



# 2nd Quarter of FY2019

## Progress of Business Strategy

November 18, 2019



**SUMITOMO METAL MINING CO., LTD.**

President and Representative Director **Akira Nozaki**

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## FY2019 Results Forecast



## Current Issues and Priority Measures

Hiroshi Asahi

Director, Managing Executive Officer, General Manager of Mineral Resources Div.

Nobuhiro Matsumoto

Director, Executive Officer, General Manager, Non-Ferrous Metals Div.

Isao Abe

Executive Officer, General Manager of Battery Materials Div.

Fumikazu Oshita

Executive Officer, General Manager of Advanced Materials Div.



## SMM Group's Vision for 2030



## Supplementary Materials

# I. Summary



## Summary



## FY2019 Results Forecast



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## SMM Group's Vision for 2030



## Supplementary Materials

# I. Summary (1)

## 1. Global economy and business environment

- World economy becoming more uncertain
  - Movements of the U.S. against China, Iran, and North Korea
  - Fears of a slowing Chinese economy
  - Continued turmoil in the Middle East
  - No end in sight for Brexit
  
- Changes in the business environment surrounding resource development and smelting & refining operation
  - Heightening resource nationalism (mining ban in Indonesia brought forward)
  - Environmental accidents (Brumadinho tailings dam collapse, Ramu slurry leak)
    - Further strengthening of environmental regulations,  
obtaining understanding of residents becoming more difficult
  - Increase of investment and running costs
  
- Evolution and development of digital technology
  - Accelerating commercialization of AI, IoT, 5G, VR technology

# I. Summary (2)

## 2. Recent management challenges

- 1) To make growth strategy and reinforcement of business base compatible
- 2) To demonstrate a cross-departmental leadership in tackling issues

## II. FY2019 Results Forecast



Summary



FY2019 Results Forecast



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SMM Group's Vision for 2030



Supplementary Materials

# 1) Trend of Business Performance

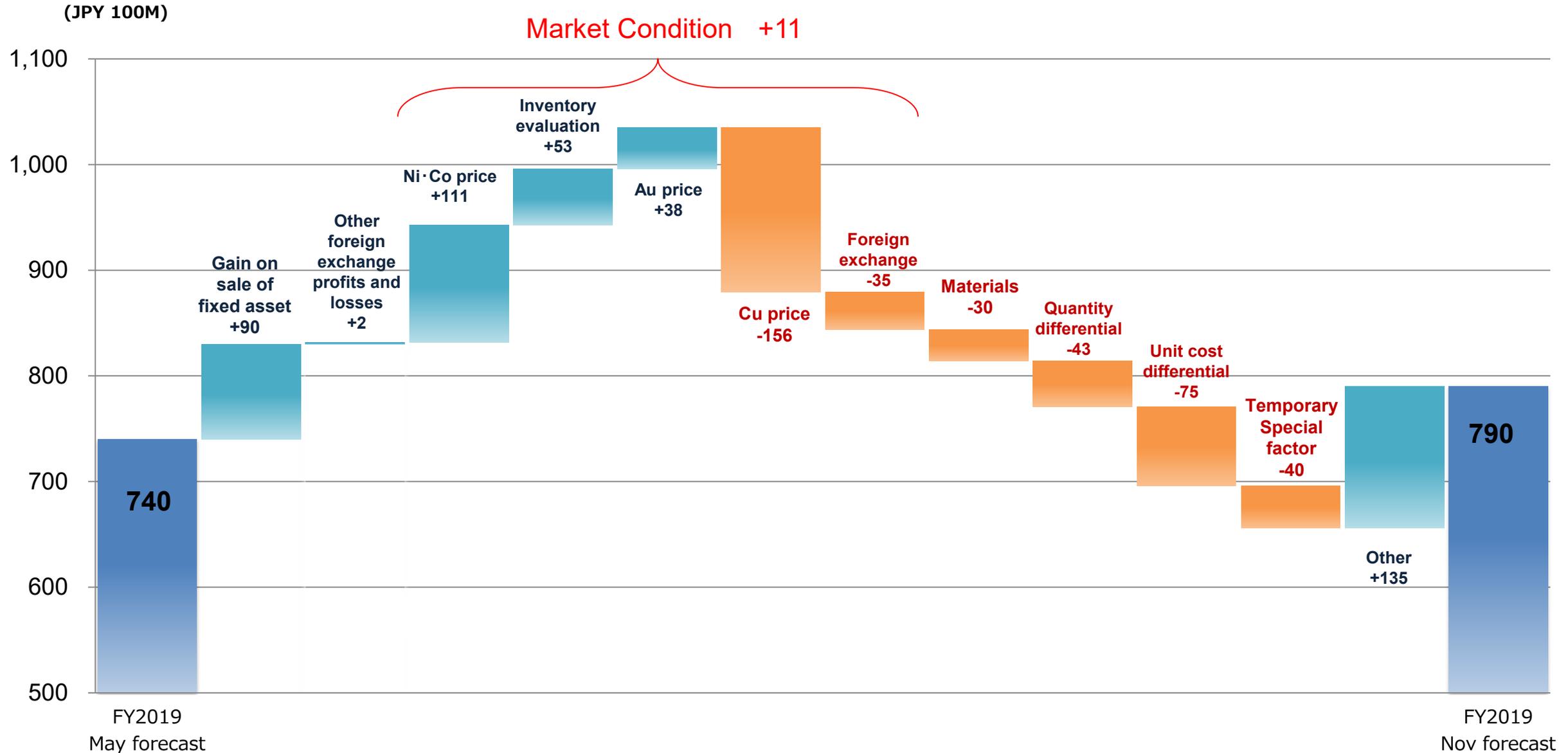
		Japanese standards [J-GAAP]					[IFRS]		
		2013	2014	2015	2016	2017	2017	2018	2019 forecast
Net sales		8,305	9,213	8,554	7,861	9,335	9,297	9,122	8,570
Operating Income		754	1,258	597	764	1,102	-	—	—
Recurring Profit		1,144	1,742	-128	-16	1,249	-	—	—
Profit before tax		1,110	1,233	6	-60	1,058	1,083	894	790
Equity Method profit		298	239	-732	-860	114	123	-49	65
Segment Profit	Mineral Resources	691	538	-443	-536	560	580	365	290
	Smelting & Refining	291	813	253	333	515	478	409	540
	Materials	111	129	60	121	153	71	138	70
	Other	16	-1	-8	-1	2	-74	-20	0
	Diff. Adjustment	35	263	10	67	19	28	2	-110
Net Income (Profit attributable to owners of parent)		803	911	-3	-185	916	902	668	600
Copper (\$/t)		7,104	6,554	5,215	5,154	6,444	6,444	6,341	5,828
Nickel (\$/lb)		6.51	7.62	4.71	4.56	5.06	5.06	5.85	6.91
Gold (\$/Toz)		1,327	1,248	1,150	1,258	1,285	1,285	1,263	1,459
Cobalt (\$/lb)		12.67	13.69	11.73	13.67	30.64	30.64	31.64	15.01
Exchange (¥/\$)		100.24	109.93	120.15	108.40	110.86	110.86	110.92	106.82

## 2) FY2019 1H Results and FY2019 Forecast

## November Forecast vs. May Forecast

		2019/1st half results (A)	2019/2nd half forecast (B)	FY2019 November forecast (C)	FY2019 May forecast (D)	Difference (C) - (D)
Net sales		4,224	4,346	8,570	8,680	-110
Gross Operating Profit		548	612	1,160	1,240	-80
Pretax Profit		364	426	790	740	+50
Equity Method profit		45	20	65	70	-5
Segment Profit	Mineral Resources	165	125	290	290	0
	Smelting & Refining	177	363	540	390	+150
	Materials	28	42	70	100	-30
	Other	1	-1	0	-30	+30
	Diff. Adjustment	-7	-103	-110	-10	-100
Net Income (Profit attributable to owners of parent)		294	306	600	640	-40
Copper (\$/t)		5,956	5,700	5,828	6,300	-472
Nickel (\$/lb)		6.32	7.50	6.91	6.00	+0.91
Gold (\$/Toz)		1,392	1,525	1,459	1,275	+184
Cobalt (\$/lb)		15.02	15.00	15.01	18.00	-2.99
Exchange (¥/\$)		108.63	105.00	106.82	110.00	-3.18

### 3) Analysis on Profit before Tax FY2019 November Forecast vs. May Forecast (+¥5bn)



## 4) By Segment ROA Results

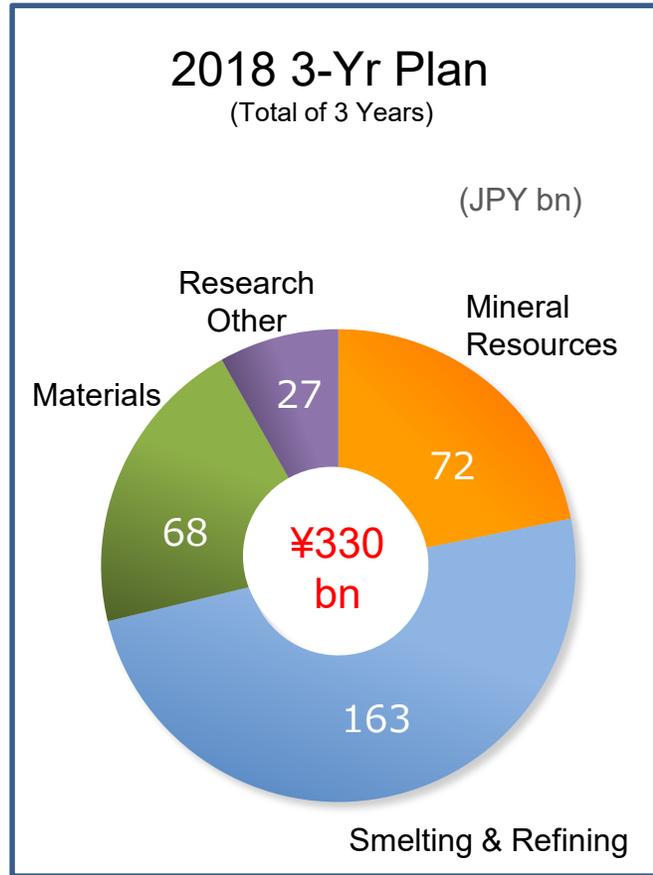
	Mineral Resources	Smelting & Refining	Materials	Overall
FY2014	14.3%	11.7%	7.8%	5.5%
FY2015	-12.3%	3.7%	3.2%	0.0%
FY2016	-13.7%	5.0%	6.1%	-1.1%
FY2017	11.9%	7.8%	6.9%	5.4%
FY2018	6.6%	6.0%	5.6%	3.8%
FY2019 Q2 Total	5.3%	5.2%	2.4%	3.3%

(Remark) ROA by segment is based recurring profit(loss) / profit before tax. ROA for the whole company is based on net income or loss.

Based on Japanese standards up to FY2017, based on IFRS from FY2018

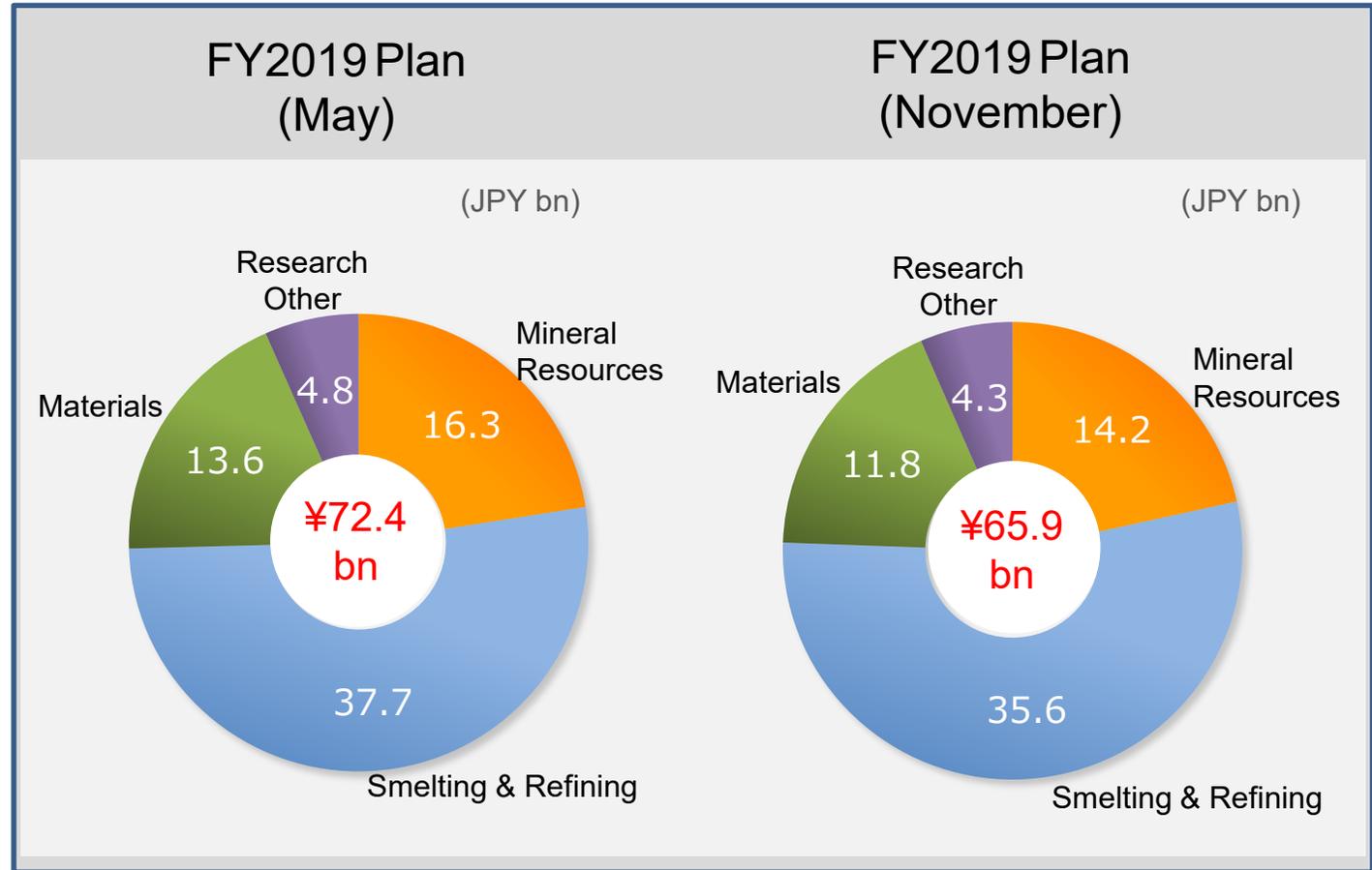
The cumulative total for Q2 of FY2019 is calculated by simply doubling profits during the period

# 5) Capital Expenditure FY2019 Plan November Plan vs. May Plan



Investment and financing

(QB II, other ¥160 bn)



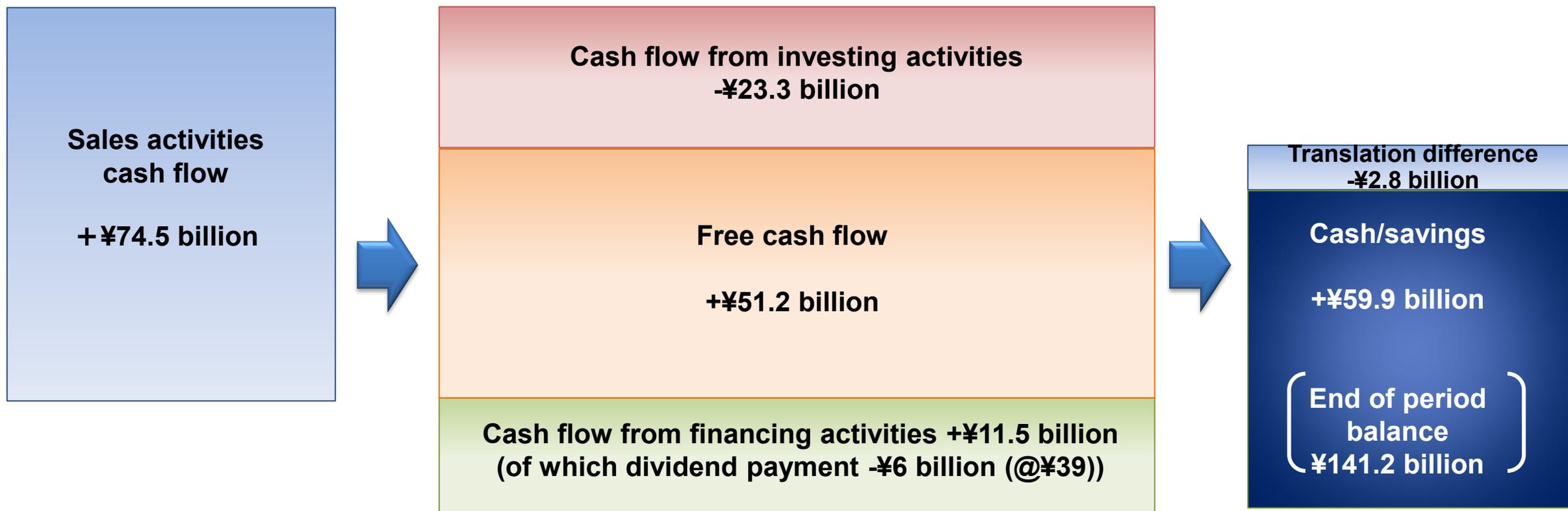
**FY2019 May forecast vs. November forecast: Main reason of -¥6.5 billion**

While mainly implemented as planned, a decrease is forecast due to a timing difference of acceptance inspection.

## 6) Cash Flow (Cash Use and Source)

**This period created ¥51.2 billion in free cash flow and has seen procurement of funding to compensate for the contribution to the Quebrada Blanca project, meaning the cash/reserve balance as of the end of the period increased by ¥59.9 billion**

(Note) As the approximately ¥33 billion paid out for QB2 at the end of September is handled as not yet paid due to differences in consolidated accounting periods, the cash and reserve balance for the end of this period is essentially an increase of approximately ¥27 billion.



## 7) Shareholder Return

### Dividend forecast

**FY2019**

<b>Intermediate dividend</b>	<b>¥39/share</b>
<b>Year-end dividend forecast</b>	<b>¥38/share</b>
<hr/>	
<b>Annual dividend forecast</b>	<b>¥77/share</b>

**Annual payout ratio (forecast) 35.3%**

2018 3-Year Plan:  
Annual dividend payout  
ratio of more than 35%

# III. Current Issues and Priority Measures



Summary



FY2019 Results Forecast



**Current Issues and Priority Measures**

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SMM Group's Vision for 2030



Supplementary Materials

# 1) Company-wide Issues (1) Improvement in Safety Performance

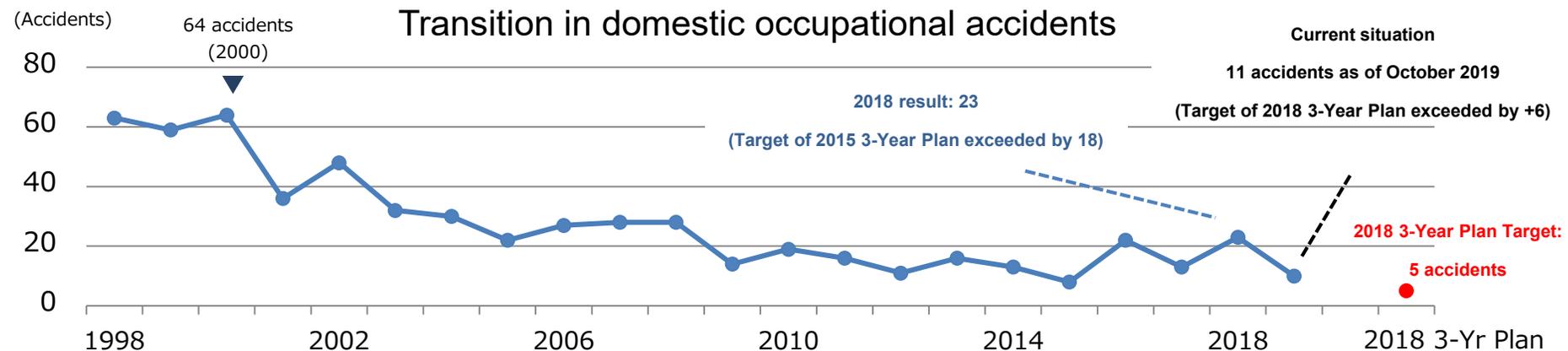
To achieve by FY2021

Workplace promoting activities while **clarifying issues for improvement to be focused on** and practicing the **PDCA cycle** in order to prevent serious accidents

Workplace where top management and supervisors **communicate with workers, grasp the actual condition of the site and improve facilities** based on the **Three Realities Principle**, and conduct work in a procedure that fully takes safety into consideration naturally

2018 3-Year Plan Targets

Maximum of **5 occupational accidents** involving employees in Japan  
Maximum of **3 occupational accidents** at overseas bases



# 1) Company-wide Issues (2) Strengthening of Management Base

## 2015 3-Year Plan

FY2016 Issuing of integrated report

FY2018 Early application of IFRS

## 2018 3-Year Plan

In order to face SMM's own unique problems, environmental and generational changes, and trends...

Approach proactively / break a mannerism / develop an open and vibrant organizational climate → **Be More Proactive**

To increase awareness of need to take action, realize the need for reform and improve agility by integrating corporate departments based on their function...

**FY2019 April 1 Reorganization of HQ as part of corporate function enhancement**

Corporate Communication Department, Corporate Management Department, Corporate Planning Department

Further concrete actions (example)

**October 1 Launch of "Smmart" Project**

An activity that focuses on finance and accounting related department in SMM group, using digital technology to efficiently realize a wide variety of working styles and bring about a company-wide reform movement

## 2) Current Issues and Priority Measures (1) Mineral Resources (1) Sierra Gorda

**Promote establishment of stable full operation and cost reduction through implementation of de-bottlenecking as planned, and improvement of operating ratio**

- Production FY2018 97 kt (result)  
FY2019 104 kt (May forecast) -> 108 kt (November forecast)
- Both ore processing volume and copper production volume continue to be close to the level of full production. Production increased compared to initial plan in FY2019 .
- Mineral ore processing volume after debottlenecking completion  
Present 110 kt/day → 130 kt/day in 2020



Given the FY2019 National Mining Society Award by the Sociedad Nacional de Minería (SONAMI)

## 2) Current Issues and Priority Measures (1) Mineral Resources (2) Overseas Copper Mines

**Continued stable production at main copper mines. Maintain 250,000 tonnes of copper attributable production.**

### Morenci Copper Mine (USA)

Production forecast to exceed plan due to robust cathode production

### Cerro Verde Copper Mine (Peru)

Production lower than plan due to changes in copper grade and mining sequence. Grade expected to recover somewhat in 2nd half.

### La Candelaria Copper Mine (Chile)

Ore supply increase from open pit to result in grade increase in 2nd half. Production volume forecast to be as planned.

(Morenci copper mine FY2019 operations)\*Equity interests (25%) base

(kt)	Q1 R	Q2 R	1H R	2H F	Year F (Nov)	Year F (May)
Production volume	26	29	55	55	110	100
Sales volume	24	29	53	56	109	101

(Cerro Verde copper mine FY2019 operations)\*Equity interests (16.8%) base

(kt)	Q1 R	Q2 R	1H R	2H F	Year F (Nov)	Year F (May)
Production volume	20	18	38	39	77	81
Sales volume	20	18	38	39	77	81

(Candelaria copper mine FY2019 operations)\*Equity interests (16%) base

(kt)	Q1 R	Q2 R	1H R	2H F	Year F (Nov)	Year F (May)
Production volume	4	4	8	11	19	19
Sales volume	4	4	8	11	19	19

**While QB is mostly on track, the start of construction for Cote is behind schedule**

### Quebrada Blanca2 PJ

#### Project Outlook

Equity interest ratio: Teck 60%, SMM 25%,  
Sumitomo Corporation 5%, Others 10%

Planned investment amount: USD\$4.7 bn (project 100% base)

Avg production volume: 240kt /year

Planned start of production: 2021

Location: 165 km southeast of Iquique City, capital of Chile's  
Region I

- **Progressing mainly as planned**
- **The project-related costs below have been paid out**
  - Cost relating to acquisition of interest USD\$800m\*1**
  - Amount corresponding to interest from paid capex USD\$400m\*2**

\*1 Total payment by Sumitomo Corporation and SMM

\*2 However, the USD\$400m is an outgoing in consolidated accounts for Q3

### Côte Gold Project

#### Project Outlook

Equity interest ratio: IAMGOLD 64.75%, SMM 27.75%,  
Other 7.5%

Acquired income: USD\$195m (around ¥21.5bn)

Mine life: 16 years

Planned total production volume: Gold 182 t

Planned start of production: 2021

Location: Ontario, Canada

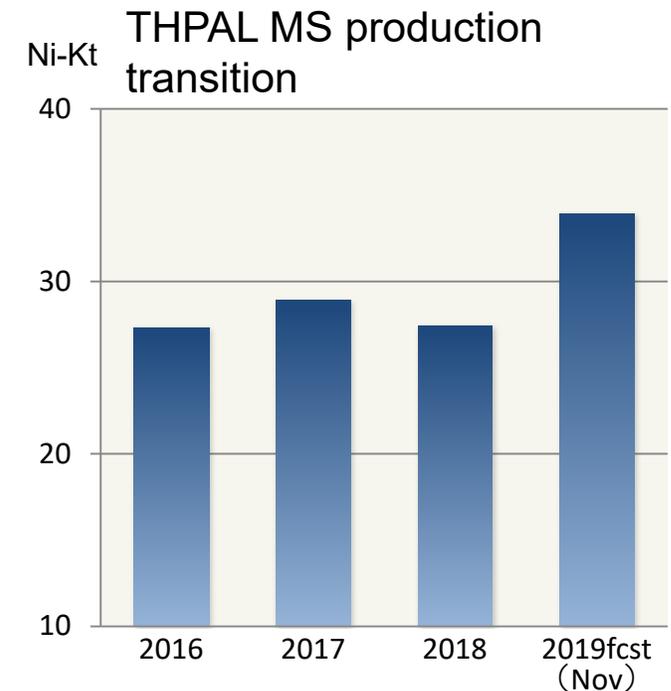
- **Preparations are underway, but the start of operation may be delayed due to delayed start of construction**

**Due to facility inspection/improvements in regular operation interruptions and implementation of regular preventive maintenance (in March), no significant facility trouble in 1st half of FY2019, great improvement in comparison with previous year.**

THPAL MS production (FY2019)

November forecast		33.9	May forecast	Difference	FY2018 Results	Difference
1H R	15.9		33.9	36.0	-2.1	27.4
2H F	18.0					

- However, due to mineral ore composition (decreased Ni grade, lower sedimentation properties) and the impact of small-scale problems, the target in the plan for the fiscal year is forecast to be narrowly missed



- DFS progressing as planned. Continue discussions with partner (PT Vale Indonesia).

With long-term vision production structure of nickel 150kt /year, it is regarded as the **third HPAL plant** following CBNC and THPAL in the Philippines.

From April 2018: Started DFS (Definitive Feasibility Study)

Expect to complete DFS in FY2019 → Decide on investment

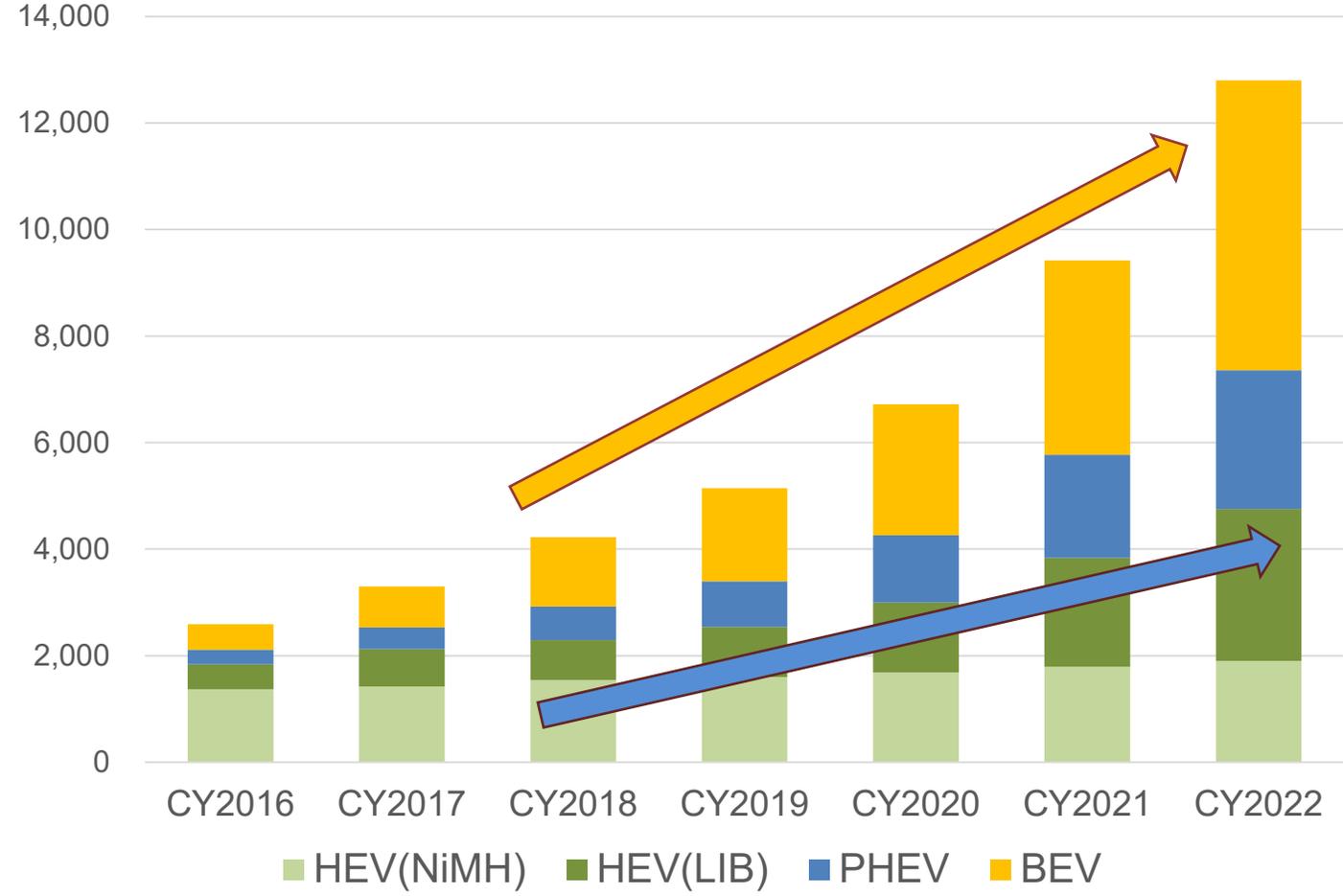
**If decide to participate**

- Production: 40kt-Ni of mixed sulfides (roughly)
- Investment: Several billion US\$ (Project 100% base)
- Operation to start in the mid-2020s (target)



### Forecast for Automobile Market

(thousand unit/year)



### Electric Vehicle Market

Big growth expected to continue

↔ Uncertainty on subsidy policy in each country

### Hybrid Vehicle /

### Plug-in Hybrid Electric Vehicle

HEVs with Li-ion battery expected to increase largely

Market growth of PHEVs also expected



Respond demands of automobile/battery makers

Produce and sell battery materials meeting characteristic requested

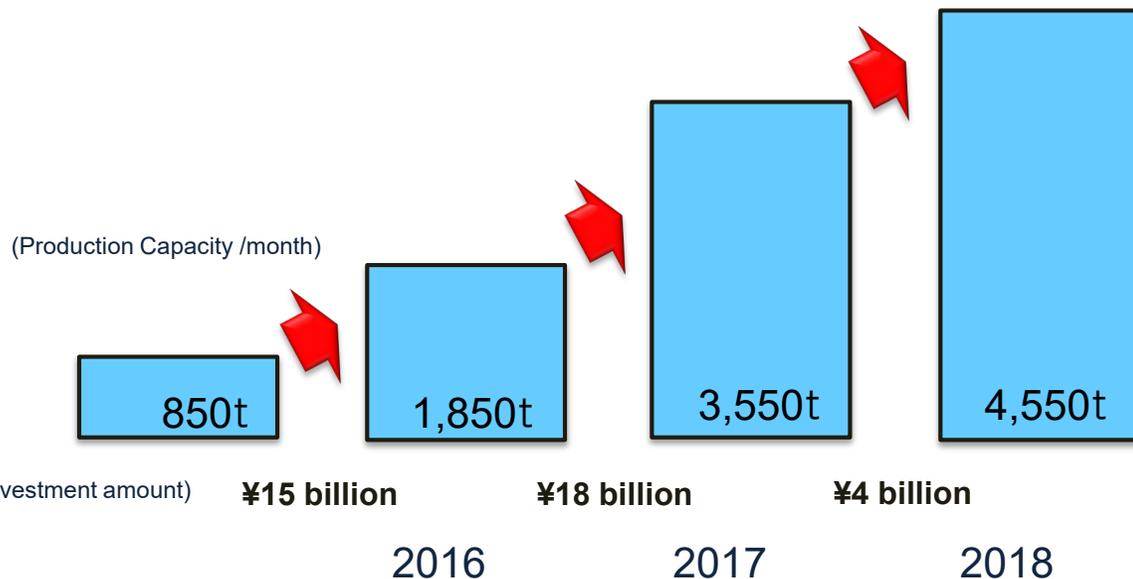
(source : B3 report 19-20 /May 2019)

Reached a scale with a significant market presence through repeated investment in expansion

Developed to a scale to form an axis to three core business integration

Continue to respond flexibly to the market and customer trends while continuing full production

**Changes in cathode material (NCA) production capacity expansion**



**2018 3-Year Plan  
Battery-related  
investment amount  
¥35 billion**

Aim to establish 10,000 tonnes/month in total production structure of cathode materials (NCA, NMC, nickel hydroxide) during the term of 2024 3-Year Plan

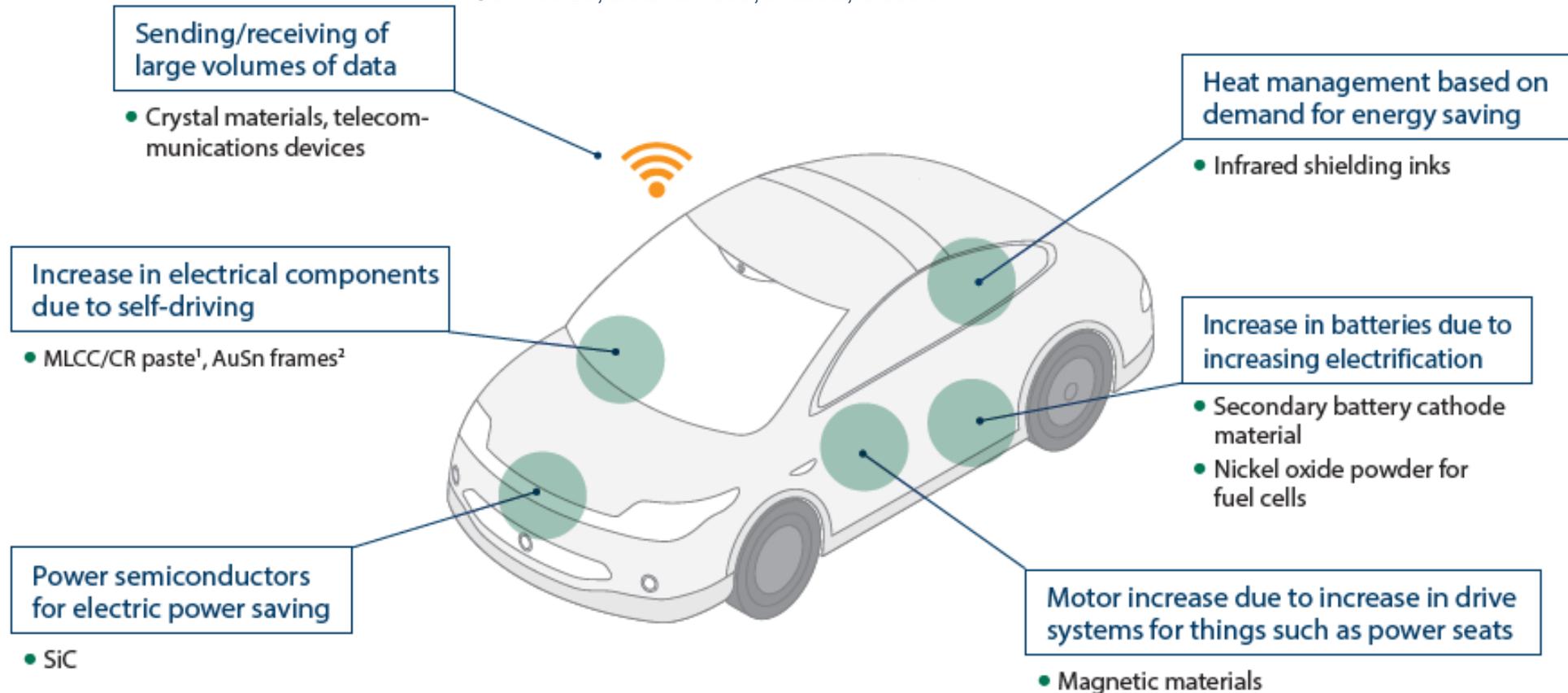


## Continuous creation of new products and update of business portfolio

Continuously create new products in the domain of energy, the environment, and information/communication

### CASE<sup>\*</sup> progress ► materials business opportunity expansion

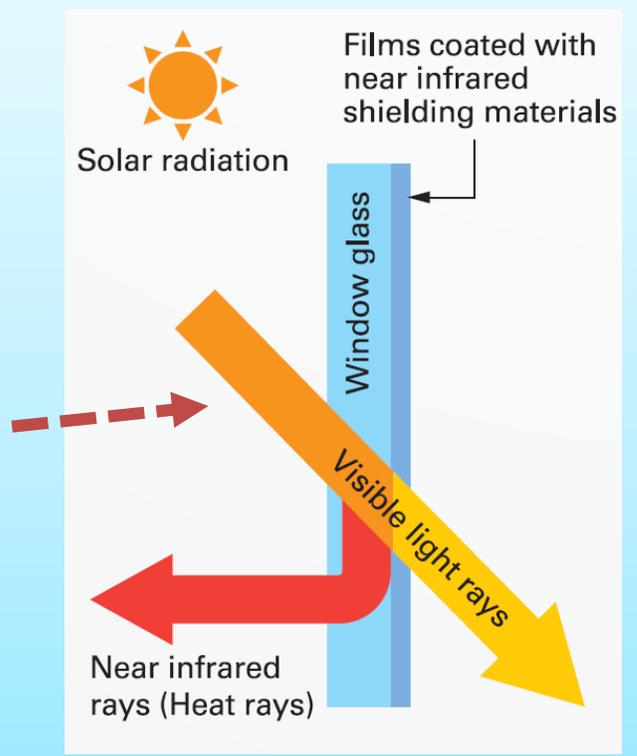
\*Connected, autonomous, shared, electric



## How the functional inks (near-infrared shielding material) work

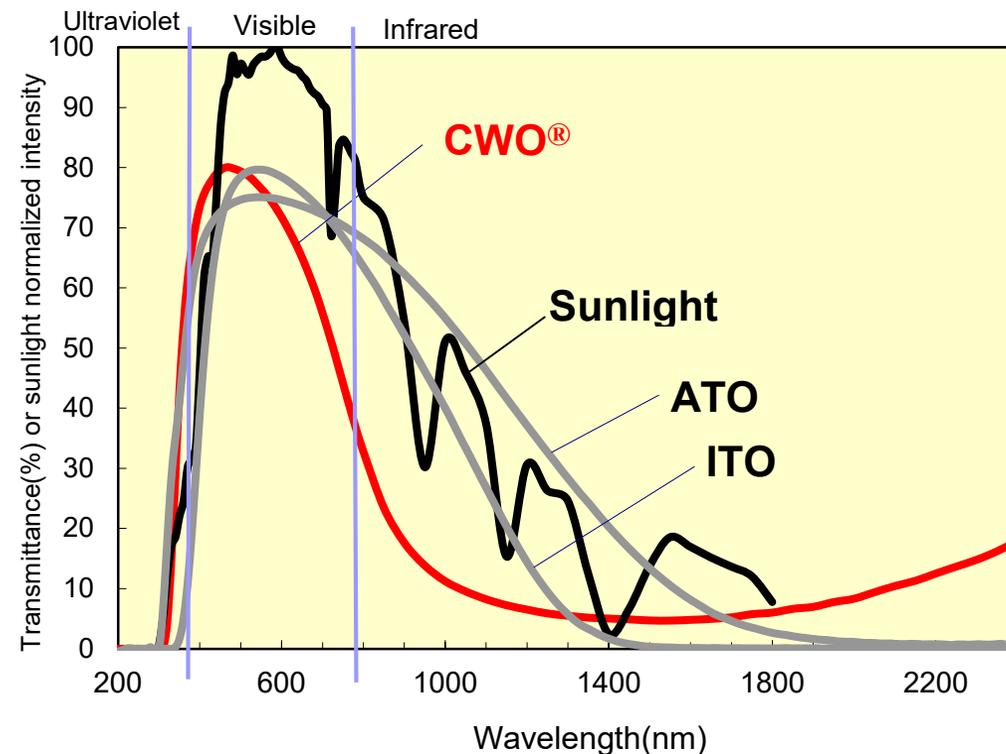
Infrared rays consist 46% of solar radiation (mostly near infrared rays)

Unblock rights but block heat



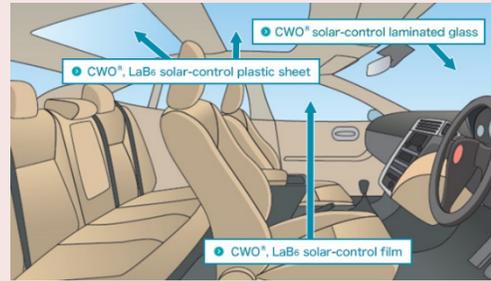
Keep the base material's high transparency but gives a high heat shielding capability

## Transmission profiles of near-infrared shielding nanoparticles and a spectrum of sun light



Acquired or registered more than 150 patents world-wide for near infrared shielding material such as **CWO®(cesium tungsten oxide)** for components or production method relating the material.

Use expansion



● Automobiles, insulation in construction use  
**Current main uses**



● Cladding for agricultural use



● Solar panels

Photoelectric conversion

Sunlight shielding

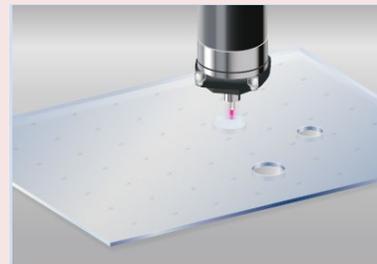
Ink

Light quality conversion

Photothermal conversion



● Light sensors



● Exothermic agent for resin processing



● Exothermic agent for digital printing



● Exothermic fiber

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Connect societies needs with the various functions of our ink material, and develop new markets

# IV. Where We Want to be by 2030



Summary



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SMM Group's Vision for 2030



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# About SMM Group's Vision for 2030

Publication: Early March 2020 (planned)

Publication method: Explanatory session by the president in addition to  
a press release

**Full model change for the goal for 2020**

**Sustainable growth through CSR in our main business and  
maximization of corporate value**



**Environment**  
**Social**  
**Governance**

# V. Supplementary Materials



Summary



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SMM Group's Vision for 2030



Supplementary Materials

# 1) Demand Trends (Copper/Nickel)

## Copper

[ICSG Forecast October 2019]

(kt)

	2017	2018	2019 (forecast)
Production	23,498	24,098	24,250
Usage	23,759	24,502	24,570
Balance	-261	-404	-320

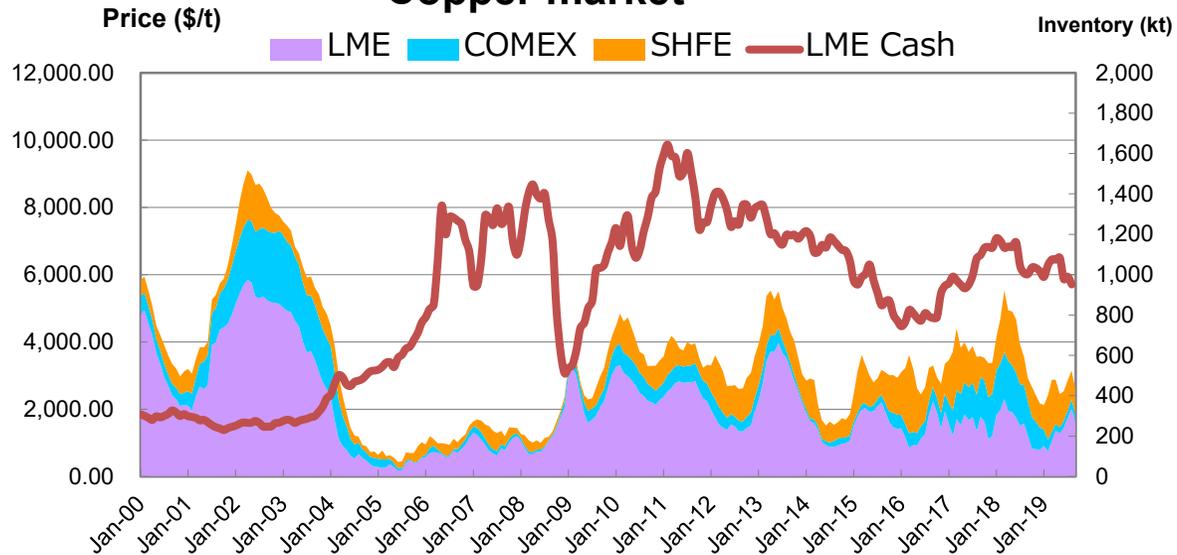
## Nickel

(kt)

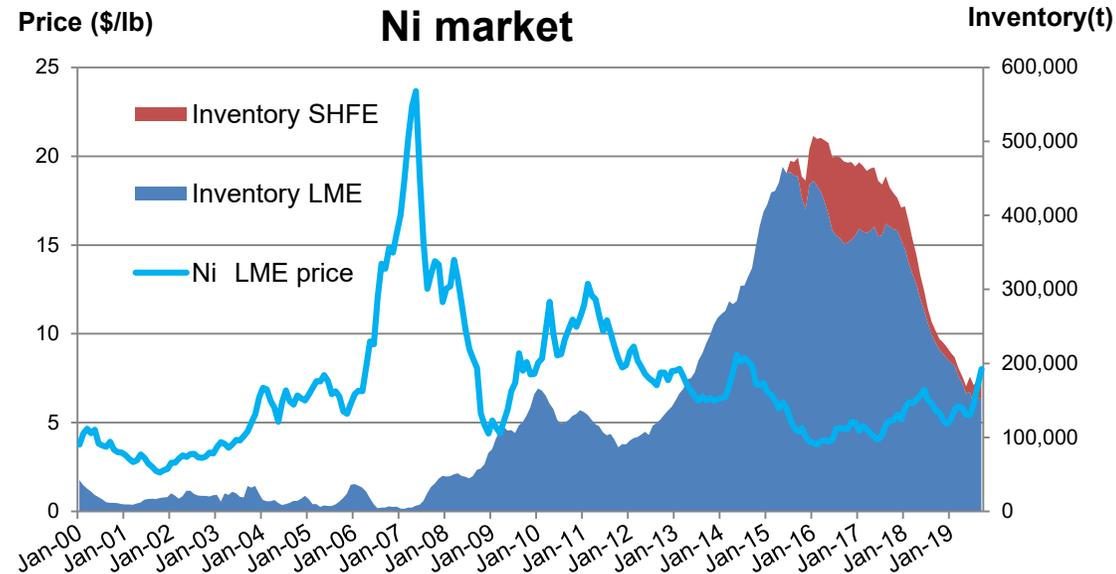
	ICSG forecast October 2019			SMM forecast August 2019		
	2017	2018	2019 (forecast)	2017	2018	2019 (forecast)
Production	2,041	2,182	2,370	2,044	2,161	2,340
Usage	2,184	2,328	2,449	2,142	2,271	2,375
Balance	-143	-146	-79	-98	-110	-35

# 2) Metal Price / Foreign Exchange

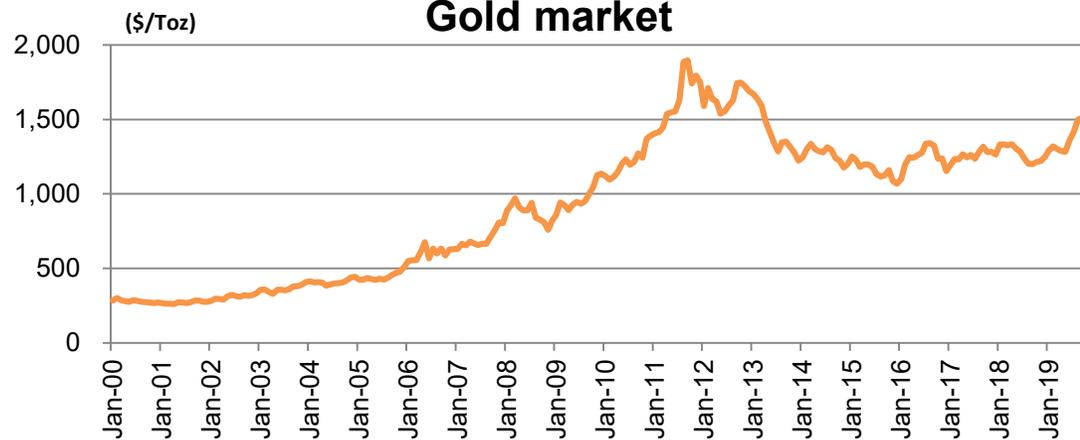
## Copper market



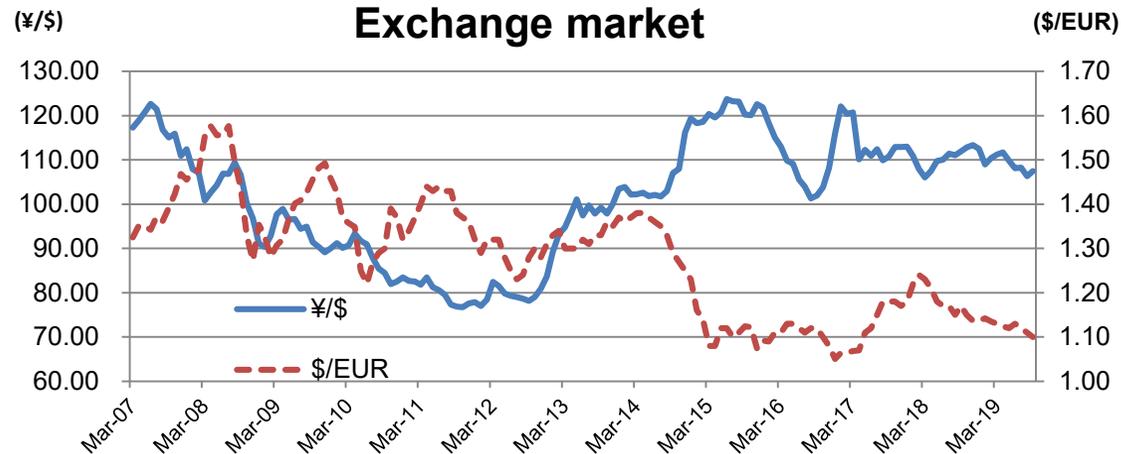
## Ni market



## Gold market



## Exchange market

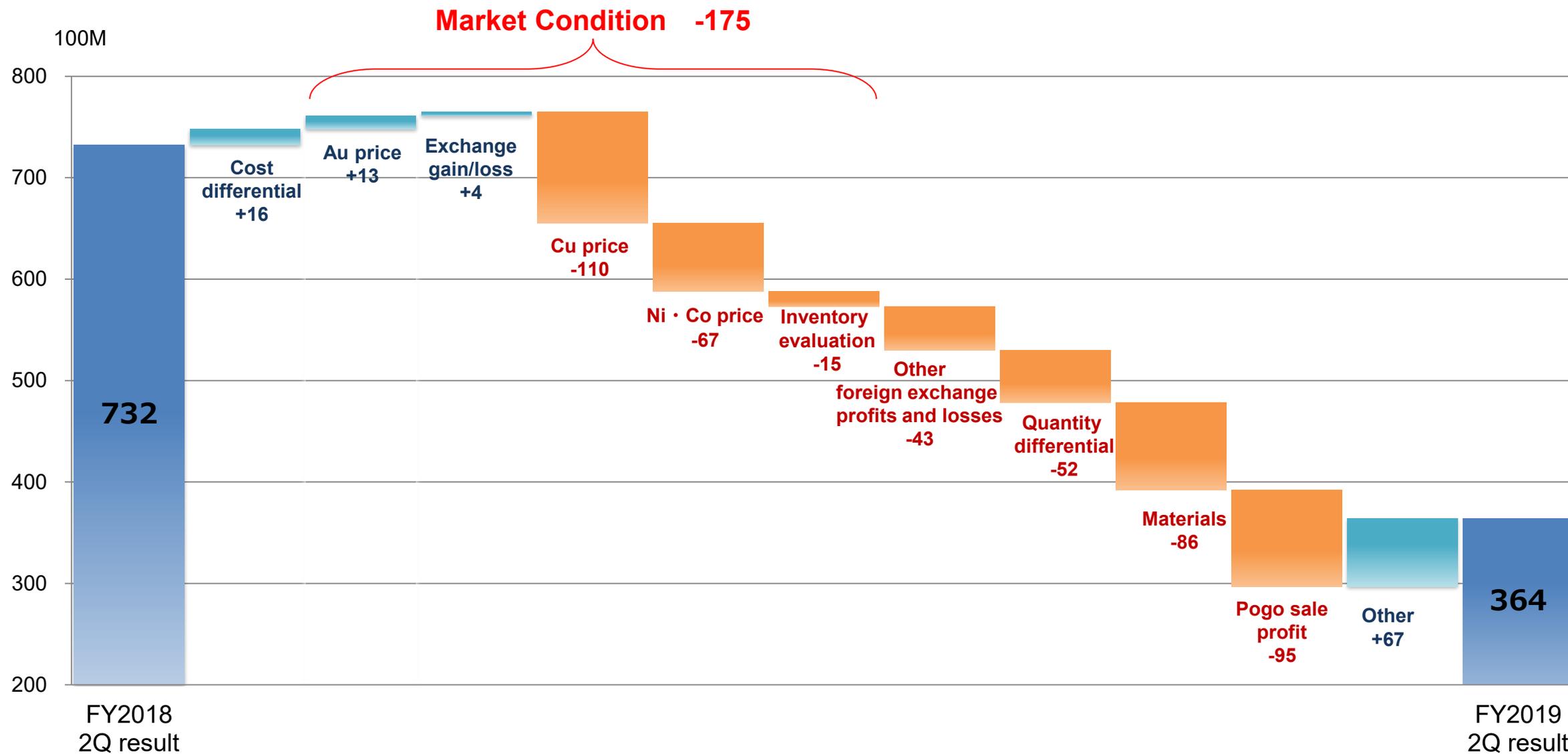


### 3) FY2019 1H Financial Results Year-on-year

(JPY 100M)

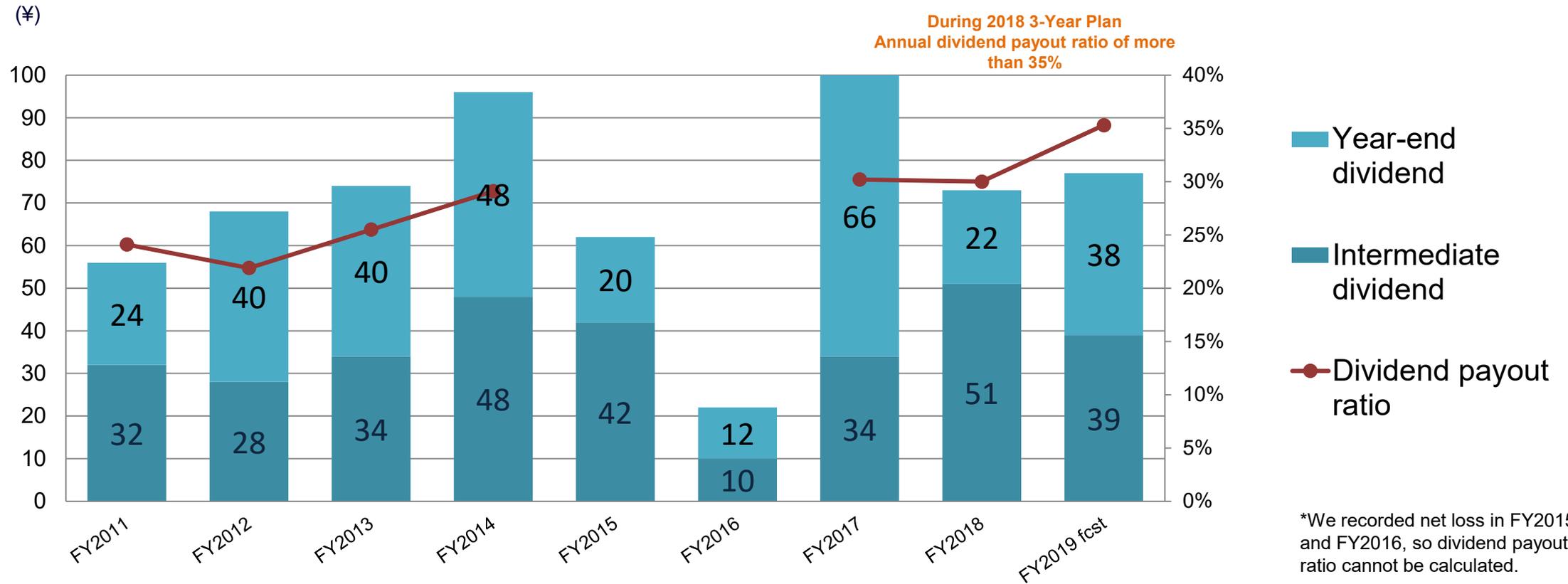
		2019/1H (A) [IFRS]	2018/1H (B) [IFRS]	Difference (A)–(B)
Net sales		4,224	4,667	-443
Gross Operating Profit		548	727	-179
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Equity Method profit		45	77	-32
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Nickel (\$/lb)		6.32	6.28	+0.04
Gold (\$/Toz)		1,392	1,260	+132
Cobalt (\$/lb)		15.02	38.55	-23.53
Exchange (¥/\$)		108.63	110.28	-1.65

# 4) Analysis on Profit before Tax FY2019 Q2 Results vs FY2018 Q2 Results ( -¥36.8bn)



# 5) Dividend Trend

## Dividend Transition



(Note) Due to stock consolidation (ratio 2:1) as of October 1, 2017, the dividend per share before that date is calculated and presented based on the standard after stock consolidation.

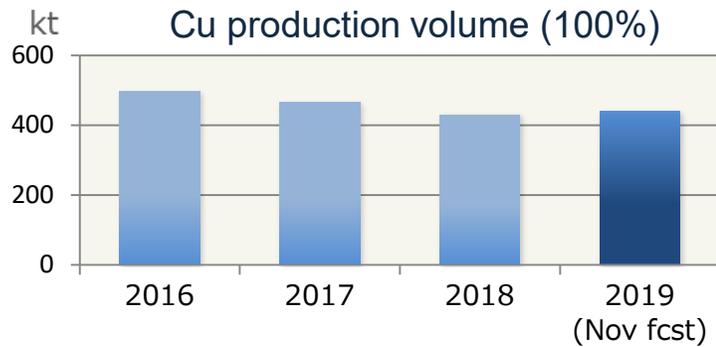
# 6) Overview of Individual Businesses Mineral Resources: (1) Copper (Morenci/Cerro Verde/Candelaria)

## Morenci Copper Mine (USA)

Equity interest ratio	FCX	72%
	SMM	25%
	Sumitomo Corp.	3%



· Production volume FY2018 430 kt (result)  
FY2019 440 (November forecast)

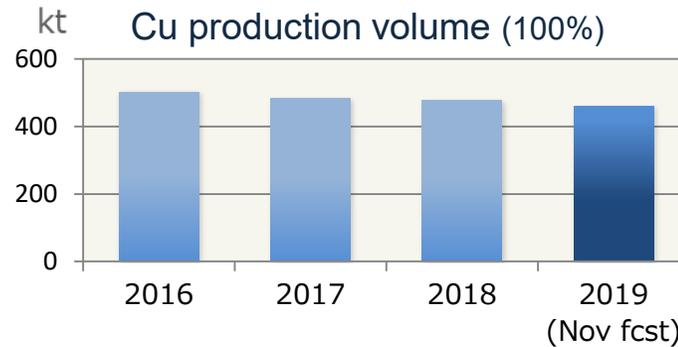


## Cerro Verde Copper Mine (Peru)

Equity interest ratio	FCX	53.56%
	SMM	16.80%
	Sumitomo Corp.	4.20%
	Other	25.44%



· Production volume FY2018 476 kt (result)  
FY2019 460 kt (November forecast)

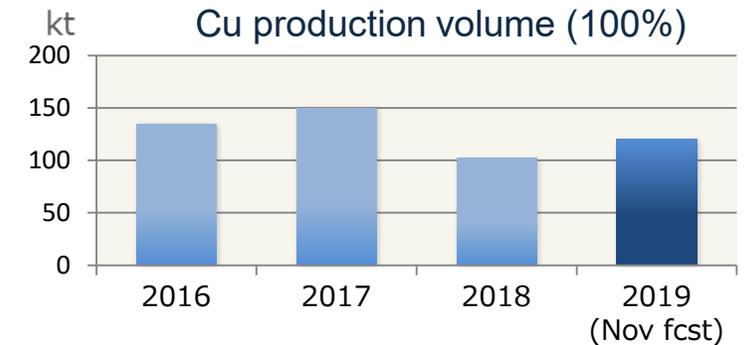


## Candelaria Copper Mine (Peru)

Equity interest ratio	Lundin	80%
	SMM	16%
	Sumitomo Corp.	4%



· Production volume FY2018 102 kt (result)  
FY2019 120 kt (November forecast)



Continue stable production with a long-term operation plan

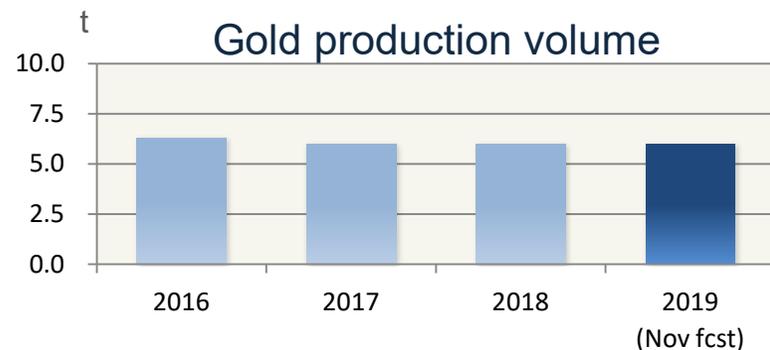
## 6) Overview of Individual Businesses Mineral Resources: (2) Gold (Hishikari / Côté)

### Hishikari Mine (Kagoshima Prefecture, Japan)

Equity interest ratio SMM 100%



- Lower ore body development Continue with safety first
- Gold reserves End of 2018 167t (JIS standards )
- Gold production FY2019 6.0t (November forecast)



### Côté Gold Project (Canada)

Equity interest ratio  
 IAMGOLD 64.75%  
 SMM 27.75%  
 Other 7.50%

- F/S completion in November 2018
- Detailed design in progress

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

Location : Ontario, Canada  
 CAPEX: US\$ 1,147M

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

Continue stable operation at Hishikari Mine, and undertake proactive exploration towards extending mine life  
 Make maximum effort towards start of production in 2021 in the Côté gold mine project

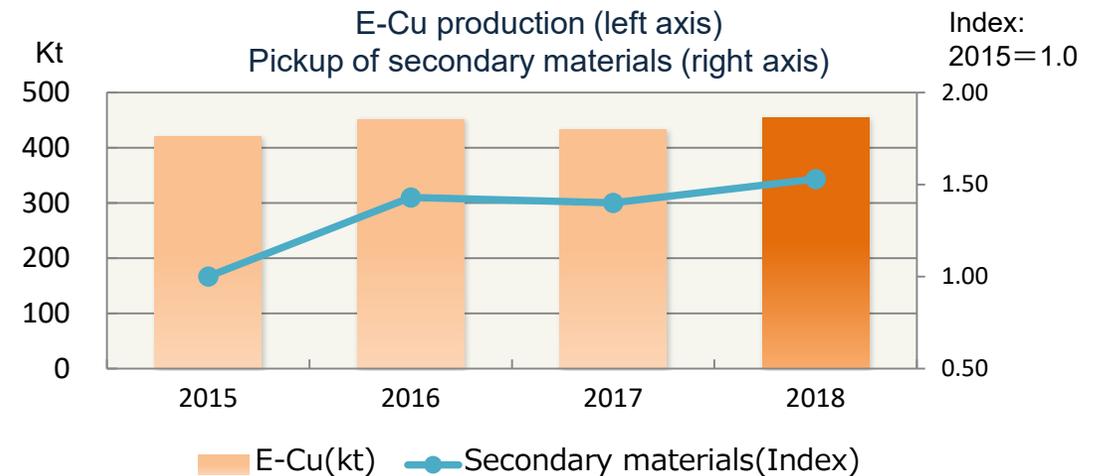
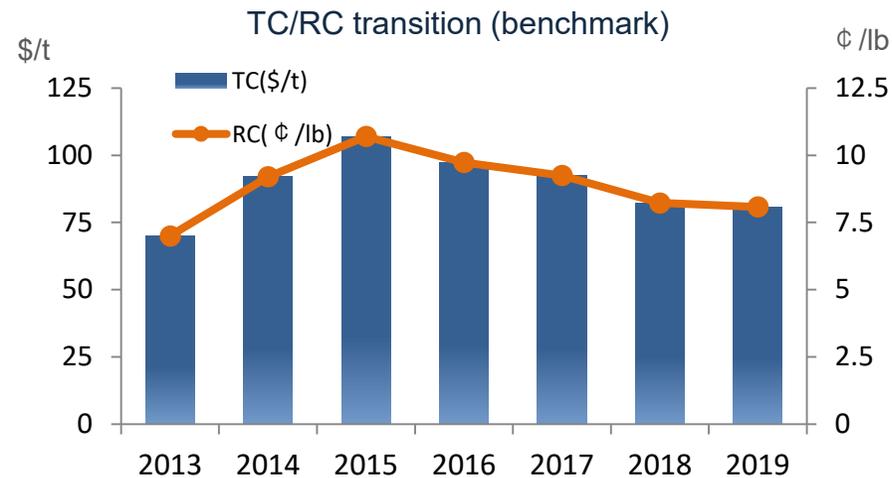
## Toyo Smelter & Refinery

### Production volume

FY2018 454 kt (result)

FY2019 400 kt (November forecast)

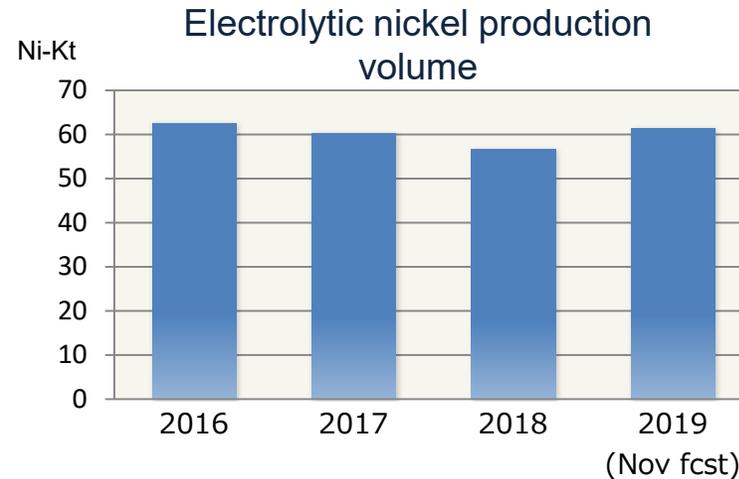
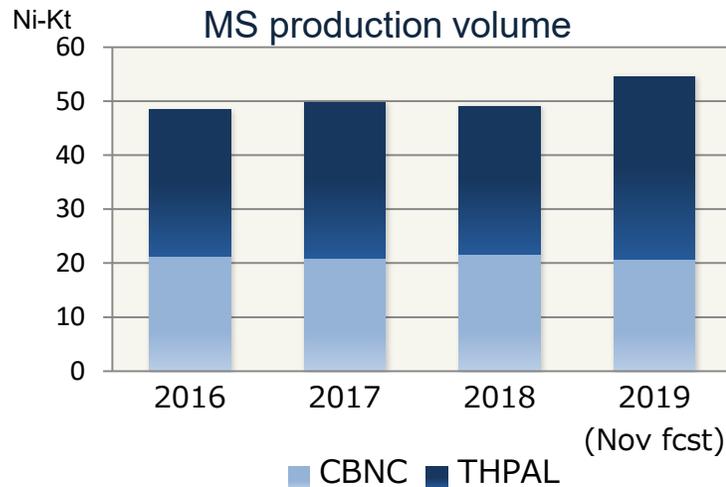
Regular maintenance (twice a year) planned for a month from late October



## CBNC, THPAL, Niihama Nickel Refinery

Production volume (FY2018 result, FY2019 plan)

Unit Ni-kt	FY2018 Result		FY2019 (May plan)	Difference	FY2019 (November forecast)		Difference (vs May)
	1H R	2H R			1H R	2H F	
CBNC	1H R	10.6	21.7	-0.2	1H R	10.0	-0.8
	2H R	11.1			2H F	10.7	
THPAL	1H R	12.9	27.4	8.6	1H R	15.9	-2.1
	2H R	14.5			2H F	18.0	
Nickel Refinery	1H R	28.2	56.7	5.9	1H R	29.0	-1.2
	2H R	28.5			2H F	32.4	



### Maximizing byproduct recovery at HPAL

Scandium oxide:

Commercial production started from January 2019

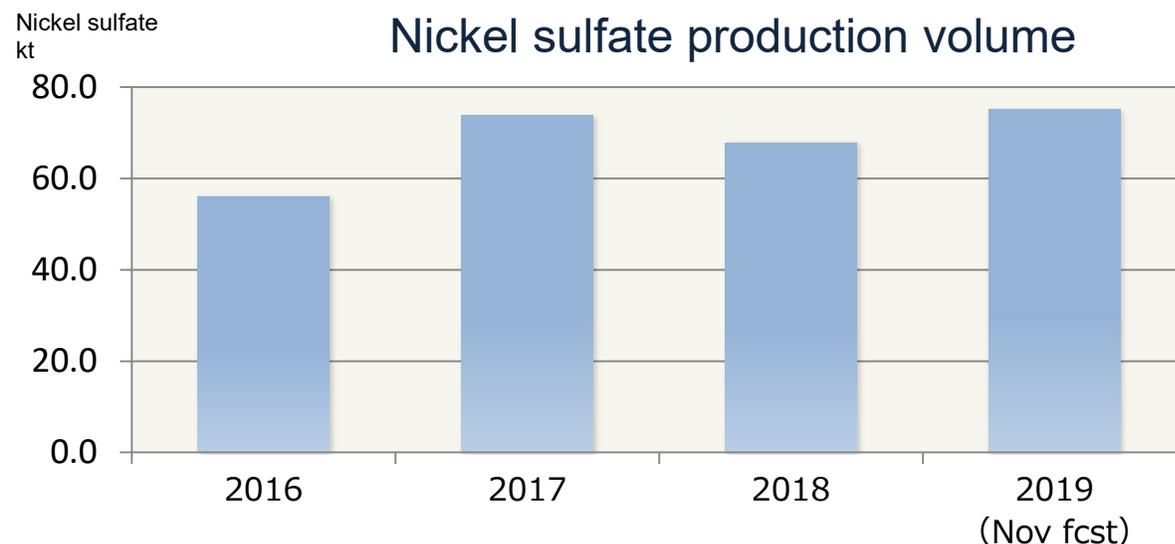
Chromite:

Aim to start commercial production in 2020

## 6) Overview of Individual Businesses Smelting & Refining: (3) Nickel Sulfate

### Niihama Nickel Refinery & Harima Refinery

- Total production volume of 75 kt for FY2019 from Niihama Nickel Refinery and Harima Refinery



In order to meet strong demand for battery material (cathode material), maximize production and shipping of nickel sulfate of both Niihama Nickel Refinery and Harima Refinery

# 6) Overview of Individual Businesses Smelting & Refining: (4) Ferronickel

## Hyuga Smelting Co., Ltd.

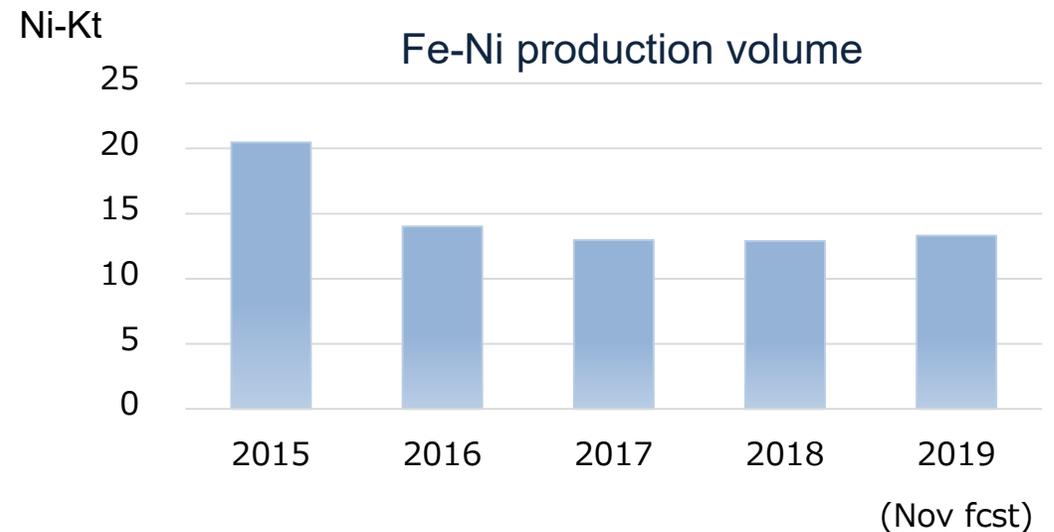
### Production volume

FY2018 12.9Ni-Kt (result)

FY2019 13.6Ni-Kt (Nov. forecast)

Maximize production volume under the structure of 2 kilns, 1 electric furnace setup

Strive for cost reduction through stable production and efficient operation, and secure profits



# 6) Overview of Individual Businesses Materials Segment

## Battery materials

1st Half: Both NCA and nickel hydroxide robust due to electrification of automobiles  
 2nd Half: Continued full operation to meet voracious demand

## Powder materials

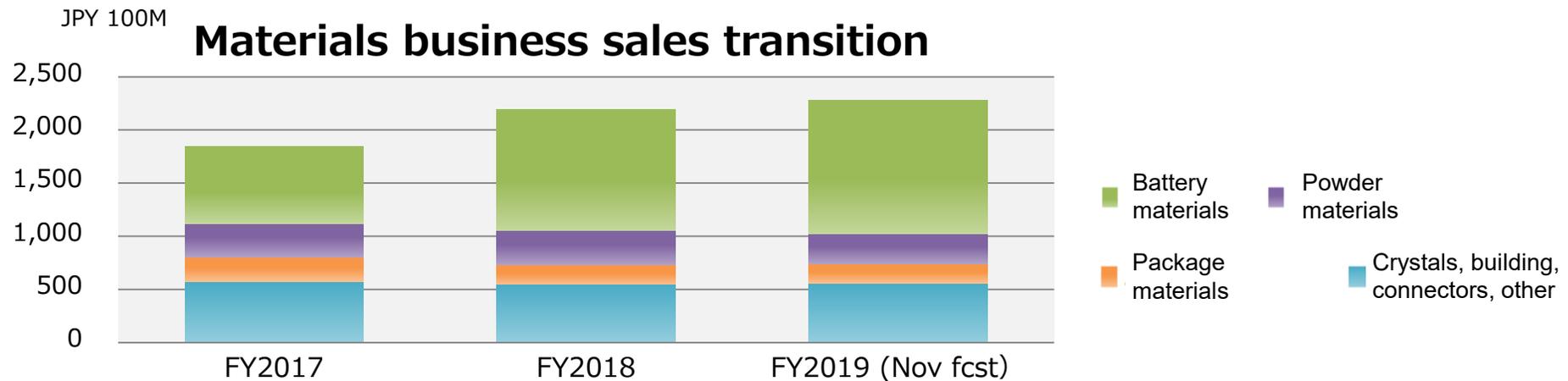
1st Half: Continued adjustment, continued slump  
 2nd Half: Inventory adjustment will continue until year's end and we will start on the road to recovery from the new year, but full recovery is expected to be achieved some time from next year onward

## Package materials

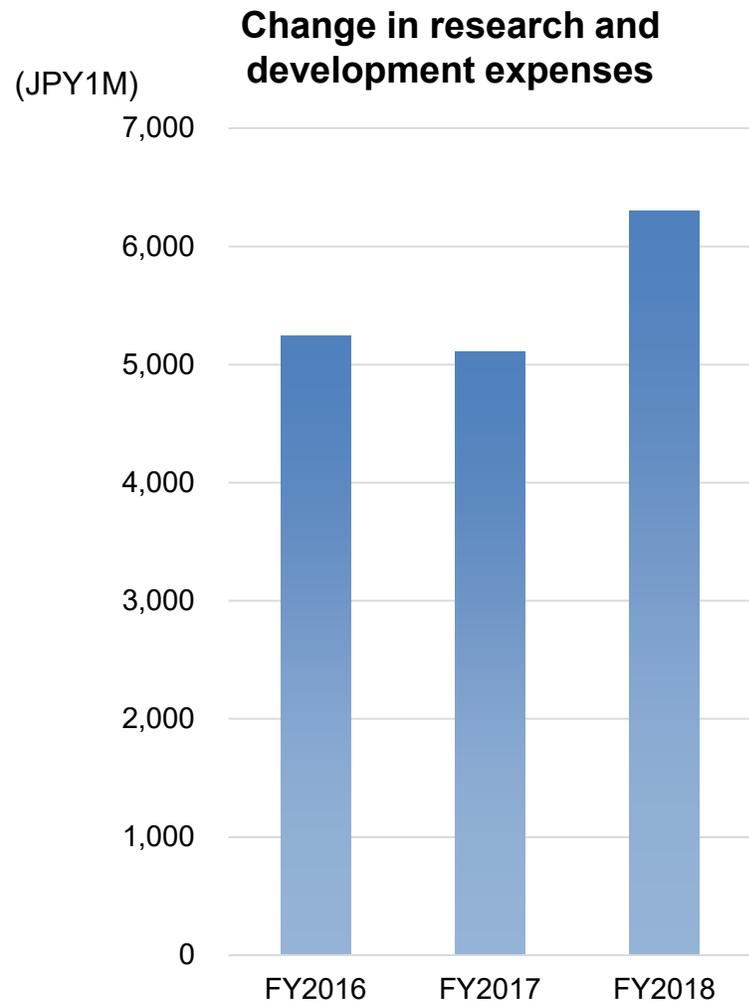
1st Half: While there are signs of inventory adjustment for TV panels, package materials for smartphones is progressing robustly  
 2nd Half: True inventory adjustment for TV panels, package materials for smartphones is to continue robustly

## Crystal materials

1st Half: Sluggish demand due to continued global sluggishness in smartphone market  
 2nd Half: While demand slump continues, signs of recovery present (true recovery expected in 2020 with introduction and spread of 5G)



# 6) Research & Development (1) Results



## Material Business (material development)

### [Battery materials]

- Research & development of higher performance battery cathode materials
- Customizing for solid electrolyte

### [Crystal materials]

- Cost reduction ahead of commodification  
Achievement of improved productivity through crystal lengthening, larger bore, and improved crystal growing/production yield, etc.
- Meeting new user needs  
Large bore LT crystal growth technology established, now in user work

## Smelting & Refining Business (process development)

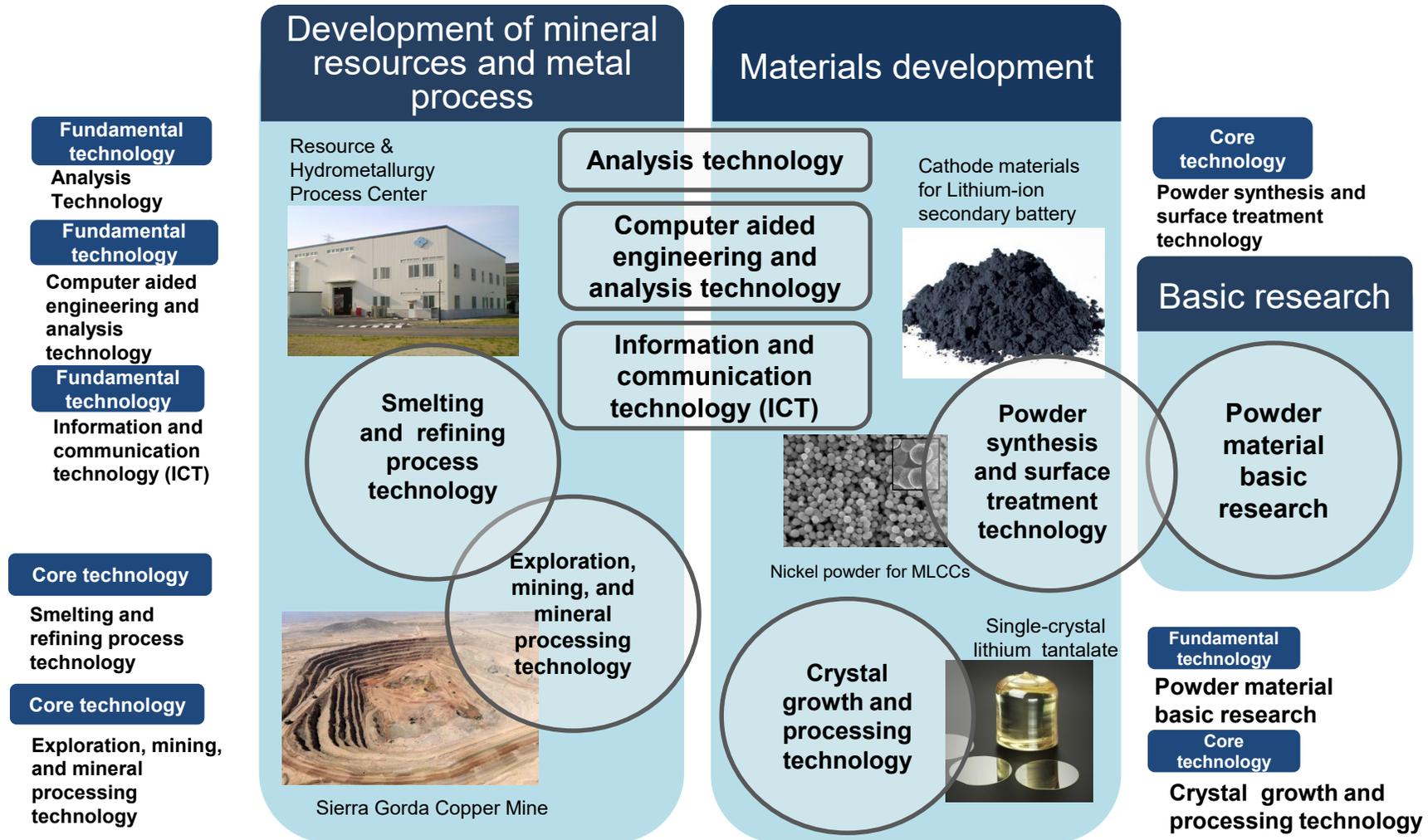
### [Securing raw material for batteries (Ni/Co)]

- Internal low cost chemical product manufacturing process established specialized in battery raw material
- New process to enable new Ni/Co raw material utilization, and enhance ability to handle raw materials

### [Lithium ion battery recycling]

- Develop cobalt recovery process which was the subject of recycling, transition to pilot test

# 6) Research & Development (2) Region/Field



Concentration on growth strategy fields, search for "seeds" of next-generation business

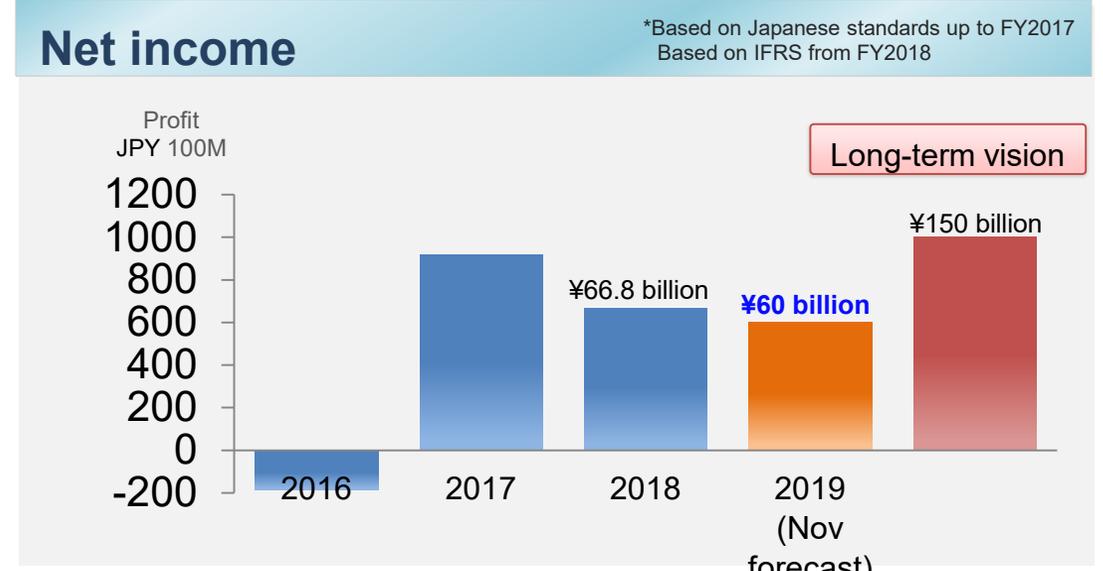
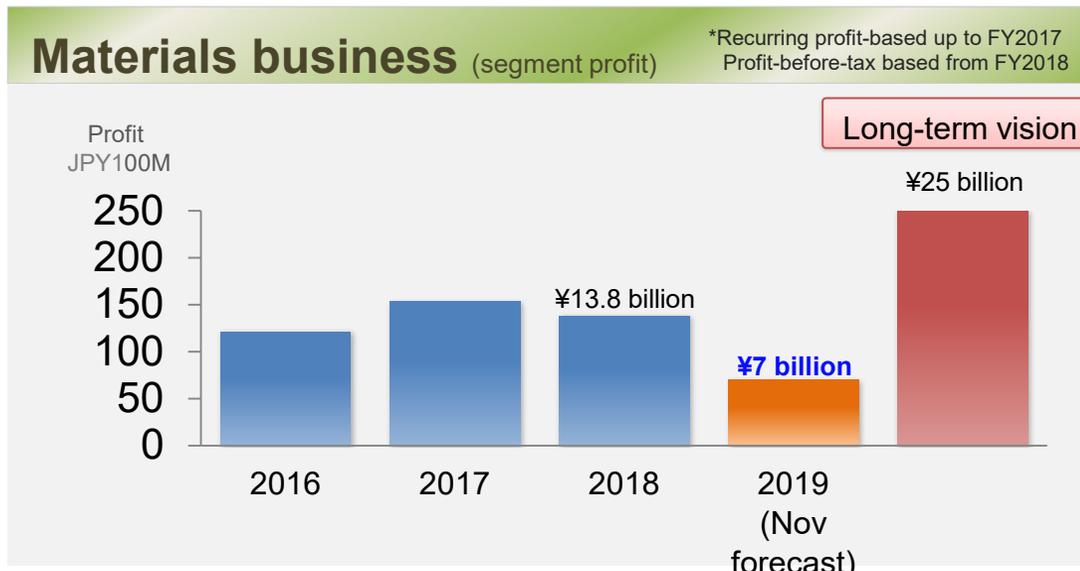
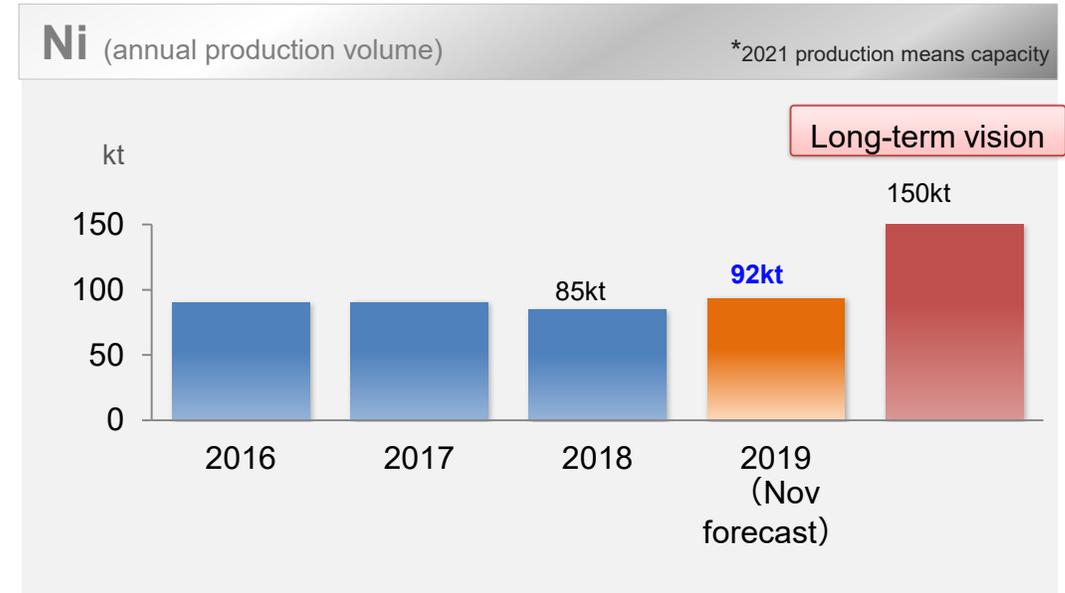
## 7) Sensitivity Trial Calculation

(JPY 100M)

Element	Degree of variation	FY2019 Pretax profit
Cu	± 100\$/t	27
Ni	± 10 ¢ /lb	16
Au	± 10\$/toz	2
¥/\$	± 1¥/\$	11

(Remark) ¥/\$ translation includes RC-related and Conversion rate of overseas consolidated / equity-method affiliate companies' profit.

# 8) 2018 3-Yr Plan Targets and Status of Achievement of Long-Term Vision



# Note

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