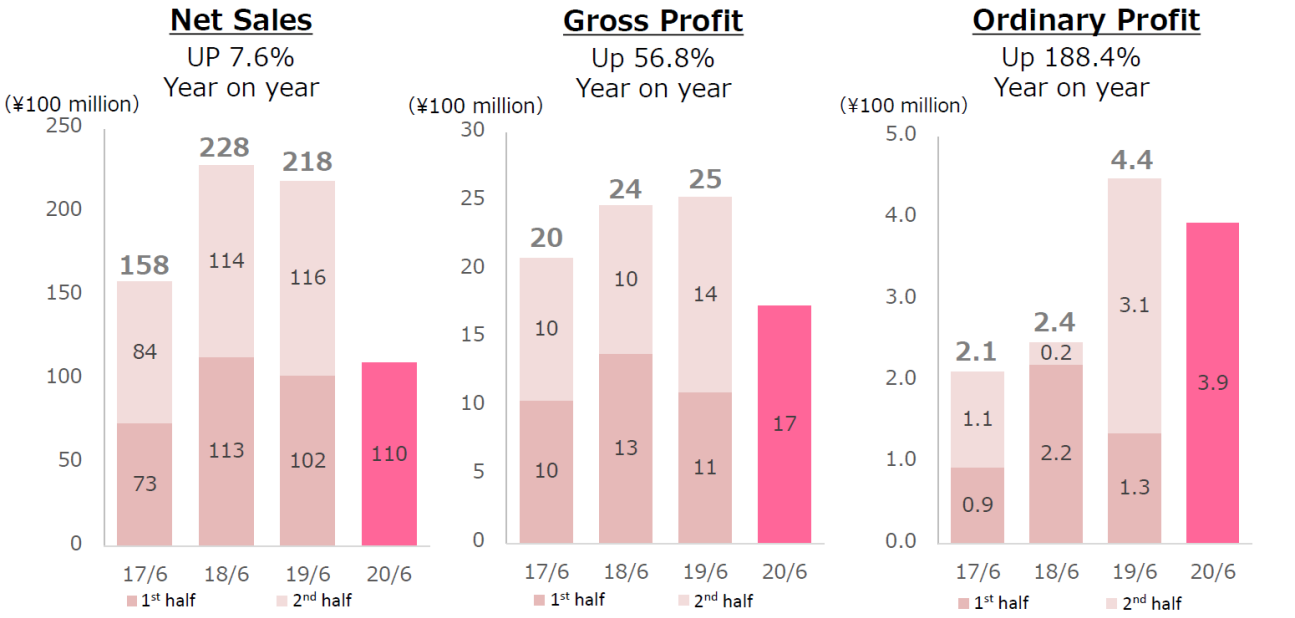
This is sales by product type.

Sales from iron is falling because the scrap market is falling. The same applies to non-ferrous metals.

However, waste disposal fee, which are shown with dark blue, increased by about JPY300 million compared to that of the 1H of last year. The rubber-related sales have been somewhat weak. We were able to slightly expand dismantling, clearing, and other business, including the soil remediation business, this period.

You see a graph of gross profit on the right. While gross profit has not grown so much, ordinary income in the Resource Circulation business declined as fixed costs have risen.

Business Results by Business Segment【Global Resource Circulation】



- Ferrous and nonferrous metal scrap prices showed signs of weakness, however, on the other hand, utilized the fluctuation of these market prices.
- Handled the volume of ferrous scrap increased resulting in an increase in net sales, despite the declining market prices for ferrous scrap than the same period of previous year's.
- Sold the remained one of the two retired dedicated aircraft of the Japanese government.
- Achieved successfully the first shipment of wood biomass fuel (PKS) to the Japanese market.
- Established the Representative Office in Europe in October 2019.

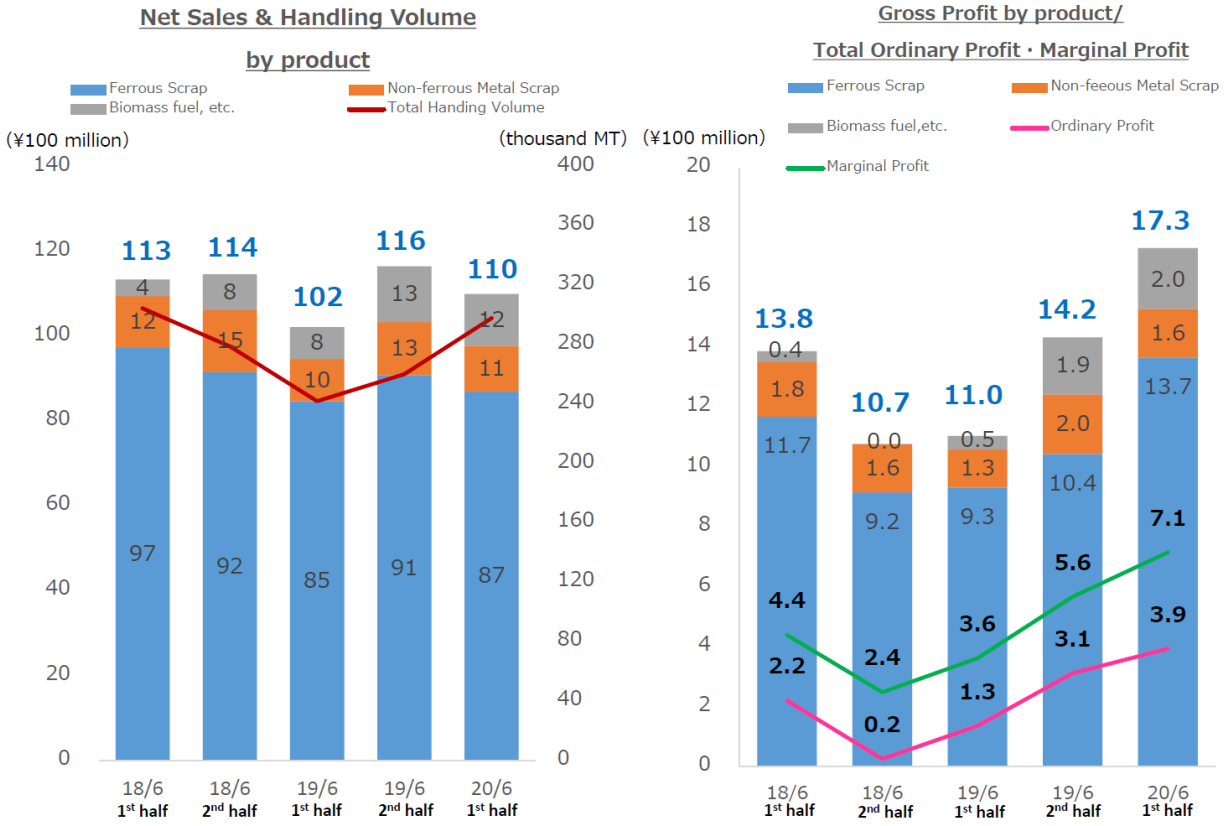
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Next, the Global Resource Circulation business.

This business has contributed greatly to the results for the period under review. While the scrap market has remained weak, the Company has been able to utilize market fluctuations. When margin is large, we receive more orders from customers, so naturally the amount handled increases. This led to profit in the iron scrap trade sector.

And then, we sold an aircraft. In addition, we sold PKS and biomass fuels from Malaysia to the Japanese market for the first time this fiscal year. We then opened an office in Europe in last October.

Business Results by Business Segment【Global Resource Circulation】

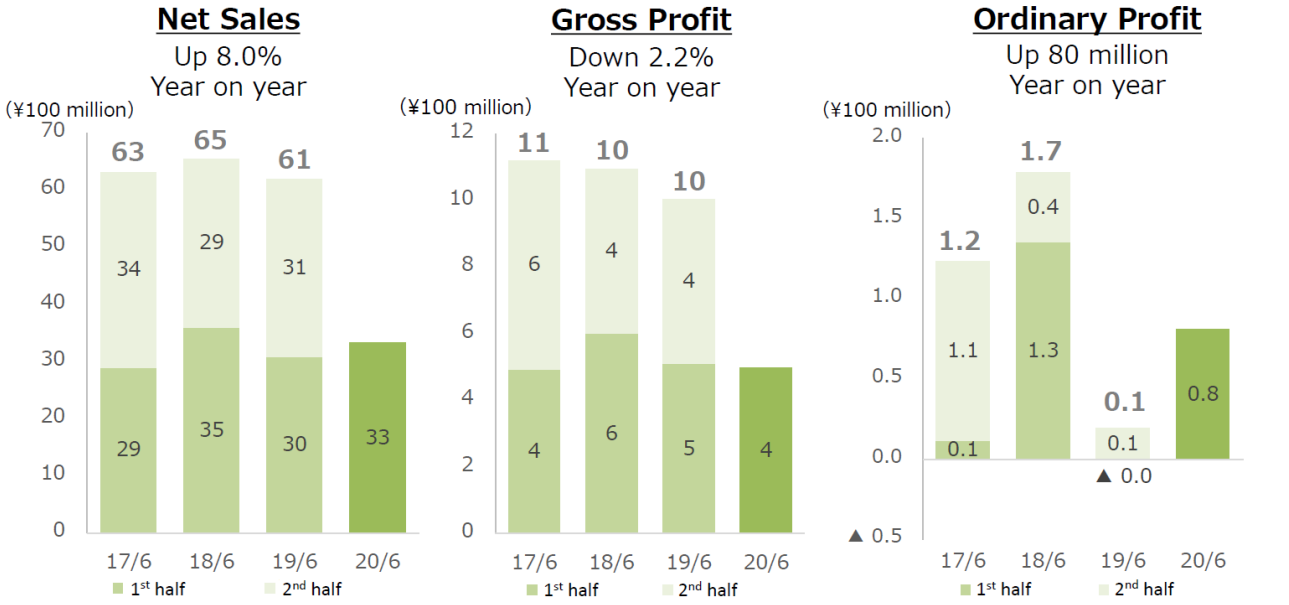


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By product type.

Iron scrap is the main product. As the sale of aircraft is included in the biomass and others, the percentage has not changed much. However, we were able to secure gross profit. We were able to increase ordinary profit by generating gross profit mainly from iron and aircraft.

Business Results by Business Segment 【Used-car-related Business】



- The demand for used cars in Chile, where is one of our major export destination countries, weakened.
- Sales of used trucks for South East Asia increased.
- Revenue from used car sales and maintenance business in Uganda was improved.
- The volume handled by logistics agency services, which had been sluggish during the same period of the previous fiscal due to effect of restrictions in foreign countries, was recovered.
- Fixed cost was reduced due to the reduction, etc. of yard size for the loading of used cars.

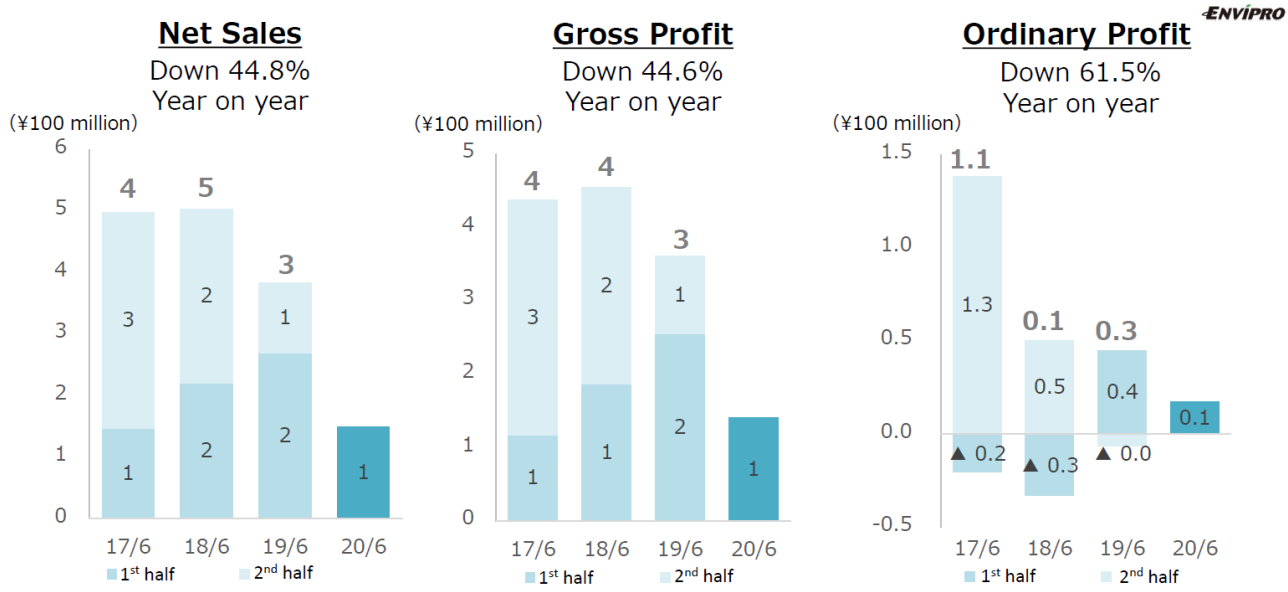
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The Used-cars-related business.

Chile had usually been very profitable, but due to various riots, the business in Chile was unable to achieve significant growth. In the meantime, sales of used trucks in Southeast Asia have increased, and we have begun to deal with Uber in Uganda, where we had been struggled. We shifted from personal sales to corporate sales, and in fact, this led to a lower bad debt ratio. By overhauling all vehicles sold to Uber at 3WM Uganda, we have been able to turn a profit.

In addition, the volume of logistics services has been recovered. In addition, fixed costs have been reduced, resulting in a YoY increase in profits.

Business Results by Business Segment 【Others】



« Environment Management Consulting Business»
- Orders for CDP responses and evaluation improvement support and other services was fared well.
- New services were commenced, such as Task Force on Climate-related Financial Disclosures (TCFD) response support.

« Welfare Service Business for Persons with Disabilities »
- The Type-B Continuous Employment Support Office was newly established in Fujinomiya City, Shizuoka Prefecture in August 2019.

※ Others includes the results of E3 Inc. up to December 2018.

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The Others business is less impacted by external factors.

Bright Innovation served as a CDP(Carbon Disclosure Project) consultant for about 20 companies. Most of the companies were leading companies in Japan, including major automobile companies, and out of 20 companies, 6 companies received A rating. Such a track record won the admiration, and the company will continue to receive consulting orders for the next fiscal year.

At the same time, we have received various inquiries about waste. In particular, the world is now moving from a one-way economy called linear economy to the circular economy, a concept of turning raw materials back to the people who made them.

Under such circumstances, customers want to buy back the products they sell in some form as raw material. Particularly, they buy plastics with higher price than virgin materials. This is because if you don't use plastics, you will be valued lower. There has been such a concept to date, but in fact it has begun to happen. I think this will accelerate.

In fact, the plastic 2 plastic business is currently struggling and are still in the red. But we will intentionally use recycled products. For example, there is a plastic called polystyrene, PS. While virgin material is JPY140, PS can be sold at the same price or even higher. It can't be accepted without PS. Such a trend is emerging in the world. I think that the world of recycled plastics will be reviewed.

Bright Innovation has produced tremendous results in the sense of creating points of contact with customers. We have also begun offering services for non-financial disclosure on climate change. In Fujinomiya City, where

ENVIPRO's head office is located, ASTOCO started the B type business, an employment transition support for people with disabilities. I think it will return to profitability this fiscal year.

Summary of Consolidated Balance Sheets

(¥ million)

	As of June 30 2019	As of Dec.31 2019	Increase/ Decrease
Current assets	11,152	10,636	▲ 516
Non-current assets	8,607	9,194	586
(Property, plant and equipment)	6,130	6,632	501
(Intangible assets)	89	79	▲ 10
(Investments and other assets)	2,386	2,481	95
Total assets	19,759	19,830	70

	As of June 30 2019	As of Dec.31 2019	Increase/ Decrease
Current liabilities	5,172	5,108	▲ 63
Non-current liabilities	3,025	2,838	▲ 186
Total liabilities	8,197	7,947	▲ 250
Net assets	11,562	11,883	321
(Shareholders' equity)	11,166	11,501	335
Total liabilities and net assets	19,759	19,830	70

Main Topics

- Current assets (Cash and deposits:¥1,802 million, Notes and accounts receivable-trade: ¥▲1,183 million Merchandise and finished goods: ¥▲889 million, Other current assets: ¥▲303 million)
- Non-current assets (Construction in progress: ¥459 million, Investment securities: ¥66 million)
- Current liabilities (Short-term borrowings: ¥420 million, Income taxes payable: ¥107 million Other current liabilities: ¥▲427 million, Notes and accounts payable-trade: ¥▲113 million)
- Non-current liabilities(Long-term borrowings: ¥▲174 million)
- Equity ratio 58.1% (up 1.4% year on year)

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The balance sheet as a whole has remained almost unchanged from the end of the previous fiscal year, while liabilities have been reduced gradually and financial conditions have been improving gradually.

Summary of Consolidated Statements of Cash Flow

(¥ million)

Items	For the Six months Ended December 31, 2018	For the Six months Ended December 31, 2019	Increase / Decrease
Cash flows from operating activities	▲ 283	2,625	2,908
Cash flows from investing activities	▲ 36	▲ 758	▲ 722
Cash flows from financing activities	▲ 854	▲ 63	791
Effect of exchange rate change on cash and cash equivalents	▲ 4	0	3
Net increase (decrease) in cash and cash equivalents	▲ 1,178	1,802	2,980
Cash and cash equivalents at beginning of period	4,856	2,714	▲ 2,142
Cash and cash equivalents at end of period	3,678	4,516	837

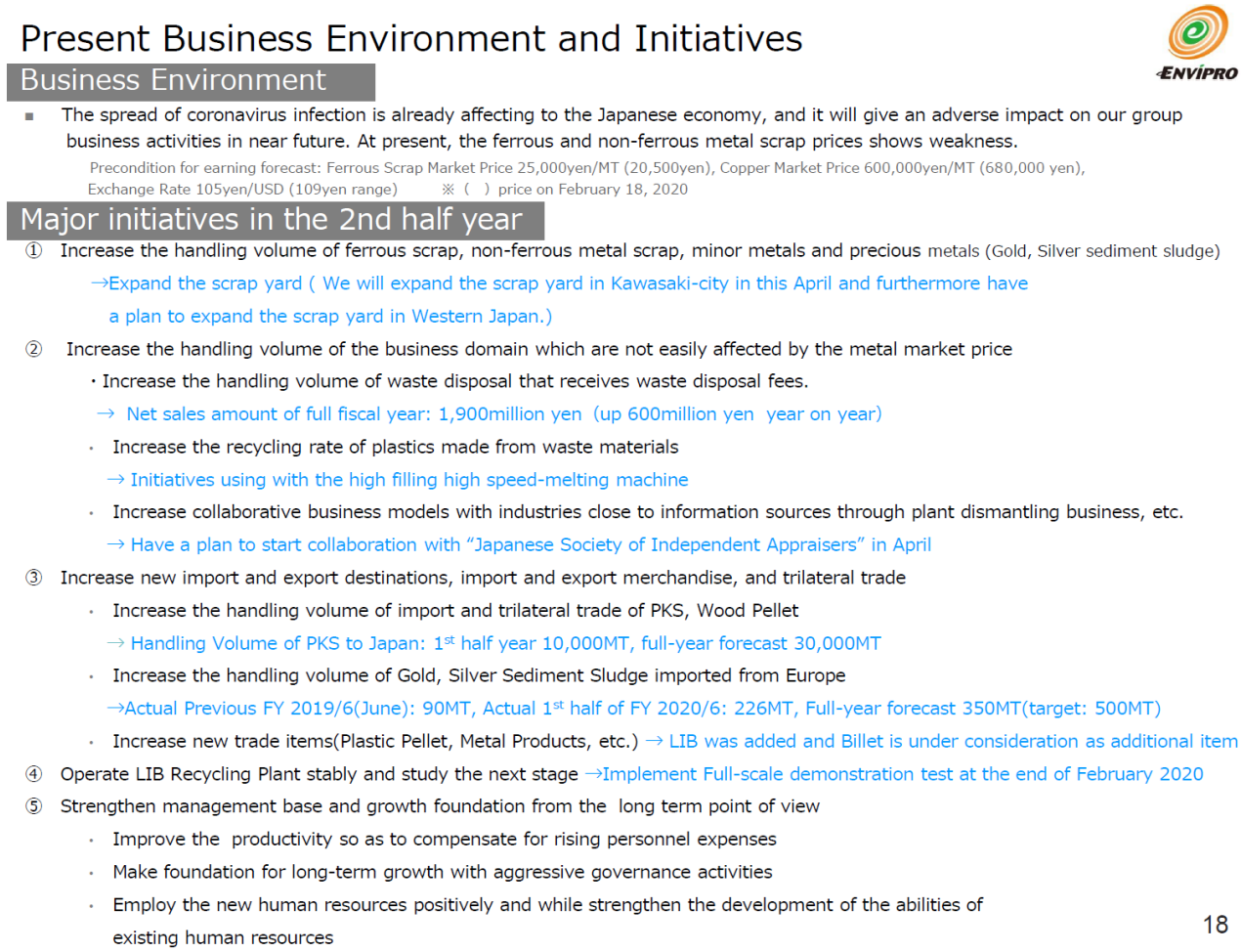
Main Topics

- Cash flows from operating activities : (Inflows) ¥1,183 million in decrease in Notes and accounts receivable-trade
  ¥833 million in decrease in Inventories
  ¥807 million in Profit before income taxes
  (Outflows) ¥185 million in Income taxes paid
- Cash flows from investing activities : (Inflows) ¥15 million from sale of Property, plant and equipment
  (Outflows) ¥774 million in purchase of Property, plant and equipment
- Cash flows from financing activities : (Inflows) ¥420 million in increase in Short-term borrowings
  (Outflows) ¥234 million in Dividends paid, ¥221 million in repayments of Long-term borrowings

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Cash flow.

Due in part to the sale of inventory assets such as aircraft, I believe that our cash position has been improving.



From now on, I will explain the outlook for the current fiscal year.

Although the corona virus has not yet directly affected our industry, there is a story that Vietnam will not accept Chinese ships. Although there has not yet been a specific impact, it will affect the Japanese economy as a whole, so I feel a sense of crisis.

At present, steel scrap is JPY20.5 thousand, which is JPY4.5 thousand lower than expected. In this context, it is difficult to make profits. Because this depends on the competence of management, we intend to make a profit even in this situation.

In August, we listed five key initiatives for the current fiscal year. I will introduce the progress.

First, in order to increase the volume of scraps handled, the yard in Amagasaki, which we built two years ago, had a major impact on the volume of scraps collected in the 1H of the fiscal year under review. We plan to build a scrap yard in Kawasaki in April in the 2H of this fiscal year. And now, there is no scrap yard for the Global Resource Circulation business in western Japan, in order to expand our business of collecting steel scraps and stainless steel scraps from other companies in the same industry, we are planning to increase two yards during the 2H of the fiscal year.

In addition, we will expand the business domains that are less susceptible to changes in metal prices. In this business, we mainly receive the fee, which is called "waste disposal fee", as cost for disposal of the waste. We plan to increase this figure by JPY600 million over the previous year to about JPY1.9 billion for the full year. With this business, we can make a profit without being affected by the market. If we can commercialize the

waste generated from this business even further, it would be good, but we can't do everything. So, it's our job going forward to reduce fee-paying disposal.

Against this backdrop, for plastic material recycling, in the past we had used the term "subcritical fusion," but we realized that it was not in a sub-critical state.

This is to be corrected, and we now name it high filling high-speed melting machine. It's a distinctive machine that mixes plastics and biomass or plastics and glass inextricably. Using this, we'll make high-priced products adding extra functions to the usual virgin pellet.

The number of Chinese pellets is increasing. The amount is also increasing. That's why prices are falling, so we must differentiate ourselves from those by using these specialized technologies.

Then, the company named ARBIZ teamed up with a leasing company to create a company called SMART. eCONeCOL is a member of the Japan Association of Asset Valuators that evaluates movable property. We are working together to create a new system in April.

Involving auditing firms and others, we would like to start such business that start with the evaluation of the goods and end with the reuse and recycling, while using IT in cooperation with staff and other companies in the same industry.

In addition, regarding new products, as mentioned earlier, 10 thousand tons of PKS were sold to Japan in the 1H of the fiscal year. The amount is expected to be 20 thousand tons in the 2H, so it is expected to be 30 thousand tons for the full year. The import of gold, silver sediment sludge from Europe was 90 tons in the previous fiscal year and 226 tons in the 1H. Our target for the full fiscal year is 500 tons. The evaluation results were slightly different from those of European companies, and we intend to increase communication in this area. Unfortunately, we were unable to achieve our full-year targets in the 1H.

Then, as new items, we will increase plastic pellets and metal products, etc. in VOLTA. In order to collect items from abroad, we will have them from Poland and Spain next month.

Then, we are now trying to enter into a large contract with an overseas manufacturer to buy billets, which is an intermediate product made from the scraps of iron. While we still have weak sales capabilities, we have increased the number of staff that worked at trading companies, so we are now working to handle this area, including two-way business.

The LIB recycling plant lags slightly, as I mentioned earlier.

Fifth, we are opening business schools and hire new people. We are working to build a long-term management base and growth foundation with people from overseas and from multiple cultures and with considerable diversity, while making upfront investment in personnel.

Forecast for the Consolidated Results for the Fiscal Year Ending June 30, 2020

(¥ million)

	Fiscal year ended June 30,2019			Fiscal year ending June 30,2020				
	1st half (Actual)	2nd half (Actual)	Full year (Actual)	1st half (Actual)	2nd half (Forecast)	Full year (Forecast)	Year on year Amount	Year on year Ratio
Net sales	17,376	18,960	**36,336**	18,691	17,879	**36,571**	234	0.6%
Gross profit	3,165	3,288	**6,454**	3,674	3,766	**7,440**	985	15.3%
Operating profit	418	420	**839**	660	320	**981**	141	16.9%
Ordinary profit	570	571	**1,141**	748	502	**1,251**	109	9.6%
Profit before income taxes	526	611	**1,138**	807	451	**1,258**	119	10.5%
Profit ※	314	472	**787**	549	342	**892**	105	13.4%
Marginal profit	3,276	3,405	**6,681**	3,554	3,629	**7,184**	502	7.5%
EBITDA※	693	789	**1,482**	925	708	**1,634**	151	10.2%
Fixed cost※	2,834	2,952	**5,786**	2,892	3,221	**6,114**	327	5.7%
ROE	—	—	**7.1%**	—	—	**7.7%**	0.6%	8.4%

※Profit＝Profit attributable to owners of parent
※EBITDA＝Operating Profit + Depreciation + Amortization of goodwill
※Fixed cost＝【Cost of sales・Selling, General & administrative expenses・fixed cost equivalency of Non-operating expense】
－【Foreign exchange gains・non-operating income except equity method profit】

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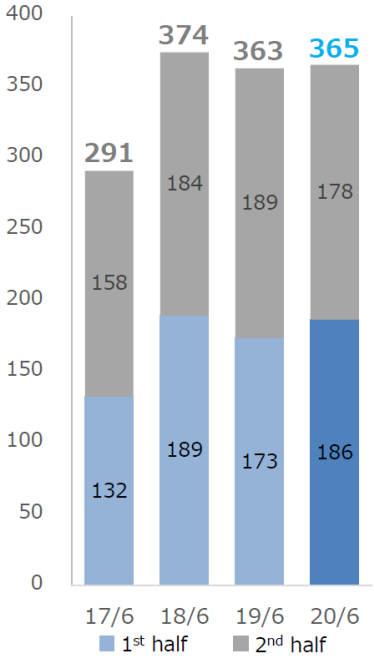
We have not changed our forecast for the current fiscal year.

Although operating income is set to decline sharply in the 2H of the fiscal year, we do not expect the situation in the 1H of the fiscal year to continue. Accordingly, we have decided not to change our initial forecast for the full fiscal year.

Forecast for the Consolidated Results for the Fiscal Year Ending June 30, 2020

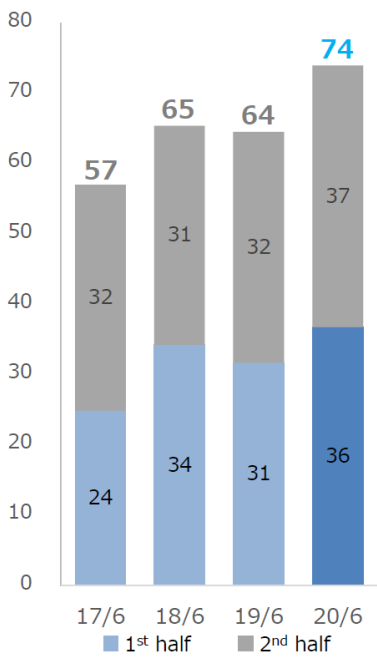
Net Sales

Up 0.6% Year on year



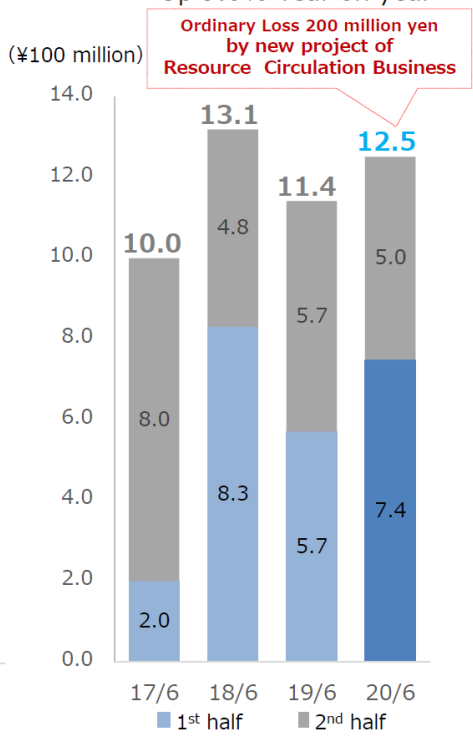
Gross Profit

Up 15.3% Year on year



Ordinary Profit

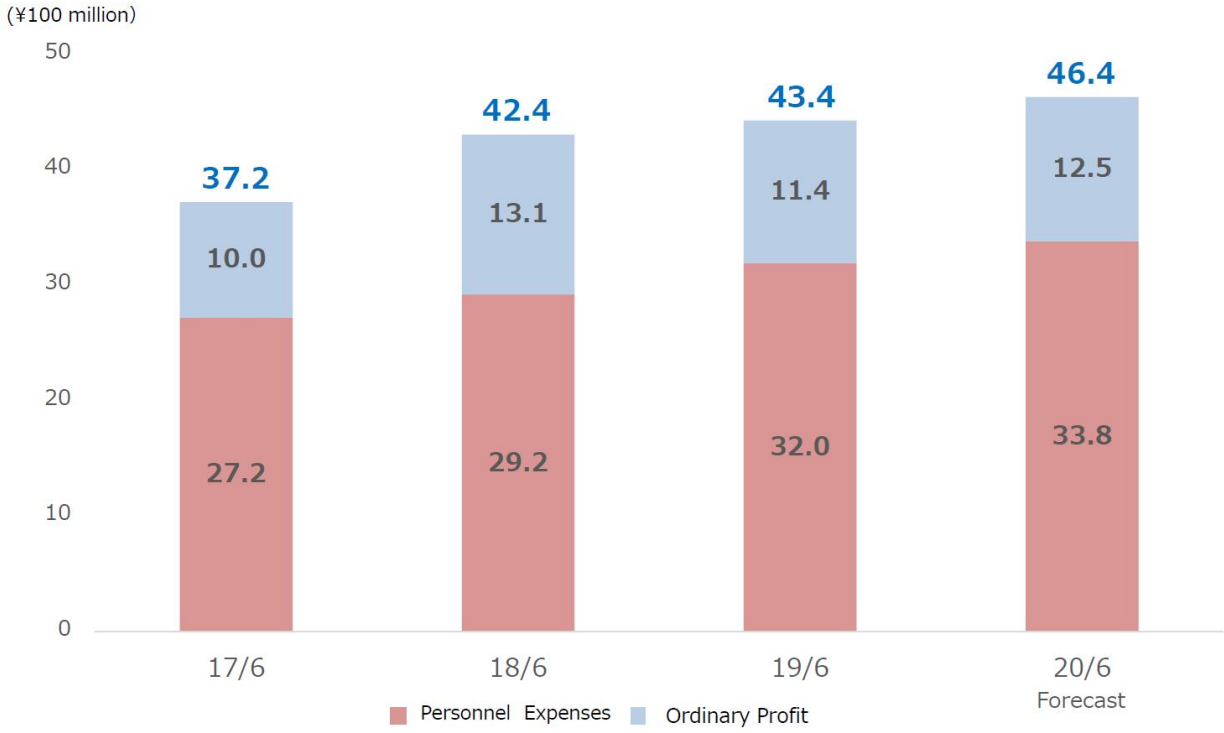
Up 9.6% Year on year



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There is little continuation for 1H or 2H. Results are different from year to year. In the fiscal year under review, as we recorded ordinary loss of JPY100 million in the 1H, including VOLTA, we expect JPY100 million or more in the 2H. Accordingly, we will make upfront investments in new businesses in the Resources Circulation business taking account into ordinary loss of JPY200 million. As a result, we forecast ordinary income to be JPY1.25 billion.

Personnel Expenses & Ordinary Profit



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I have been saying about personnel expenses from the beginning. In the past five years, personnel expenses have increased by about JPY600 million, and the number of employees has increased by about 60. Without raising the base salary, especially of the workers on the sites, they would not remain at the Company.

In addition, in order to appeal new recruits, we have been doing our utmost to increase the base salary of people who are directly involved in various activities on the front lines. This is the reason why recurring profit does not increase while gross profit is increasing. It sounds like an excuse, but I think it's important to raise productivity from this point on.

Medium- to long-term Initiatives

① The Current Situation of our LIB Recycling Business and its Second-Phase

② Expansion of Collection Business of Gold, Silver Sediment Sludge

③ Expansion of Handling Volume of Wood Biomass Fuel

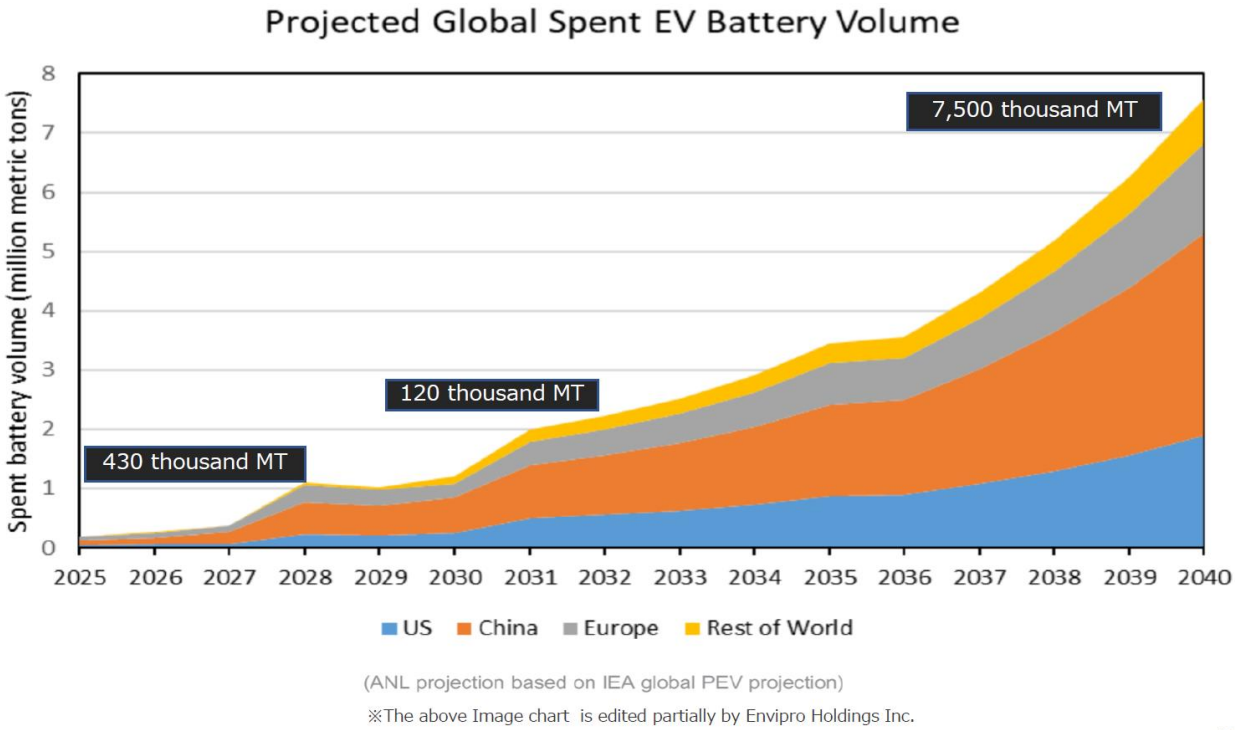
④ New initiative toward waste plastic recycling

⑤ Image of the improvement of the corporate value

Here you see the five medium-to long-term initiatives. The fifth is the image of raising corporate value.

① LIB Recycling Business : EV Battery Demand Forecast

170,000MT (projected) in 2019



(ANL projection based on IEA global PEV projection)

※The above Image chart is edited partially by Envipro Holdings Inc.

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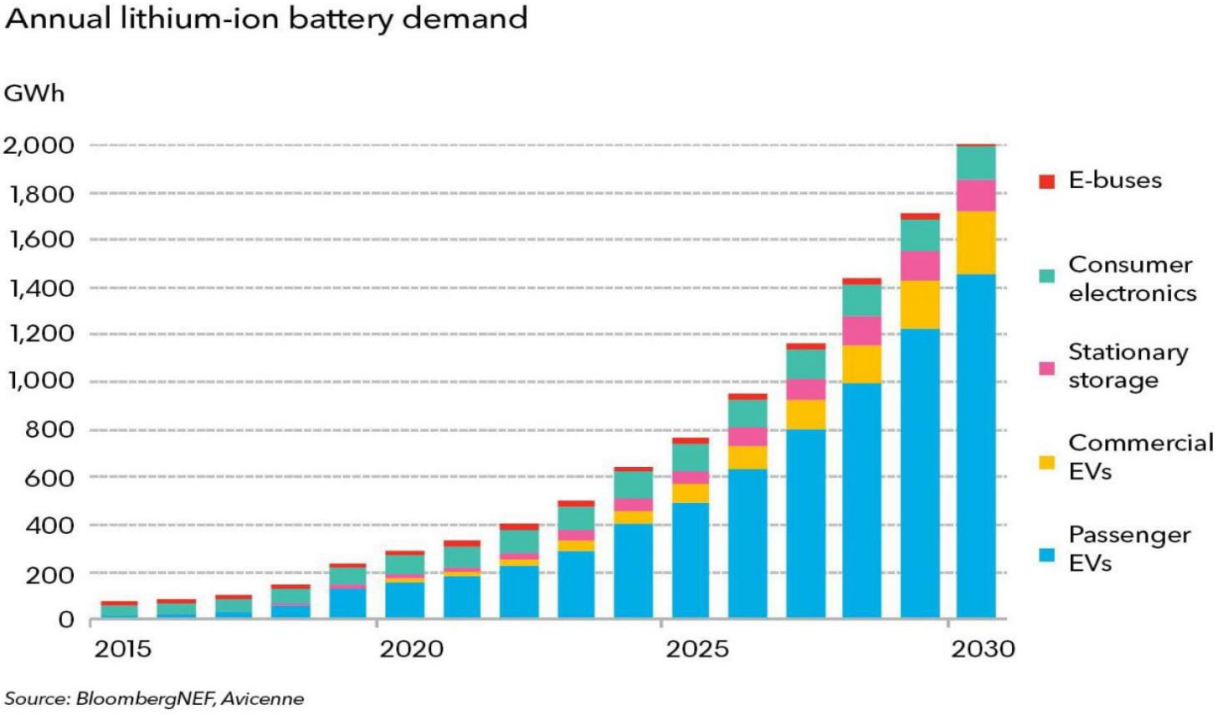
First, I would like to explain VOLTA. This is a forecast of the amount of EV batteries used made by a third-party in 2019. Last year it was 170 thousand tons, compared with 430 thousand tons in 2025, 1.2 million tons in 2030, and then 7.5 million tons in 2040, showing a rapid increase of end-of-life batteries. I think the reuse will take about five years in Japan.

The orange portion shows China. Most recent growth was made in China, as the battery recycling system is already built in China. China will continue to grow.

The top yellow portion is Japan and Southeast Asia, the gray is Europe, and the bottom blue is the US. We can read that Europe and the US are growing.

Therefore, VOLTA is to import from the US and Europe the portion that is insufficient or required to increase production, while naturally keeping a certain amount of collection in Japan. As I mentioned earlier, first, we will start importing batteries from Spain and Poland.

① LIB Recycling Business : LIB Demand Forecast



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In this graph, the blue at the bottom of the graph is the normal passenger cars. Yellow is the so-called commercial vehicles, including van. Red is storage batteries placed at home or in a company. Green is consumer electronics like PC. The top is the buses. Consumer electronics are increasing at an annual rate of about 15%, shifting from dry batteries and lead batteries to lithium-ion batteries. While verifying technologies and commercializing, we would like to take on the challenge of the LIBs from end-of-life vehicles.

Major companies are naturally trying to do so, but mining companies are centered on mines. As for used products, there are various risks, such as the risk of electric shocks and the risk of fire, in the pretreatment process. On that side, we are going to take on the challenge, while ensuring safety, of course.

Perhaps there is room for small and medium-sized companies like us to do. Of course, it is difficult for us alone. With a variety of combinations, including strategic partners and financial partners. We probably need about JPY12 billion in investment over a decade. We have created a more specific roadmap within the Company, but I refrain from announcing as it is not yet fully backed up.

There will be many solid batteries that are different from today's lithium batteries. Even so, the used lithium-ion batteries will continue to be used, and the market is likely to grow for some time. With this in mind, I intend to take on the challenge of developing this business.

① LIB Recycling Business : Current Situation and Second Phase

To cope with "Rechargeable batteries Market" of which is rapidly expanding, our group will put our management resources intensively into "Business to collect minor metals (nickel, cobalt, etc.) from spent rechargeable batteries ", and will make a full-scale entry into this business.

Current Stituation of VOLTA

The LIB recycling facilities were installed completely in the first-quarter and will start up production operation at the third-quarter in 2020.

Sept., 2018 Started operation of Electrode Materials Recycling Line of / Started production of Negative Electrode Plate



Negative Electrode Plate



Electrode Materials Recycling Line



Copper



Carbone, etc.

Feb., 2020 Start Operating of the black sand production facility



LIB



Black Sand Production Facility



Co, Ni Concentrate Sludge (Black Sand)

by wet smelting

- cobalt sulfate $CoSO_4$
- nickel sulfate $NiSO_4$
- lithium carbonate Li_2CO_3

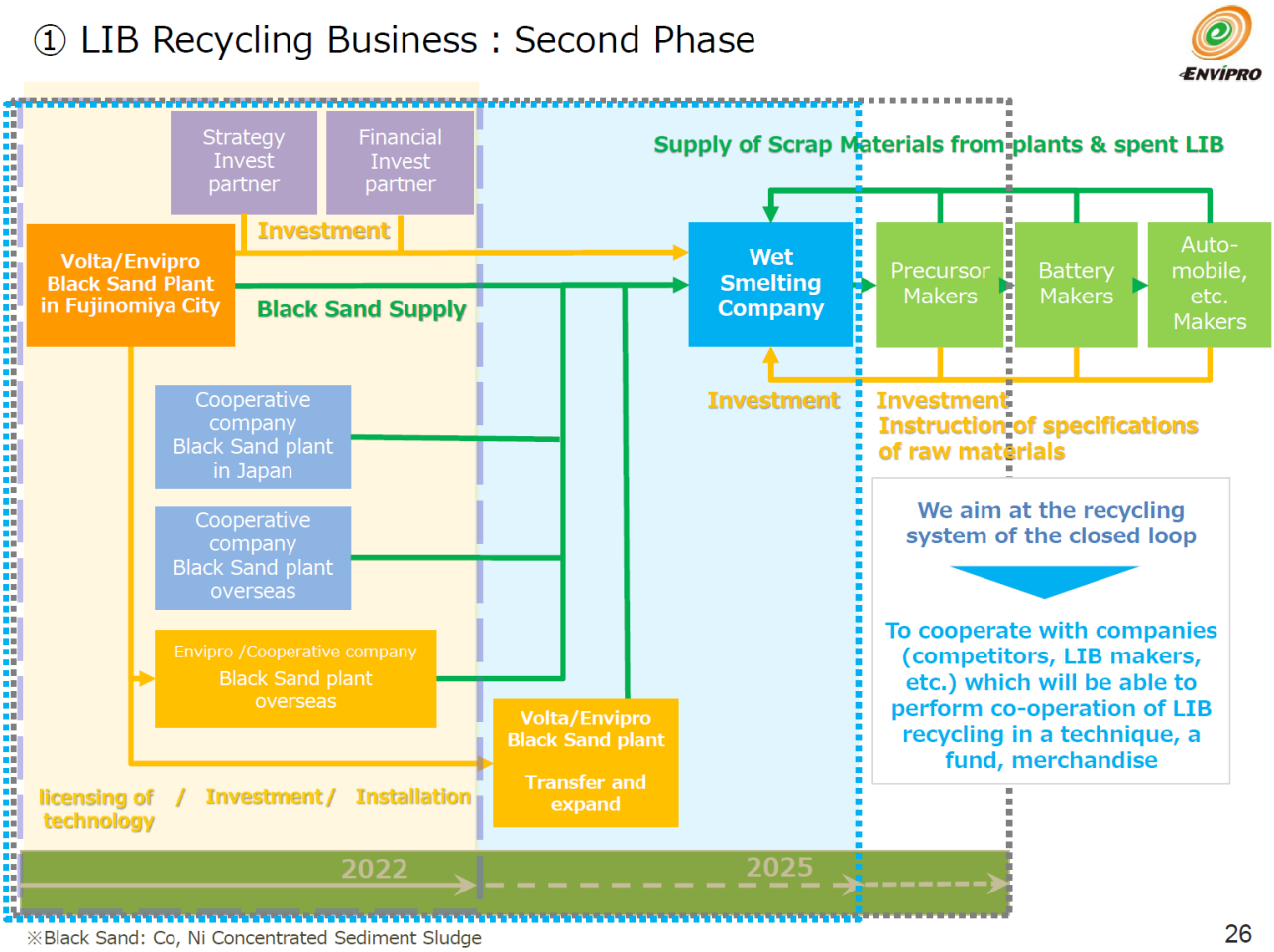
etc.

Collection of the useful metals

Start studying a processing system after the Black Sand production

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As introduced in the previous fiscal year, we would like to proceed with the business of recovering lithium carbonate, such as cobalt sulfate and nickel sulfate, from stripping plants for negative pole materials and baking plants for used batteries in a wet manner.



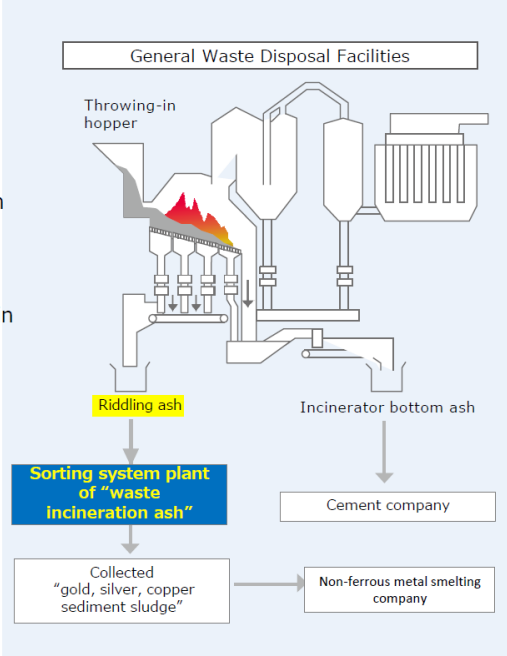
We will have to do the business including the wet manufacturing and precursor manufacturing, otherwise it will be halfway and we don't have any competitive advantage. We haven't yet found such a partner, but if we can collect batteries and process them to maintain a certain level of quality, we believe that such a partner will probably emerge, and we intend to deepen our own business.

② Collection Business of Gold, Silver Sediment Sludge : Current Situation

We intend to make business to collect "gold, silver sediment sludge (Cu, Au, Ag, Pt, Pd)" taken out of "waste incineration ash", "automobile shredder residue," etc. as one of pillars of our business.

Forecast of FY2020/6
Net sales of gold, silver sediment sludge: ¥900 million
(FY2019/6 ¥700 million)
Collection volume of gold: 80Kg (FY2019/6 61kg)
Collection volume of silver: 1,000Kg (FY2019/6 845kg)

- The number of trades with local government treating the riddling ash from existing waste incineration facilities is increasing.
  ⇒At present, we have contracted with 8 local governments and 20 local governments is considering to start this business with us.
- Two facilities, that is, the cleaning center in city A and the cleaning union in city B have a plan to adopt a system for sorting riddling ash by using with new incinerators.
- Collection of "gold, silver sediment sludge" from small home appliances and mix metal.
- Demonstration Project with Ofunato Plant, Taiheiyo Cement Corporation.
- Expansion of processing orders from the major smelting company (electronic circuit boards, etc.).
- We have started import business of "gold, silver sediment sludge" from Europe. (Established Econecol Europe Reps. Office in October 2019) We will carry out the trial shipment from Poland and U.K. in this March.



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Then, the collection of gold and silver tails.

We collect so-called precious metals from waste incineration ash and automobile shredder residue (ASR). As smelting evaluates only the four items of gold, silver, platinum, and palladium in addition to copper, while we should indeed study other items too, so far we collect four items of precious metals.

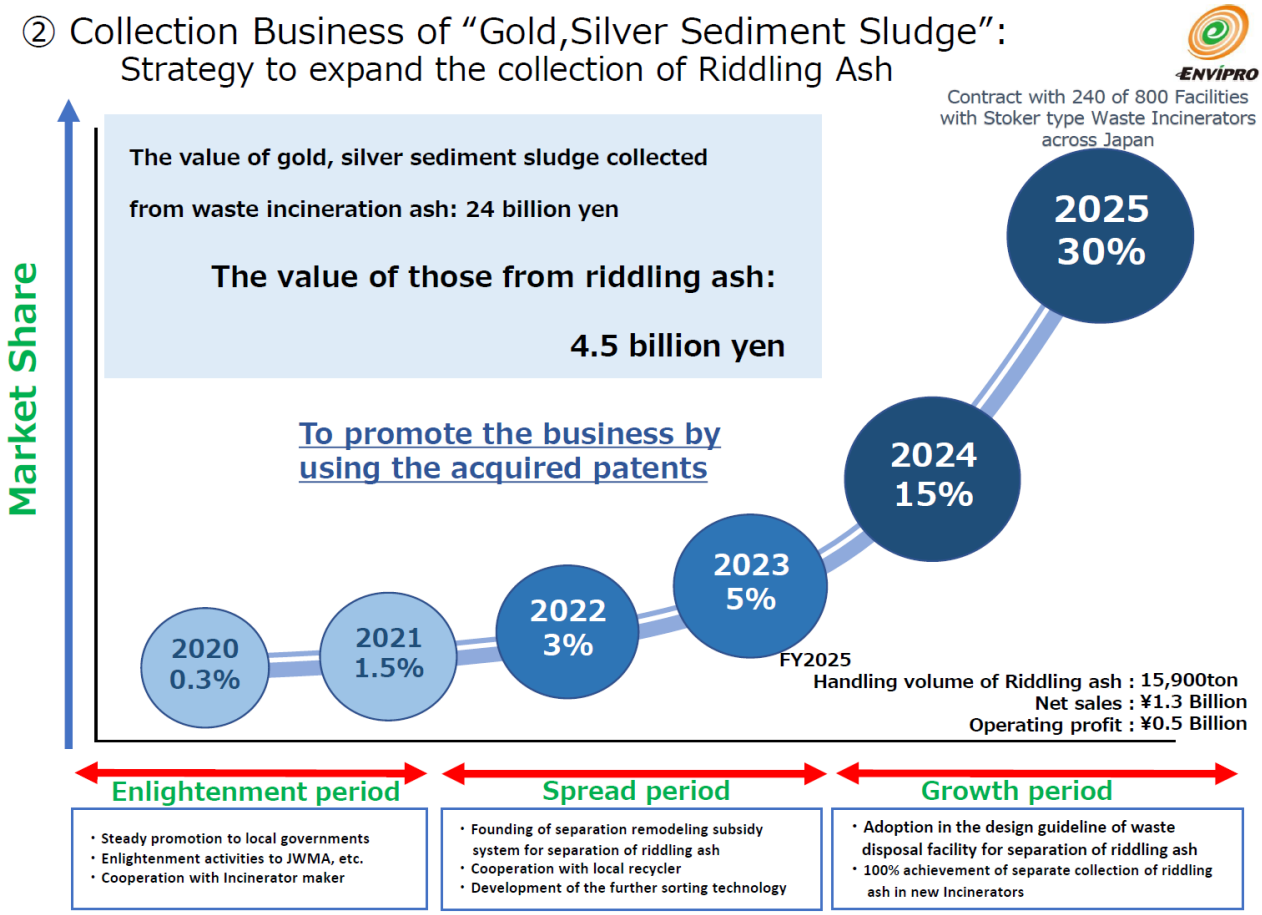
In particular, as we announced at the National Urban Cleanup Conference in Toyohashi last month, we have already signed a contract with eight municipalities regarding the collection of ash from waste. 20 municipalities say there is a possibility. We visited 150 municipalities in total, and about half reacted positively. Although the others are still indifferent, as we make presentations using variety of literature, the number of inquiries has been increasing recently.

Against this backdrop, together with an incinerator manufacturer, we won biddings of two municipalities for installation of equipment that collects ash into new incinerators. The specific name should not be stated, but I believe that this movement will increase in the future.

The progress of small home appliances, miscellaneous goods, and demonstration plants with cement companies depend on the third parties. We will proceed with contracted processing from major refining companies and increase import from Europe.

We are able to purchase batteries from companies from which we import substrates made of gold and silver, and this has a synergistic effect. It is a goal for us to do such a job of importing products for about five years.

The first step is that we raise awareness in one or two years. If we purchase about 2% of ash. the disposal cost will be reduced by 2%. Recently, it has been making considerable progress.



The next is the cost of modifying it. We will lobby to create a system that subsidize such expenses to the Ministry of the Environment.

Then, as the result of the successful bids, we have received inquiries from various manufacturers or they visited us. It is perhaps our mission to create a system in which the new reactor can collect resources properly in around 2024 and 2025.

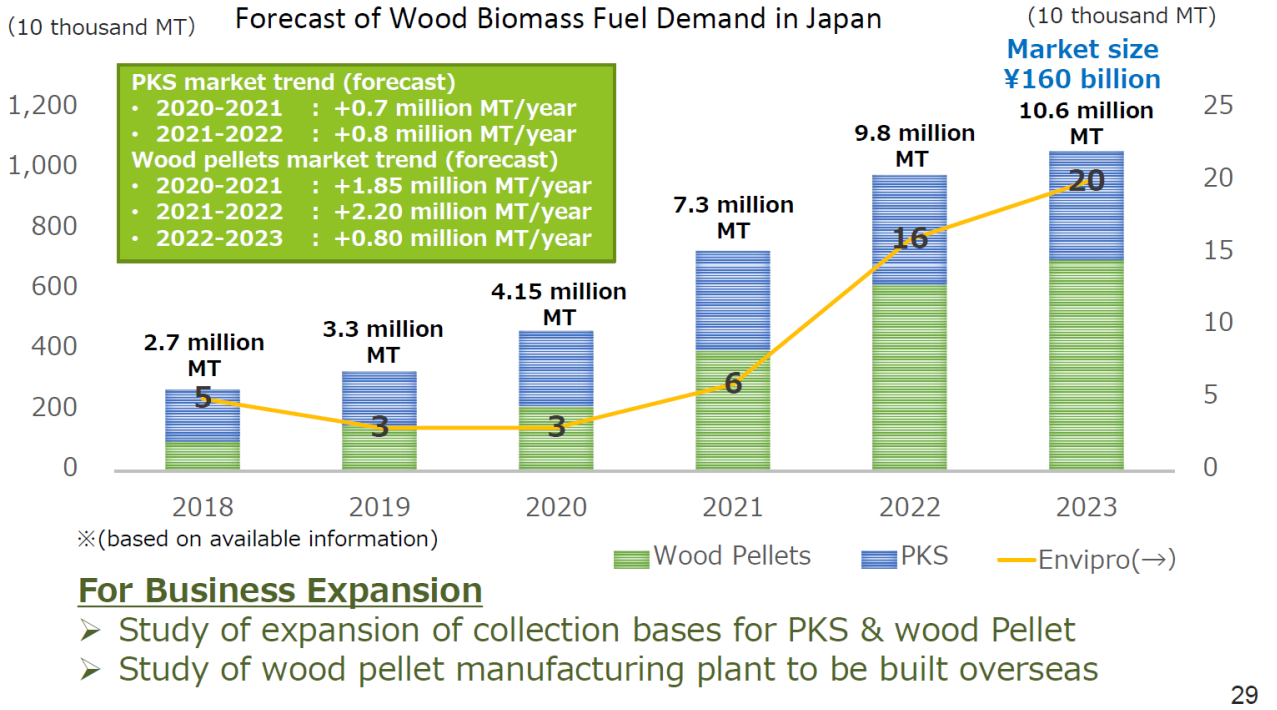
There are 800 stoker furnaces. About 30% corresponds to 240 locations. The total market for gold and silver slag is about JPY24 billion, while this is not authoritative data.

Since the market for riddled ash is JPY4.5 billion, this business will generate sales of JPY1.3 billion and operating profit of JPY500 million. This is what other companies and large companies will not do.

Our mission is to play an important role in the realization of a sustainable resource society. I think it's an area where we need to do it.

③ Expansion of Handling volume of Wood Biomass Fuel

To supply wood pellet (zero carbon fuel) that meets the requirement (high quality and long-term stable supply) of biomass power plants for the Japanese wood biomass fuel market, which will further expand in the future.



For Business Expansion

- Study of expansion of collection bases for PKS & wood Pellet
- Study of wood pellet manufacturing plant to be built overseas

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As for biomass, it was difficult to sell it in Japan, but we sold 30 thousand tons in the current fiscal year, and we have already decided to sell it to three customers in July next year.

So, it would reach about 60 thousand tons. In 2021, it will be 160 thousand tons. We need to build a system of procurement.

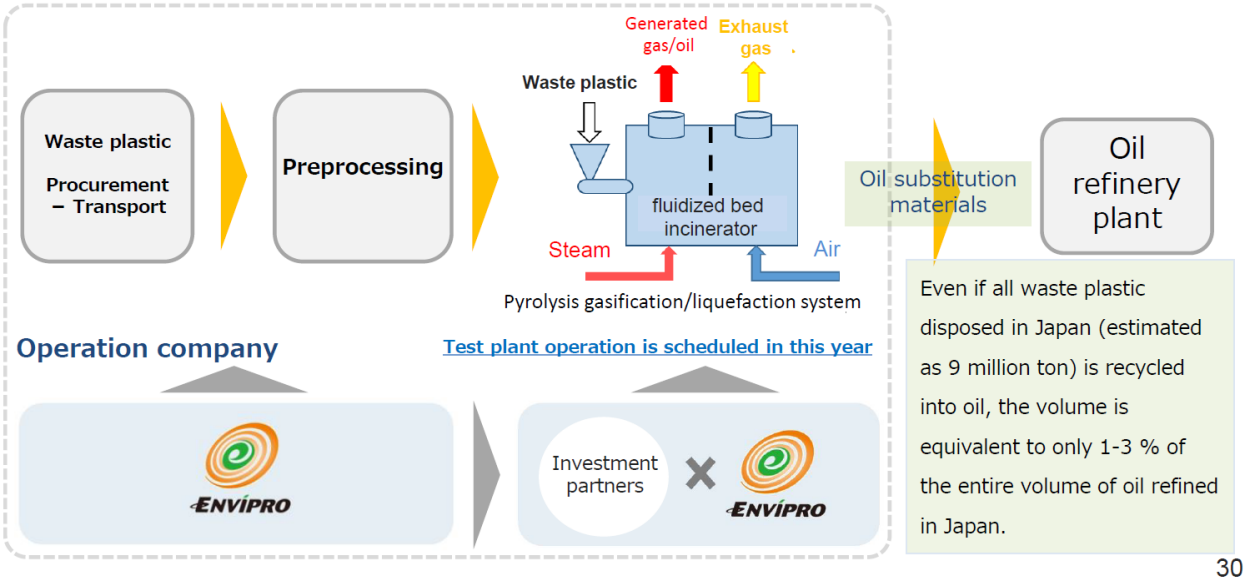
This was followed by 0.2 million tons in 2023, and the market size will be JPY160 billion. That's not so big. Then, adding biomass power generation and PKS, as well as plants to produce wood pellets for which we are still in the process of finalizing our market research because considerable capital expenditures are needed, I believe we can increase this further by about 0.1 million tons.

④ New Initiative toward Waste Plastic Recycling

To study manufacturing of fossil fuel substitution material with incinerator makers and oil refinery companies

Study on Chemical Recycling ～ Dig up "Urban Oil Field" ～

Summary of Assumed Business Model



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Next, waste plastic recycle.

We have just started having meetings with an incinerator manufacturer and an oil refinery company, so it may be a little early to announce it here. We would like to express our intention to take on the challenge to tackle the so-called waste plastic and marine plastic issues.

Our role is to collect waste plastics. We collect it and pretreat it a little to make it easier to enter the furnace. I don't know what happens to the SPC, but we would like to put some capital into the furnace and conduct operations together with oil refineries and incinerator manufacturers.

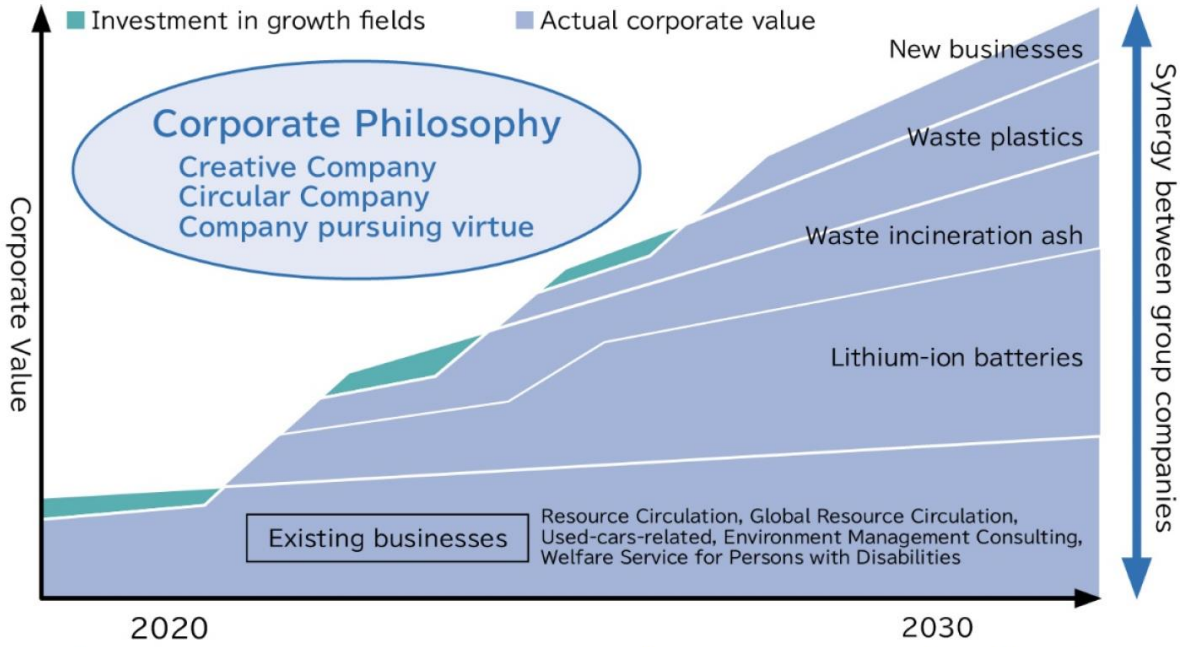
In the future, I think that the image of the incinerator will change, while municipalities selling the oil produced from the waste to oil companies.

The statistics show that the amount of waste plastics is 9 million tons. If the oil is made from the waste plastics, it is at best about 1 to 3% of the total amount of oil refined in Japan now. This is because it is gasified once and converted to oil, so we don't know how much oil it will be. In fact, the plant manufacturer has demonstrated it 14 to 15 years ago.

However, we don't know what oil we can make, so we will build a smaller pilot machine this year. Whether to demonstrate or implement immediately depends on the petroleum company's intentions and how much incinerator manufacturers can guarantee. But we are already seeing specific developments.

⑤ Image of the improvement of the corporate value

Profit distribution	
Investment in growth fields	30%
Research and development	10%
Return to shareholders	20~30%
Internal reserves	30~40%



Until a business is stabilized, the increase in corporate value will slow down because it cannot match the initial investment. Green areas indicate a negative balance caused by this condition.

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The fifth is a real image. I think that the existing business, including the so-called steel industry, will be steady. I believe that we can deal with waste, recycle plastic materials, and manage it for a long time. However, in order to increase our corporate value, we will expand business of lithium-ion batteries, waste incineration ash, chemical recycling of waste plastics. In addition, regarding handling business of aircrafts, the sale of two retired dedicated aircraft of Japanese government had a great impact.

For example, we are focusing on the Teruel airport in Spain. Because the utilization rate was very low, the airport had to run the parking fee business, then conduct maintenance, and now it is dismantling. We would like to benchmark it and do in Japan. Most airlines now sell airplanes to the US and repurchase the dismantled engines. In this sense, there is still room for growth here. We will take on this challenge as well.

However, since we don't have a lot of management resources, we would like to combine our business with other companies to create a clear line of business that can be carried out independently from those that cannot be carried out independently.

I will conclude with the above explanations. Thank you very much.