NORNICKEL

1H 2019 Financial Results Presentation

August 20, 2019

Moscow

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1H 2019 Financial Performance Highlights

Consolidated Revenue

$6.3bn

up 8% vs 1H2018

- (+) Production volume: Ni, Cu, Pd, Pt
- (+) Realized Pd price
- (−) Ni, Cu, Pt realized prices

CAPEX

$0.5bn

down 7% vs 1H2018

- ✓ Completion of Bystrinsky Project (Chita) and a number of mining projects in the Polar division
- ✓ Optimization of investment schedules
- ✓ Depreciation of RUB against USD

EBITDA

$3.7bn

up 21% vs 1H2018

- (+) Metal revenue
- (+) Depreciation of RUB against USD
- (+) Ramp up of Bystrinsky Project (Chita)
- (−) Domestic inflation

Free Cash Flow

$2.2bn

down 15% vs 1H2018

- (+) EBITDA increase
- (−) Increase of working capital
- (−) Higher income tax payments on higher taxable income

EBITDA margin

59%

up 6 p.p. vs 1H2018

- ✓ **Leading positon among global diversified mining majors**

Net Debt/EBITDA ratio

0.8x

- ✓ **Below mid-cycle level**
- ✓ Investment grade credit ratings from all three major international rating agencies confirmed

Net Working Capital

$1.3bn

+$0.4bn vs. Dec'31

- ✓ Temporary increase is driven by amortization of cash advances from customers

Dividends

$2.0bn

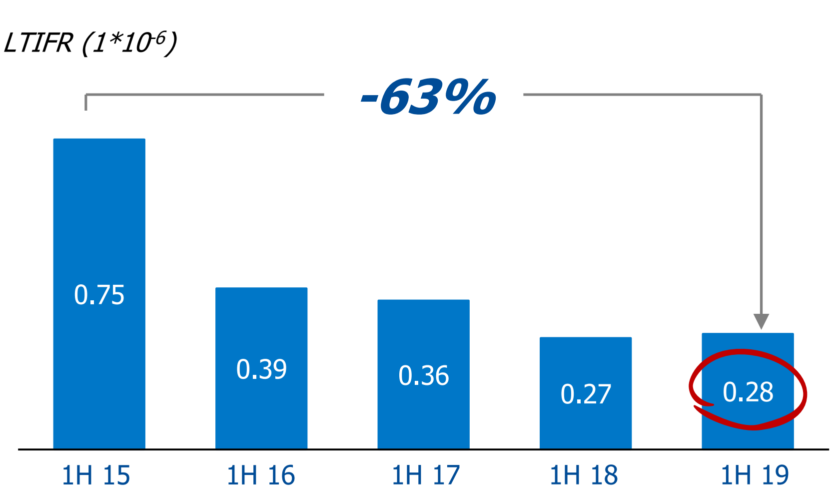
Final dividend for 2018

- ✓ Final dividend for 2018 in the amount of USD 12.56 per share[(1)] paid in July 2019
- ✓ The BoD recommended interim 1H 2019 dividend in the amount of USD 13.27 per share

Note 1. At the exchange rate as of July 01, 2019

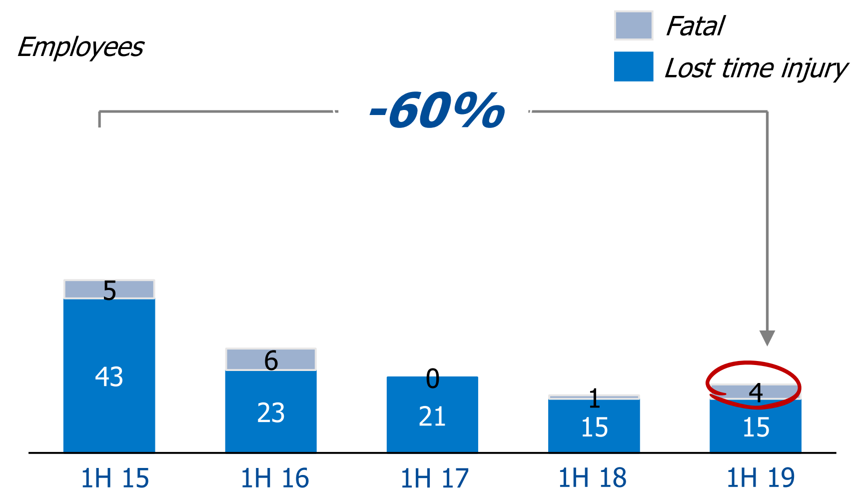
Health & Safety: Delivering Steady Results

LTIFR: Sustained at Industry Leading Level



- LTIFR remains below the global mining industry average
- Personnel and process safety across all operations remains the key focus
- Commitment to create strong safety culture at all levels of the organization
- Integral score [1] based on independent assessment of occupational safety culture improved to 2.8 (out of 4) as of May 2019 from 2.6 in 2017 (1.4 in 2014)

Accident Statistics Materially Improved since 2015



- Total recordable fatal accidents and lost time injury rates, unfortunately, increased by 19% y-o-y
- 44 internal audits of Occupational Safety and Health management system were conducted in 1H 2019
- 70 employees were fired for the violation of cardinal safety rules (vs 33 in 1H 2018)

Source: Company data
Note: 1. conducted by Bain&Company Russia Consulting

Nornickel Approach to Climate Change

- **Nornickel is committed to the principles** set out in the UN Sustainable Development Goals
- Leading **global supplier** of **materials** critical **to building a low-carbon economy**

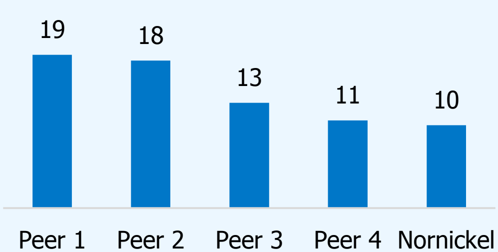
GHG Emissions

10 mt

of CO_2 emissions [1]

The lowest level of emissions among global mining diversified majors

Direct GHG emissions intensity, mt



Energy efficiency

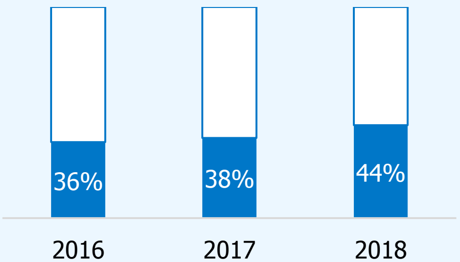
44%

electric power generated from renewable sources

USD800 mln

investments into energy infrastructure in 5 years

Electric power generated from renewable sources, %



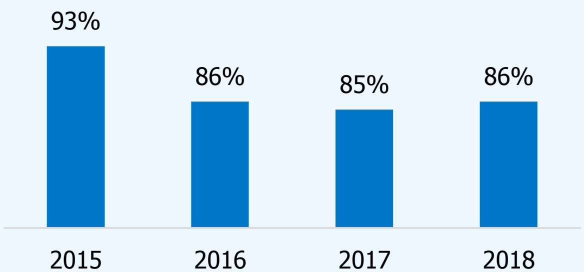
Water

86%

reused and recycled water of total water consumed by the Group

Access to abundant water resources

Percentage of water reused, %



Note: 1. Scope-1, 2. Peer group includes BHP Billiton, Glencore, Rio Tinto and Vale

ESG Performance Highlights

Recognition of Norilsk Nickel ESG Efforts

United Nations

Signatory to UN Global Compact since 2016

FTSE4Good

Reiterated as an index constituent in June 2019
Score of **3.0/5** (1) vs. 2.5 sector average (up from 2.3 in 2017)

ISS

Rating updated in July 2019
Governance score **4/10** (2)
Environmental score **2/10**
Social score **2/10**

THOMSON REUTERS

Ranked #65/300 out of global metals and mining companies
ESG score 58/100

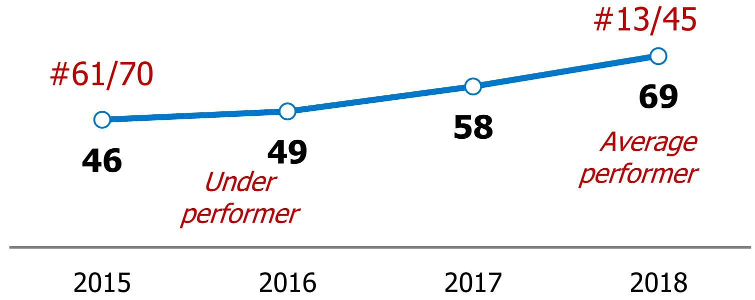
vigeoeiris

Ranked in the top 100 Best EM performers in July 2019
one of the three Russian companies in the ranking

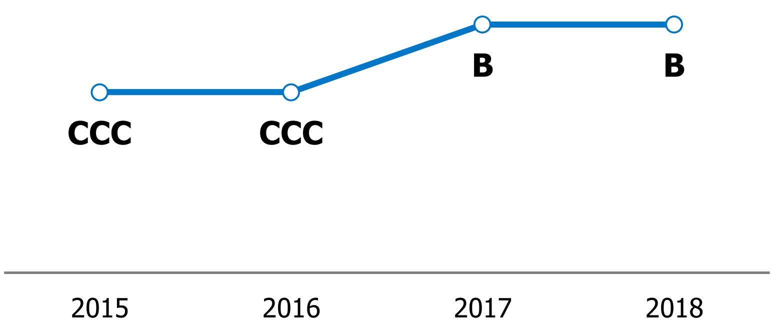
Gradual Improvement of Independent ESG Assessment

Sustainalytics ESG Score: 69 points (out of 100), Rated «Average Performer» since 2017

Rating in the global industry



MSCI ESG Score: Rated «B» since 2017

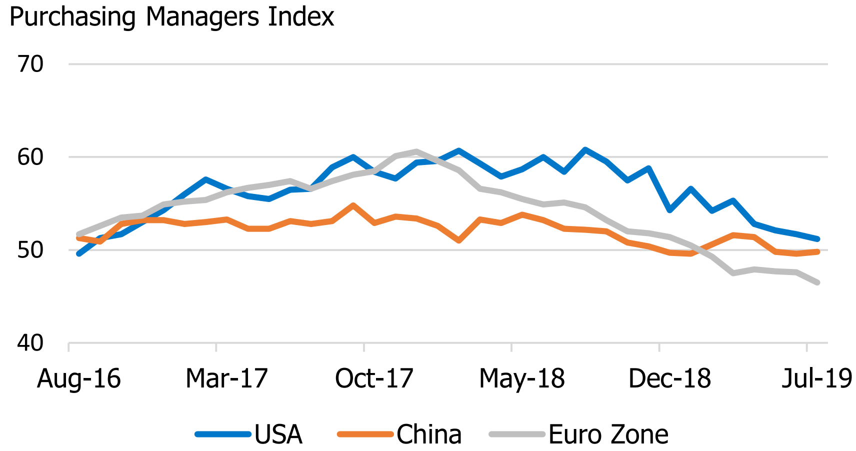


Source: Company and public data
Note: 1. of which 5 – is the highest, 2. of which 1 – is low, 10 – is high risk

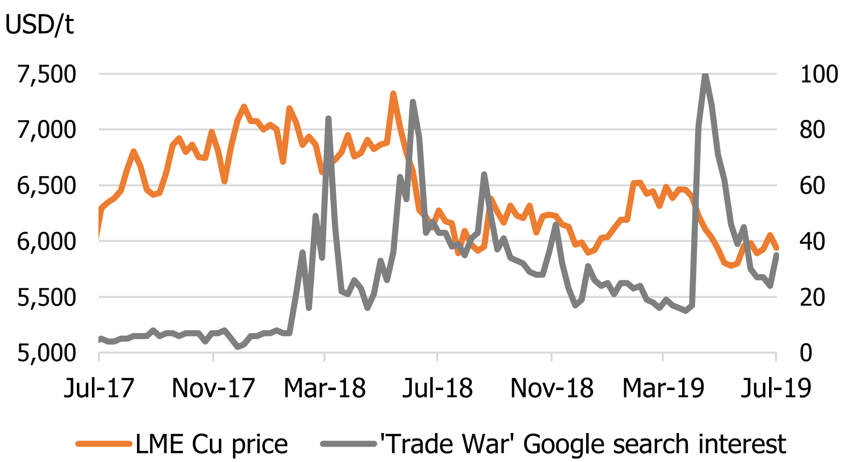
Markets Update

Weakening Macro, Strong Dollar and Trade War Sentiment – Negative Backdrop for Commodities

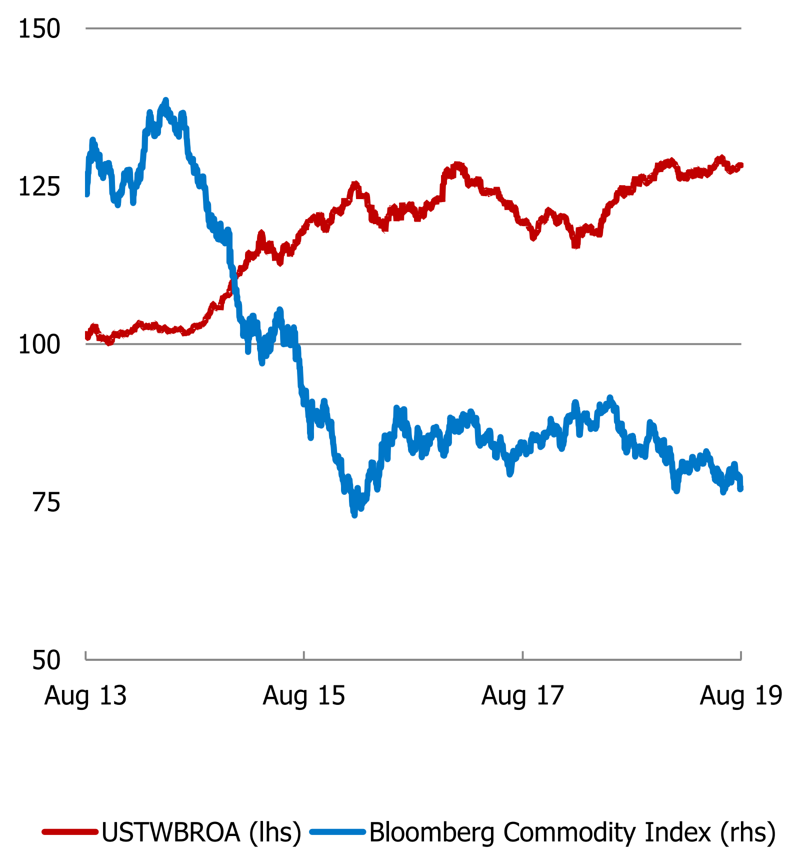
Global PMIs Trending Lower



Prices Correlate Highly with Trade War Headlines

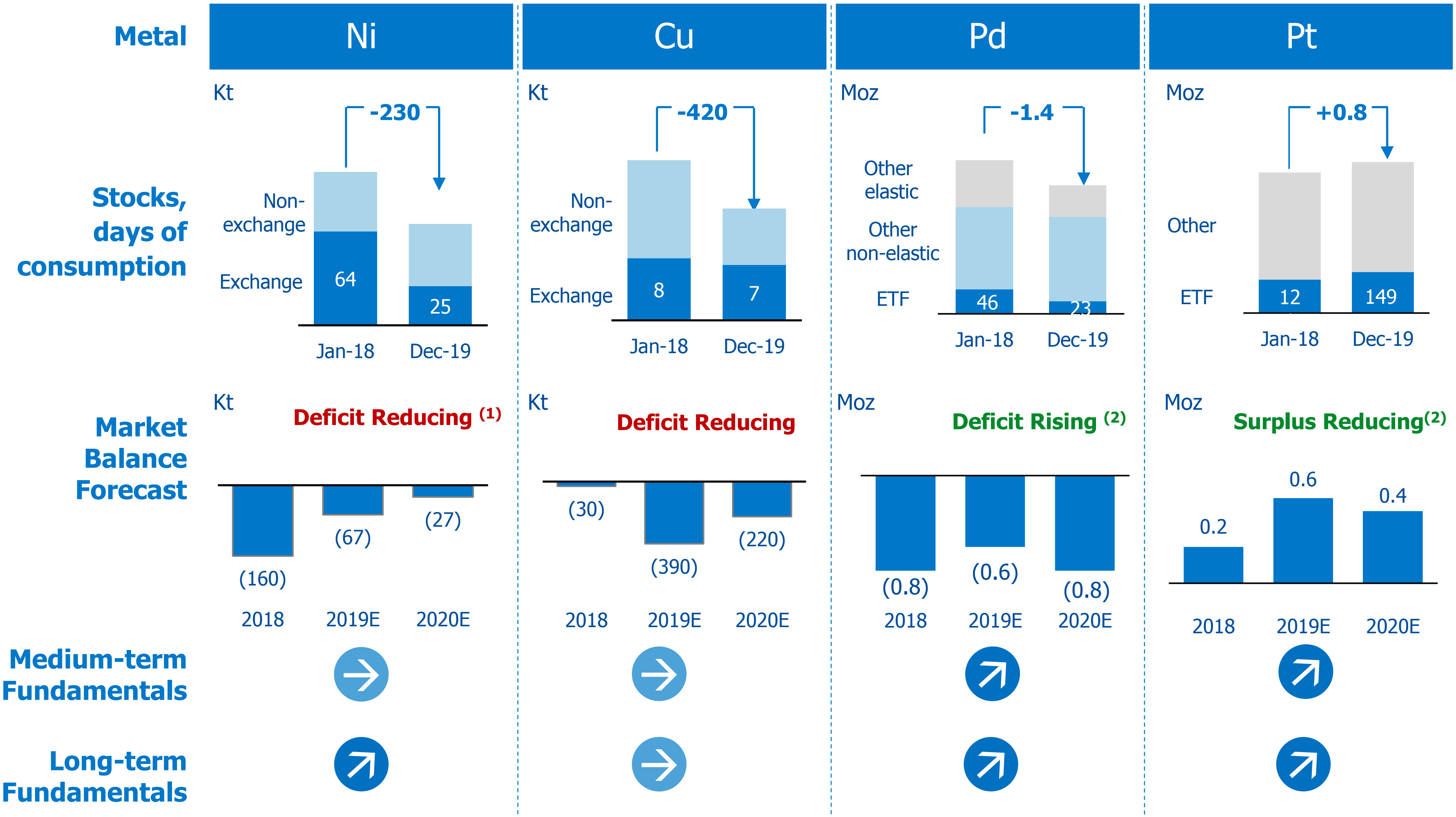


Strong Trade-Weighted US Dollar Maintains Downward Pressure on Commodities



Source: Bloomberg data

Metal Markets Outlook – View on Fundamentals

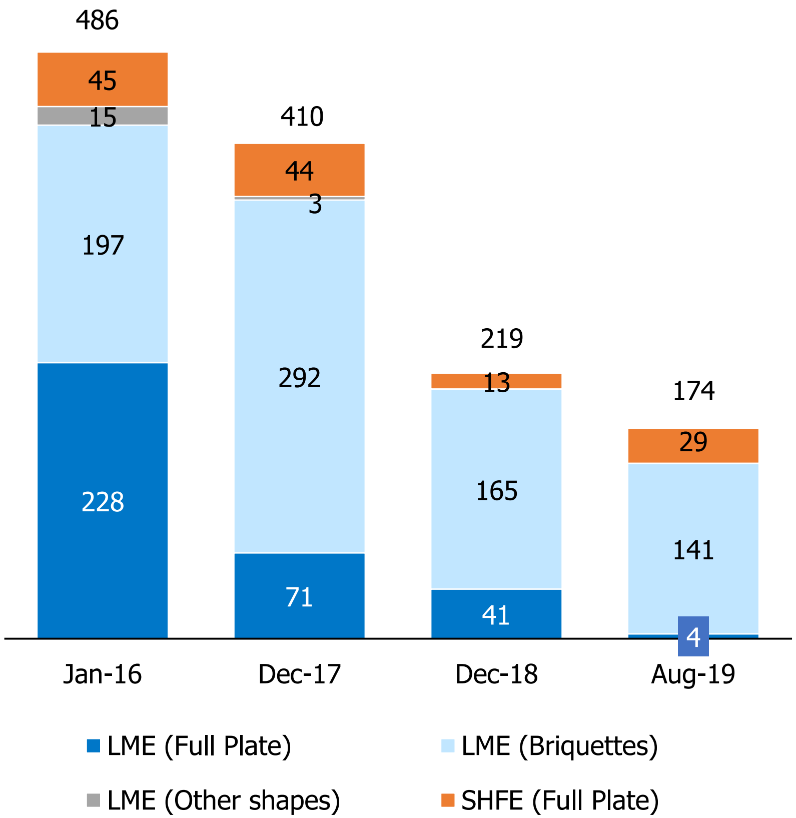


Source: Company estimates
Note: 1. Assuming that Indonesian ore ban brought forward from the scheduled deadline,
2. Excluding ETFs, investment demand and industry stocks movement. Numbers are rounded separately

Nickel Exchange Stocks Reached 7-years Lows

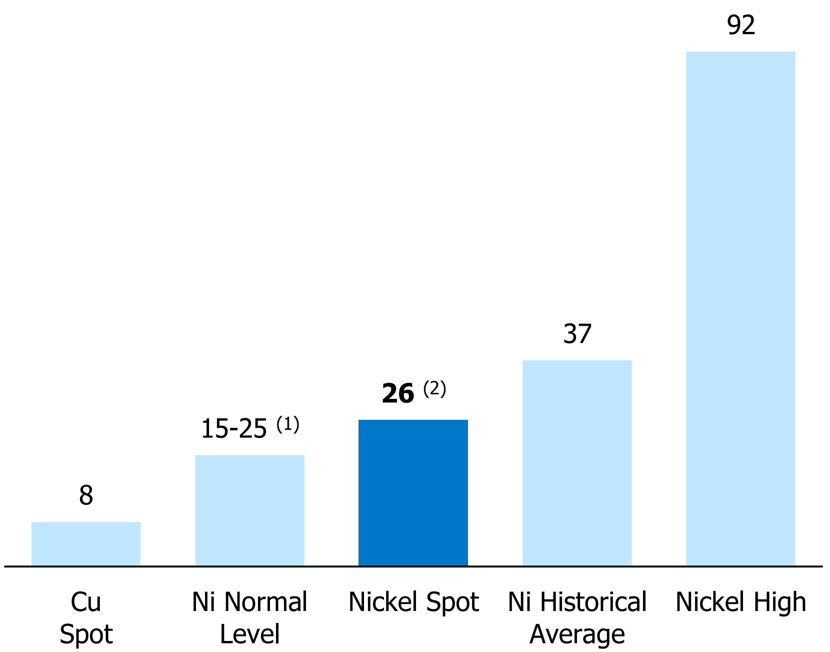
Drawdown of Exchange Inventories Continues

Ni, kt



Inventories Declined by Over 70% from Peak Levels, Approaching Normal Levels

Days of consumption

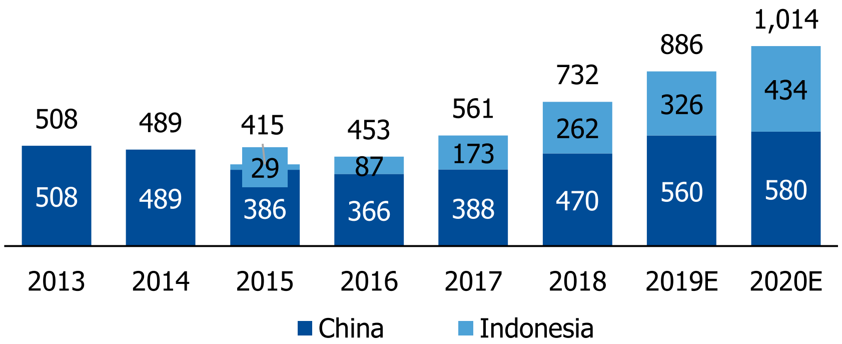


Source: Company estimates, LME, SHFE, SMM
Note: 1. According to markets participants, customers, 2. As of August 16, 2019

Global NPI Production Volumes Continue to Set Records

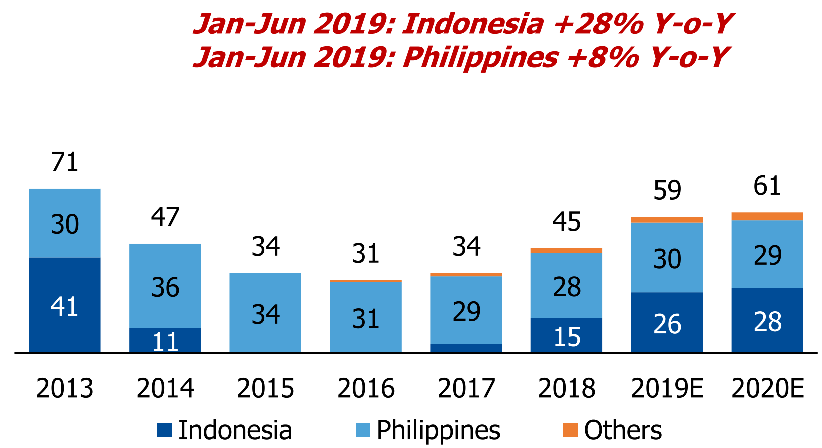
Total NPI Production Adding Almost 300Kt of Nickel Units in 2019-2020

Kt, Ni units



Chinese NPI Growth Dependent on Ore Availability +25kt Ni in Ore Imported to China in Jan-Jun 2019

Ore, Mln wmt

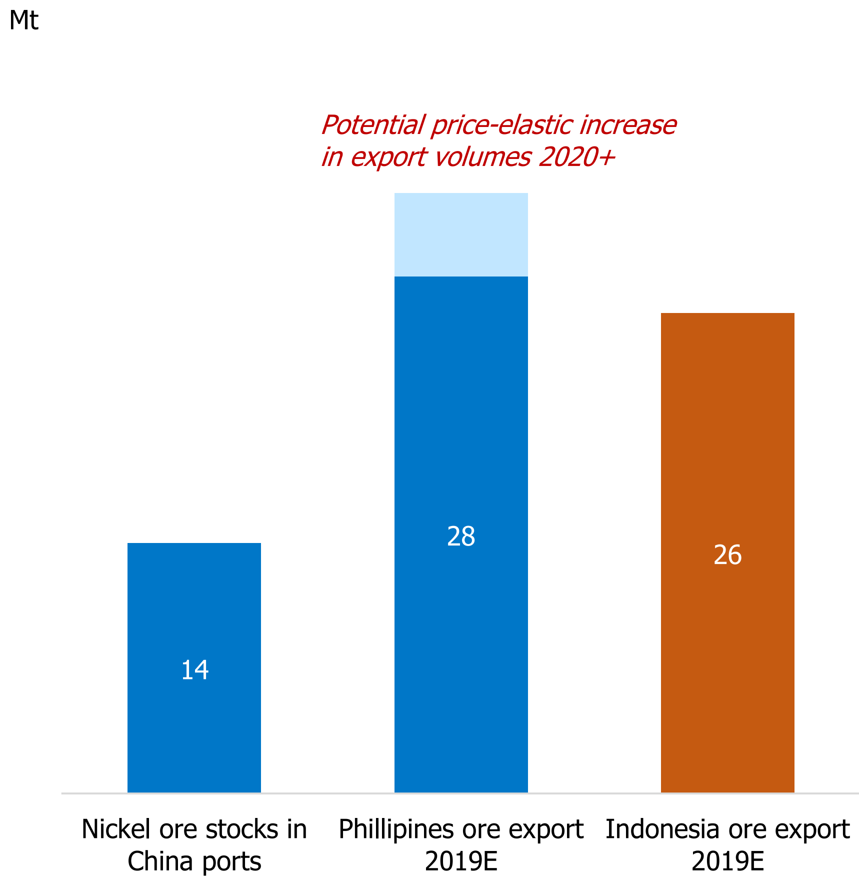


- In April 2017, Indonesia relaxed the ban on export of unprocessed nickel ore for 5 years until 2022
- Indonesian government is reportedly considering to bring forward the ban
- In the long-term, up to 40% of the feed (220kt of Ni or 10% of global supply) for Chinese NPI could be at risk

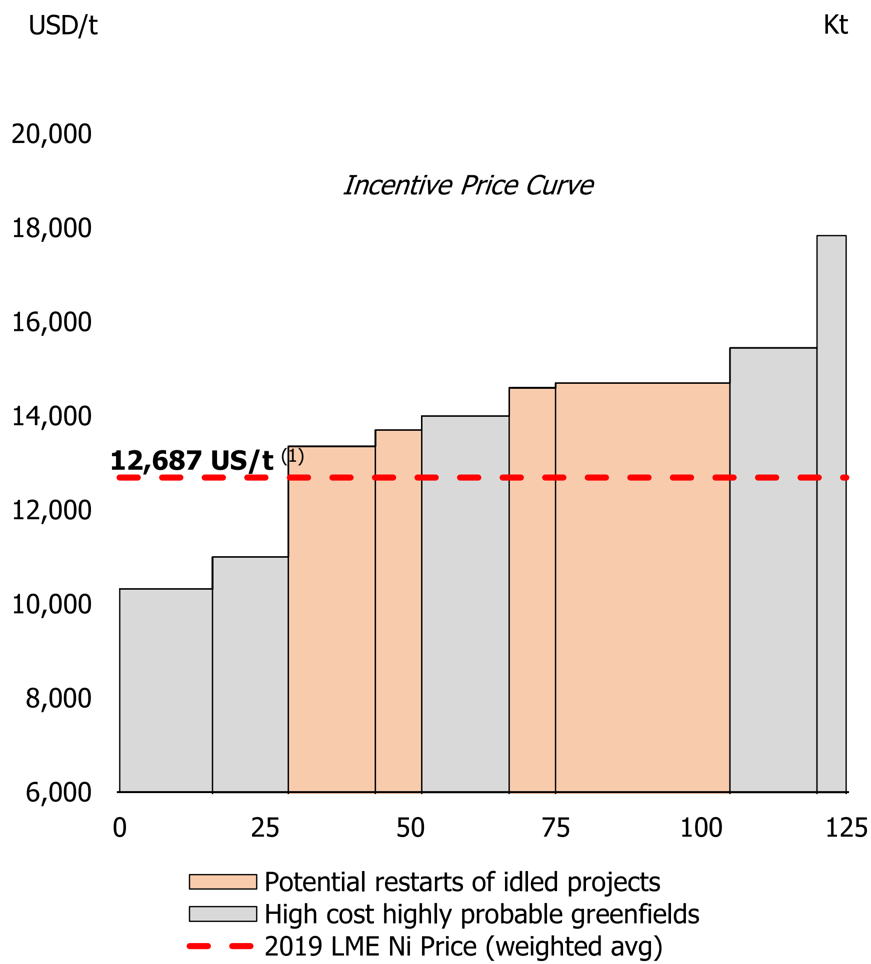
Source: Nieba, Company data, LME, BGRIMM

Potential Supply Impact if Indonesian Ore Ban is Brought Forward

Up to 70% of Potential Reduction of Indonesian Ore Export Could be Covered Over the Short-term by Stocks and Philippines Suppliers



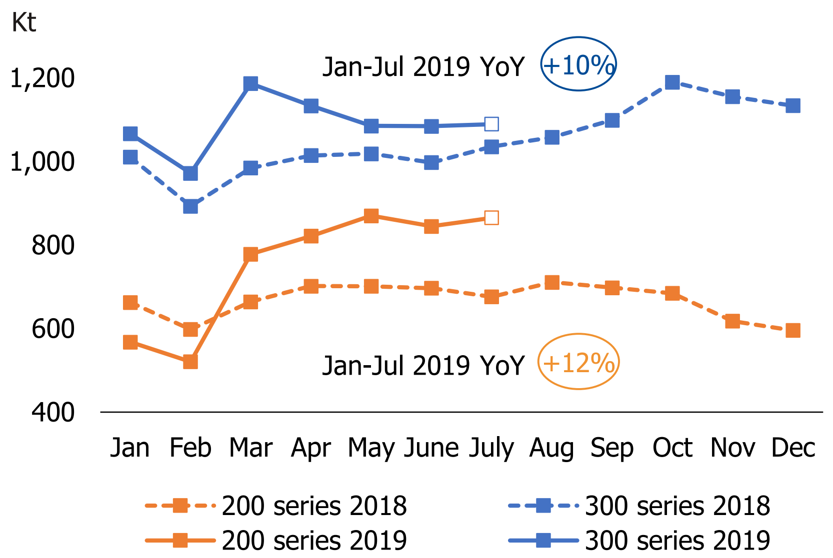
Over 100Kt of Ni Supply Can be Potentially Added by High-Cost Greenfields & Restarts of Idled Projects



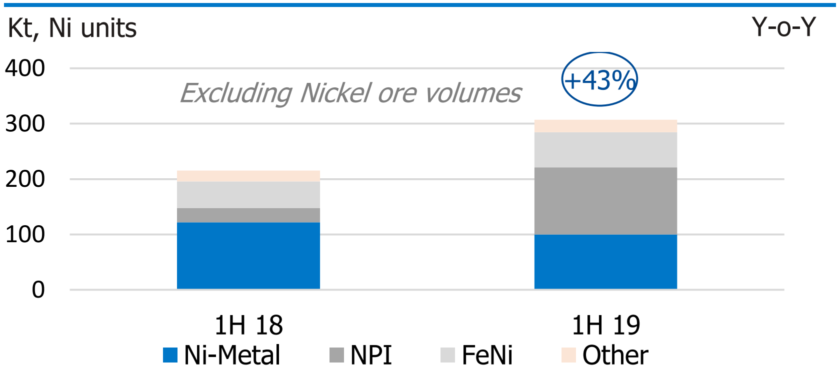
Sources: Companies data, NN estimates
Note: 1. 2019 LME Ni weighted average prices as of August 14, 2019

China Stainless Growth Loses Steam

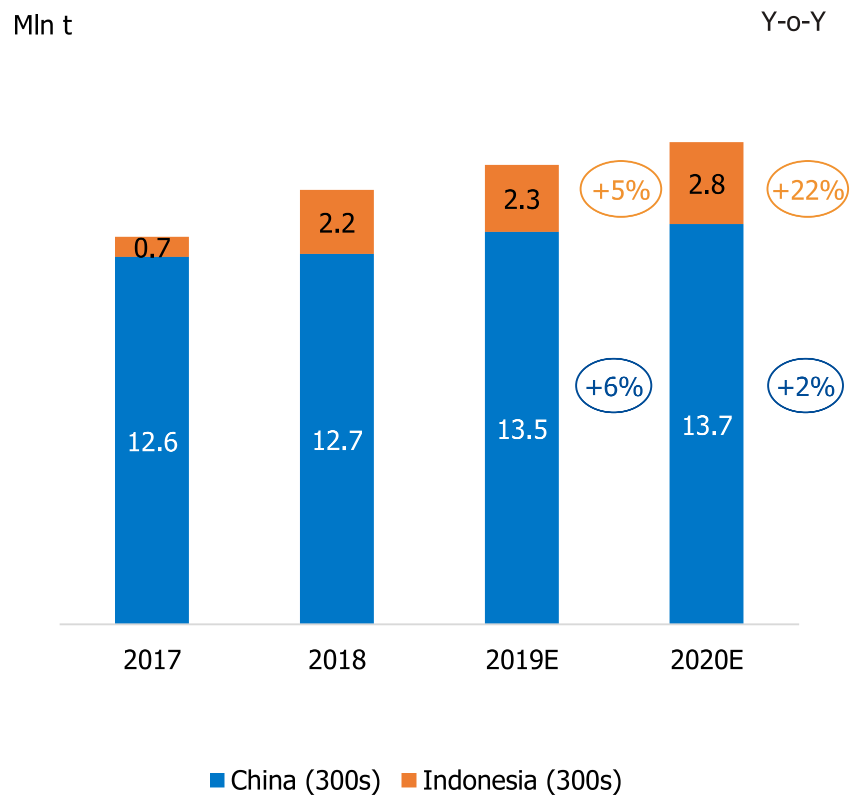
Strong Stainless Production Growth in China in 2019YTD



Increase of Nickel Imports to China in 1H 2019



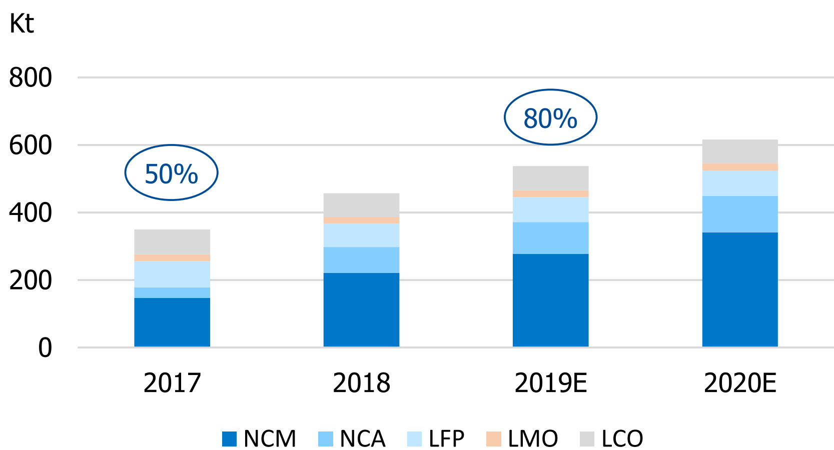
Growth of Ni Demand in Stainless Steel Supported by Indonesia



Source: Company data, Nieba, SMM

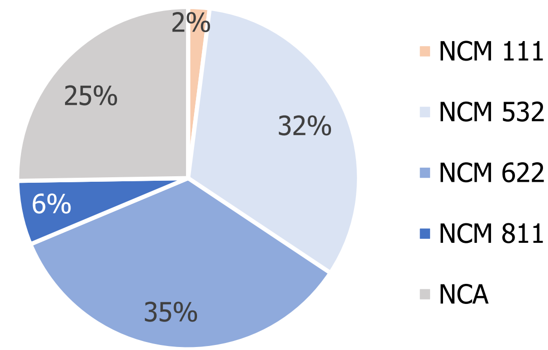
Nickel Consumption in Batteries – Small But Rapidly Rising

Market Share of Ni-intensive NCM/NCA Cathodes Expected to Reach 80% in 2019

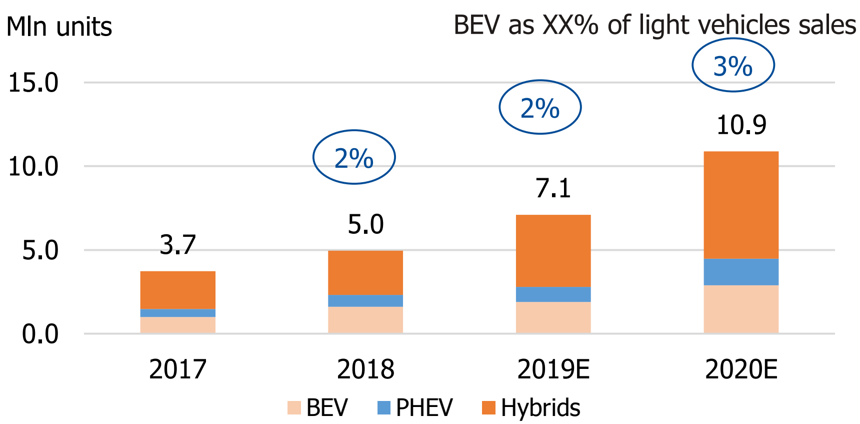


Within NCM Cathodes Chemistry Shifting Towards Higher Ni Loadings

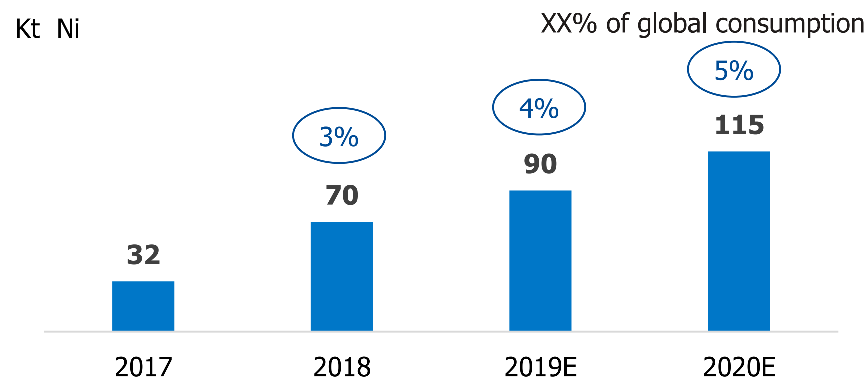
Breakdown of Global PCAM Production by Type, 2019E



Electric Vehicles Maintain Stable Growth Rates



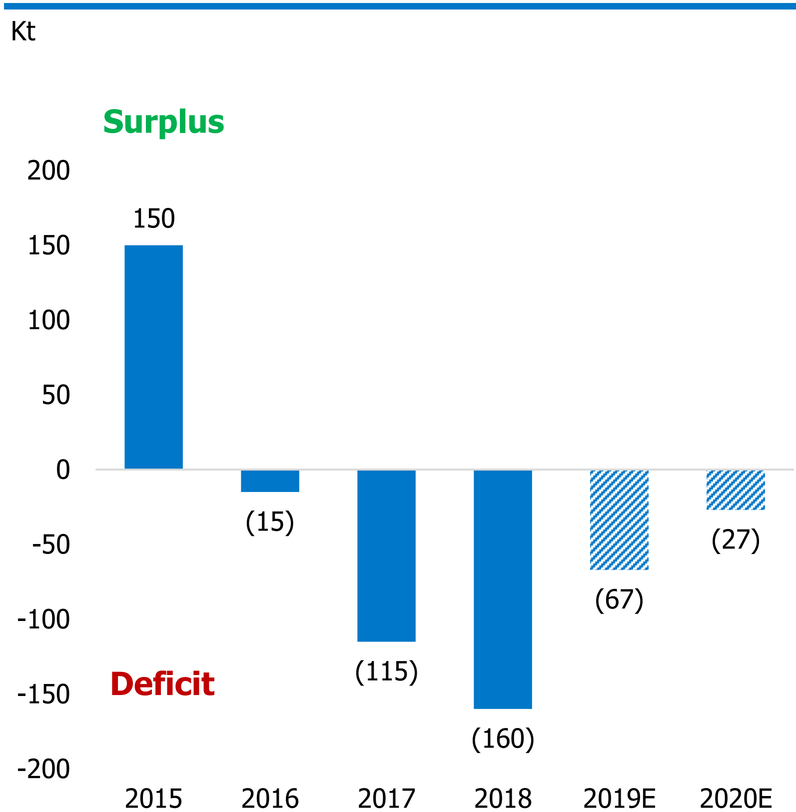
Ni Demand in EV Li-ion Batteries Rising Fast, But Still Small at 4% of Global Consumption



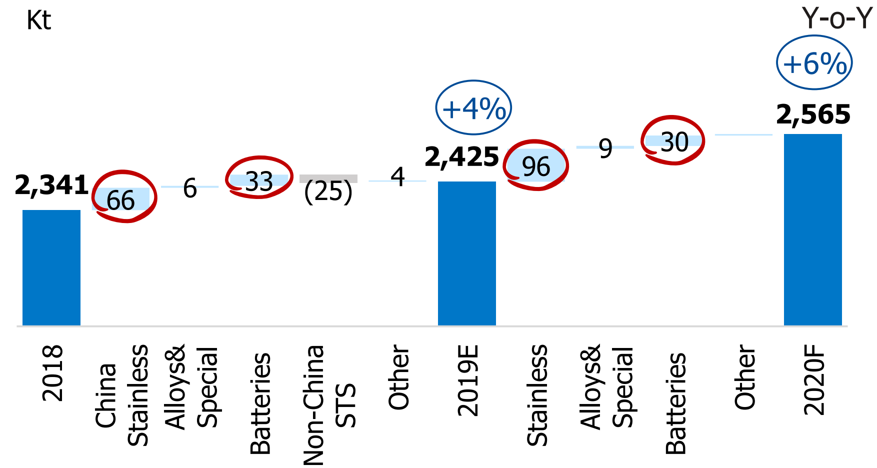
Source: Company data, Chinese customs trade statistics

Nickel Expected to be a Balanced Market in 2019-2020

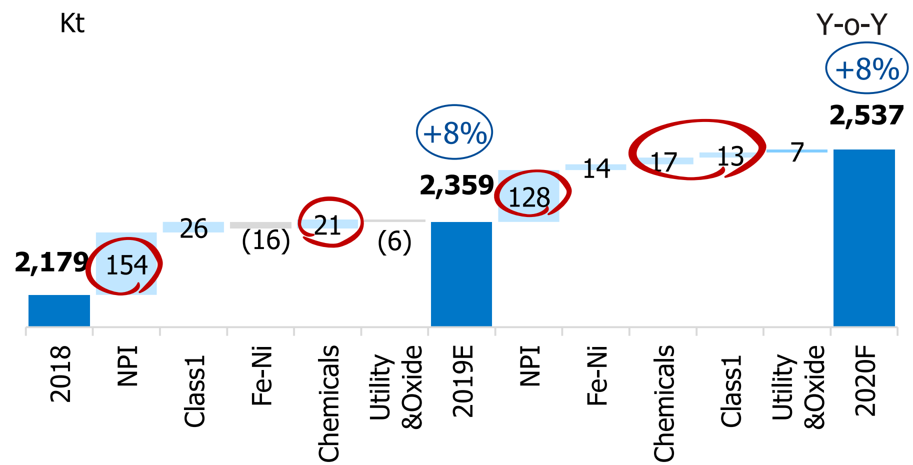
Balanced Market in 2019-2020



Demand: Battery Demand Continues to Grow, Stainless Growth Sways between China and Indonesia



Supply: Growth Accelerating on NPI Ramp-Up in Indonesia & China and Recovery of Class 1 Ni Production

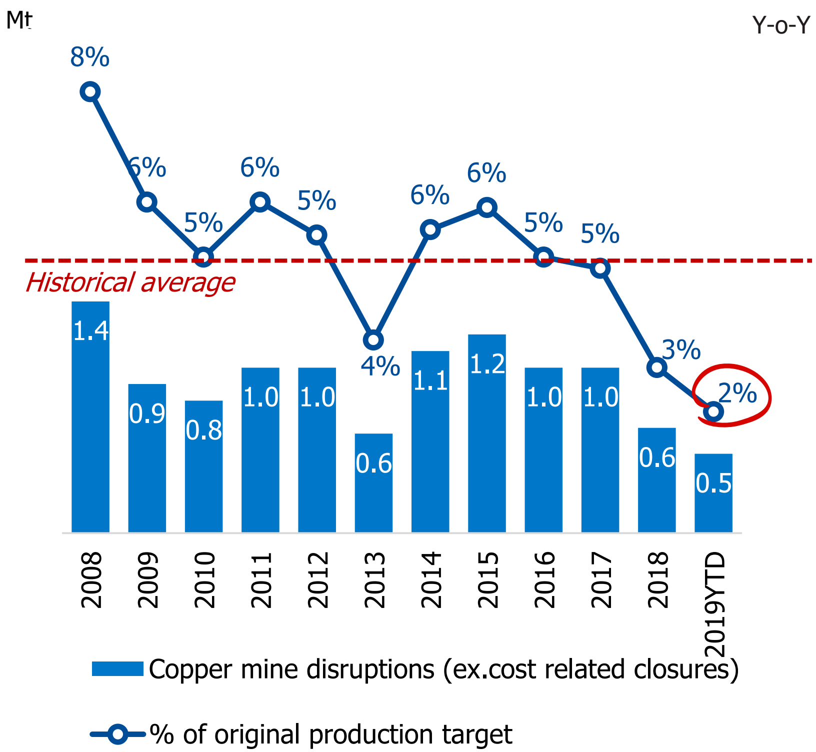


Source: Company estimates

Note: 1. Assuming that Indonesian ore ban brought forward from the scheduled deadline

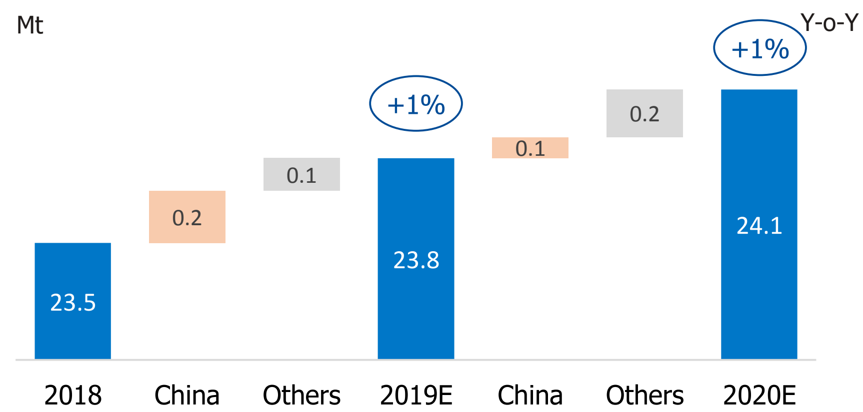
Copper: Demand Concerns Prevail in 2019

Copper Supply Disruptions in 2019: Running Below Historical Average

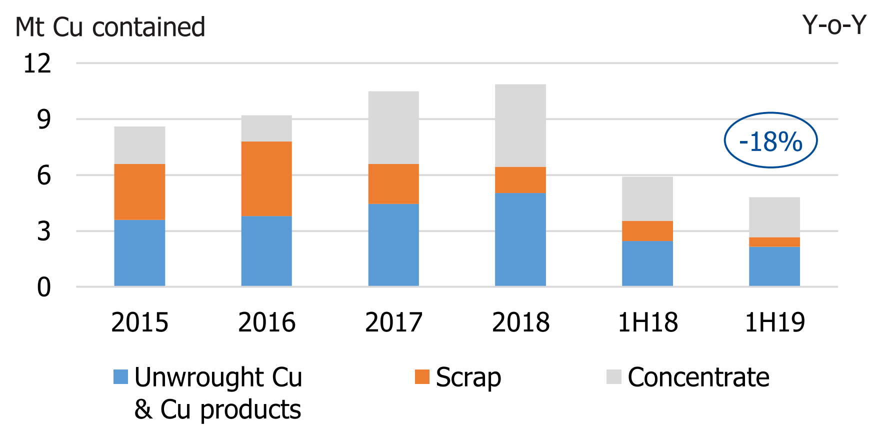


- In 2019, no potential major supply disruption events anticipated so far

Moderating China's Copper Demand Still the Main Driver of Global Consumption Growth in 2019



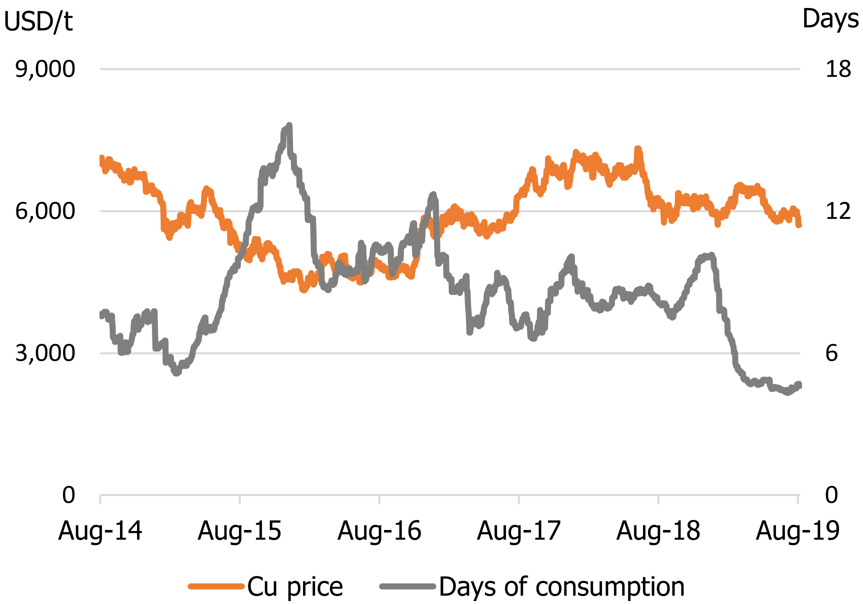
Copper Imports to China Decreased in 1H 2019



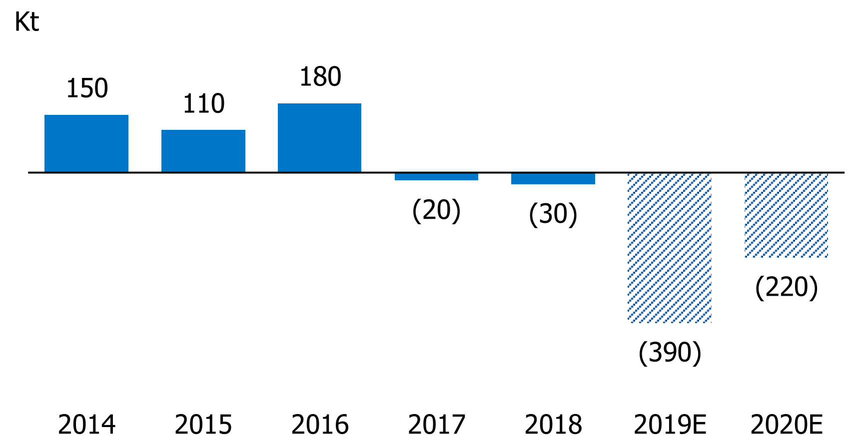
Source: Company data, Wood Mackenzie

Copper Market is Developing Small Deficit, Inventories Have Been Trending Lower

Inventories Running Tight At Historical Lows



Copper Market Balance: Marginal Deficits to Reduce in 2020

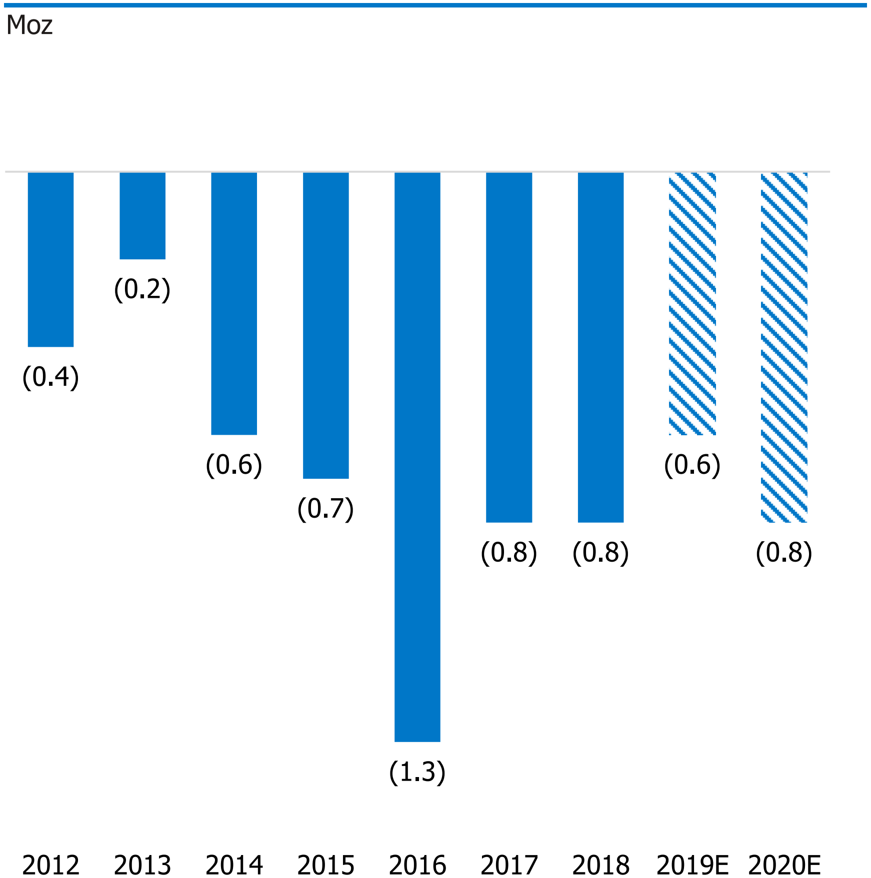


- Exchange inventories running near historical lows
- Supply disruption rate is running below expectations in 2019
- Outcome of trade dispute between USA/China – the main driver of investors' sentiment
- Growth of Chinese demand normalizing
- Global economy is slowing
- No major potential supply disruption events (e.g. negotiations with labour unions) in sight

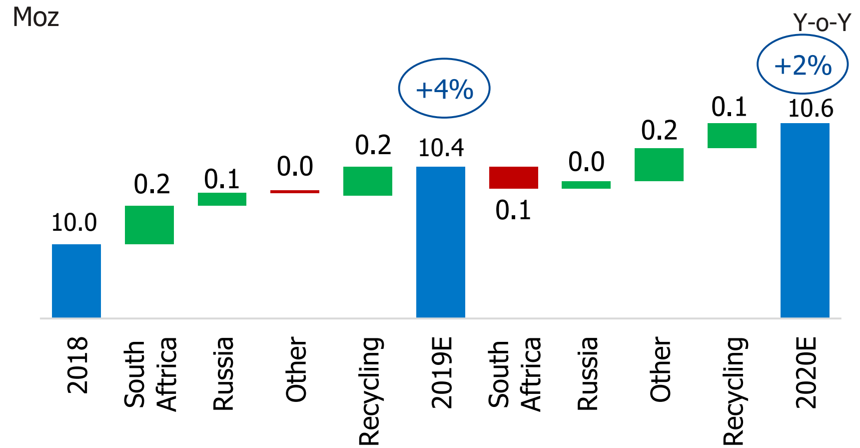
Source: Company data, Bloomberg, as of August 2019

Palladium Market Remains in Structural Deficit

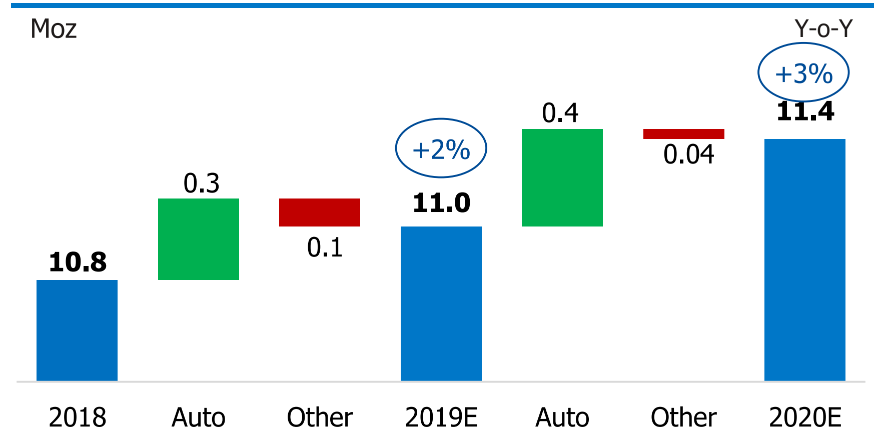
Global Palladium Market Balance: Major Apparent Deficit[(1)] Holds



A Recovery of Supply is Expected in 2019 as a Result of Work-in-Progress Inventories Release



Tightening Emission Standards Pushing Demand Higher Despite the Slowdown in Automotive Sales



Source: Company data

Note: 1. Excluding ETFs, investment demand and industry stocks movement. Numbers are rounded separately

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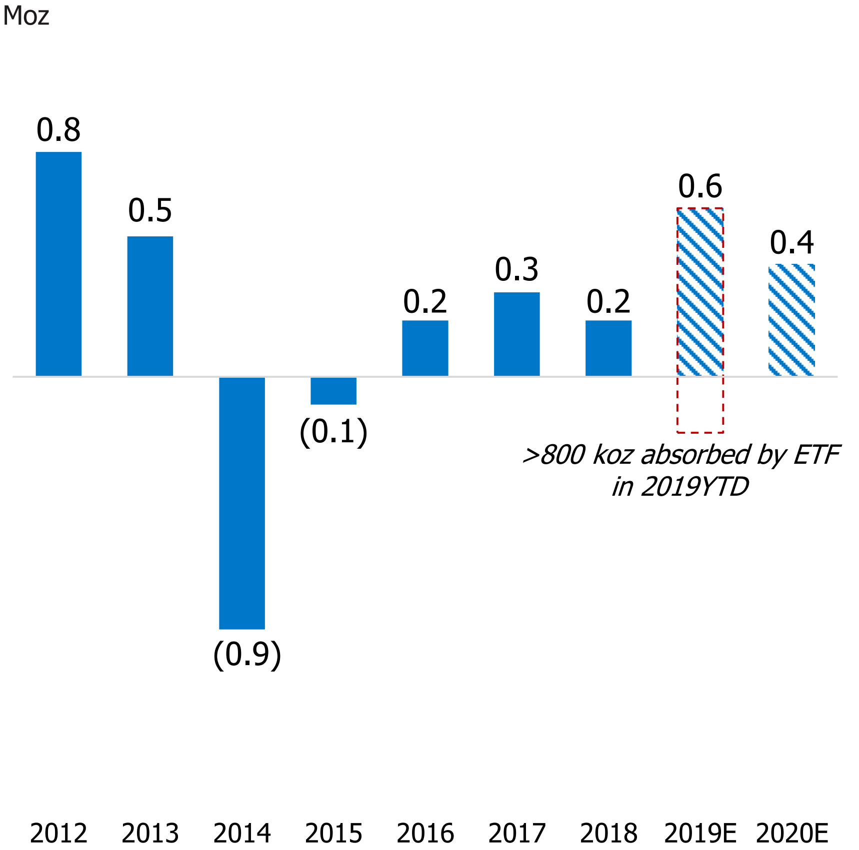
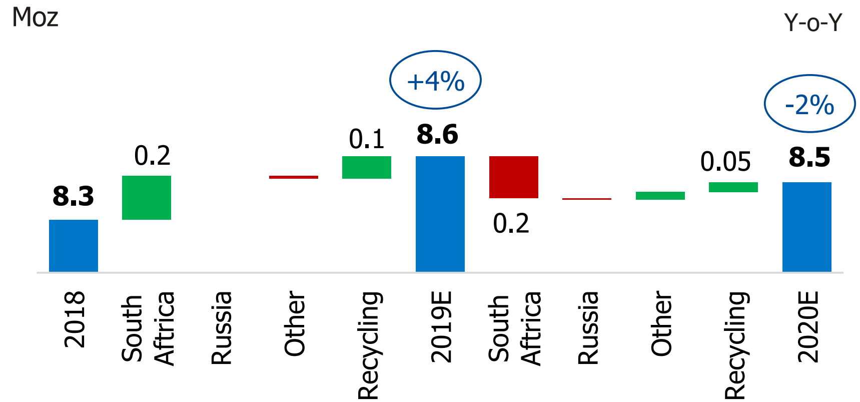
Platinum: Market Surplus is Absorbed by Strong Investment Demand

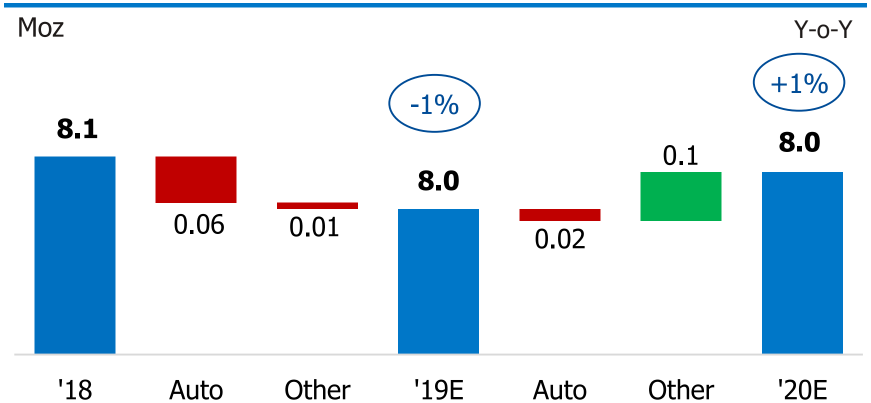
Platinum Market Balance[1]: Surplus is Expanding in 2019, but Strong Investment Demand Should Absorb Some Excess Supply



Increase in Supply in 2019 Driven by Release of Work-in-Progress Inventories



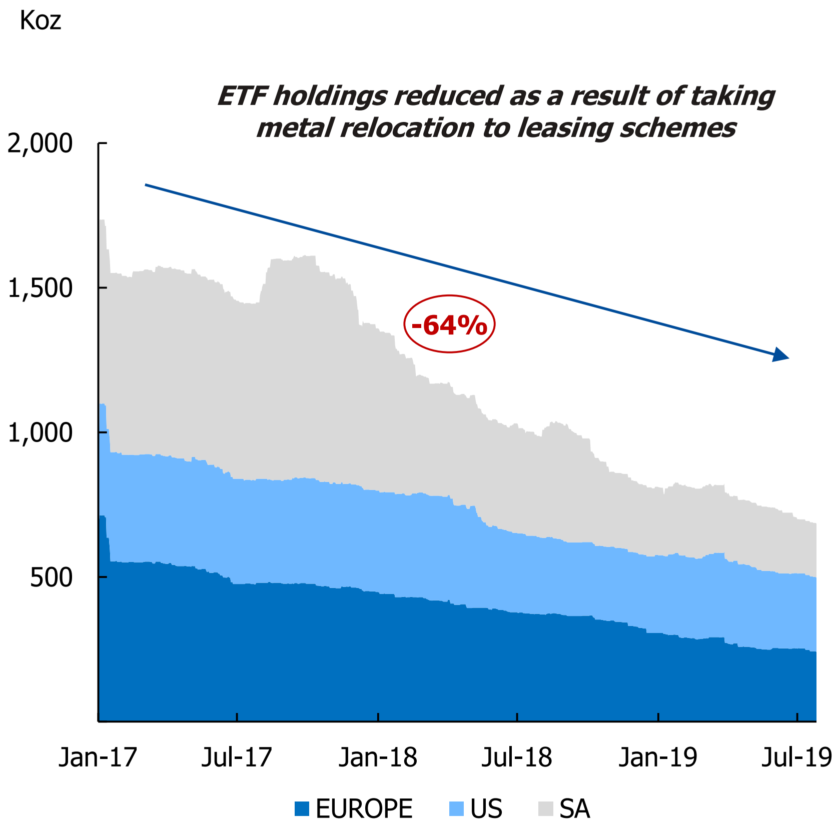
Demand is Expected to Stabilize in 2019 and Marginally Improve in 2020



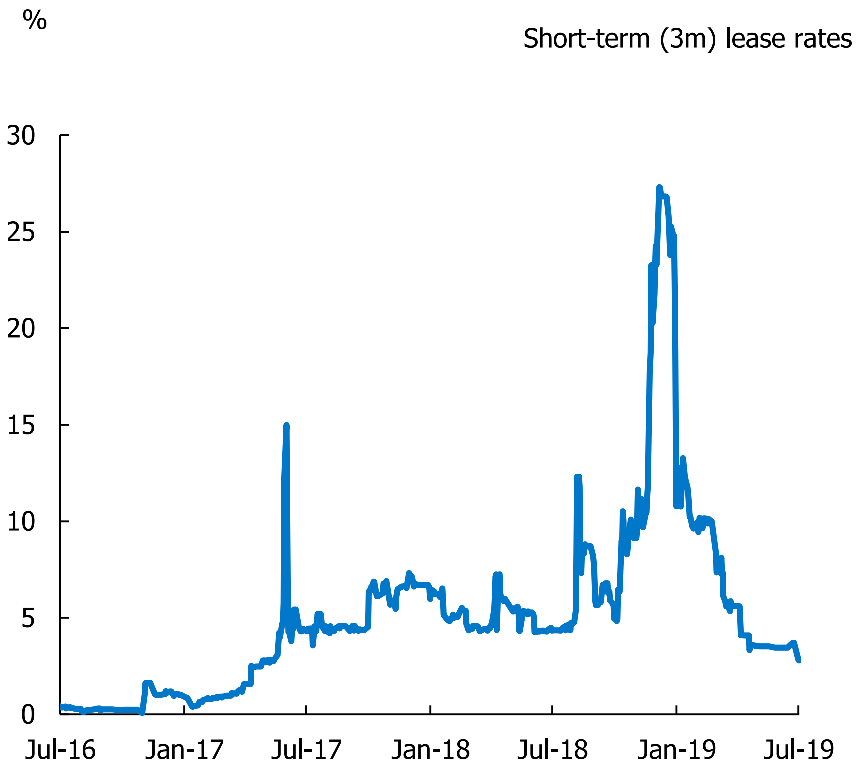
Source: Company data
Note: 1. Excluding ETFs, investment demand and industry stocks movement. Numbers are rounded separately

Palladium: Spot Market Tightness Softening but Fundamentals Remain Strong

Net Outflows from Palladium ETFs Continued: Over 900 koz since January 2017



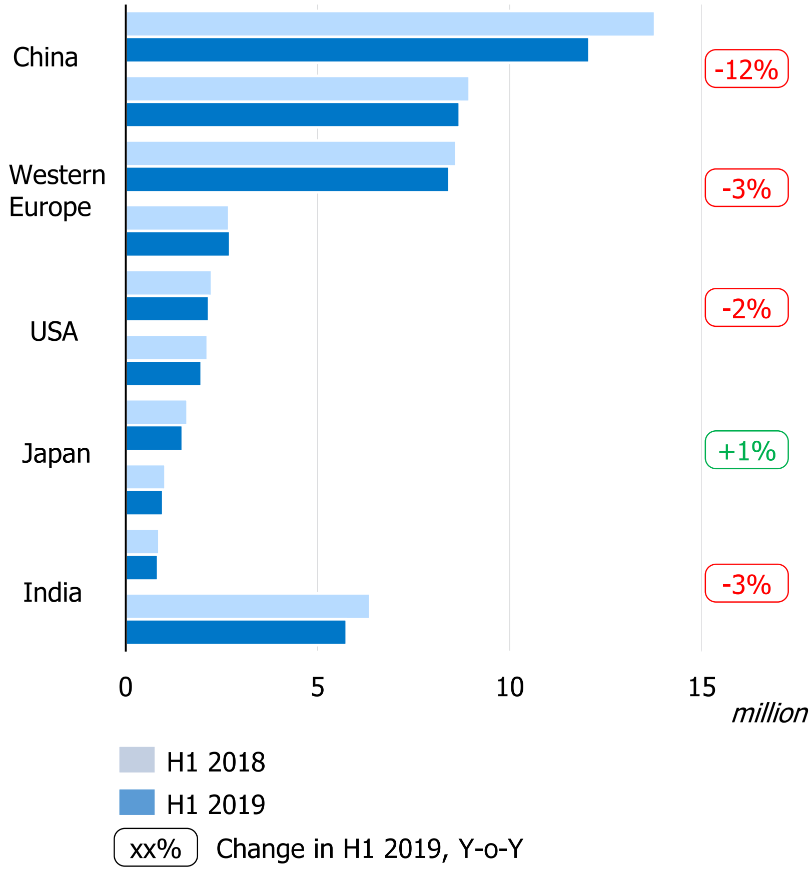
Short-term Palladium Lease Rate Stabilized



Source: Company data, Reuters, Bloomberg

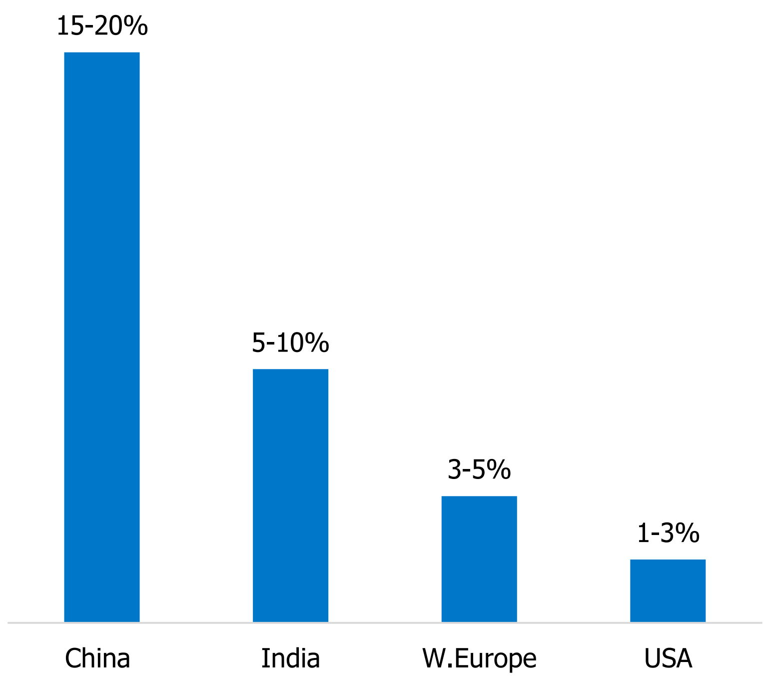
Automotive Sales Decline but PGM Loadings Increase

Global Automotive Sales [1] Decreased by 7% in H1 2019 Y-o-Y



Expected Increase in Pd Loadings in 2019 due to Stricter Emission Regulations and Introduction of RDE Despite Engine Downsizing

Average PGM loadings per vehicle, change in 2019, (%)

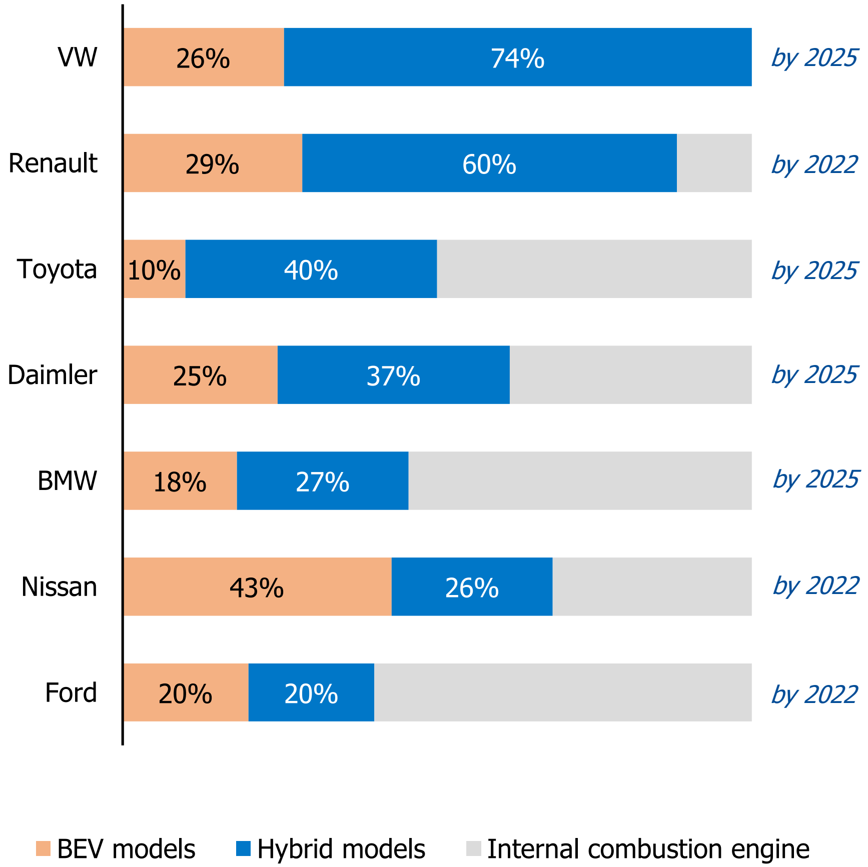


Source: LMCA, IHS, Marklines
Notes: 1. Light-duty vehicles (up to 6 tonnes)

Fleet Electrification Targets Imply Active Hybridization

Major Automakers' Plans: Hybrids and Internal Combustion Engines to Dominate

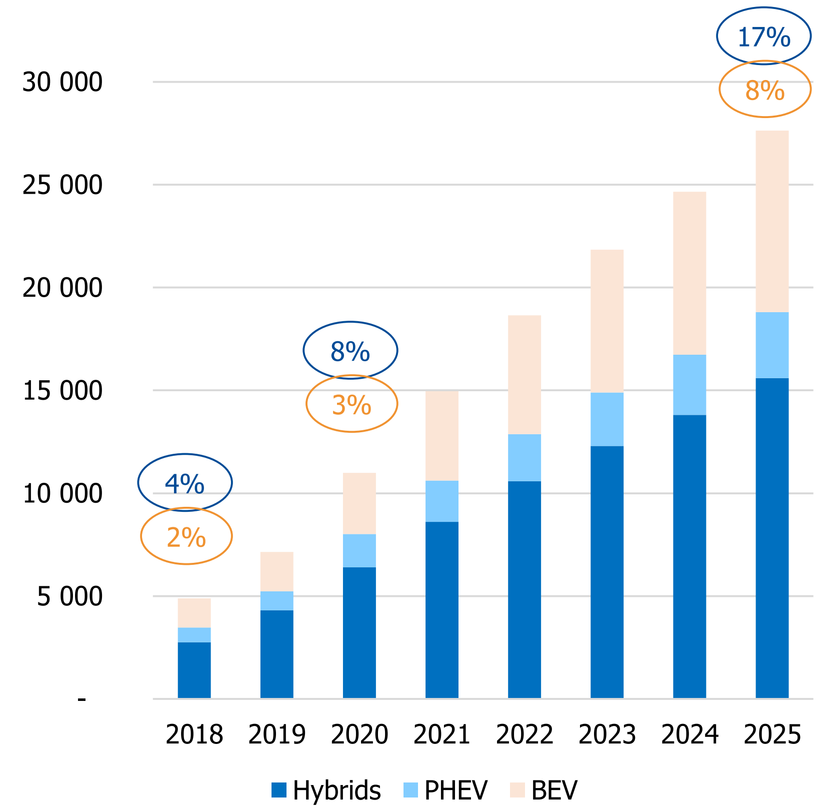
LV production



Industry Expectations: Hybrids to Dominate in the Electric Vehicles Mix in the Long-term

'000

(%) share in global LV production

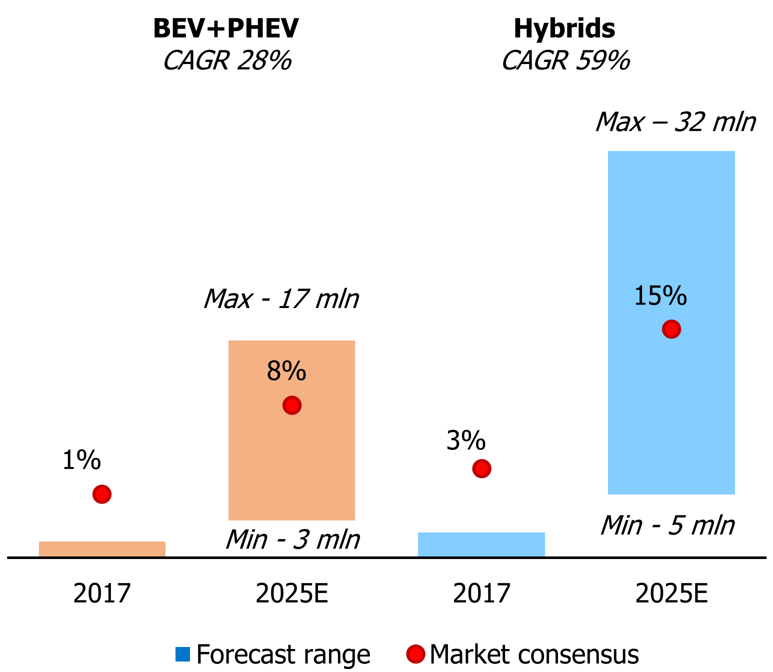


Source: Company data, announcements by OEMs, LMCA

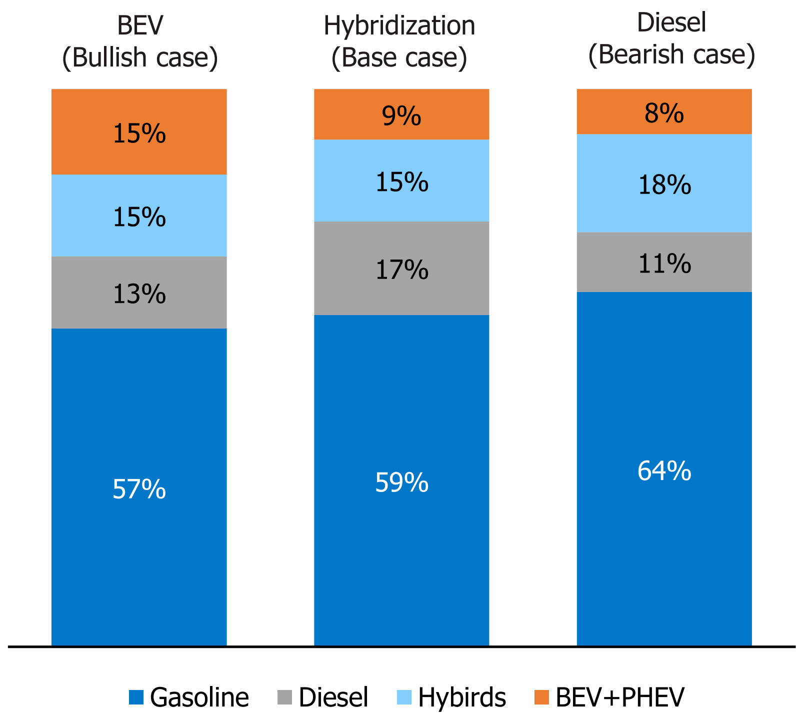
Long-term Palladium Demand to Remain Strong

Significant Uncertainty in the LT Outlook for Electric Vehicles Results in a Wide Range of Expectations

CAGR 2017-2025E



2025 Scenarios of Global Light Vehicles Mix: Gasoline and Hybrids to Dominate Market Share



Key uncertainties for battery electric vehicles (BEVs):

- Cost of ownership
- Deployment of sufficient charging infrastructure
- Sustainability of government incentives

Source: Company estimates, LMCA
Note: 1. CAGR for the period 2017-2025E

Premium of Palladium to Platinum is Sustainable in the Mid-Term

Palladium Established a Sustainable Premium to Platinum on Stronger Fundamentals…

… as Pd Loadings in Gasoline Vehicles are Supported by Higher Fair Value-in-Use

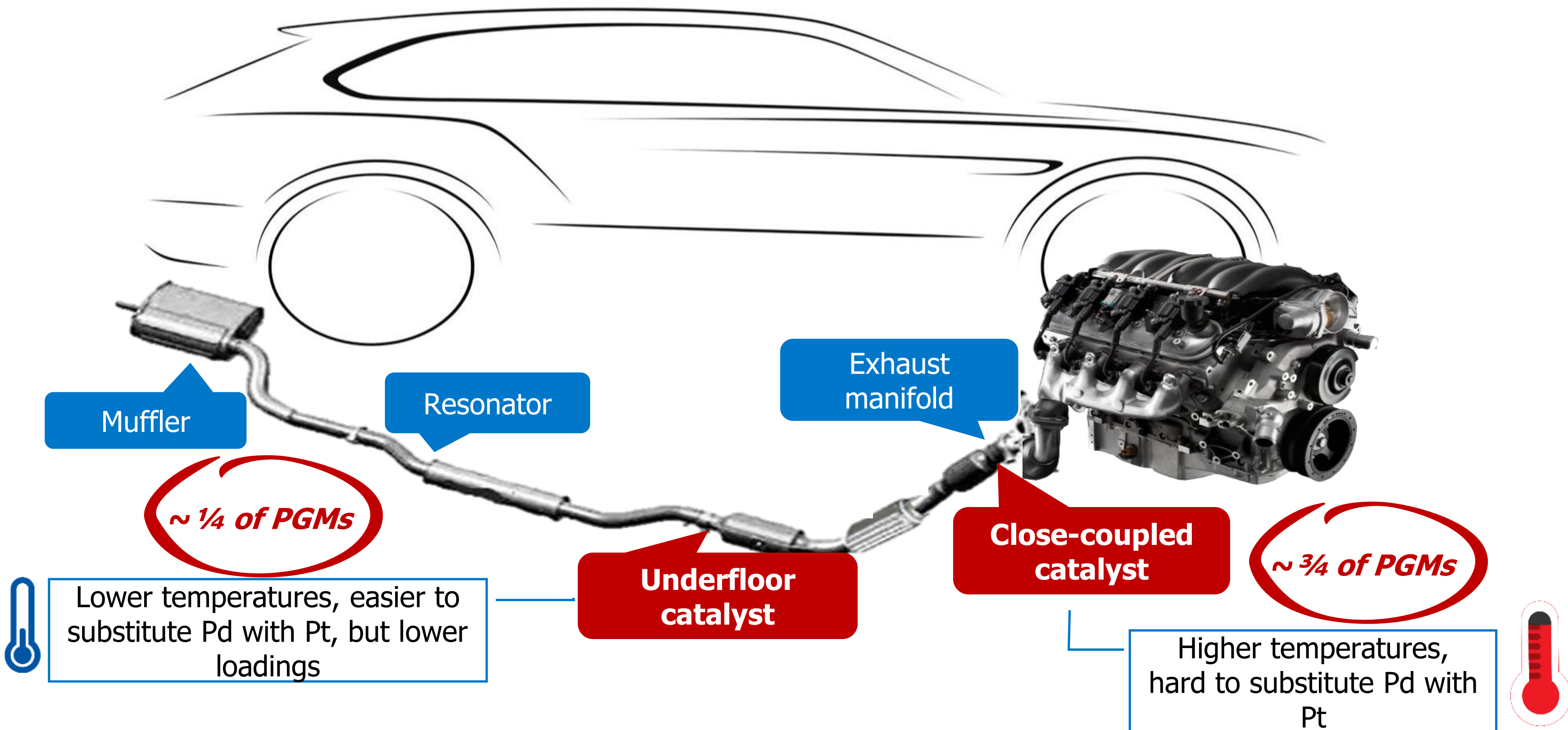
	Palladium	Platinum
Thermal durability	Higher	Lower
	Platinum is more susceptible to sintering at high temperatures *To increase engine efficiency and to reduce CO_2 emission OEMs increase the share of ICE, which operate at higher temperatures*	
HC and CO oxidation at low temperatures	Higher	Lower
	Hybrid vehicles operate at lower temperatures as ICE is not working continuously	
NOx reduction	Higher	Lower (same for lean burn)

- Palladium performs better than platinum in gasoline vehicles
- Introduction of Real Driving Emission tests incentivises «over engineering» and higher palladium loadings
- Long-term stability/reliability of supply is supportive of palladium demand
- Progress in the development of prospective mining projects should mitigate structural deficit in the medium-term

Source: Company data

Technical Challenged in Substituting Palladium

Catalyst Installation in a Vehicle



- Timeline for substitution 18-24 months
- Technical challenges in testing new catalysts in RDE world
- Small cost incentive to substitution (~ USD100 per car)
- Consumer confidence in sourcing metal

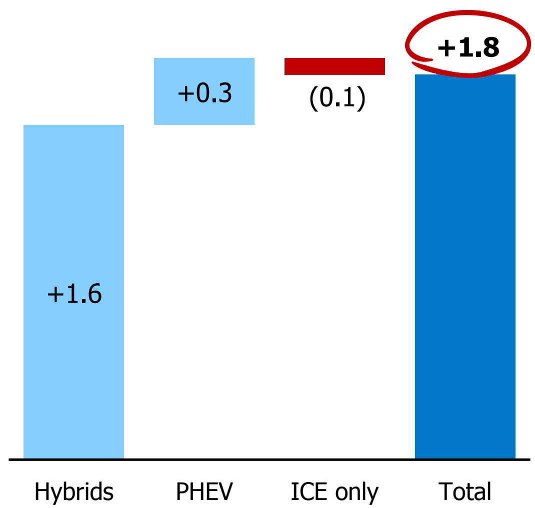
Source: Company data

Auto Driven Metal Demand Growth in 2025E vs. 2018

Metal

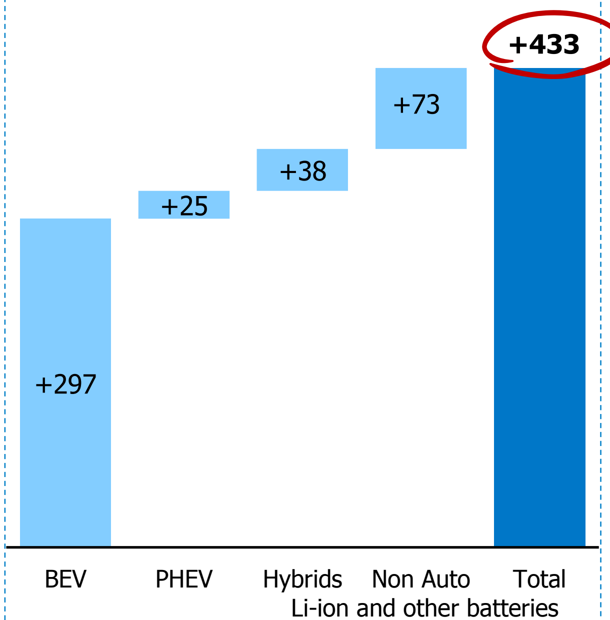
Pd

Moz



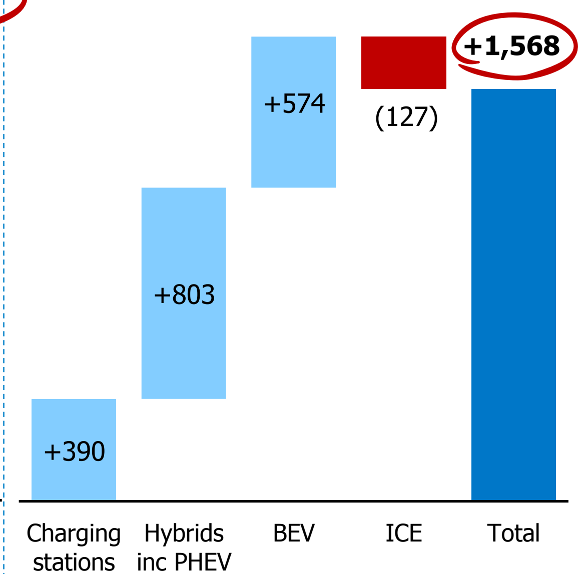
Ni

Kt



Cu

Kt



Consumption

Pd in catalytic converters

Ni in batteries

Ni in stainless steel, alloys and parts

Cu in electric engines and generators

Cu in wires

Cu in charging stations

Source: Company estimates
Note: 1. Incremental annual demand 2025 vs. 2018, 2. Ni consumption in batteries shown at the precursor material basis

Nornickel's Metal Basket Content by Light Vehicle Type

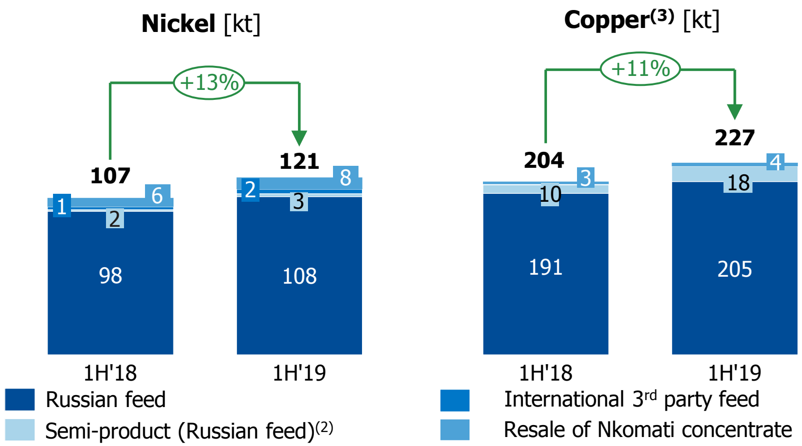
	Gasoline	Diesel	Hybrid incl. PHEV	BEV	FCEV
CAGR[1]	-1%	-1%	+24%	+26%	+30%
Market Share[2]	59%	14%	17%	8%	<1%
Ni	Stainless Steel & Parts		+Batteries		
	2-4 kg	2-4 kg	5–15 kg	30–110 kg	2–3 kg
Cu	Wires & Parts		+Electric Motor, Generator Winding		
	20-25 kg	20-25 kg	45-50 kg	75-80[3] kg	70-75 kg
PGM	Catalysts			-	Fuel Cell
	2-5 g	3-6 g	2-6 g		25-35 g
Pt:Pd ratio	1:4	8:1	1:4		
Metal value per vehicle, US$ (4)	$270-530	$230-410	$460-830	Up to $2,000	Up to $1,500

Source: Company estimates, LMC Automotive, Bloomberg;
Note: 1. CAGR for 2018-2025E, 2. Expected market share in 2025 based on production; 3. Excluding additional infrastructure demand of 1-8 kg per charger; 4. Metal values calculated at spot prices as of July, 2019

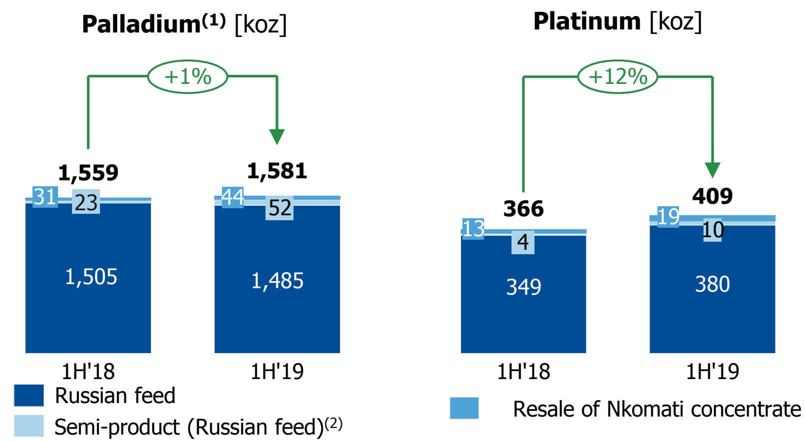
1H 2019 Financial Results

Metal Sales Volumes and Realized Prices

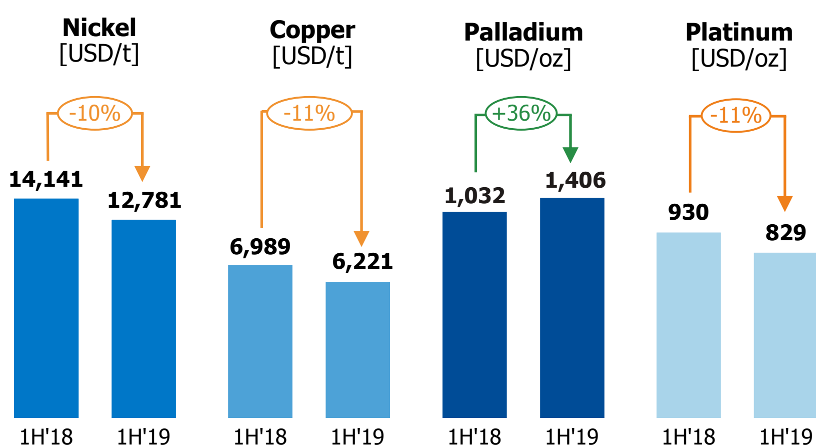
Increase of Base Metals Sales: on Higher Production Volumes



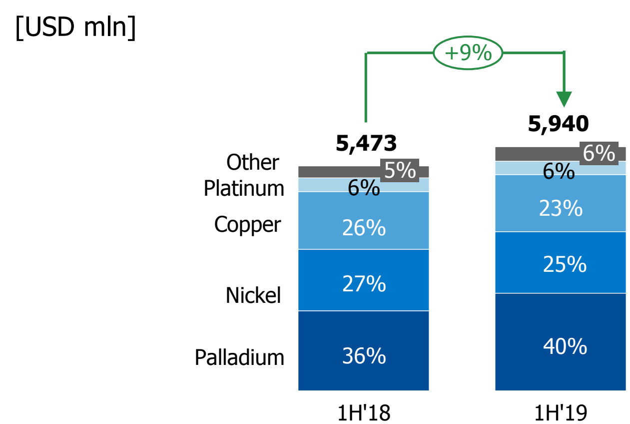
PGM Sales: Strong Growth of Platinum on Higher Production Volumes



Realized Prices: Macro Headwinds for All Metals But Palladium



Sales Breakdown by Metals: Palladium Reached 40%



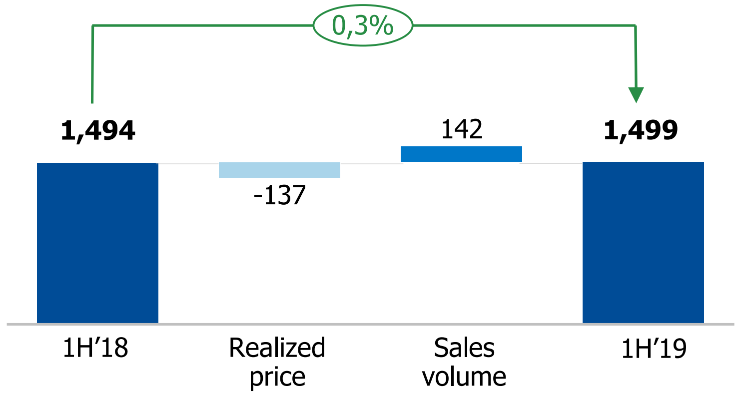
Note 1. Excluding sales of metals purchased from third parties, 2. Metal volumes represent metals contained in semi-products, 3. Copper metal sales excludes the sale of copper in concentrate produced by Bystrinsky GOK (Chita)

NORNICKEL

Metals Revenue: Up on Strong Sales Volumes and Palladium Rally

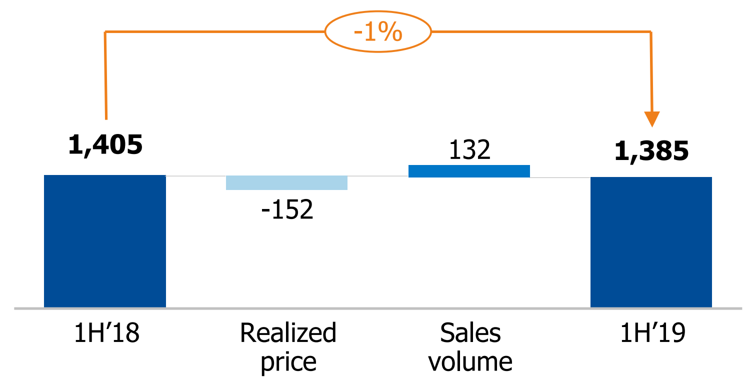
Nickel Revenue: Almost Unchanged as Lower Prices Were Offset by Higher Sales Volumes

[USD mln]



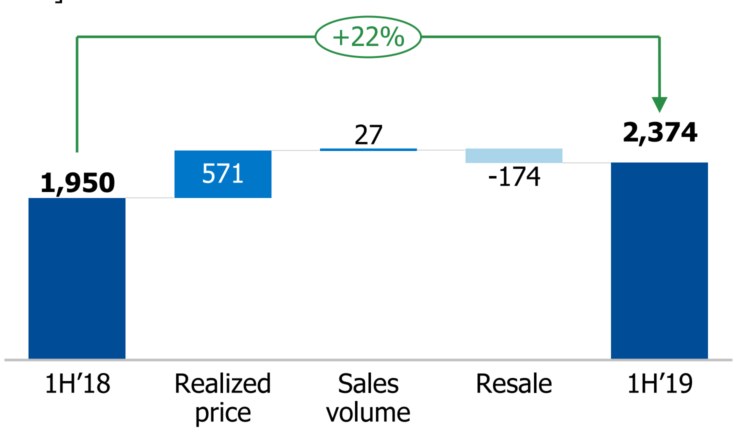
Copper Revenue: Down 1% on Lower Prices, With Some Offset from Higher Sales Volumes

[USD mln]



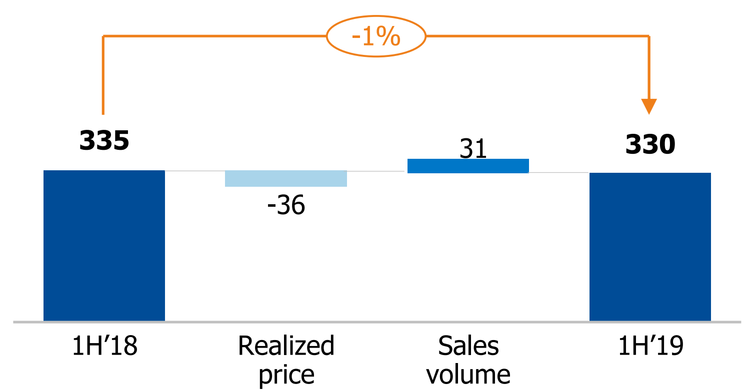
Palladium Revenue: Up 22% on Strong Market Prices

[USD mln]



Platinum Revenue: Down 1% on Lower Prices

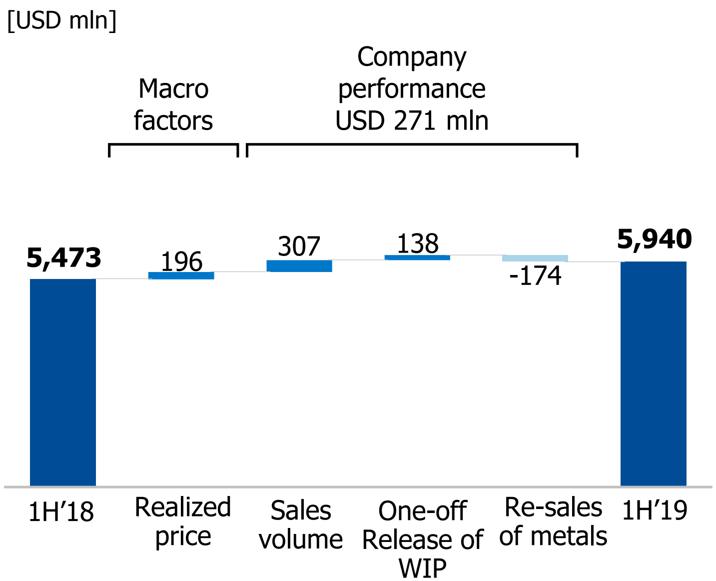
[USD mln]



NORNICKEL

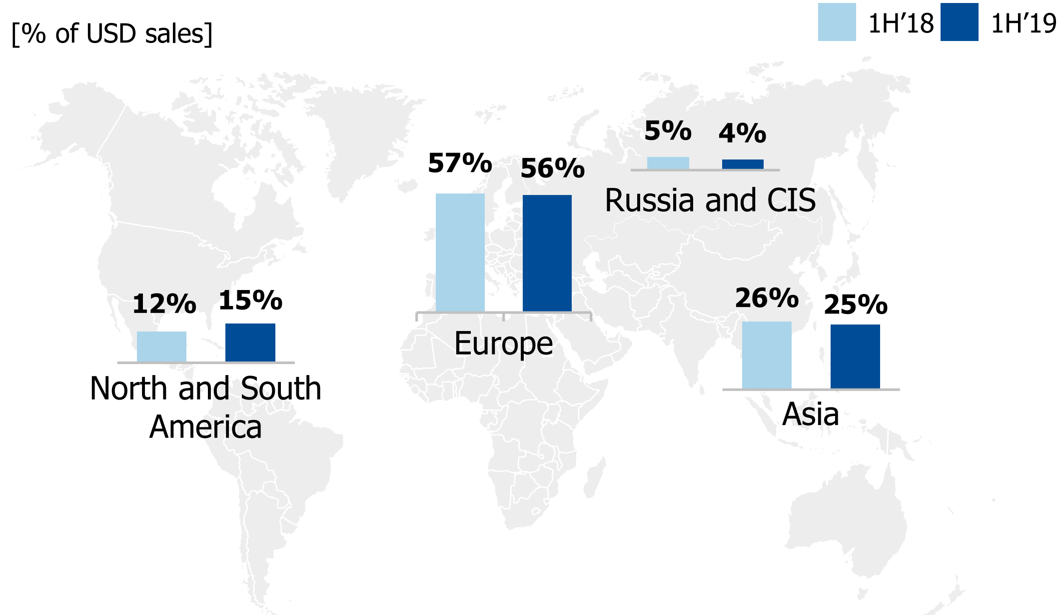
Consolidated Metal Revenue

Metal Revenue Up Mainly on Increased Sales Volumes



- Stronger palladium prices
- Higher metal sales as result of increase in production volumes
- One-off release of work-in-process inventory
- Re-sale of palladium

Geographical Breakdown of Metal Sales



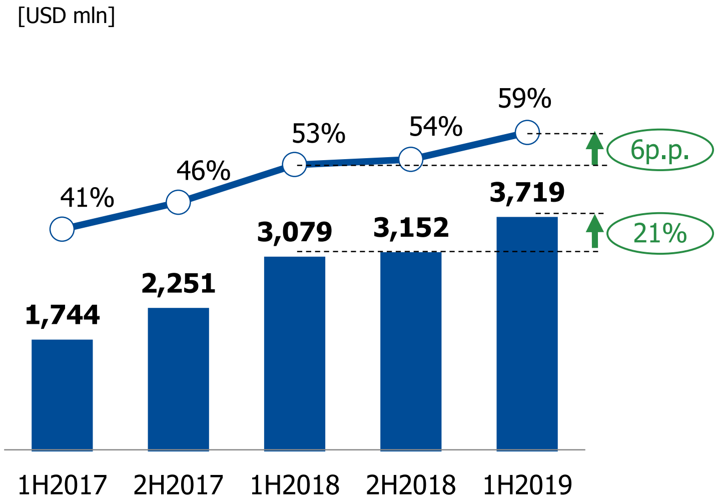
→ Europe remains the single largest market accounting for 56% of metal sales

→ Sales to Asia (25%) and Russian Federation and CIS (4%) remain by and large unchanged

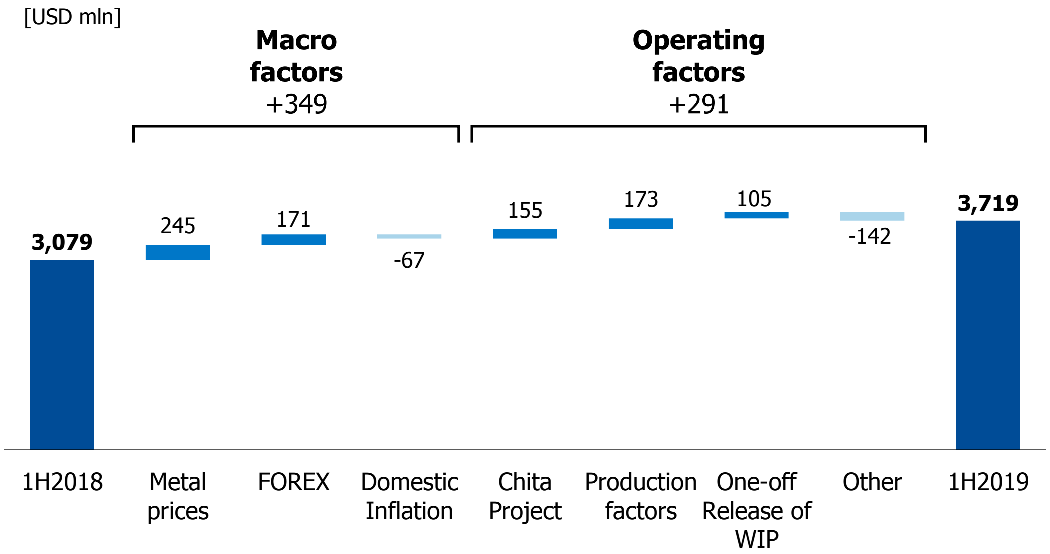
→ Increase of sales to Americas to 15% of total mainly owing to higher palladium sales to this region

EBITDA and EBITDA Margin

Industry Leading EBITDA Margin



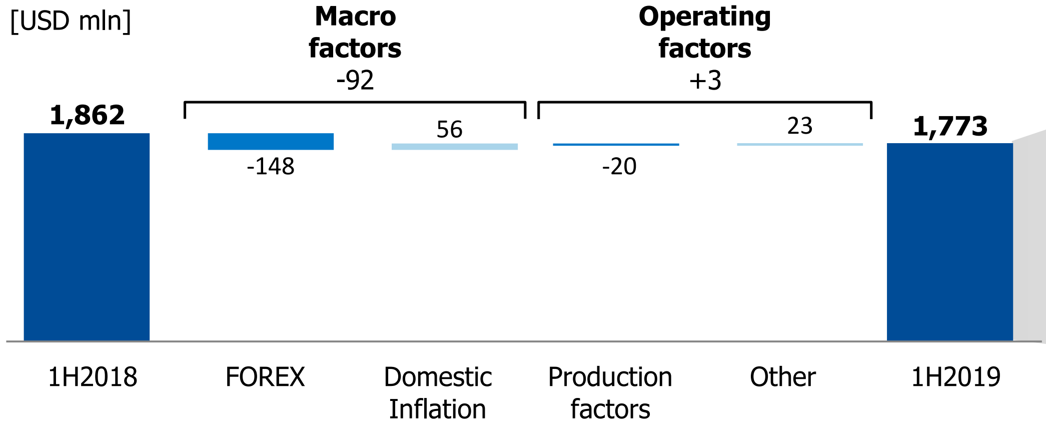
1H2019 EBITDA: Up on Strong Palladium Performance, Output Growth and RUB Depreciation



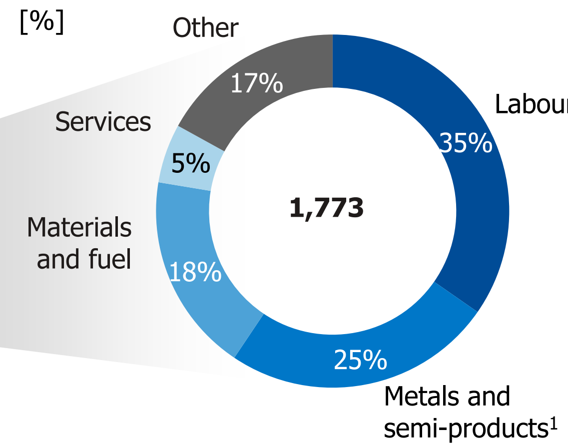
- Higher palladium prices (+USD245 mln)
- Depreciation of RUB against USD (+USD171 mln)
- Domestic inflation (-USD67 mln)
- Ramp up of Bystrinsky Project (Chita) (+USD155 mln)
- Productivity gains (+USD173 mln)
- One-off release of work-in-process inventory (+USD105 mln)

Operating Cash Costs: Withstanding Inflation Pressure

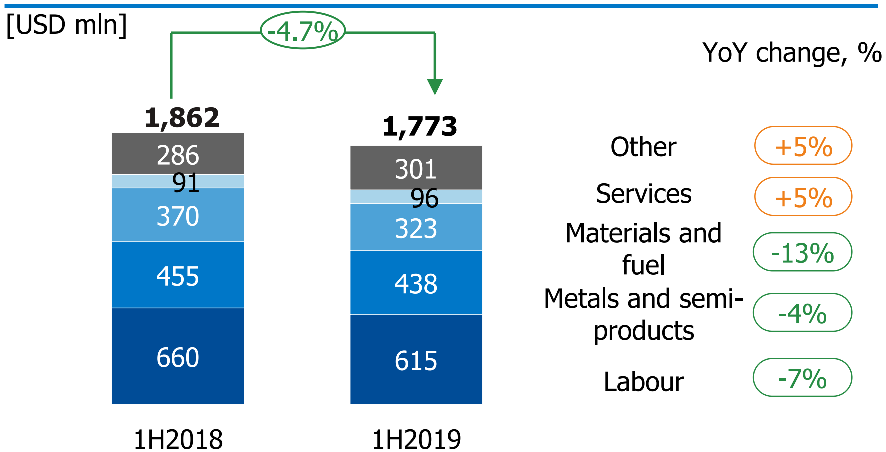
Operating Cash Costs Changes in 1H2019



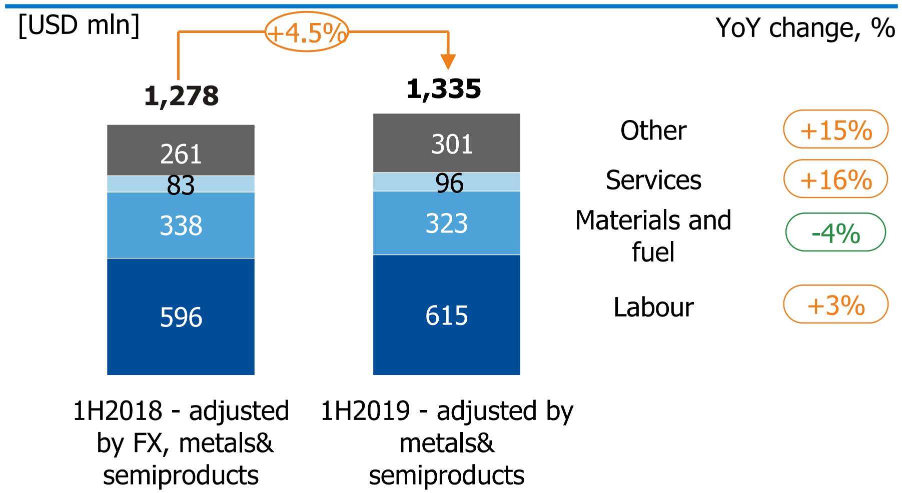
1H2019 Cash Costs Breakdown



Reported Operating Cash Costs: Down Due to RUB depreciation

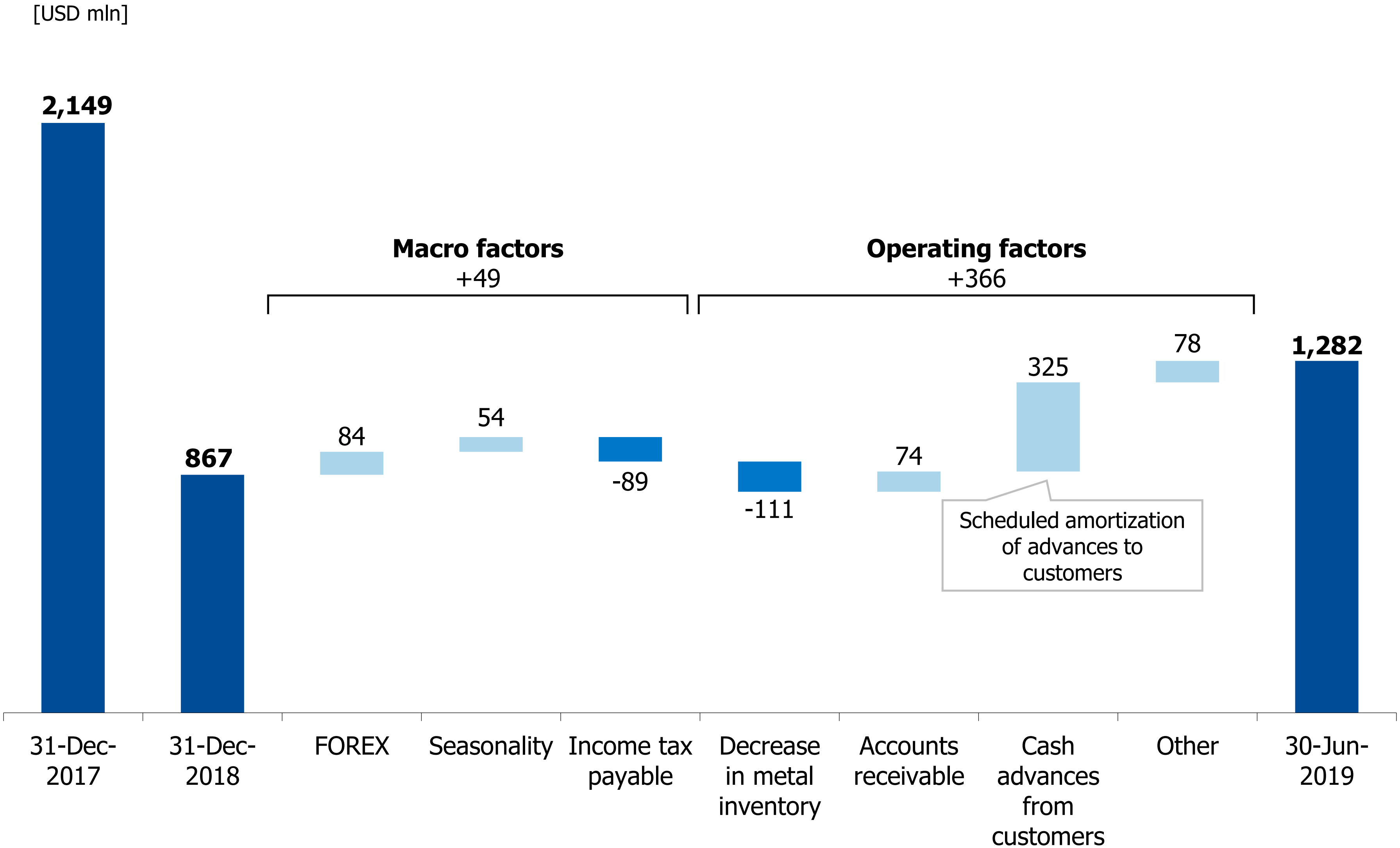


Adjusted Operating Cash Costs for FX, Metal and Semi-product[1] Purchase - Below Domestic Inflation



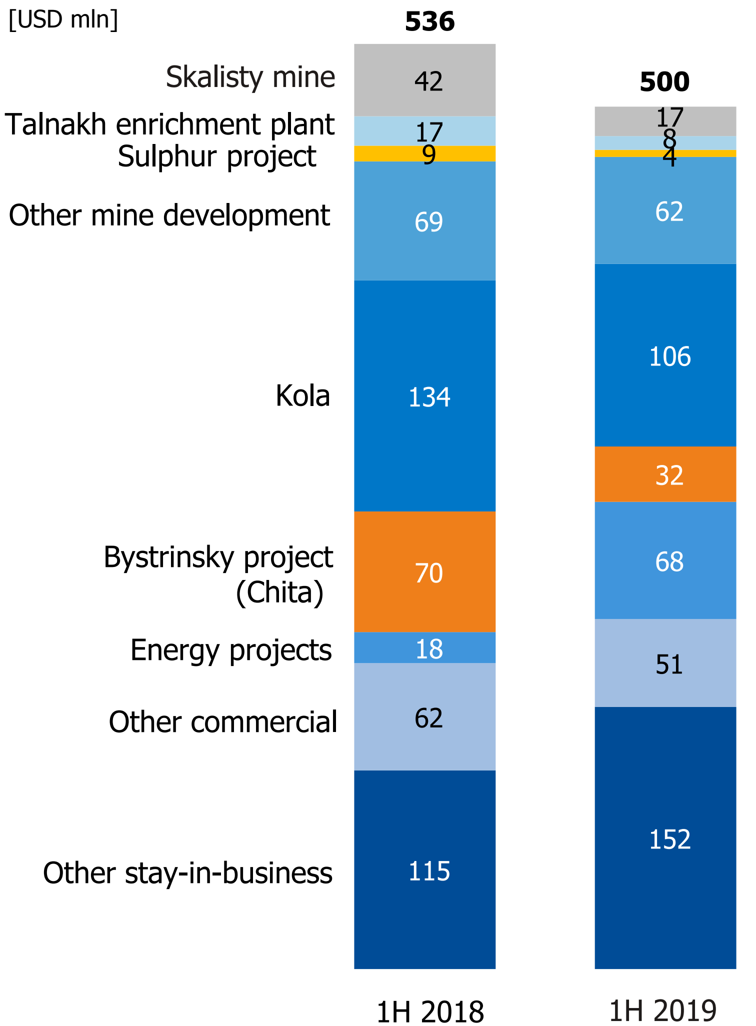
Note 1. Including Rostec and Nkomati

Net Working Capital in 1H2019

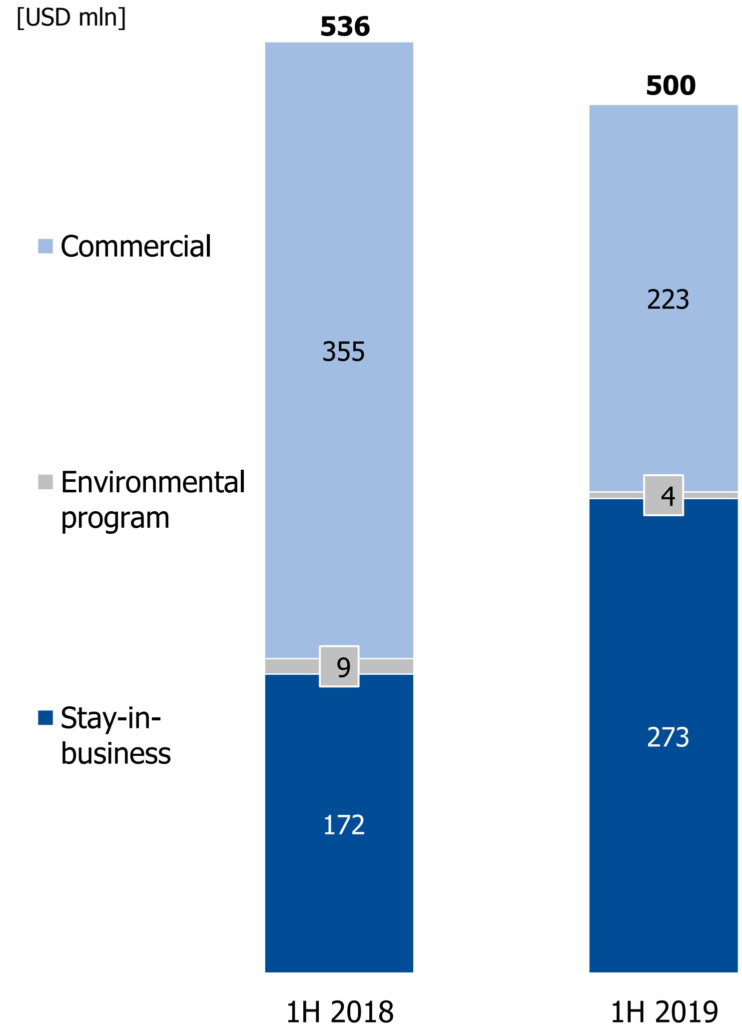


Allocation of Capital Investments

CAPEX[1] Breakdown by Projects



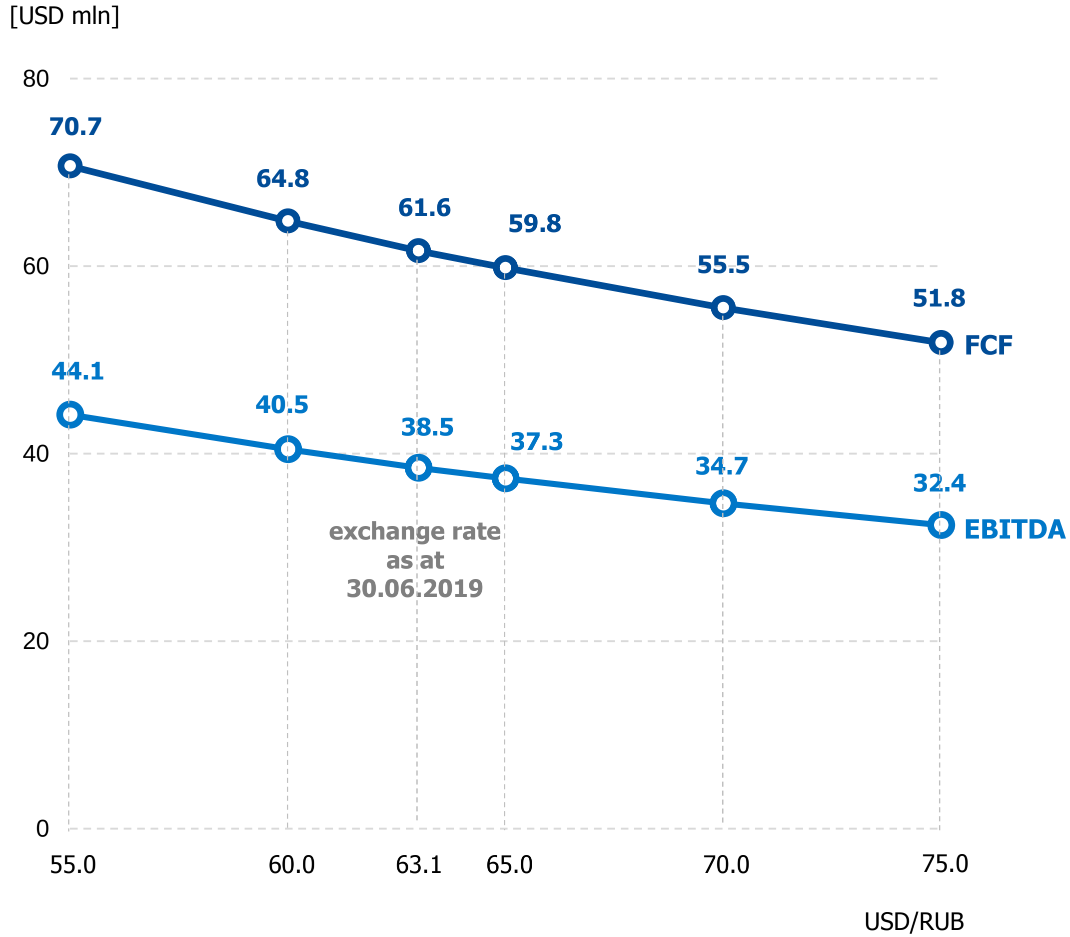
CAPEX[1] Allocation: Commercial and Stay-in-Business



Note: 1. CAPEX in Cash flow statement, net of VAT

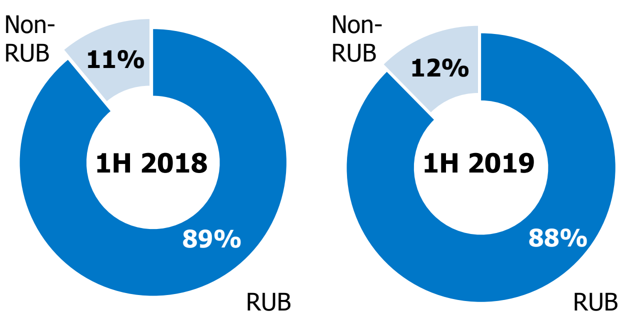
Financial Results Sensitivity to USD/RUB Exchange Rate

At USD/RUB rate of 63.1, 1% change in exchange rate translates into EBITDA change of USD38.5 mln, FCF change of USD61.6 mln

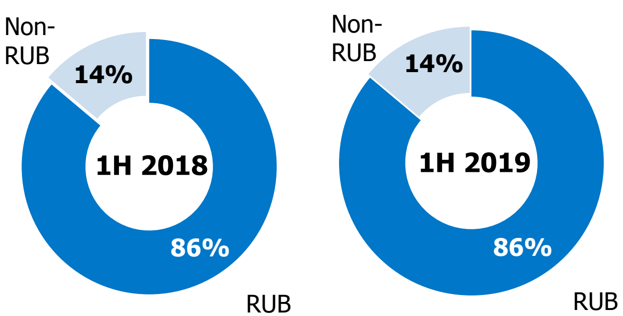


CAPEX and OPEX Break Up by Currency

OPEX[1]

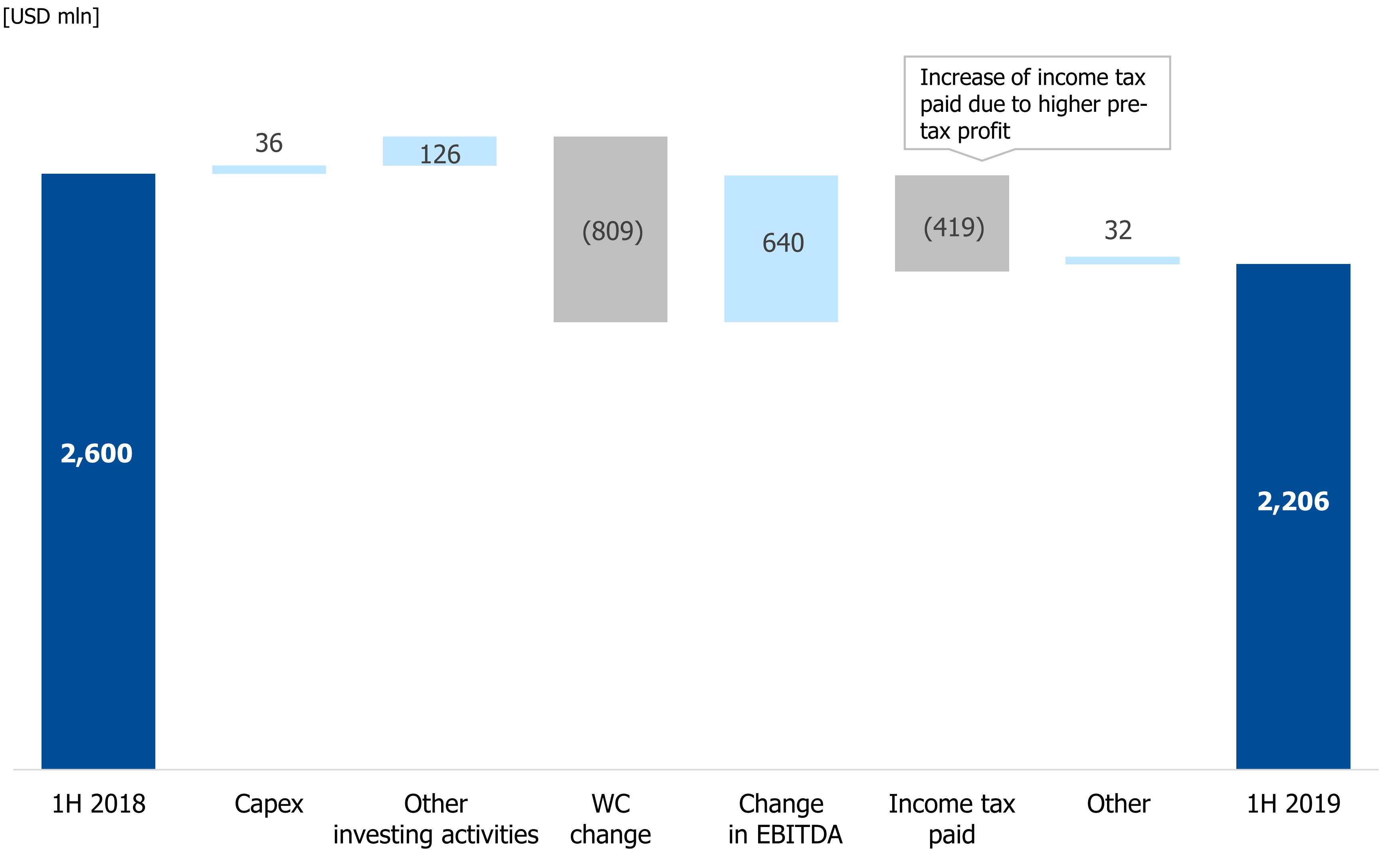


CAPEX



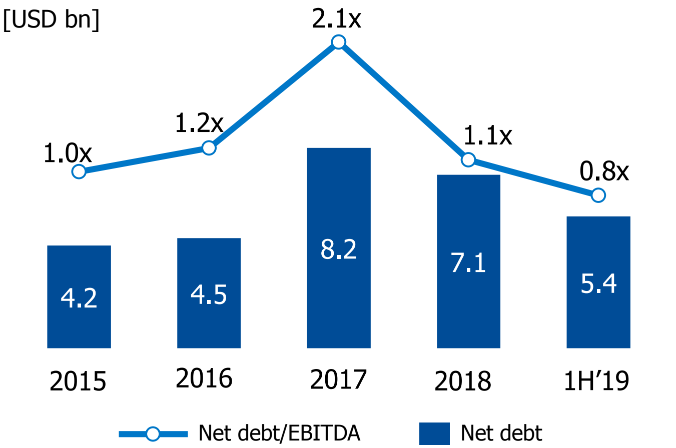
Note: 1. Cash costs (change in stock excluded), Cost of non-metal sales, SG&A; normalized by cost of refined metals for resale

Free Cash Flow Decreased to USD 2.2bn on Working Capital Increase and Income Tax Payments Partially Offset by EBITDA Growth



Balance Sheet Management

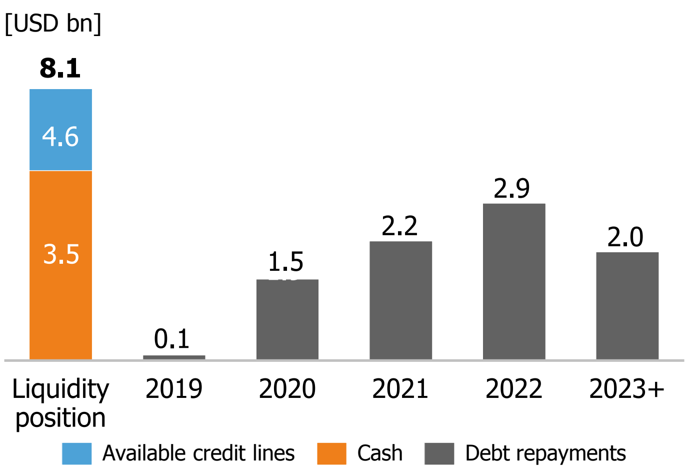
Historical Leverage: ND/EBITDA Back to Mid-Cycle Average



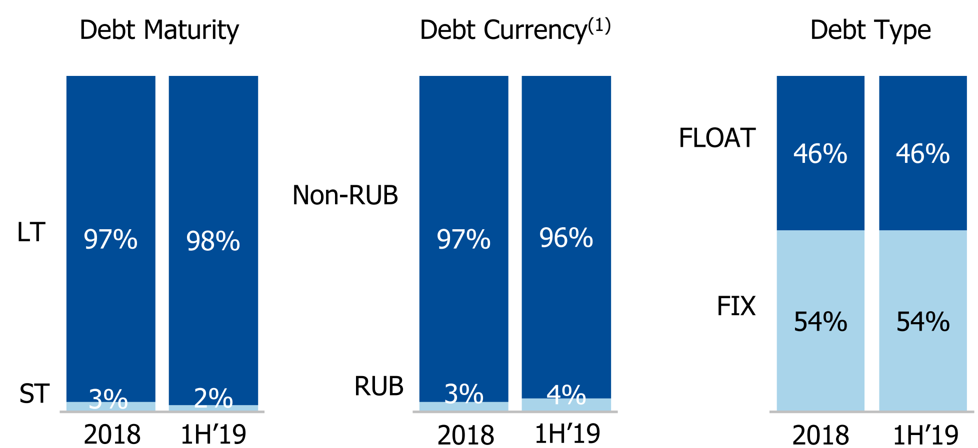
Proactive Debt Management

- In February 2019, Moody's upgraded the Company's credit rating from Baa3/Positive outlook to Baa2/Stable outlook
- The Company holds investment grade credit ratings from all three major international rating agencies
- In 2Q 2019 Nornickel revised terms of a number of bilateral loans, which allowed to extend the duration of the debt totalling USD 637 million by more than 2.5 years, while keeping average cost of debt portfolio unchanged
- Optimization of debt portfolio enabled to reduce interest paid by 23% to USD 202 mln in 1H 2019 (vs 1H 2018)

Liquidity and Debt Repayment Schedule



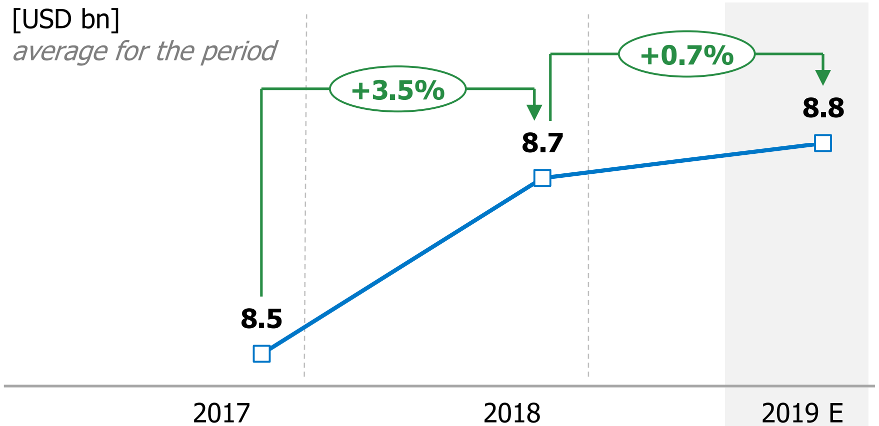
Changes in Debt Structure



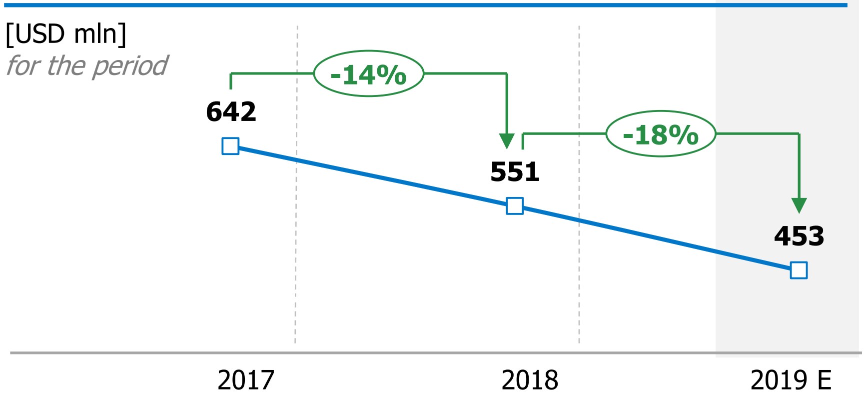
Note: 1. RUB loans with currency swap applied disclosed as USD loans

On Target to Reduce Annual Cash Finance Costs by Almost USD200 mln

Dynamics of Gross Debt (1)



Cash Finance Costs Expected to Reduce by Almost USD200 mln Since 2017



Reduction of Cash Finance Costs…

- … despite growth in base interest rates (LIBOR) in 2017-2018
- … despite an increase in the average gross debt
- … owing to successful restructuring of debt portfolio and improvements of terms with main debt providers

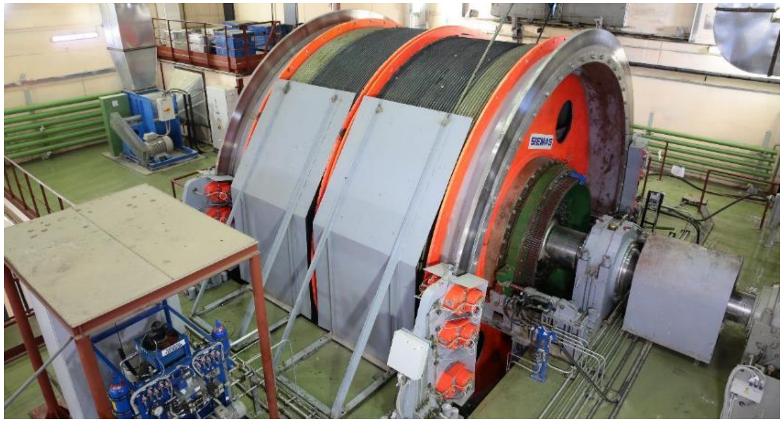
Note: 1. In 2017-2018, gross debt includes only financial lease liabilities , starting from 2019 it additionally includes other lease liabilities recognized under IAS 16

Projects Update

Key Upstream Project of Polar Division – Skalisty Mine Development

Project Description

- Total production capacity: 2.4 Mtpa by 2024
- Ore reserves: 66 Mt
- Capex for 2019: US$0.1 mln
- Remaining Capex for 2019-2023 of US$0.8 bn
- Total Capex of US$2.2 bn



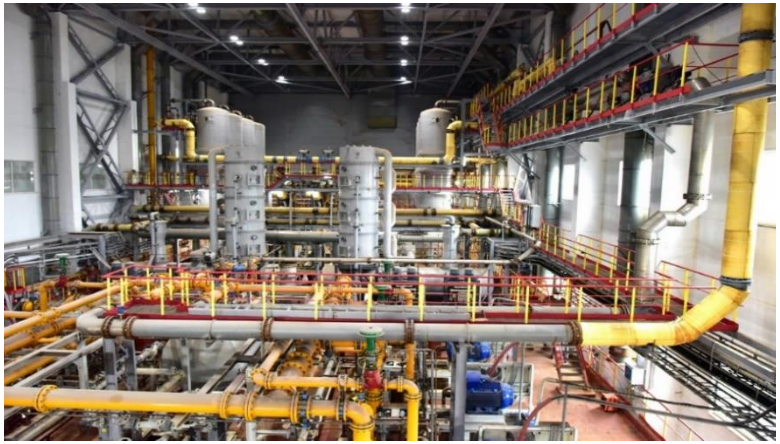
Project Timeline

- Commissioned mining capacity in 2016-2018 - 1.4 mtpa
- Expected ore production in 2019 of 2.3 mtpa
- Completion of ventilation shaft #10 construction and supporting infrastructure scheduled in 2019
- Completion of skip-cage shaft #1 sinking and supporting infrastructure scheduled in 2020
- Pre-feasibility study for autonomous mining at 2km deep

Note : 1. Including replacement of depleting capacity

Kola Nickel Refinery Upgrade – Status Update

Gas Compression Line



Copper Separation Line

Project Description

- **Project target:** increase the nickel refining capacity from 165 ktpa to 190 ktpa by 2020
- Modernization of Tankhouse-2 with 20% capacity increase (from 120ktpa to 145 ktpa)
- **Project other effects:**
  - increase in nickel recovery from high-grade matte by over 1.0%
  - Optimization of the work-in-progress inventory
  - Reduction of environmental footprint
- Capex for 2019: ~ US$100 mln
- Total Capex of US$450 mln

Project Update

- **Current status ~ construction at 100%**
- Hot-commissioning launched (50% of cells at full capacity)
- Full design capacity and parameters by year-end 2019

Environmental Project at Kola: Optimization of Smelting Operations

Project Description

- **Target: reduction of Sulphur dioxide emissions at the Norwegian border by 50% by 2020 vs. 2015**
- Shut down of ore-thermal furnace in the smelter shop
- Sales of low-grade concentrate to third parties
- Total Capex of US$90 mln

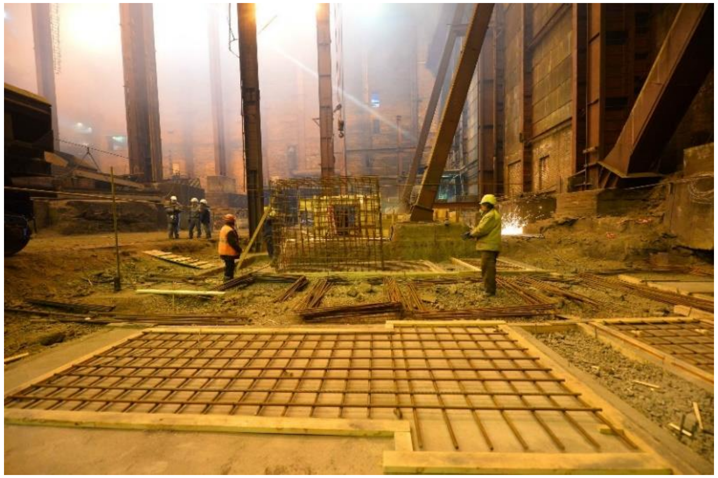
Project Highlights

- Construction of flotation circuit to split ore concentrate into low-grade and high grade concentrates
- Construction of the copper-nickel concentrate loading point
- Decommission of smelting furnace #3

Project Timeline

- Production of concentrate and concentrator pre-commissioning launched in June
- Full construction completion

Current Status of the Sulphur Project at Polar Division



Project Description

- **Target:** reduction of Sulphur dioxide emissions in Norilsk industrial area at least by 75% by 2023 vs. 2015
- **Nadezhda Smellter:** construction of new converters replacing converter furnaces of Copper Smelter; construction of Sulphur Capture and sulphuric acid neutralization
- **Copper Smelter:** construction of Sulphur Capture and elementary sulphur production
- Total Capex of US$2.5 bn

Project Highlights

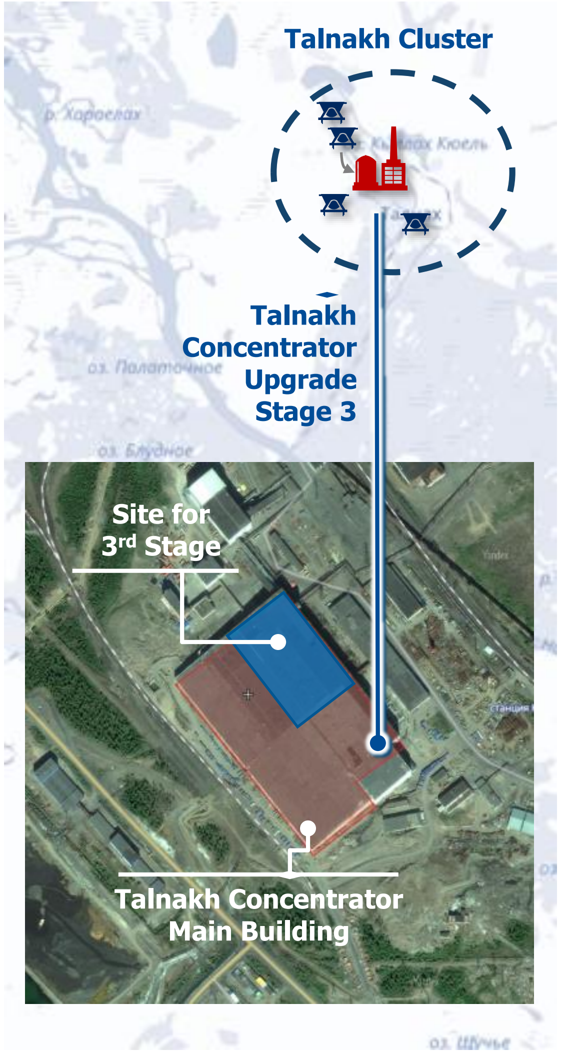
- Preparation of engineering project documentation and application for the government regulator (Glavgosexpertisa) approval in 2019
- Start of construction and installation works in 4Q 2019
- Project completion in 2022

Project Timeline

- Preparation of construction sites and dismantling of structures in progress at Copper Plant and Nadezhda Smelter
- Tender process to select construction contractors and technological equipment suppliers for the projects at Copper Plant and Nadezdha Smelter is under way

3rd Stage of Talnakh Concentrator Upgrade

Location



Project Rationale

- Unlocking Norilsk region resource potential requires concentrator capacity expansion
- Current Talnakh Concentrator design allows installation of additional equipment without construction of major new buildings
- New technology has been proven at 2nd Stage of the Concentrator Upgrade
- Reduction of transportation costs as all of Talnakh ores will be treated at Talnakh concentrator

Project Description

- Capacity increase to 18.0 Mtpa from 10.2Mtpa
- Capex in 2019-2022 of RUB40 bn (approximately US$0.6 bn)

Project Timeline

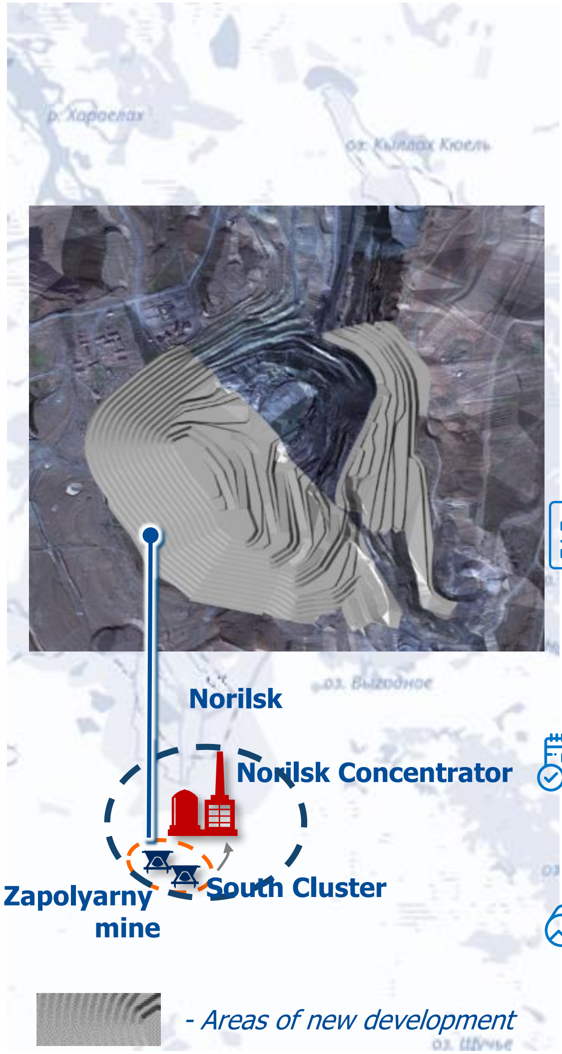
- Start of construction in 2019
- Production launch in 2023

Project Update

- Tenders for the selection of equipment suppliers and construction contractors are in progress

South Cluster Development Update

Location



Project Rationale

- Large PGM asset at the bottom of the global PGM cost curve

Estimated resources for new development [1]:

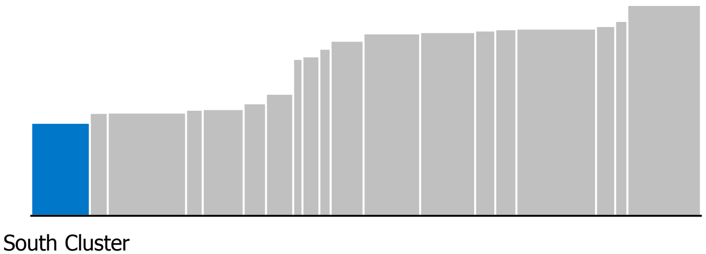
Ore reserves: 165 Mt (of disseminated ore)

PGMs – >20 Moz

Cu – >447 kt

Ni – >365 kt

South Cluster on the global PGM cost curve, Operating Costs[2], US$/4E oz



- Leverage existing infrastructure
- Open pit operations with potentially staged development

Project Description

- Mined ore: 9 Mtpa
- Additional annual production: 20t of PGMs (approximately 640 koz of PGMs)
- Capex in 2019-2022 of RUB45 bn (approximately US$690 mln)

Project Timeline

- Ramp-up expected to start in 2021-2022
- Full production capacity by 2027

Project Highlights

- Stripping works commenced in May 2019 and is on schedule
- Feasibility study completion is scheduled for 1Q 2020

Source: SFA Oxford
Note: 1. Subject to audit, salable metal; 2. Cash costs reduced by revenue from co-products (ruthenium and iridium) and by-products (copper and nickel). Cost curve doesn't include Talnakh

NORNICKEL

Infrastructure Projects: Modernization of Power Generation

Norilsk Nickel is 100% self-sufficient in power generation in Norilsk, sourcing energy from captive plants, of which 44%[(1)] is renewable energy

3 Thermal power plants

2 Hydro power plants

2 271 MW Total Capacity

Project Description

- **Project target: maintain the share of renewable power generation at current levels**
- Expansion of installed generating and transformer capacity
- Replacement of turbines and introduction of an automated dispatch system at Ust-Khantayskaya hydro power plant (HPP)
- Replacement of power units at a thermal plant (TPP)
- Total Capex for 2018-2022 of US$800 mln

Project Timeline

- Capex for 2019: US$200 mln
- 2019 progress: one turbine replaced at Ust-Khantayskaya hydro power plant (HPP) and one of power-generating units is being replaced at TPP-2

Note: 1. by the Group and for Norilsk Industrial District renewables accounted for 51.4% of power consumption

Bystrinsky Project Update

Project Description

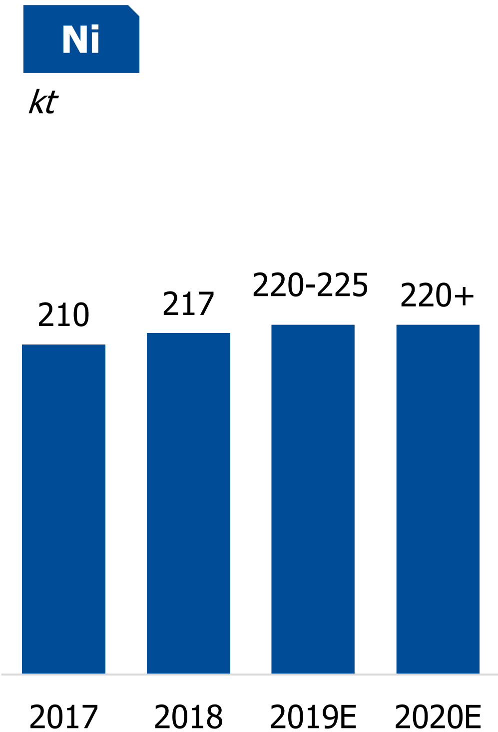
- **The concentrator was fully commissioned in August**
- Supporting infrastructure expected to obtain government's approval (Rostechnadzor) by the year-end 2019
- **The project is on track to reach full operating capacity in 2020**
- Ore reserves: 341 Mt, grades: Cu – ~0.7%; Fe – ~21%; Au – ~0.9 g/t [(1)]
- New jobs: 2,000 people

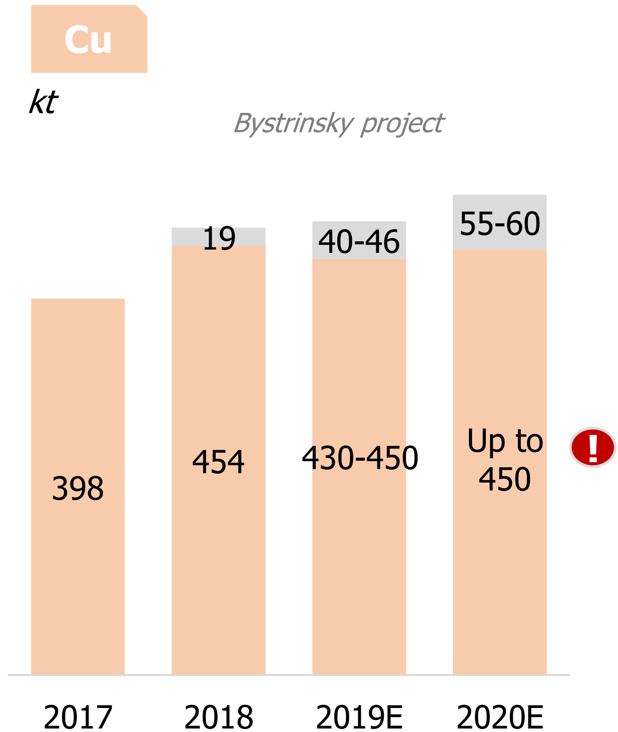
Operating Performance Outlook

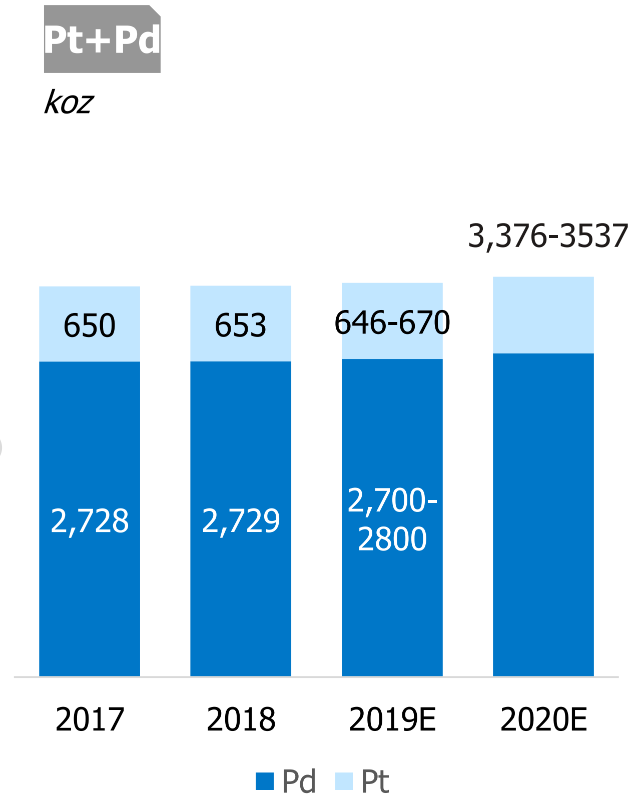
		2018	**2019E**	**2020E**
Ore	Mt[3]	4	8	10
Cu	kt[2]	19	40-45	55-60
Au	t[2]	3.0	6.0-6.5	7-7.5
Fe	mt[2]	0.4	1.3-1.4	1.9-2.1

Note: 1. According to the Russian classification (A+B+C1+C2), 2. Metals in concentrate : Cu (in concentrate), Au (in Cu, Au concentrate), Fe (magnetite concentrate), 3. Ore processed

Production Guidance for 2019-2020 (1)



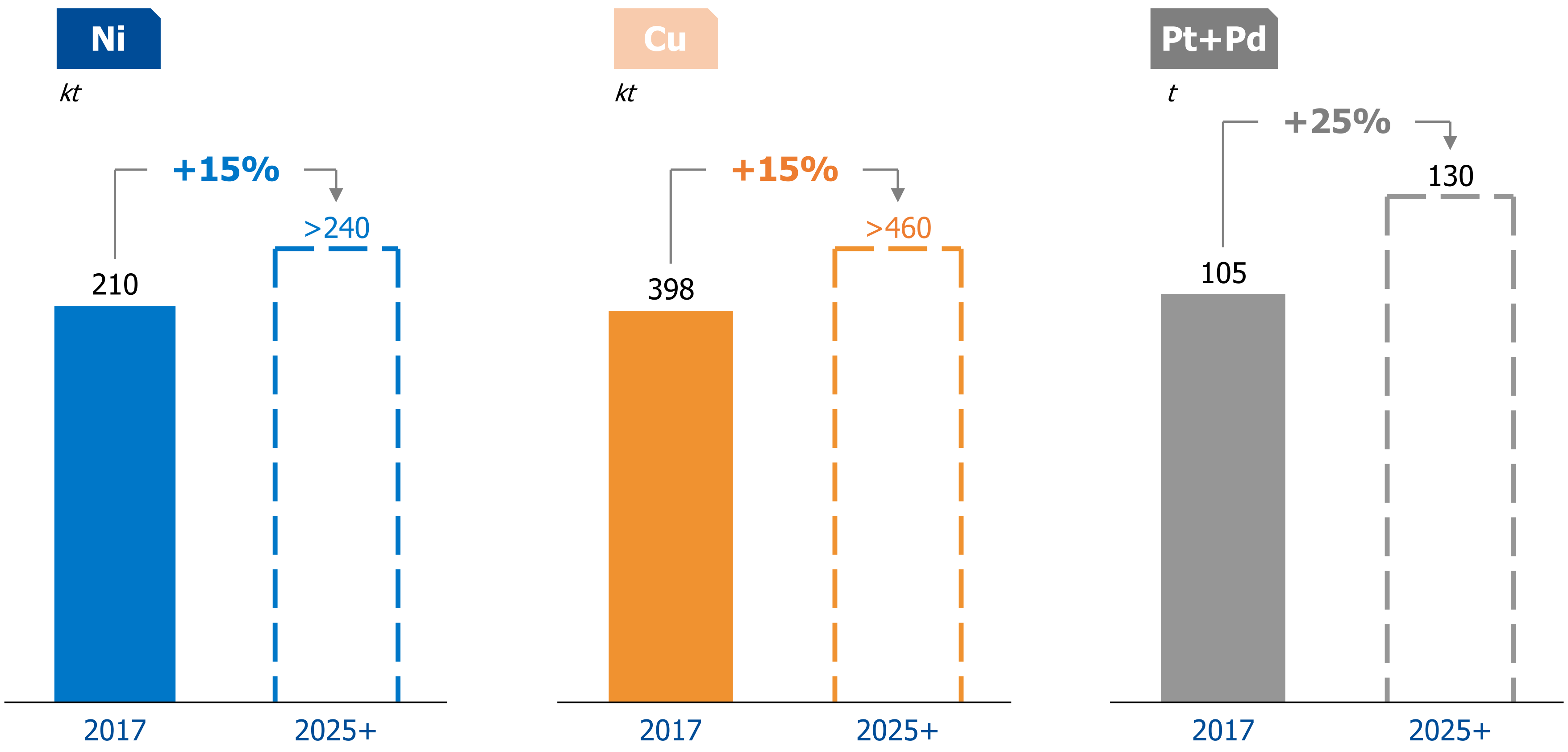




Temporary decrease in Cu production is expected in 2021-2023 due to secondary feedstock depletion, with mined feedstock volumes expected to recover by ~2024-2025

Note: 1. Metals produced from own feedstock (including metals in saleable semi-products), excluding production of Nkomati project

Strategic Targets for 2025+ Metal Production (1)



Assuming the development of both Talnakh and South Cluster growth projects

Note: 1. Metals produced from own feedstock (including metals in saleable semi-products),), excluding production of Bystrinsky project and Nkomati

2019 Outlook

Metals market outlook

→ Neutral ↗ Positive

Ni →

Market deficit to narrow as Indonesia and China continue to increase NPI output while the demand growth is moderating

Cu →

Market deficit is expanding, but remains marginal. Inventories running low

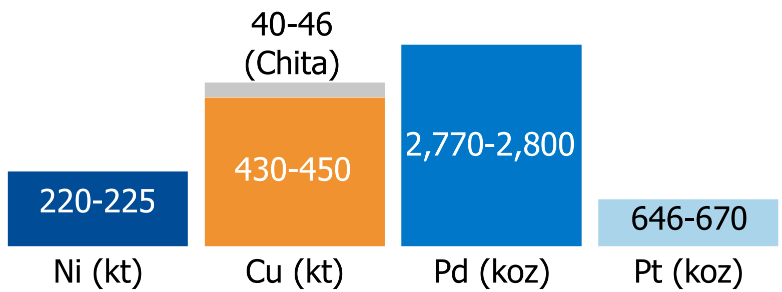
Pd ↗

Apparent market deficit to widen driven by tighter emission regulations in all major markets and flattish primary supply. No evidence of platinum substitution due to technical barriers

Pt ↗

Market to remain in surplus, jewelry demand to stabilize, potential supply rationalization still feasible

2019 Metal Production Guidance [1]



Working capital

Approximately USD1.0 billion by 2019YE

CAPEX

Annual capex 2019 is expected at up to **USD2.2 billion**[2]

Note 1. Metal production guidance from Russian feed including Bystrinsky GOK, 2. Assuming 2019 average exchange rate USD/RUB 65.7

NORNICKEL

Q&A