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Sumitomo Metal Mining co.,Ltd., Overcome Current Issues, Promoting Growth Strategy

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This is transcript of 2nd Quarter of FY2018 Progress of Business Strategy by Sumitomo Metal Mining co.,Ltd.. [IR information](#) and [Q&A](#), click here.

(提供 : Sumitomo Metal Mining Co., Ltd.)

シリーズ

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2nd Quarter of FY2018 Progress of Business Strategy

Akira Nozaki Good morning, ladies and gentlemen. I am Nozaki, president of Sumitomo Metal Mining co., Ltd..

Thank you very much for coming to our “2nd Quarter of FY2018 Progress of Business Strategy” today. In addition, thank you for your patronage and understanding with respect to our business.

This is the first time of the briefing after the transition of the new system in June this year (2018). Unlike a conventional way, there are descriptions from general managers of our three divisions. This is the first try to all of us including me.

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Harumasa Kurokawa

Director, Senior Managing Executive Officer, General Manager of Materials Div.

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We will explain these contents today.

I . Summary

I. Summary

1. Results forecast for FY2018

While the cumulative results for Q2 represented a large upturn year-on-year, the full year forecast is for a decline in year-on-year income and profit due to reduced production and large deterioration in cost variation

2. Factors behind deterioration of results

- (1) Deterioration in ore grade at overseas copper mines
- (2) Increasing costs at overseas copper mines
- (3) Lower production than planned at Taganito HPAL

Summary is on page 4. But before going on to the current year of business outlook, I would like to explain the current business environment, risks, and opportunities from my point of view.

I would like to start with Mineral Resources and Smelting and Refining division. With the gentle expansion of world economy, demands of non-ferrous metals are standing firm that are used as basic materials for infrastructure in Mineral Resources and Smelting and Refining business. In addition, the expansion of demand is expected in new areas including the sophistication of communication, automation, motorization, and the development of IoT.

On the other hand, there is a growing social demands for one company in a sense that the social contribution to sustainable development: decreasing amount of excellent resource and swelling development costs are making more difficult to run business, furthermore, CSR, SDGs, a movement toward decarbonized society are required too.

Regarding those, Mineral Resources and Smelting and Refining business companies need detailed and more extensive accountability and response to gain social license to operate.

In addition, securing skilled workers got harder than it was in the past in the resource-rich countries. Though there is a little concern about the introduction cost, considering and introducing of automation of mining operation, so-called innovation by

digitalization, are actually starting in each company as a trump card for changing cost structure in mining operation or tool in security and the environment.

With the rise of the difficulty of mining development and operations, in my view, people have come to think that they have to share profits and risks with their partners. We also hope that we could get an opportunity to consider the projects.

I would like to move on to Materials-related topic. Again, as guided previously, there is a great continuous evolution of the epoch-making digitalization nowadays such as AI, IoT, CASE (Connected, Autonomus, Shared, Electric), and ADAS (Advanced Driver Assistance Systems).

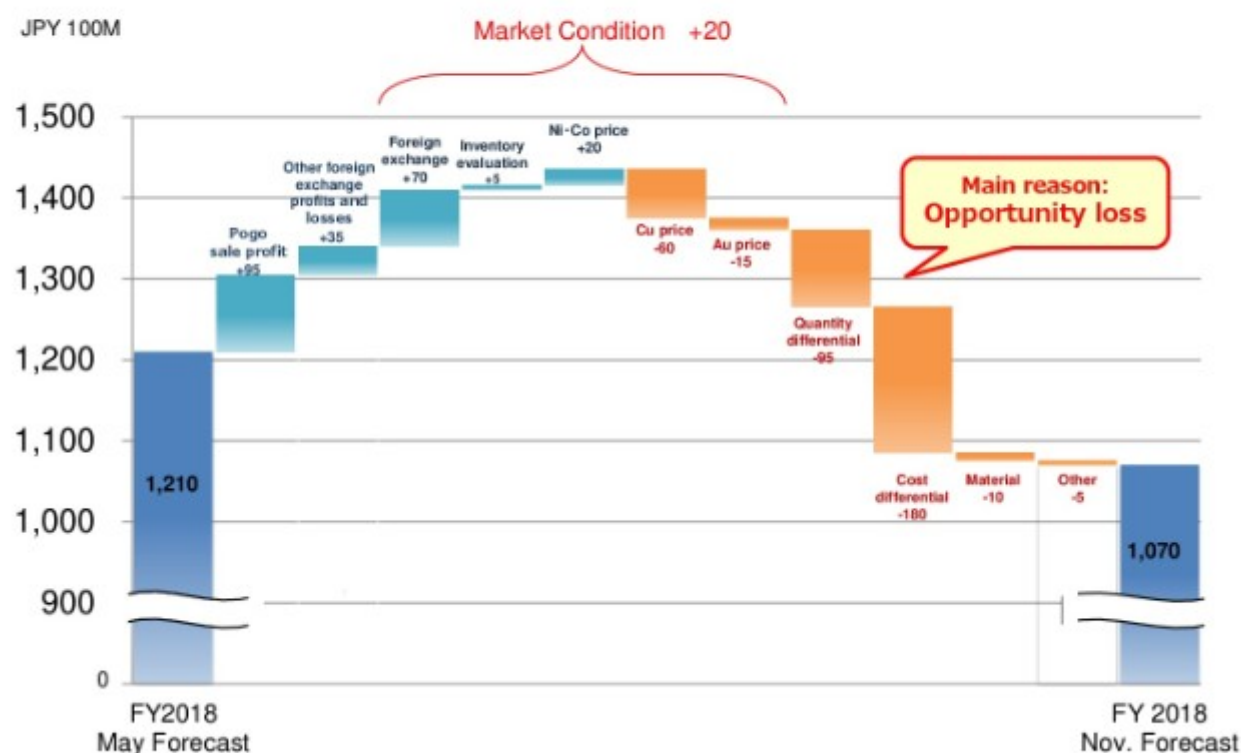
Our company has several keywords likely to be contribution to the movement: battery, magnets for motor, control system, telecommunication, and energy saving.

Of our products in Materials business, there are some materials that are be able to ride on these flows of digitalization: cathode material for secondary battery, nickel powder for multi-layer ceramic capacitor, and developing SiC for power semiconductors.

We have found the possibility of further growth in some of these products. Without missing this movement or being overwhelmed all in all, we are looking forward to make sure the structure of the business development.

3) Analysis on Profit before tax (1) FY2018 Nov. Forecast vs May Forecast

3) Analysis on Profit before tax (1) FY2018 Nov. Forecast vs May Forecast



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Please open the 8 page.

Here are the last variance analysis on profit before tax and one that we had expected in May (2018). The other day, our company has announced this. While outline of main change reason is already done in here, we would like to explain the background circumstances of it today.

First of all, we would like to talk about overview of the entire business. In the first half of the fiscal year, specifically during April to middle of June, market conditions are generally holding firm with our products including both non-ferrous metals and materials in the adjustment period.

Since July, I mean during the second quarter, there was a decline in the price of non-ferrous metals. This is because of considering sentiment of concerns about the future of trade friction, despite fundamentals with reflection of strong demand.

After that, unfortunately, business confidence itself turned somewhat bearish, due to rise of the dollar interest rates, concerns about the deterioration of the emerging economies, other complex elements. These are the reasons why it is premised on our earnings forecast this market and the market of the environment.

But, for now, the extreme deterioration is not seen in the sales. Perhaps the progress of the business environment is also almost same as the beginning of the year.

I. Summary

1. Results forecast for FY2018

While the cumulative results for Q2 represented a large upturn year-on-year, the full year forecast is for a decline in year-on-year income and profit due to reduced production and large deterioration in cost variation

2. Factors behind deterioration of results

- (1) Deterioration in ore grade at overseas copper mines
- (2) Increasing costs at overseas copper mines
- (3) Lower production than planned at Taganito HPAL

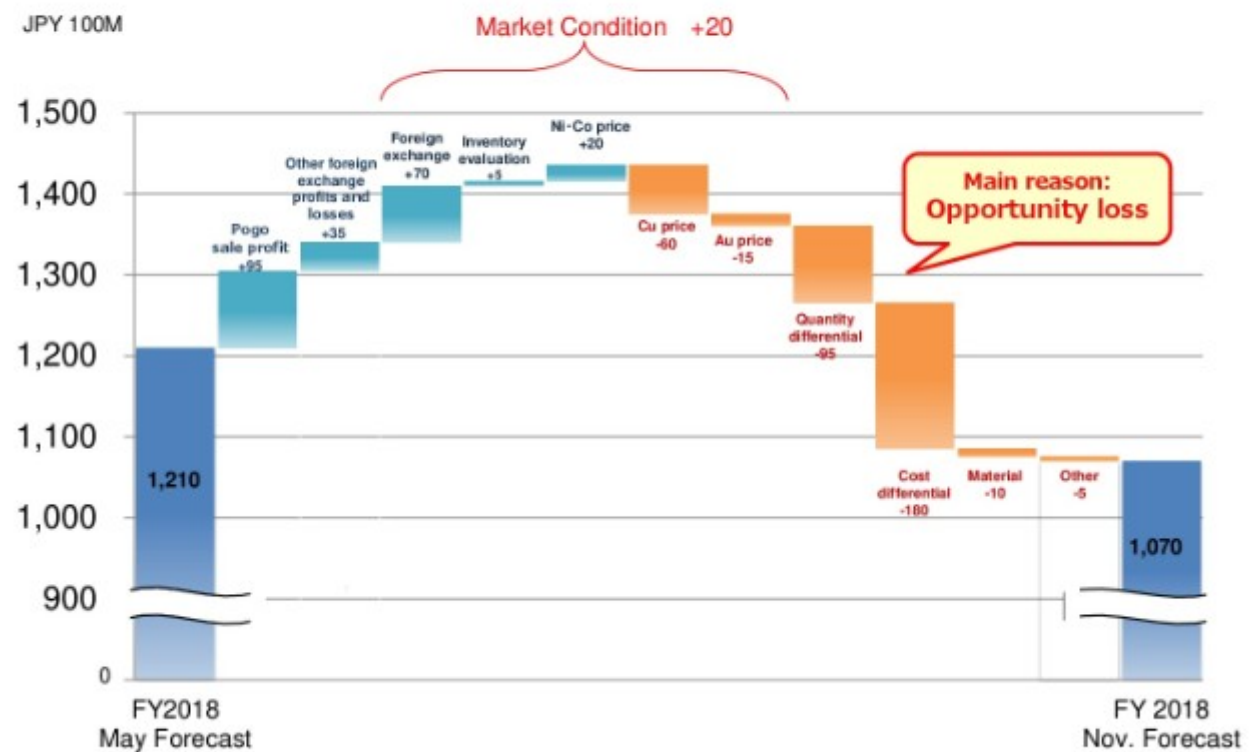
Would you please go back up to 4 pages?

On the other hand, there were cases we could not go along with the strong demand in business management excluding market price matter: the reduced production by troubles in operation and overseas decrease in revenue of mine.

What I see as importance of is uncovering the backgrounds of fluctuation by reanalyzing figures, identifying the challenges by digging individual events, and executing quickly and accurately judgement of necessity of response and agenda.

Of this figures, what managers are most concerned is the presence or absence of signs of weakening at the basement of business and income. From such a point of view, there is a major concern of the weakness of ability of production costs in earnings forecasts of 2018 fiscal year.

3) Analysis on Profit before tax (1) FY2018 Nov. Forecast vs May Forecast



As shown in the “water flow” of earlier, opportunity cost caused by these two headings gave negative impact of 275 billion yen to the original plan.

I. Summary

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Of course, this figure includes increasing costs by soaring of secondary materials and reduction by unrealized income with the sale of Pogo gold mine. Excluding such temporary factors, these three points on 4 page are a concern.

As in headings such as “(1)” and “(2)”, there are three fundamental issues: deterioration of raw ore grade at overseas copper mines in Mineral Resources business, increasing costs in operation of the mines, and lower production than the plan at nickel refining, especially Taganito HPAL.

You would be concerned about our revenue base itself, if the plan was originally under-achievement or it was an irreversible situational deterioration.

I would like to start with explanation of increasing costs of overseas mines and grade deterioration. It's unavoidable for any mining businesses to accept their fate of resource consumption because mining is mining. Therefore, they try on various measures in favorable prices to raise the value of mines by drastic efficiency of operation, discovery, and developing new ore bodies.

Our company is also working on a variety of strategies in overseas interests mines. In Morenci, because now is the time of transition to new ore body, the cost is increasing due to increase amount of mining by grade deterioration and preparatory construction.

Similarly, in Cerro Verde, the cost is going up because we are now mining the between of two operating pits for mining low-grade ore body much and maintaining the amount of copper productions. In Candelaria, it is recovering from pit collapse accident last year (2017). In any mines, unavoidable cost will continue to occur for improvement of operation and deterioration of grade of ore body.

This level of influence width was not included in the original plan. In addition, unexpected revision of the large amount of customary bonus in agreement to the labor agreement has arose.

The degree of the impact of changes of such short-term operational policy, we are going to check status each other at regular Management Committee.

In conclusion, overseas mines that we are investing are highly cost-competitive and except newly launched Sierra Gorda have earning power. While one of those mines is changing its operational form, we have no worries about resources themselves in the near future.

Next, I would like to explain the decline in production of nickel and cobalt by an accident of THPAL's equipment. This was caused by the reduced production of bullion products at Niihama Nickel Refinery. Last year (2017), THPAL's ability was increased to 20 percent. Only in the short term, we made this capacity of annual production 36,000 tons of nickel sure.

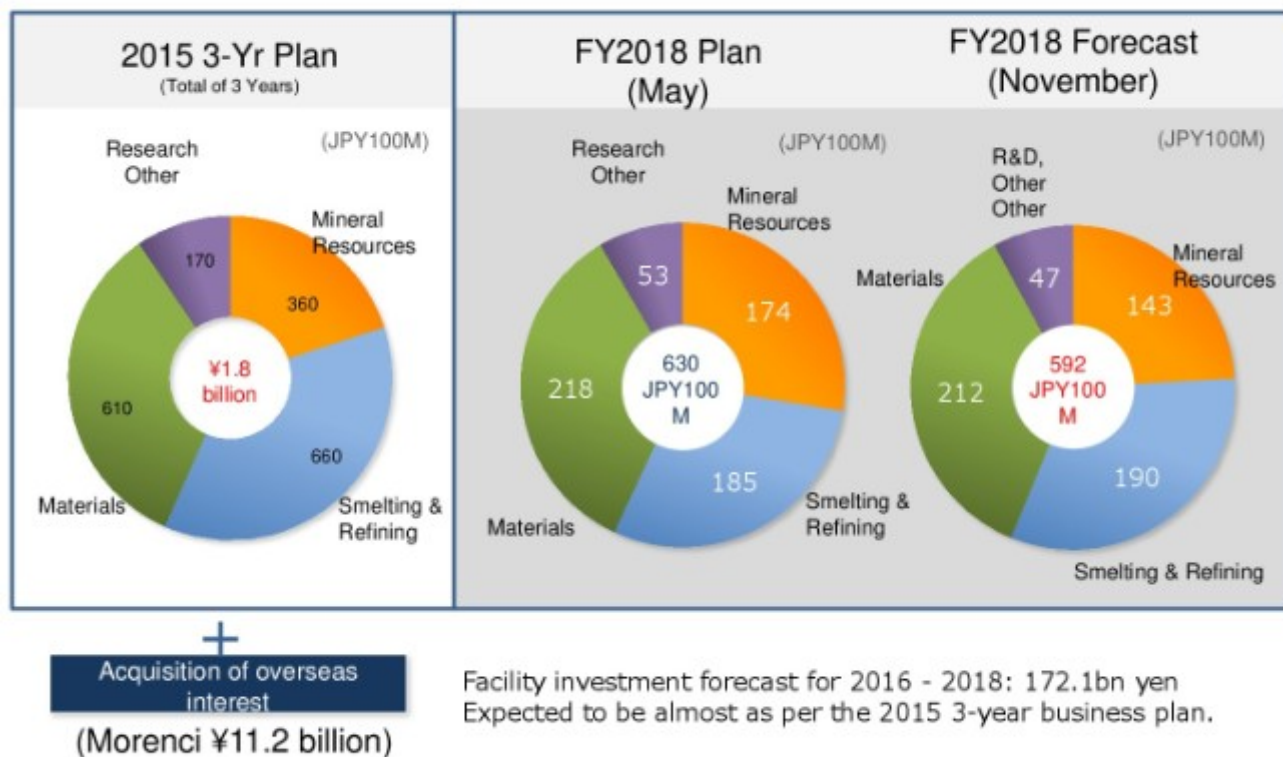
However, since last year, the case has happened frequently that we've had to stop operating so as to repair aged wore equipment. Originally, in the plan of our company's Smelting and Refining business, the plant are operating 24 hours at 100 percent, so the equipment load factor are also 100 percent or more. Therefore, though with a little allowance, the reduced production by unscheduled repair is almost unrecoverable in this structure.

There might be a suggestion like "Than, why don't you lower the occupancy rate a little on purpose?" However, all of the smelting plant are operating within the same conditions plan. Based on such business, underestimation of planned value does not fit as the culture of our company. Certainly we could have not underachieved production volume by a sudden change, but now there is a successful example as Coral Bay with full capacity.

But what's more important than the thing to achieve their own plan. This is a common recognition of the company. We consider stabilizing the operation of THPAL as a major management issue, aiming to resolve them as fast as possible. Details of this part will be explained later by Matsumoto.

5) Investment Plans

5) Investment Plans



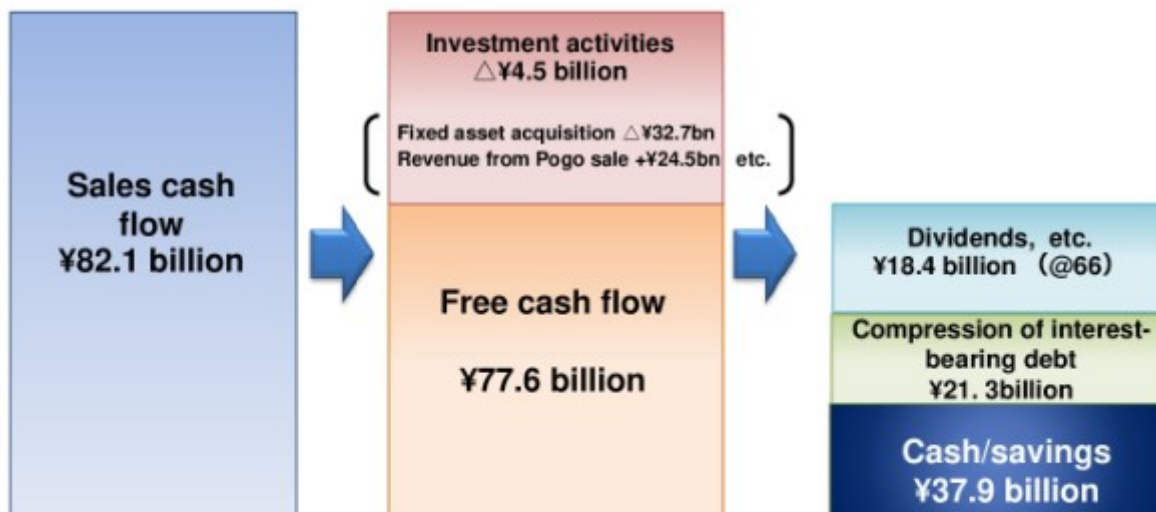
We will see the countings later. Take a look at page 10. I would like to move on to the investment plans.

At the bottom of the graph, although there is a little difference, this is expected to be almost as per than (2015) three-year business plan.

6) Cash Flow (cash source and use)

6) Cash Flow (cash source and use)

In addition to sales CF increase, FCF took a massive upturn with the revenue from the sale of the Pogo gold mine. Cash and deposits to be put to use in strategic investments such as new mine development projects.



Then, cash flow is on page 11.

Sales cash flow increased. Revenue of sold Pogo gold mine added a significant number.

7) Safety Results

7) Safety Results

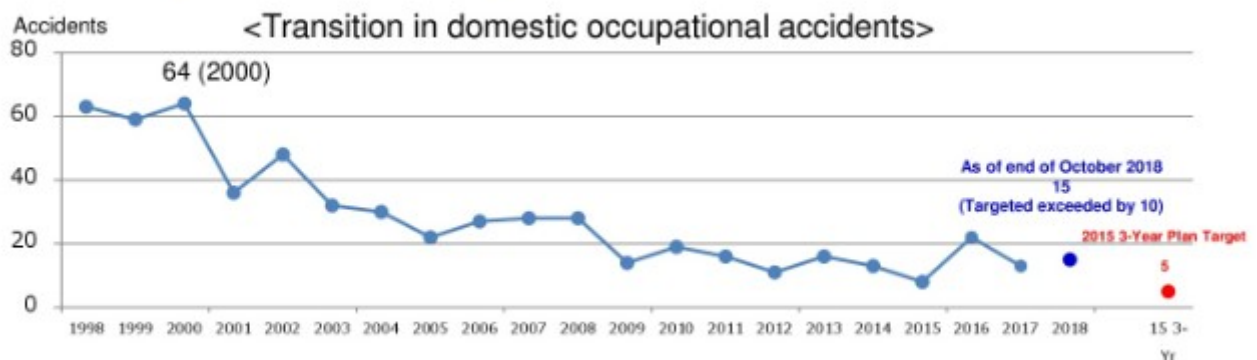
Safety — To achieve by FY2018

Use top-down approach to conduct effective safety activities at business sites and reduce major risks through appropriate equipment improvements.

Practice good communication to improve safety awareness among all employees and conduct proper line management to ensure safety.

2015 3-Yr Plan Targets

Limit domestic work-related accidents to 5 or less
Limit overseas work-related accidents to 9 or less



Next, I would like to go on to the safety results.

I will explain the importance of communication for safe operation later today.

8) Shareholder Return

8) Shareholder Return

Dividend Forecast

FY2018

Intermediate dividend ¥51/share

Year-end dividend forecast ¥38/share

Annual dividend forecast ¥89/share

Annual dividend payout ratio (forecast) 30.2%

For dividend, in this business plan period, annual dividend payout ratio is over 30 percent.

1) Company-wide issues (1)

1) Company-wide issues (1)

Production capabilities (site management capability enhancement and improvement)

- Minimization of opportunity loss
(facility management, recovery rate management,
inventory management, etc.)
- Elimination of quality/environment problems

Management capability enhancement and improvement

- Review of strategies and measures in line with changes
in business environment
- Speedy response to changes

Human resource development

- Reconstruction of a free organizational environment
- Enhancement of problem discover, conceptualization,
and problem solving abilities

For [Corporate Value Improvement &
Maximization of Shareholder Profit]

**Formulation of 2018 3-Year
Business Plan**

Company-wide issues have not changed for a long time.

“Corporate Value Improvement & Maximization of Shareholder Profit” is our own basic corporate governance. The paraphrase of “Corporate Value Improvement” is “promoting the growth strategy and strengthening the business structure”. In my opinion, every corporate activities must be listed in this three criteria.

In this sense, I would like to explain the “Reconstruction of a free organizational environment” on the third item. First of all, it is said that innovation is essential for the business growth. Though the word “innovation” sounds challenging, it is more simple thing. For example, suggestions for improvement from a field site lead to a small efficiency and work styles reform. Without this, corporate activities will be going worse.

In addition, it is also said that innovation is only a combination of existing knowledge. For combination, it is to build an organization of diversity with people having different backgrounds, knowledge and experience. In other words, the base is “Diversity & Inclusion”. The innovation means openness to different opinions of individual employees and the chemical reaction, in such a diversified organization.

With all the members with diversity, nothing would get started if it were not for their voices. This is “Reconstruction of a free organizational environment”.

In fact, in our company, also business seeds generated several times by the so-called a chat. Regardless of positions, field or head office, there was such climate in our company. There was another climate of thinking anytime with awareness of the issues. We are eager to regain such things.

In addition, diversity is not only about attributes such as gender and nationality but a variety of personality. There will be a new discovery if diversity of members increases and individual level goes up. We want to strengthen appropriate education of human resources and a mechanism that they grow spontaneously for that. That is the explanation at the bottom.

Now, I would like to hand over to General Managers. Explanations of their perspectives of business issues and industry trends and the next strategic development would be done in the next part. For now, my explanation is up to here. I'll be back later.

2) To strengthen the pillar of each business (1) Mineral Resources (1)

2) To strengthen the pillar of each business (1)

Mineral
Resources

Smelting
& Refining

Materials

➤ Deteriorating ore grade and increasing costs at overseas copper mines

Morenci

- Reduced production due to decline in mineral ore grade of the mining orebody
- Increase in cost due to increase in mining volume and transport distance

Cerro Verde

- As a result of expanding the mining of low-grade area which was difficult to avoid in the mining plan, although the copper production amount was maintained, the cost increased.
- Temporary increase in labor costs following progress in labor negotiations

La Candelaria

- Reduced production due to impact of pit collapse in October 2017
- Production volume expected to recover around 2020 to the levels before the collapse

Hiroshi Asahi I'm Asahi. I am going to talk about the Mineral Resources business of our company.

As our president explained, Mineral Resources business have a negative impact on earnings forecast for the fiscal year in 2018. There is the deterioration and cost increasing of ore grade of overseas copper mines in the background. So, I would like to explain the situation of large-scale mining of our company.

I would like to start with our leading mine, Morenci copper mine. It is basically operating stably in the Arizona, USA. Since any ore bodies we are now mining are large-scale, we are considering switching. Either migrate or not, copper grade has decreased as the overall trend. This is why whole operation of mining is influenced by the grade deterioration in reality.

In the situation of quality decline, we are making efforts to increase the mining amount. On the other hand, since it is a very large-scale mining, the cost expands due to the depth of excavate and longer transportation.

Under such circumstances, for the forecast of this year (2018), prospects of the copper production of 440,000 tons is 20,000 tons less than last year (2017). As a future measure, we are considering the transition of mining location and installation of leaching pad at shorter transport distance. In this sense, with any efforts, the stable operation can be expected. Again, this year, we can not avoid the reduced production and cost increasing.

There is our another leading mines, Cerro Verde copper mine in Peru. As our president mentioned previously, we are mining the between of two ore bodies. Since where we are mining are deteriorate grade points, costs are swelling in a result.

In addition, there was a labor-management negotiations. Payment of a temporary bonus was a negative impact in 2018. The production volume of 2018 was to achieve 47 million tons, down 10,000 tons despite mining the deteriorate grade points.

Next will be about Candelaria copper mine. Due to the collapse of high-grade pit in 2017 October, we unavoidably changed the mining plan. We made an effort this year to reduce as much as we could.

Although we had production amount of 15 million tons, 100,000 tons less compared to last year. This is expected to be restored to its former state around 2020.

That's all for the situation of our three major mines.

2) To strengthen the pillar of each business (1) Mineral Resources (2)

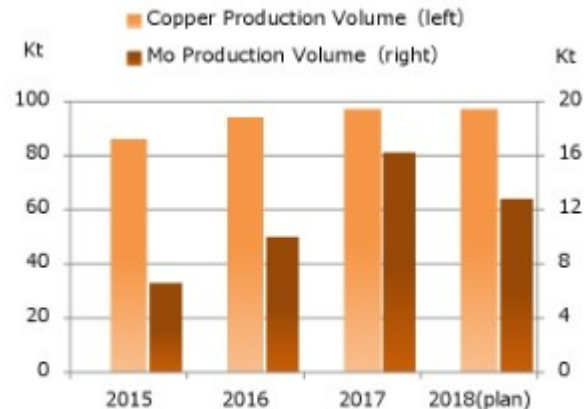
➤ Make Sierra Gorda copper mine profitable ASAP

- Cu, Mo recovery percentage: planned value mostly reached in FY2017
- Debottlenecking: increase current mineral ore processing volume of 110kt/day by 10% - 20%
Addition of regrinding mill for increased processing volume
Aiming for completion of work between end of 2019 and start of 2020

Debottlenecking:

Relatively small improvements made to existing operational facilities, and increase process capacity in areas that facility capacity is lacking.

CY2015-CY2018 operational performance/plan



I would like to move on to the topic of Sierra Gorda copper mine.

As previously guided, this is a recording of 2015 – 2016. Although this has made you worried, the operating rate has been stabilized. On the other hand, the recovery percentage of copper and molybdenum which achieved a plan value in 2017, and now we are getting on very well with its operation correspondingly to the change of mineral ore.

Our biggest challenge now is a implementation of the debottlenecking project. The current mineral ore processing capacity is 110,000 tons, but we are proceeding the construction for its increase of 1 or 2 percent.

Since for processing enormous amounts of mineral ores we have been concerned on its capacity, we are going to enhance the ability of mineral ore mill with equipment addition of regrind mill. The construction to enrich the equipment for improvement of efficiency up to 10 or 20 percent is scheduled to be completed by the end of next year or the beginning of the year after (2020).

Again, achievement of stable operation is nearly within grasping distance, and now we are almost at the next stage of making efforts to enhance the processing capacity and increase the production of copper and molybdenum.

Production amount of this graph indicates comparison of copper and molybdenum in 2017 to 2018. While production volume is almost the same in copper, it reduces in molybdenum due to its grade deterioration.

But, again, for this background there is a rise in the capacity utilization. Looking at the recovery percentage, it can be stable operation. So, a large increase in production volume is expected when ore grades ameliorate.

2) To strengthen the pillar of each business (1) Mineral Resources (3)

2) To strengthen the pillar of each business (1)

Mineral Resources

Smelting & Refining

Materials

➤ **Transfer of interest in Pogo gold mine**

- 9/28 Transfer to Australian gold major Northern Star Resources Limited of 100% of interest (SMM 85%, Sumitomo Corporation 15%)
- Leverage accumulated technology and human resources and aim to acquire interest in good projects henceforth

- Transfer amount:US\$260M (SMM interest 85%: US\$221M)
- Impact on FY2018 financial results: approx. ¥9.5 billion
- Energize interest and assets with funds gained through transfer

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Next I would like to move on to an explanation of gold.

We had realized the sale of interest in Pogo gold mine 9 May 2018. Pogo has operated since 2006, and we sold the interest of it in this year. We began to mine it for ten-year plan, and we've been exploring other surrounding mines in order to lengthen its operation period, so-called mine life, to the maximum extent possible.

Having considered any business options in many ways and finally we've met the appropriate company to sale, Australian gold major Northern Star Resources. Experience and technology and HR obtained in Pogo would be utilized greatly for acquisition of the next projects and operation.

The transfer amount is 260 millions of US dollars. In the amount, impact of FY2018 financial results is approximately 9.5 billion yen. These funds gained through transfer will contribute to energize interest and assets.

2) To strengthen the pillar of each business (1) Mineral Resources (4)

2) To strengthen the pillar of each business (1)

Mineral Resources

Smelting & Refining

Materials

➤ **Côté Gold Mine Development Project**

- Joined in June 2017, started joint venture with Canadian gold producer IAMGOLD
- Participate in management team and be proactively involved in F/S
- F/S completion in November 2018
- Promoting consideration for construction transition aiming to start production in 2021

FS Overview (from Press Release on November 1, 2018)

Location : Ontario, Canada
Initial startup costs : \$1.147 million

	Base case
Reserves	203Mt
Au amount : (Avg. grade)	About 198t (0.98g/t)
NPV@5% (Au:US\$1,250/Toz)	US\$795M



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There is another topic in gold: Côté Gold Mine Development Project. It is a joint venture started in June 2017 with Canadian gold producer IAMGOLD.

Our engineers participated in management team and proactively involved in preparation of F/S, the completion of which has been just at this month (11 May 2018). We are now promoting consideration for construction transition and aiming to start production in 2021.

This figure indicates an overview of the F/S. Reserves are about 200,000,000 ton, and Au amount is about 198 ton, which rises than one at the stage of pre-feasibility study. Promoting this project, we are keen to expand gold production.

2) To strengthen the pillar of each business (1) Mineral Resources (5)

➤ Preparation for acquisition of new interest

Copper

- Aiming for the long-term vision's target of an interest share of production of 300kt/year, continue evaluation of good assets as normal (present : 250kt)

Gold

- As well as accelerating exploration activities underway, investigate interest acquisition including exploration projects that have progressed to a certain degree.
- The target areas are Canada, Australia, and South America

☆ **Resource majors have gone through a round of financial structure enhancements -> new mine development -> SMM will work to ensure it does not fall behind**

In addition, our direction henceforth will not be changed significantly from now on.

As a preparation for acquisition of new interest, in copper, we are aiming the long-term vision's target of an interest share of annual production of 300,000 ton with a continuous evaluation of good assets as normal. Though a present one is 250,000 ton and it's a fact of copper business to be very unblessed with opportunity, we have to go forward to hold a prominent position in copper industry.

As well as accelerating exploration activities underway, we are focusing on gold. In addition, we are willing to participate in the middle of other exploration projects that progressed to a certain degree. The target areas are Canada, Australia, and South America.

Finally, resource majors have gone through a round of financial structure enhancements. With recovery from the very severe situation, new mine development can be seen. We are also going to tap into the flow carefully and aggressively.

That's all for my explanation.

2) To strengthen the pillar of each business (2) Smelting & Refining (1)

➤ Nickel smelting and refining business

- Due to many problems in peripheral equipment such as autoclaves and in the MS reaction process as well as in boiler equipment, MS production was declined 5.4Ni-kt, and this led to reduced production of electrolytic nickel.
 - > Improve equipment inspections and maintenance during regular operation halts
 - > Avoid growing production decrease through stable production by enhancing daily production management

MS production volume (FY2018)

Unit Ni-kt	Nov. Forecast		May Forecast	Diff.
CBNC	1H R	10.6	21.5	—
	2H F	10.9		
THPAL	1H R	12.9	30.6	△5.4
	2H F	17.7		
Total	1H R	23.5	52.1	△5.4
	2H F	28.6		

Electrolytic Ni production volume (FY2018)

Unit Ni-kt	Nov. Forecast		May Forecast	Diff.
E-Ni	1H R	28.2	59.9	△5.0
	2H F	31.7		

Nobuhiro Matsumoto I will explain the Metal business.

First of all, I would like to mention the reduced production of THPAL listed as a management issue. With completion of expansion from 30,000 ton last year to 36,000 ton, we've started the plan of 36,000 ton of production this year.

However, as indicated by the figure, there was the reduced annual production of 5,400 tons in nickel in Taganito as a result. In response to this, the production of electrolytic nickel reduced about 5000 tons in Niihama Nickel Refinery that was used as raw material.

There is the reason of the reduced production in THPAL. Autoclave equipment trouble was the major one, others are MS reaction process and boiler equipment trouble. Such three kinds of big trouble occurred frequently as a result.

As a countermeasure, we improved equipment inspections and maintenance during regular operation halts in September. In addition, a new way to maintain is established, and we are going to do it based on the standard.

What is more, we are enhancing daily production management. Due to our inspection based on its management criteria, it can be operated at full load. By the way, production in Coral Bay is scheduled to 21,500 tons.

2) To strengthen the pillar of each business (2) Smelting & Refining (2)

2) To strengthen the pillar of each business (2)

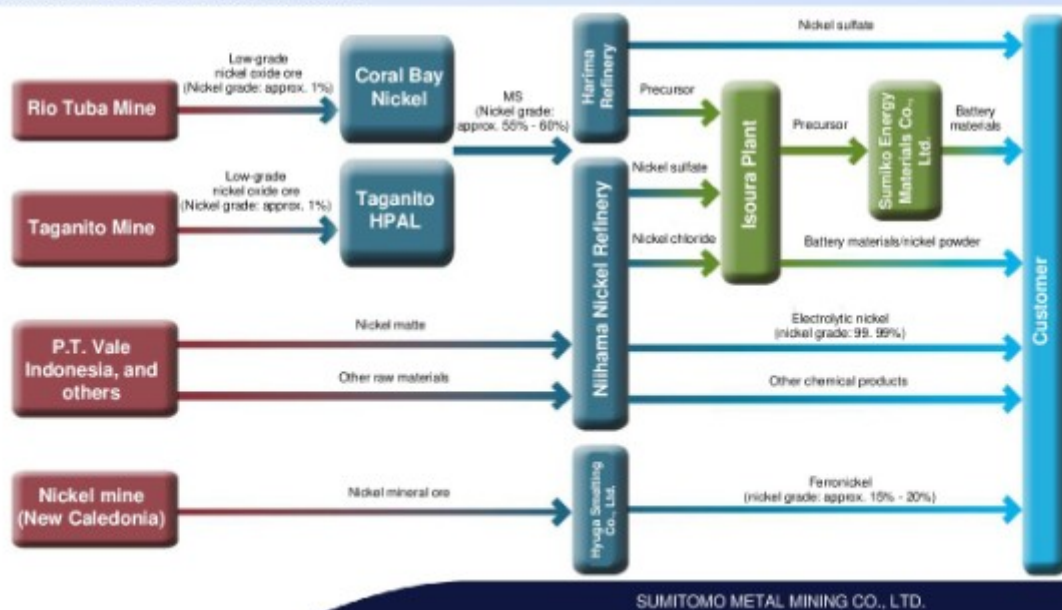
Mineral
Resources

Smelting
& Refining

Materials

➤ SMM Group Nickel Supply Chain

Stable procurement of raw material from mines in which interest is held. As well as selling to customers after going through the smelting and refining process, also provide to SMM battery materials business as raw material.



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Next, I would like to explain our strategy to strengthen the nickel business structure in the future.

These on the slide is SMM Group Nickel Supply Chain. In the left there is stable procurement of raw material from the mines, it goes through the smelting process with in its own process and it will be used for products or sell the material to customers partially. Also, we create a great supply chain which enhances the strength of nickel business.

2) To strengthen the pillar of each business (2) Smelting & Refining (3)

➤ Pomalaa Project

- From FY2018 start a DFS (Definitive Feasibility Study with PT Vale Indonesia (study period 1 - 2 years)
- Scale (target):
 - 40Ni-kt/year, MS (Mixed Sulfide) Production
 - As with the Philippines, the mineral ore also contains Co at around 1/10 of the Ni
- Investment amount: several billion \$USD

☆ For the moment, Class 1 nickel development projects are limited

Next, we will move on to one of those our unique process, the progress of Pomalaa Project.

In FY 2018, we are proceeding DFS (Definitive Feasibility Study) indifferently with our business partner, PT Vale Indonesia for the period of 1-or-2 years.

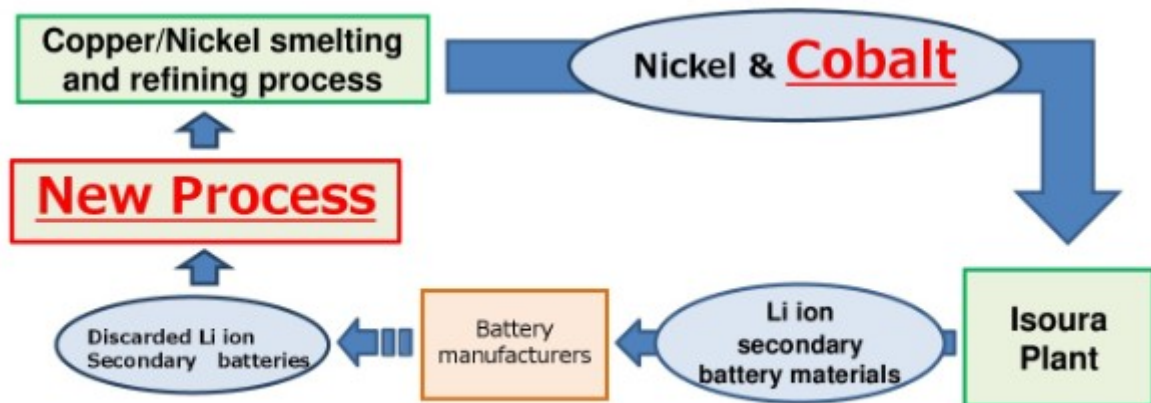
A target of Pomalaa Project is Mixed Sulfide production in Philippine equivalent to 40,000 nickel tons per year. The mineral ore also contains cobalt at around 1/10 of the nickel, and we are eager to recover it.

Nothing is written on stone about investment amount, but there is a plan of several billion US dollars. Since Class 1 nickel development projects are limited for the moment, we see this project promising and are going to promote it specifically to actualize.

2) To strengthen the pillar of each business (2) Smelting & Refining (4)

➤ Recycling of discarded lithium ion battery secondary batteries

- Basic flow for cobalt recovery decided in lab experiments
- By constructing a pilot plant and conducting pilot experiments within FY2018, the profitability and feasibility of the process will be determined



In the sense of procurement of raw material, we are now promoting the recycling of discarded lithium ion battery secondary batteries.

We've already started recycling of secondary battery partly. As shown in this flowchart, we do not have the red part yet. Discarded battery from the market is processed in the existing process of copper or nickel. Copper is recovered in the refining process, nickel in the Niihama Nickel Refinery, and then both is recycled to a new battery via Isoura Plant of battery materials.

However, since no recoveries of cobalt is in this flow, we just introduced this "NEW PROCESS" which is written in red there. It is a process to recover cobalt to supply as battery materials, not only copper and nickel.

The new process has been decided in lab experiments. We are constructing a pilot plant within FY2018 and going to conduct pilot experiments from 2019 and on. This is for determining the profitability and feasibility of the process and technology, aiming for practical use.

2) To strengthen the pillar of each business (2) Smelting & Refining (5)

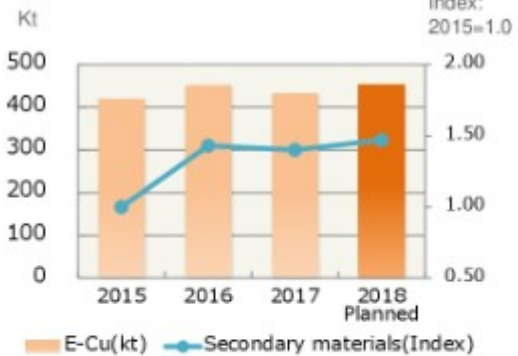
➤ Copper business (Toyo Smelter & Refinery)

Through continued full operation and increased processing of valuable raw material, maintain profitability as a global top class copper smelting and refining plant

Electrolytic copper production performance (FY2015 - FY2018)

Fiscal year	Production volume performance (kt)
2015	419.9
2016	451.5
2017	432.2
FY2018 (November forecast)	452.0

E-Cu production, increased pickup of secondary materials



Secondary raw material pick up (scrap copper, etc.) enhancement

- Background: Recycle and decline in copper ore grade in concentrate
- Following on from FY2016/FY2017, a high level of secondary raw material pick up is also planned for FY2018

I would like to move on to copper business, and this would be my last part to explain.

In copper business, we Non-Ferrous Metals Division are going to maintain our global top class profitability. Toyo Smelter would be operating at full capacity for this aim. Also, we are planning to increase processing of valuable secondary raw material.

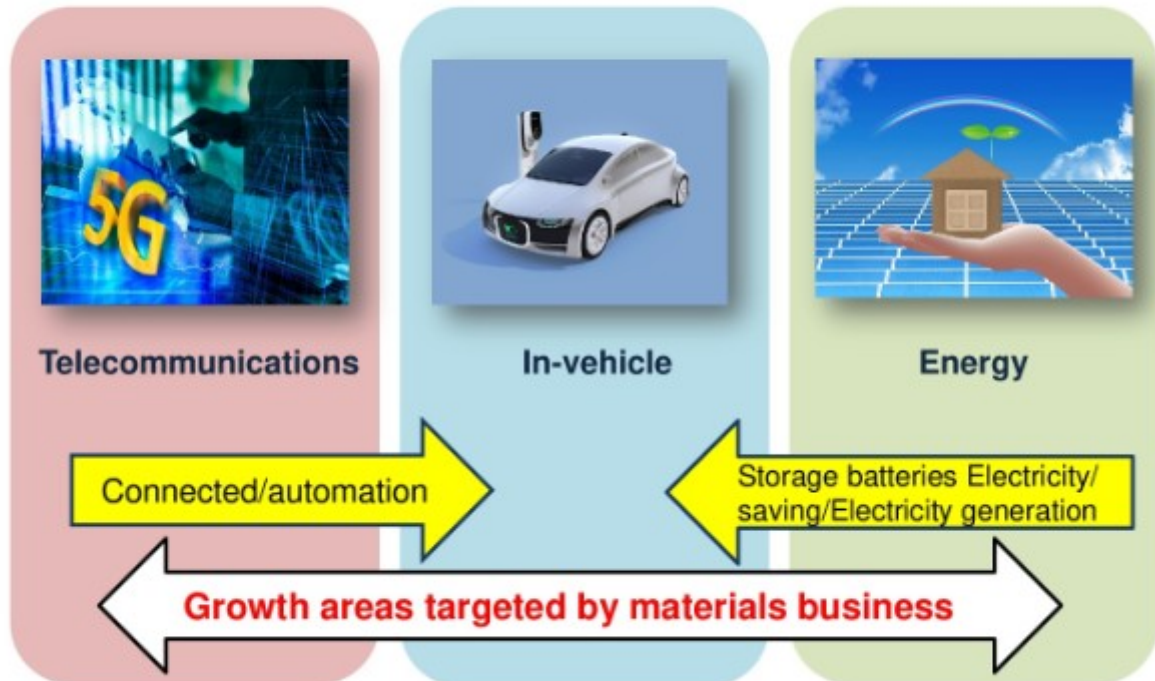
This figure indicates (electronic) copper production volume. Although less a little from 450,000 tons in some years with large stop, we could maintain more than 450,000 tons production in 2016 and 2018 (forecast). It is scheduled to be 452,000 tons of production in the plan of 2018 fiscal year.

On the other hand, the blue line graph in the right shows the pickup of secondary raw materials (one of the materials). It increased significantly from 2015 to 2016 and gradually increasing from 2017 to 2018. We are going to improve profitability by high level of secondary raw material pickup and profitability in 2018.

That's all, thank you for listening.

2) To strengthen the pillar of each business (3) Materials (1)

➤ Focus fields for materials business



Harumasa Kurokawa I am Kurokawa. I'm here to explain Material business.

I would like to start with this image. Roughly speaking, we have been reporting previously that we are going to focus on the fields of telecommunication and energy. This time, I would like to explain "telecommunication" and "In-vehicle".

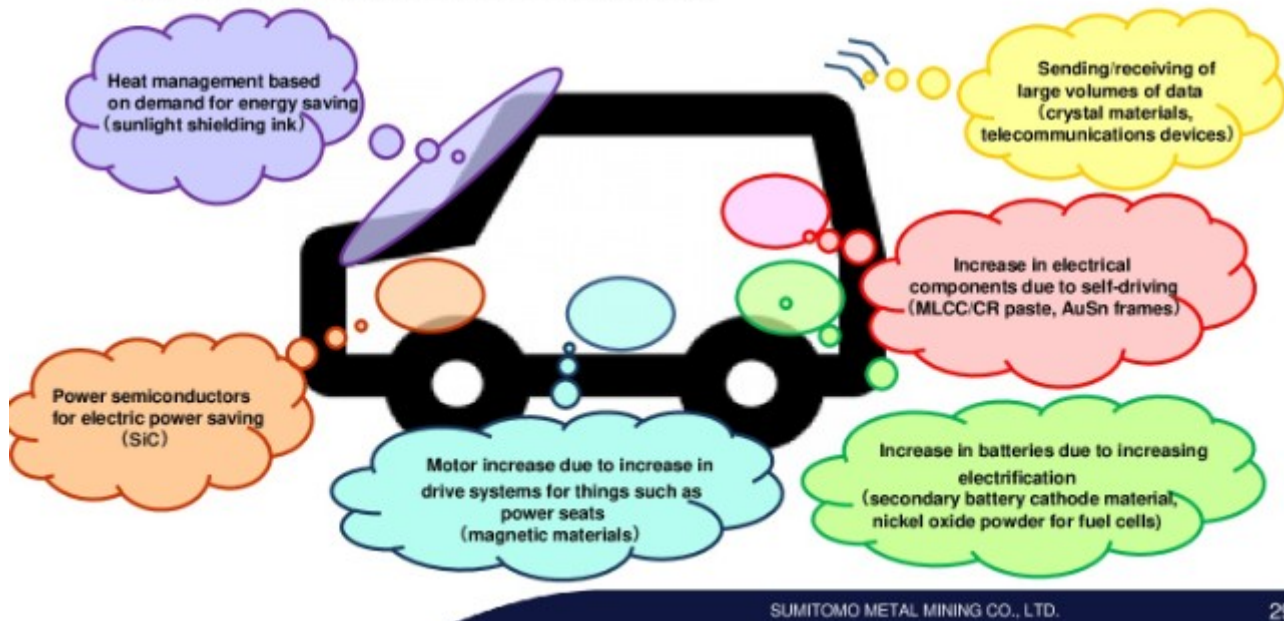
There are some topics of IoT and the incoming of 5G in telecommunication. And especially in the field of vehicle, such as Connected and Automation. Also in energy, such as Storage Battery and Secondary Battery that we'll explain later, and others including Energy Saving and Electricity Generation.

2) To strengthen the pillar of each business (3) Materials (2)

➤ Focus fields for materials business

CASE* progress => materials business **opportunity expansion**

*Connected, autonomous, shared, electric



For example in vehicles, “CASE” is the hot news: Connected, Autonomous, Shared, and Electric.

If I may use an extreme expression, nowadays they are not mere movement means, people want them to have a comfortable space and see as a motor-mounting smartphone.

Along these technological development, our materials have been used relatedly a quite. I would like to introduce (new technology for) glass first. This is called “solar shielding glass”, ink of which manifests a strong absorption of near-infrared light. This can contribute to energy saving.

And, SiC (Power semiconductors for electric power saving) is now developing.

Motors are prone to minituarize with advancement of vehicles such as power seats and power windows, and we’ve produced not themselves but magnets of magnetic materials.

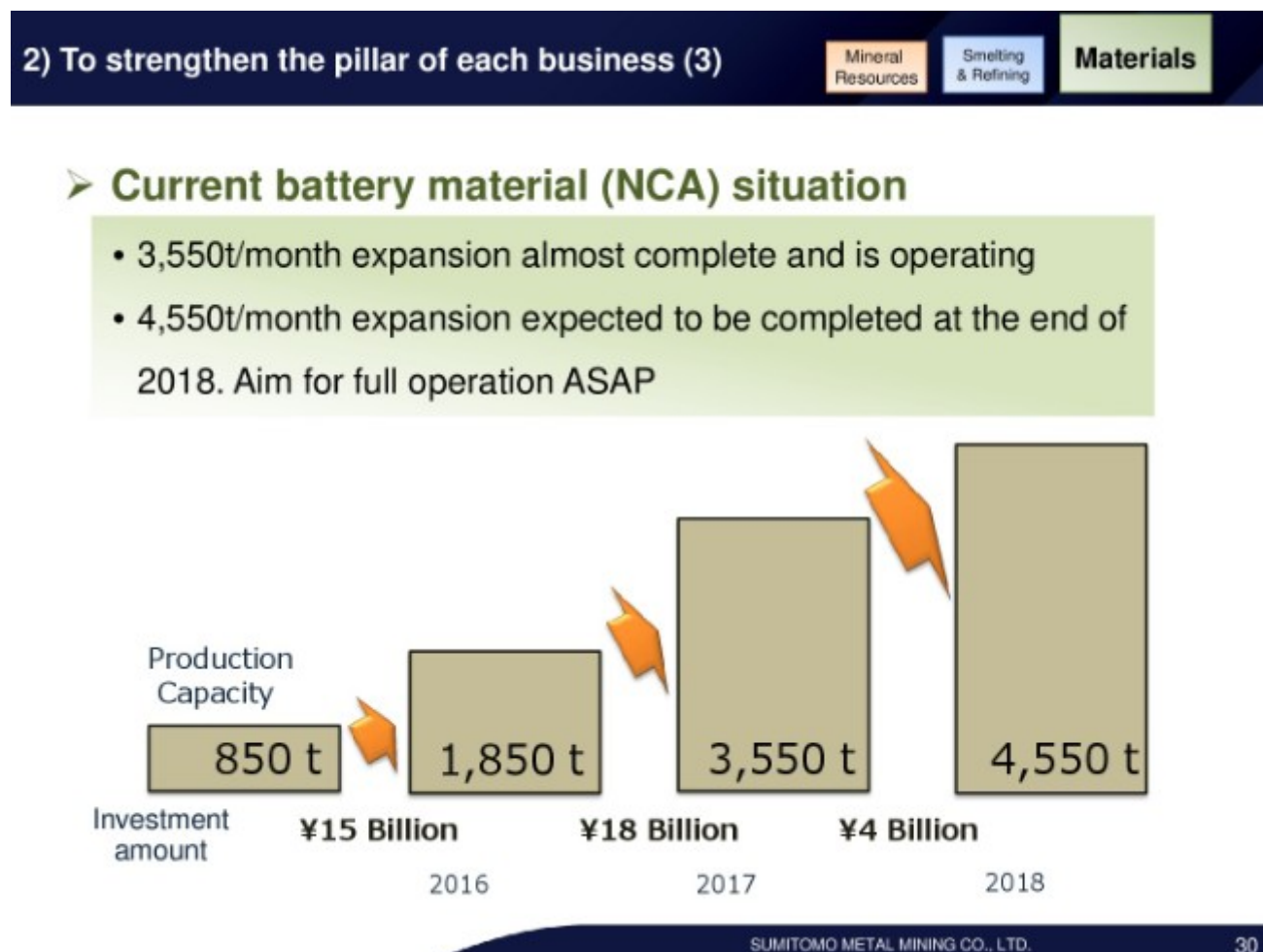
Then we have crystal materials for sending and receiving of large volumes of data such as SAW (surface acoustic wave) filter and telecommunications devices.

Next, as there was a story at the beginning, increase in electrical components due to self-driving, we have resistive paste and nickel powder for multilayer ceramic capacitors

and AuSn frames to seal crystal oscillator.

I would like to talk about secondary battery slightly. Details would be mentioned later. We have things such as secondary battery (cathode material) by motorization and nickel oxide powder for fuel cells.

2) To strengthen the pillar of each business (3) Materials (3)



This NCA (Ni-Co-Al), our proud product.

As also mentioned last time, there was a transition of amount from 850 tons to 1,850 tons. Expansion of 3,550 ton per month and ramp-up of facilities are almost completed, and now production amount is almost as planned.

We are reaching the next stage with this. 4,550 tons month expansion is expected to be completed by March next year (2019), and we are aiming for full operation as soon as possible.

2) To strengthen the pillar of each business (3) Materials (4)

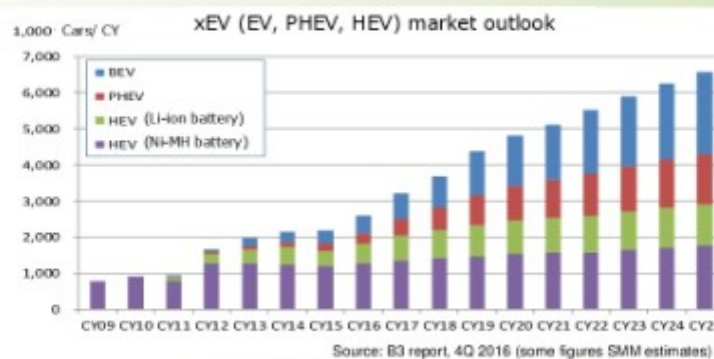
➤ Further expansion of battery materials business

<Business environment>

Due to strengthening of environmental regulations around the world, the xEV (electric vehicle) market has expanded, and demand for secondary batteries for automobiles is expected to increase

<Direction henceforth>

Using SMM's strengths of high technical capacity that enables high-Ni and the ability to provide a stable supply from Ni and Co raw material, continue expanding business through deepening relations with our important customers Panasonic and Toyota



SUMITOMO METAL MINING CO., LTD.

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Although we're quite going through difficulties in further expansion of battery material business and growth around the business scene, there is no doubt about market expansion due to strengthening of environment regulations around the world.

Therefore, demand for secondary battery is expected to increase, and needless to say, this outlook is just the outlook. Namely, we are estimating the number of its demand increase from the current 3,000,000 units a little to about 600,000 units in 2025; it will be 800,000 units in considering the regulation value. Furthermore, it will be one thousand and several hundred or 20,000,000 units with the total sum planned production amount of each automobile manufacturer.

We've determined the outlook lower and more firmed in considering constraints of materials, each government's regulation volume, and car sharing.

What I would like you to see in the market outlook is not only the quantity but also the configuration. While the quantity of HEV (Hybrid Electric Vehicle) hardly increased, BEV (Battery Electric Vehicle) will be greatly increased.

This means a large growth of cathode material and secondary battery can be expected because the amount of them increases hundredfold in EV than in Hybrid.

Thank you for listening.

IV. Next 3-Year Business Plan (2018 3-Yr Plan)

IV. Next 3-Year Business Plan (2018 3-Yr Plan)

Fiscal years in scope: FY2019 - FY2021 (3 years)

Disclosure timing: in mid-Feb 2019 (planned)

No specific changes in long-term vision, and we will work to continuously increase corporate value in line with the growth strategy

Nozaki I am going to speak briefly about the Next 3-Year Business Plan.

Fiscal years in scope is from FY2019 to FY2020 for three years, and disclosure timing is planned in mid-Feb 2019. With restructure of management, there will be one pseudo-question such as “Hey, is there any changes in your company management or not?”. And my answer to that question is that management of consistency is important for achievement of goals, to proceed toward the target, no matter how situation change.

In such a point of view, we think that there is no specific changes in long-term vision as anchor or axis of management, slightly with the pending review. We’ve prepared the business plan in line with that.

Different from Mineral Resources and Smelting and Refining business having no difficulty in making a long-term plan, Material business is exposed to strategy change all day. Of our company’s product line-ups and element technology in this business, it’s necessary to enhance market intelligence, one of our skills, to pick out some fields with growth opportunity.

I'm sorry about nothing we can say to you about the 3-year business plan at this point because we are now considering it in each division. However, in any businesses, based on these today's topics of business environment and each business challenges, we have to establish the plan strategically for understanding and recognition of direction to go and for seizing business opportunities firmly.

Among them, nickel and battery materials have been one of the strategies, and it's unchangeable from now on.

Then, as I said at the beginning, there are a variety of changes in the world. We should be able to tell whether one change is fashion or trend, fundamental change, and change what should be changed.

Although this is also what I mentioned previously, as a trend of the management, there are SDGs, ESG investment, digitalization, and so on. With understanding those trend of the world, we are demanded to achieve an enough accountability to stakeholders.

In addition, as has already been said, it's so significant to construct an organizational environment to discuss freely in order to realize the innovation for growth. In response to this as a total, we are planning to practice good communication skills internally. For this purpose, in the corporate sector, we have to review the current structure partially and now considering it.

Explanation from our company's end with this.

Q&A Raise the Quantity in Mineral Resources and Metals Division

Q I have three questions. (The first is a question about the investment). In the business plan of 2015, you focused on Materials business. It will be appreciated that, (in the current business plan), expansion of non-ferrous metals business was zero, or has been reduced as the impression.

Pogo has been sold, and there are some problems such as grade deterioration and losing of ores in Coral Bay, non-ferrous metal has looked like tapered.

Although the current performance is depended on non-ferrous metal market conditions, we most of investors want to realize the effect as quantity. In that sense, we already know there is no decided in next 3-years business plan decisions, but would you tell me if there is anything you can talk about the quantity.

The second question for the nickel. With the price going down around 5 dollars per pound, expenses to start up the project of Pomalaa was higher than in Coral Bay and

Taganito. At that time it was about 500 billion yen per 10,000 tons, and now has perhaps become more.

If current market conditions continue, what would you do in the future? If there is an M & A transactions, regardless of the appropriateness of the cost, do you buy the rights and interests, such as the copper? Alternatively, without looking for an easy money, do you forego considers as it is not appropriate? I want to know your stance about that.

The third question is about the nickel market. I heard there might be some nickel projects such as producing Mixed Sulfide and trying High Pressure Acid Leach in China. Although there is no company handled HPAL well, but there will be the situation other company forestalls you, number of supply and demand changes, and this may be unrelated to your corporate but I heard that production of nickel pig iron might increase. Based on around here, how do you think about the nickel market?

Nozaki Thank you, that is good question. I understand your first question in this way: "How do you think about raising the quantity in Mineral Resources and Metals division?" Basically, my stance is always to aim the acquisition of superior interests.

Since we are living in Mineral Resources business, it's unavoidable that the amounts of assets held are reducing in the long-term. So, it's too late to move on the next one after its asset ended completely. So, although there is a temporary large increase in the amount of metal share of the interests, we are aggressive against the invitation of the prime projects, even in cases in your assumption.

This is also the same in copper and gold. In particular, in gold, we just began Côté project with the sale of Pogo and have been eager to get good interest.

Although you are concerned about the nickel in quantity decrease of Coral Bay, the ore is not there forever. Rather, we have to maintain the equipment in long span, even if we bring the ore from outside the site. We are calling this "applying a custom-smelting to HPAL".

In addition, as Matsumoto described of nickel, we are almost starting up Pomalaa. We are eager to get a new thing if an opportunity including it and raise the quantity as a total despite the fact that the business is subject to market conditions and prices. That's growth of our company's Mineral Resources and Smelting and Refining business.

The second answer is about the future plans and initiatives for the interests of HPAL and copper. Closely related to first, we have to act within our own financial capacity. Of course we are considering the certainty, but too expensive projects will be difficult.

And, for the price, speaking from our senses, nickel and copper seems to be cheaper than others. In terms of our company, it is important how much the sustainable price in long term will be. In other words, there is a sustainable price level in the non-ferrous

industry, and if the price is less than the standard for a long time, development motivation is not divided with supply going downhill.

That bring us the collapse of balance of supply and demand, and the insufficient supply. As an extreme example, that occurred in the nickel in 2006 – 2007. The stock of the London Metal Exchange becomes 3,000 tons nickel price \$ 25 per pound, it was a little crazy level. In this sense, the pricing is a long term in sustainable.

The answer for your last question is, in relation to the nickel, around HPAL and NPI. As previously guided, nickel market's supply and demand of annual production is over 2,000,000 tons. Half of them is Class1, pure nickel center category. The other half is Class2 of an alloy of nickel and iron such as ferro-nickel and NPI.

Of course, to the same extent as the economic growth level of the world, stainless world demand is also believed to be extended that NPI will cover the demand of stainless steel. By the way, about 70% of 2,000,000 tons of it is used in stainless steel.

However, recent attention is a pure nickel field focused on batteries for electric vehicles. Although this area is said to be 1,000,000 tons while ago, nickel for battery materials is so not hard metal such as cathode but briquettes and powder and nickel sulfate, it would be 300,000 tons of market.

Nickel is drawing everyone's attention, but not enough. In that sense, in the future of nickel development, Class1 will be the mainstream.

I am already aware of Indonesian and Chinese companies are focused on nickel sulfate. Since we are very interested too, so as not to take too much delay, we want to promote such as consideration of Pomalaa.

Q&A The Effect of Debottlenecking (Investment)

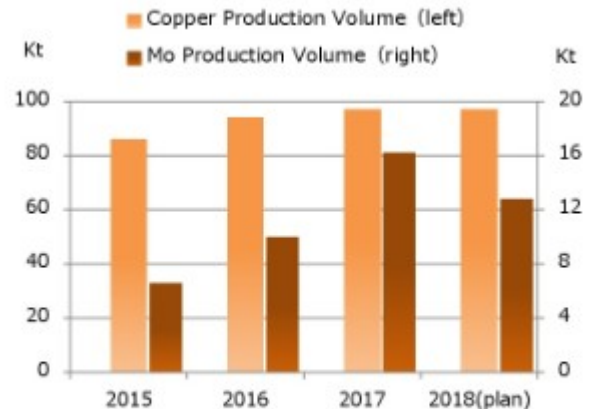
➤ Make Sierra Gorda copper mine profitable ASAP

- Cu, Mo recovery percentage: planned value mostly reached in FY2017
- Debottlenecking: increase current mineral ore processing volume of 110kt/day by 10% - 20%
Addition of regrinding mill for increased processing volume
Aiming for completion of work between end of 2019 and start of 2020

Debottlenecking:

Relatively small improvements made to existing operational facilities, and increase process capacity in areas that facility capacity is lacking.

CY2015-CY2018 operational performance/plan



Q I have two questions. The first is for the Sierra Gorda copper mine. Investment in debottlenecking, that is, how will the profit level be in today's copper price? It seems outlook is bad to the surplus, what was the effect of debottlenecking?

➤ Pomalaa Project

- From FY2018 start a DFS (Definitive Feasibility Study with PT Vale Indonesia (study period 1 - 2 years)
- Scale (target):
 - 40Ni-kt/year, MS (Mixed Sulfide) Production
 - As with the Philippines, the mineral ore also contains Co at around 1/10 of the Ni
- Investment amount: several billion \$USD

☆ For the moment, Class 1 nickel development projects are limited

The second question is about the recent investment in China and Indonesia forces. Compared to the investment of tens of billion of your company in 25 page, it seems much less. Since we do not know well around these information, would you explain how do you think about their ability.

Nozaki First, the debottlenecking of the Sierra Gorda, we are now hammering out the details of the plan, and completion will be around 2020. Production volume would be an increase of about 10 percent.

However, in the sense of contribution to revenue and profit, there is almost no information to talk at here. This is because managing the cost is difficult as a process. At least, I would like you to understand the debottlenecking as investment for full utilization of equipments we already have.

The second answer is about the scale of investment for Indonesia by Chinese companies. This is difficult to answer, but I heard that they will apply the process of hydrometallurgy just a little.

It is hard to answer because we also do not know about their process. If they are really considering in that such a level, they must be considered a firmly details, it would take a long time.

Q&A Strategy for Opportunity Loss

Q I will ask two questions.

First question is about respect to copper. As you said that there is a further grade deterioration of copper as a global trend, how do you think about long-term problems such as risks caused by deterioration, cost for efficiency and capital investment of copper recovery increasing, the increasing of cost curve of copper in the world?

The second question is about opportunity loss. In the “2nd Quarter of FY2017 Progress of Business Strategy”, you said lost profit is one of the management issues. There is a large opportunity loss this time, would you describe whether there were any prevention of it and effect from last time to now. And, I want to once again explained here.

Those two are my question.

Nozaki I think that grade deterioration of resources for long-term in copper business is unavoidable. Thereby, it's inevitable to increase costs for extraction of coppers.

We make 0.3 or 0.4 percent raw ore grade to 30 percent concentrates. It's the chemical world. It could be hard to increase drastically to some extent.

Perhaps, any companies also would have kneaded measures to cost increase, including the rise of labor costs. As mentioned today, they are trying things such as automation of operation in mines and advancement of telecommunication, or unmanned control of mines from the outside of mine site.

These were made possible by the evolution of communication technology. I think there is an idea to lower the cost of manpower in this point.

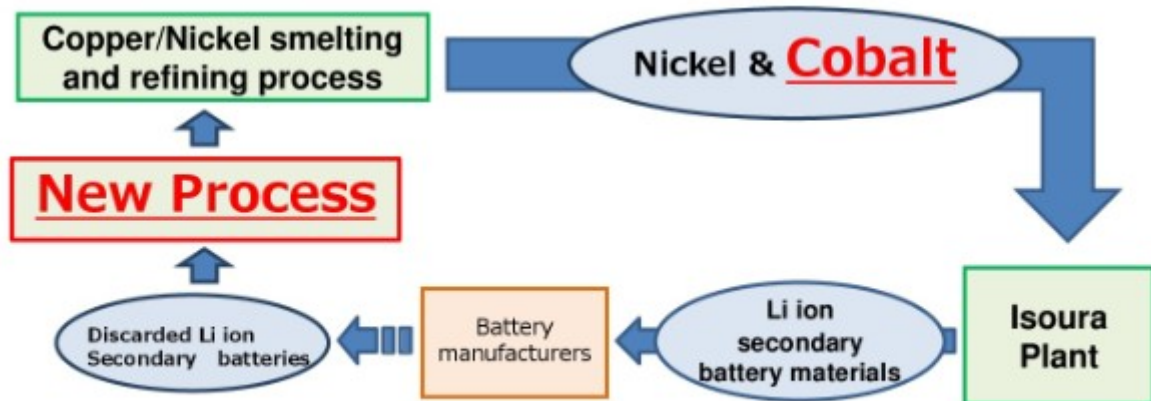
There are often production failure by people at mines that we call “disruption” such as an union strike and blocking. Now, perhaps, I have no other answers than automation in order to reduce such costs. Certainly exploration technology is evolving, but it's really hard to explore new surprisingly high grade ores now.

About the opportunity loss, Taganito HPAL could be said it is lost profit this time. Actually, other small opportunity loss of last year (2017) but operation such as too much inventory assets has been improved considerably thanks to management improvement. In other words, the problem is concentrated in production management at the heart.

Q&A Recycling Discarded Battery

➤ Recycling of discarded lithium ion battery secondary batteries

- Basic flow for cobalt recovery decided in lab experiments
- By constructing a pilot plant and conducting pilot experiments within FY2018, the profitability and feasibility of the process will be determined



Q I have two questions. There was an announcement of project for discarded battery recycling in 2017. In this time, you are adding the New Process and going to be involved in the cobalt recovery. In a technical challenge, are you also going to focus on this too?

In reality, how much are you focused on this project and how much effect is expected? Can I expect the process as one of raw material supplies? That's the first question.

IV. Next 3-Year Business Plan (2018 3-Yr Plan)

Fiscal years in scope: FY2019 - FY2021 (3 years)

Disclosure timing: in mid-Feb 2019 (planned)

No specific changes in long-term vision, and we will work to continuously increase corporate value in line with the growth strategy

The second question is about the basic concept in the following business plan next year. In the whole of efficiency, you are putting a strategy of selection and integration in motion. In materials business, you focused on the battery field than gold and lead frame business. On the other hand, in Mineral Resources and Smelting and Refining business, there are the sale of gold and increasing production of nickel.

Of course, it's hard to balance risk control and efficiency of the business in general, but let me ask your directions you are going to march on in the future. This is because both nickel and battery are quite dependent on a particular customer, and you mentioned good-balanced portfolio with gold, copper and nickel as the whole of risk control balance previously.

Nozaki Thank you. I would like to answer about battery recycling first. It's unclear a little bit how the in-vehicle battery will move to the step of recycling. Because of its excellence, sometimes it's reused for things such as storage in Smart City for example.

There is another case that it has no problems for residential use than vehicles in terms of safety. In this sense, it is unable to provide you quantitative outlook. However, we've seen this business as important because eager to establish a battery-to-battery cycle, a closed cycle to recycle the for-battery resources. The strength of our business method is not only recycling but also reusing it as a battery material.

Then, about risk control and balance between the business, what you said is exact. So, Côte is expected to be a valuable asset for balanced as earlier as it can in gold.

Basically, in the sense that interpolation between metal, gold is similar to financial instruments with correlation to the exchange. Since nickel and copper have similar movement, the basic strategy is the acquisition of each cost competitiveness for profitability in severe price in general.

In addition, I understood the question about dependence on customers as a topic of battery materials in particular. In my point of view, in-vehicle secondary battery is at the early days, and the number of players is still limited. If this industry got larger as we expect, it is unlikely that our company control the market of NCA. This situation will be changed naturally, but it might be unchanged for a while, until the industry itself to mature.

Q&A Pomalaa Project

Q First, I'll ask about copper mines in Mineral business. You said, "in addition to grade deterioration, that there is a temporary factor in the transition process to new ore body". When would it be improved?

In particular, although the prospect of profit of the second half of the mineral resources business of this year(fiscal 2018) looks very low, would the improvement be a magic bullet for the profitability in the next fiscal year or later? This is my first question.

➤ Pomalaa Project

- From FY2018 start a DFS (Definitive Feasibility Study with PT Vale Indonesia (study period 1 - 2 years)
- Scale (target):
 - 40Ni-kt/year, MS (Mixed Sulfide) Production
 - As with the Philippines, the mineral ore also contains Co at around 1/10 of the Ni
- Investment amount: several billion \$USD

☆ For the moment, Class 1 nickel development projects are limited

And I will ask the second question. You did a pretty detailed description of Pomalaa such as scale and investment amount. Does this imply the possibility or probability of realizing the project?

Furthermore, how much are you assuming the nickel price such as to pay this investment?

Nozaki You asked me about the time when new ore bodies of each overseas copper mines would move to high-grade locations. Since I do not have the documentation, description would be done by Asahi, who is General Manager of Mineral Resources Division .

➤ Deteriorating ore grade and increasing costs at overseas copper mines

Morenci

- Reduced production due to decline in mineral ore grade of the mining orebody
- Increase in cost due to increase in mining volume and transport distance

Cerro Verde

- As a result of expanding the mining of low-grade area which was difficult to avoid in the mining plan, although the copper production amount was maintained, the cost increased.
- Temporary increase in labor costs following progress in labor negotiations

La Candelaria

- Reduced production due to impact of pit collapse in October 2017
- Production volume expected to recover around 2020 to the levels before the collapse

Asahi I also do not have the documentation, but there is a grade deterioration as a major trend of Morenci and Cerro Verde. But, in my thoughts, there might be no huge decline. This is because there is a possibility that the quality goes up and down by where we dig at those mines.

As mentioned previously, we can not mine the high-grade location now at Candelaria. This means the grade will be coming back along with the recovery.

Similarly in the Sierra Gorda, we are working on a low-grade location. Increase in quality can be also expected too.

In any case, Morenci and Cerro Verde are our leading mines. In spite of slightly downward qualities, we are going to achieve stable production from now on.

➤ Pomalaa Project

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- Scale (target):
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Nozaki I would like to answer for the second question of Pomalaa. Potential of this project is unchanged as conventional. We are standing on a very neutral point of view. We have to consider deeply economy and technical feasibility.

However, when we considered Pomalaa for the first time, we were planning for excavation of 150,000 tons of nickel in scale. But as we already mentioned, we've expanded a scale of product of battery materials currently with very important customers in the process.

Of course, what customers have expected our company is a position of maker of cathode material with less anxiety in resources. I would like to calmly consider the pros and cons of this project for meeting their expectations.

Lastly, I will answer about the price level. As I have mentioned earlier, it will be "how will we esteem it for a long term" not with price. Although almost everyone would mind a certain number, thinking in only two ways, pay or not is nonsense. Since we do not plan a project that can not pay based on the concept of "long-term", we have to cut down business costs and consider various things.