



NORNICKEL

Expanding the Horizons of Sustainable Growth

London, November 2019



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CEO Vision

Vladimir Potanin

President

Chairman of the Management Board

2013-2019: Delivery on Strategy

ESG

- ✓ Material progress in environmental programme: shutdown of Nickel Plant resulting in 30-35% emissions reduction within Norilsk residential area
- ✓ Continuous improvement on Health & Safety metrics and independent ESG assessments

Operational and financial performance

- ✓ Delivery on Efficiency improvement programme targets: productivity growth by 15%
- ✓ Maintaining industry leading EBITDA margin and conservative balance sheet through the cycle

Delivery of major projects

- ✓ Downstream reconfiguration: upgrade of Nadezhda Smelter (2016), Talnakh Concentrator (2017), Kola Refinery (2019)
- ✓ Commissioning of Bystrinsky project (2018-2019)

Launch of new growth cycle

- ✓ South Cluster development: FID is made
- ✓ Talnakh Concentrator (Phase 3): FID is made

✓ Industry leading Shareholder Returns

TSR ⁽¹⁾, 2013–2019 YTD, %

>120



-12

Global industry average ⁽²⁾

Note: 1. Total shareholder returns; 2. Global MSCI Metals & Mining index (incl. dividends)

Vision 2030: Expanding the Horizons of Sustainable Growth

Expanding the horizons...

- ...From 5-year planning to longer term 10-year vision
- ...From environmental compliance to broader commitment to sustainable future in the regions we operate
- ...From resource supplier to enabler of the global shift towards cleaner mobility
- ...From “steady-state” financial model to growth-enabling capital allocation maintaining industry-leading returns through the cycle

Holistic Environmental Programme:

- Launching Sulphur Programme 2.0: staged journey towards best practice SO₂ capturing
- Maintaining the lowest-in-class carbon footprint while enabling the global shift to cleaner mobility with our metals

Charging Up the Growth:

- Setting new ambitious long-term production growth targets to address increasing demand in our core markets
- Continue with comprehensive upgrade and modernization of production assets and auxiliary infrastructure

Critical Contribution to Global Sustainability Agenda: Enabling the Shift to Cleaner Mobility

Clean Mobility 2030 Megatrends

Hybridization and Tightening Emission Standards

While powertrain diversification is set to increase, production of autocatalysts-loaded vehicles (including hybrids) will continue growing in absolute terms

Tightening emission standards will drive higher PGM loadings

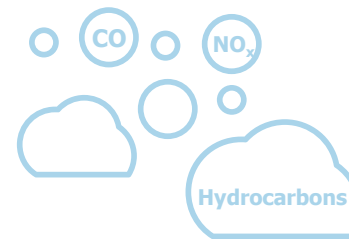
Electrification

Electric vehicles industry is expected to continue growing at 20%+ CAGR driving demand for nickel, cobalt and copper

Nornickel's 2030 Enabling Potential

Supplying enough resource to produce:

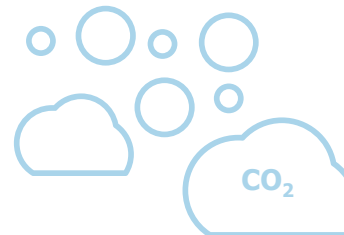
25-40 mn PGM-Loaded Autocatalysts ⁽¹⁾



Potential reduction of up to

170-270 Mt
air pollutants ⁽²⁾

3.5–5.5 mn nickel-rich EV battery packs ⁽³⁾



Potential reduction of up to

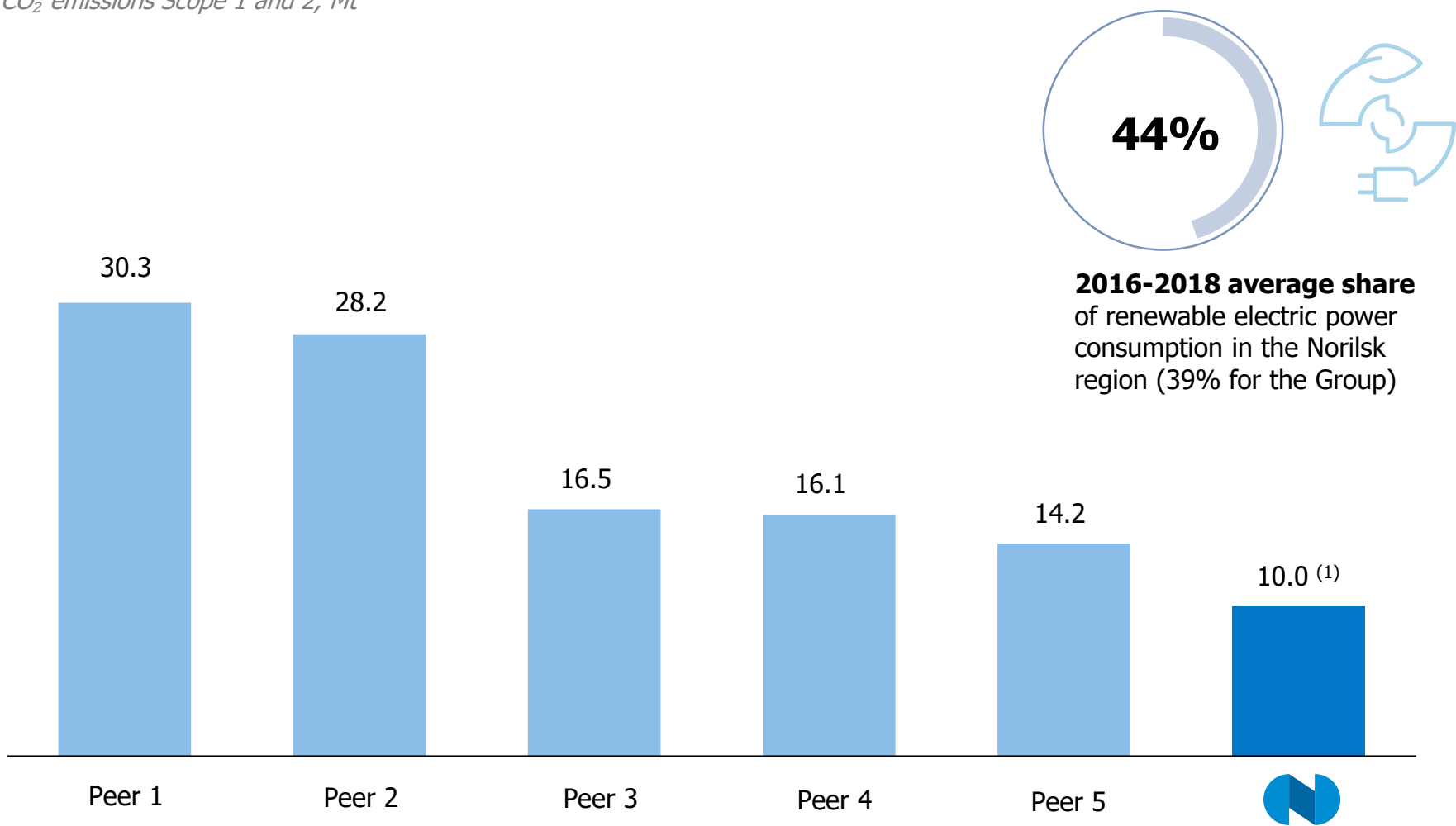
50-100 Mt CO₂
emissions ⁽⁴⁾

Notes:

1. Company estimate based on 2030E PGM production and c. 5g PGM loading per 1 catalyst (rounded)
2. Company estimate based on c. 6.8t savings (CO, NO_x, Hydrocarbons) per catalyst lifecycle (rounded)
3. Company estimate based on c. 50kg nickel loading per EV battery pack (high nickel ternary cathode-based)
4. Company estimate based on up to 18t carbon dioxide savings per EV lifecycle run on renewable energy as compared to ICE

Nornickel to Maintain One of the Lowest CO₂ Footprints Among Peers

CO₂ emissions Scope 1 and 2, Mt



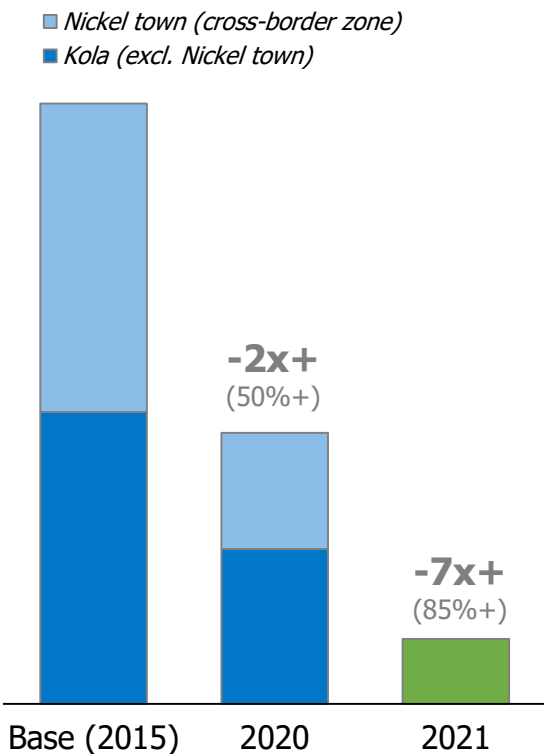
Source: Companies' filings
Notes: 1. Assessment made using Russian methodology (Scope 1 + Scope 2)

Sulphur Programme 2.0: Staged Journey Towards Best Practice SO₂ Capturing

Advancing Programme at Kola:

Complete shutdown of nickel smelter located in the Russia-Norway border area and Copper line at Kola Refinery

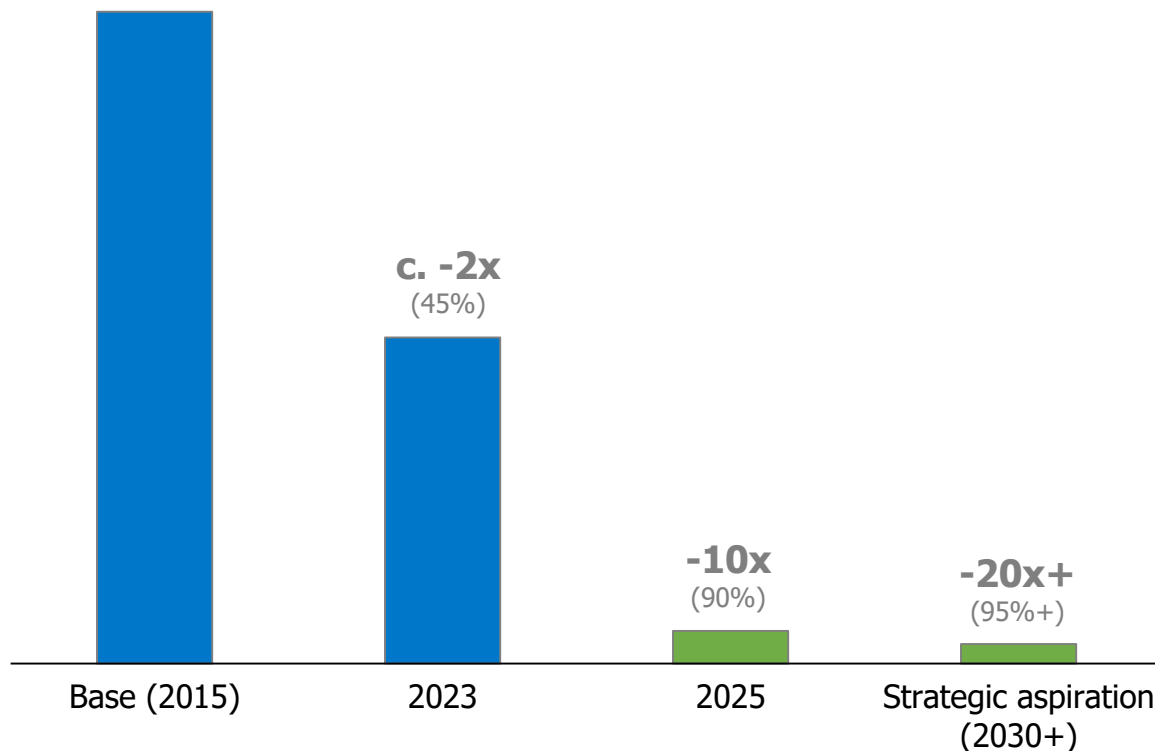
Kola Division SO₂ emissions



Comprehensive Environmental Solution at Polar Division:

Implementation of anchor sulphur utilization project at Nadezhda Smelter to be followed by redesigned project at Copper Plant with a new longer term ambition to achieve 20x reduction in SO₂ emissions

Polar Division SO₂ emissions



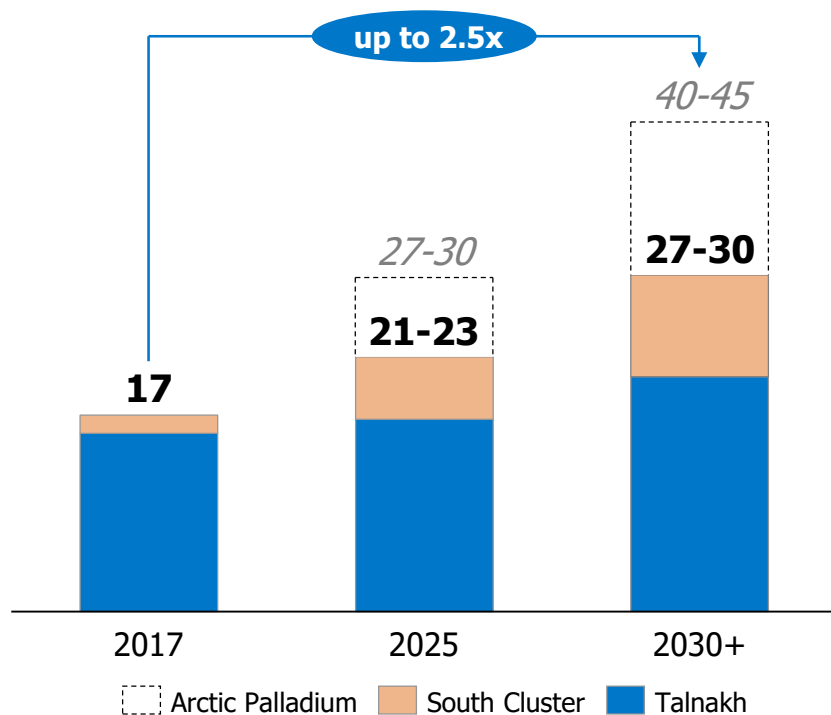
Sustainable Path to Unlock Nornickel's Resource Base Potential



Mining

Ambitious targets to unlock the potential of Nornickel's unique resource base to address increasing demand in our core markets

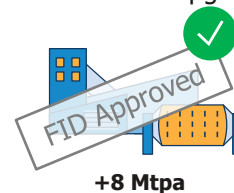
Ore mining in Norilsk region, Mtpa



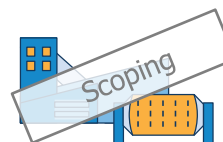
Concentrators

Fit-to-size expansion of Downstream capacities

3rd Stage of Talnakh Concentrator upgrade



Reconstruction and upgrade of Norilsk Concentrator



Expansion of Nadezhda Smelter (3rd furnace)



Reconstruction and upgrade of Copper refining operations at Kola

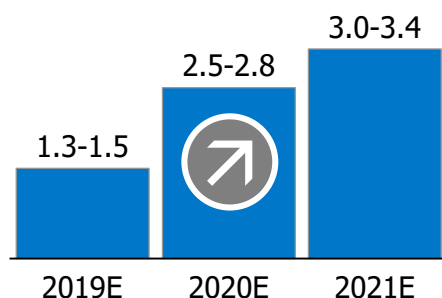


Rebalancing Capital Allocation to Accommodate for Investment Peaks While Sustaining Leading Shareholder Returns Through the 10-Year Cycle

Phase 1: "Scaling Up"

- Staged roll-out of construction works at key sites
- Excess liquidity distributions to maintain industry-leading dividend yield

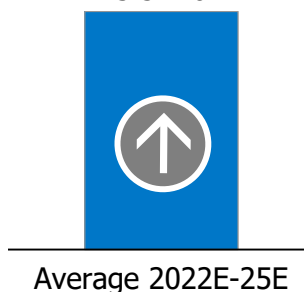
CapEx ⁽¹⁾, US\$ bn



Phase 2: "Investment Peak"

- Active execution of major growth and environmental projects
- Capital distributions moderated to balance the financial model and to maintain the investment-grade credit rating

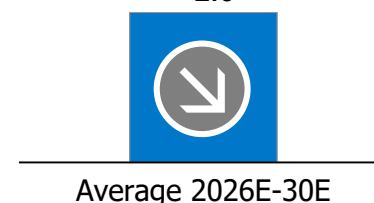
3.5-4.0



Phase 3: "Back to Normal"

- CapEx steadily declining to historic average levels with new projects entering cash generation phase
- Dividend payout to increase in line with improved free cash flows

<2.0



Dividend level



Note 1. Not including potential CapEx for Arctic Palladium



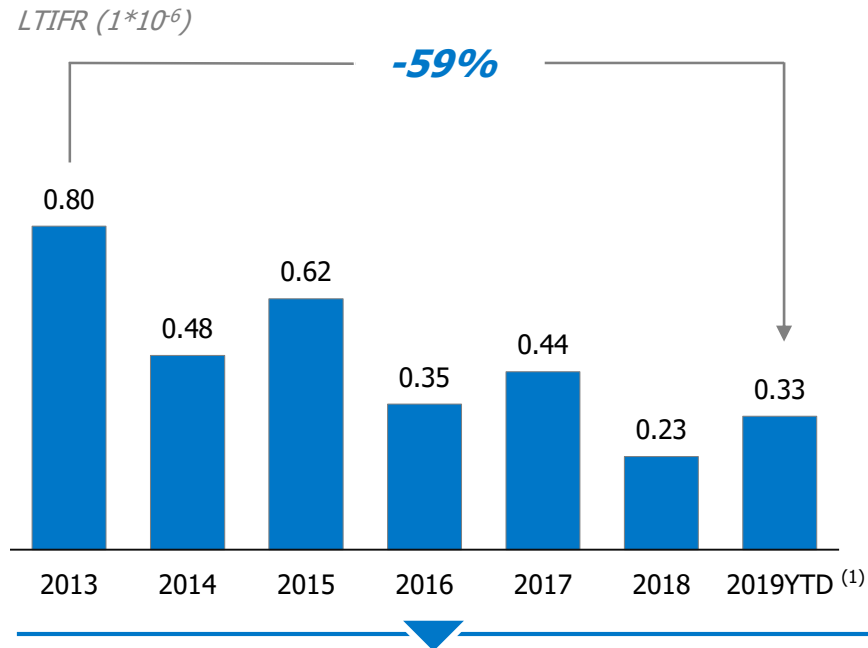
Operations Update

Sergey Dyachenko

First Vice-President
Chief Operating Officer

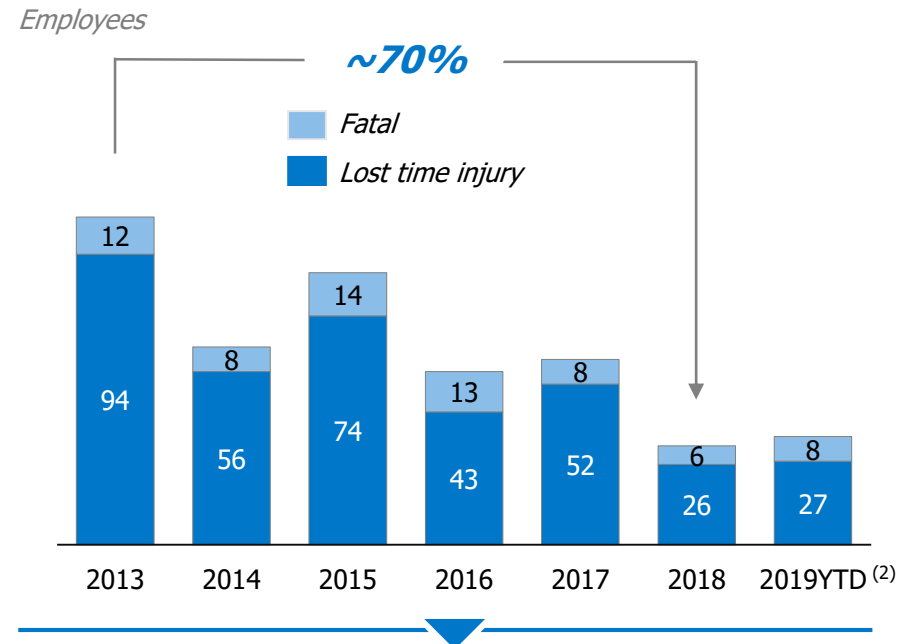
Health & Safety: Steady Improvements

LTIFR Reduced by Almost 60% since 2013



- Company is committed to create a strong safety culture at all levels of the organization

Accident Statistics Improved by Almost 70% since 2013

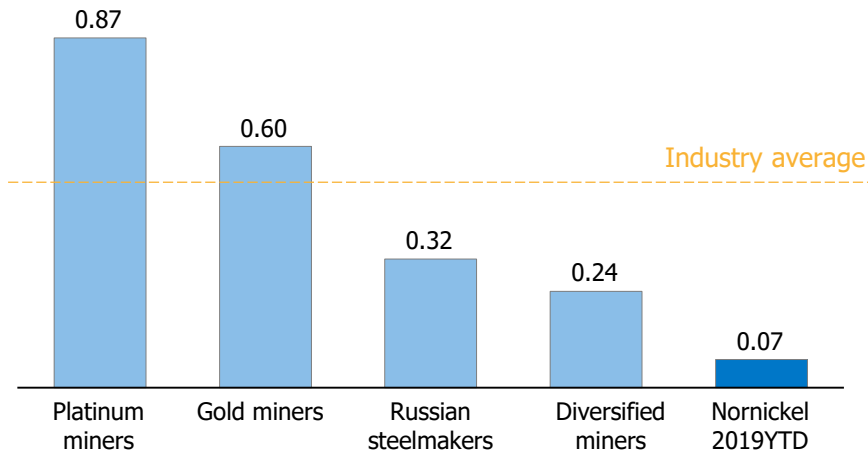


- Regular internal audits of occupational safety and health management system (66 audits in 2019YTD ⁽¹⁾)
- Cardinal safety rules introduced in 2014 (105 employees dismissed in 2019YTD ⁽¹⁾)

Health & Safety: Strong Performance Relative to Industry

LTIFR Remains Below the Global Mining Industry Average

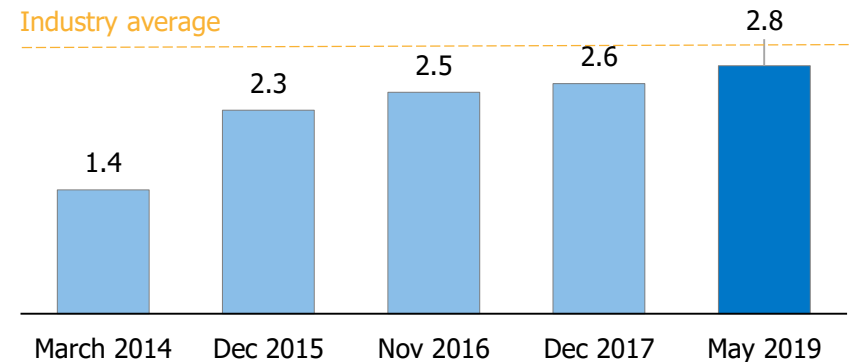
LTIFR ⁽¹⁾ per 200k hours



- LTIFR remains below the global mining industry average
- Commitment to the principles of sustainable development

Assessment of Occupational Safety Culture: Score Significantly Improved Since 2014

Bradley Curve Indicator ⁽²⁾



- Improvements in safety culture driven by application of risk mitigation standards, safety communication campaign and dedicated risk mitigation programmes

Strategic Objectives

- **Zero-fatality on production sites** – zero tolerance policy towards workplace fatalities
- **Continuous improvement of LTIFR** – reduction of occupational injuries by 15% each year

Source: Company data, Renaissance Capital

Notes: 1. Industry data on LTIFR based on 2018 data; for Nornickel – based on 9M2019 data

2. Assessment conducted by DuPont up to 2018 and by Bain & Company starting from 2019

The Worlds' Best Tier-1 Mining Assets

Nornickel

Nickel (Mt)

6.9

Proven and probable

15.3

Measured and indicated

Copper (Mt)

12.1

Proven and probable

23.5

Measured and indicated

Palladium (Moz)

93.0

Proven and probable

195.9

Measured and indicated

Platinum (Moz)

24.7

Proven and probable

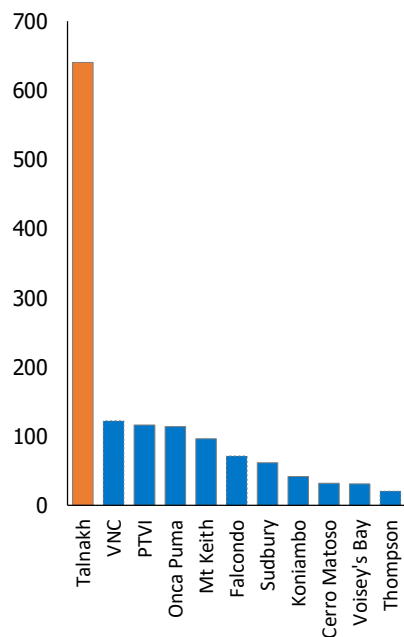
55.4

Measured and indicated

Talnakh vs. large-scale deposits

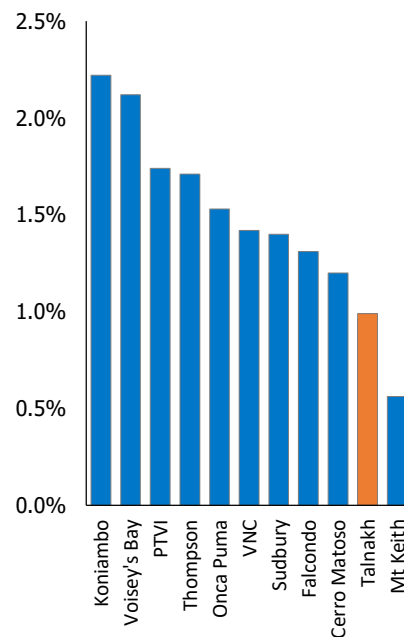
P&P Ore Reserves

Mt



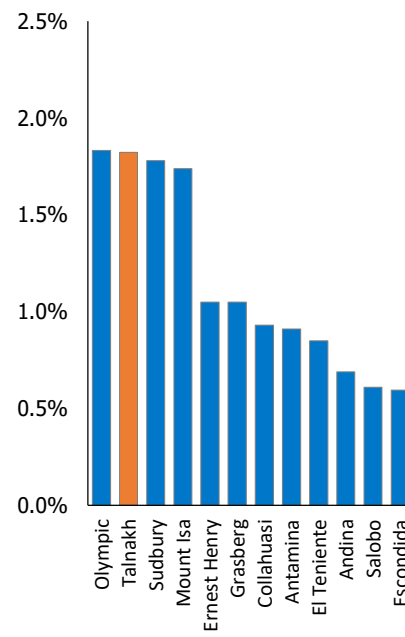
Nickel Grades

%



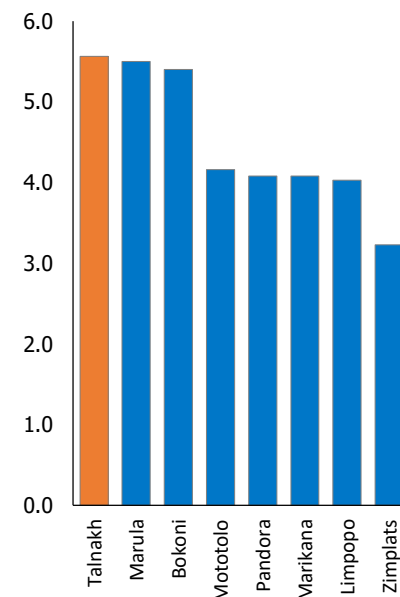
Copper Grades

%



PGM Grades

g/t



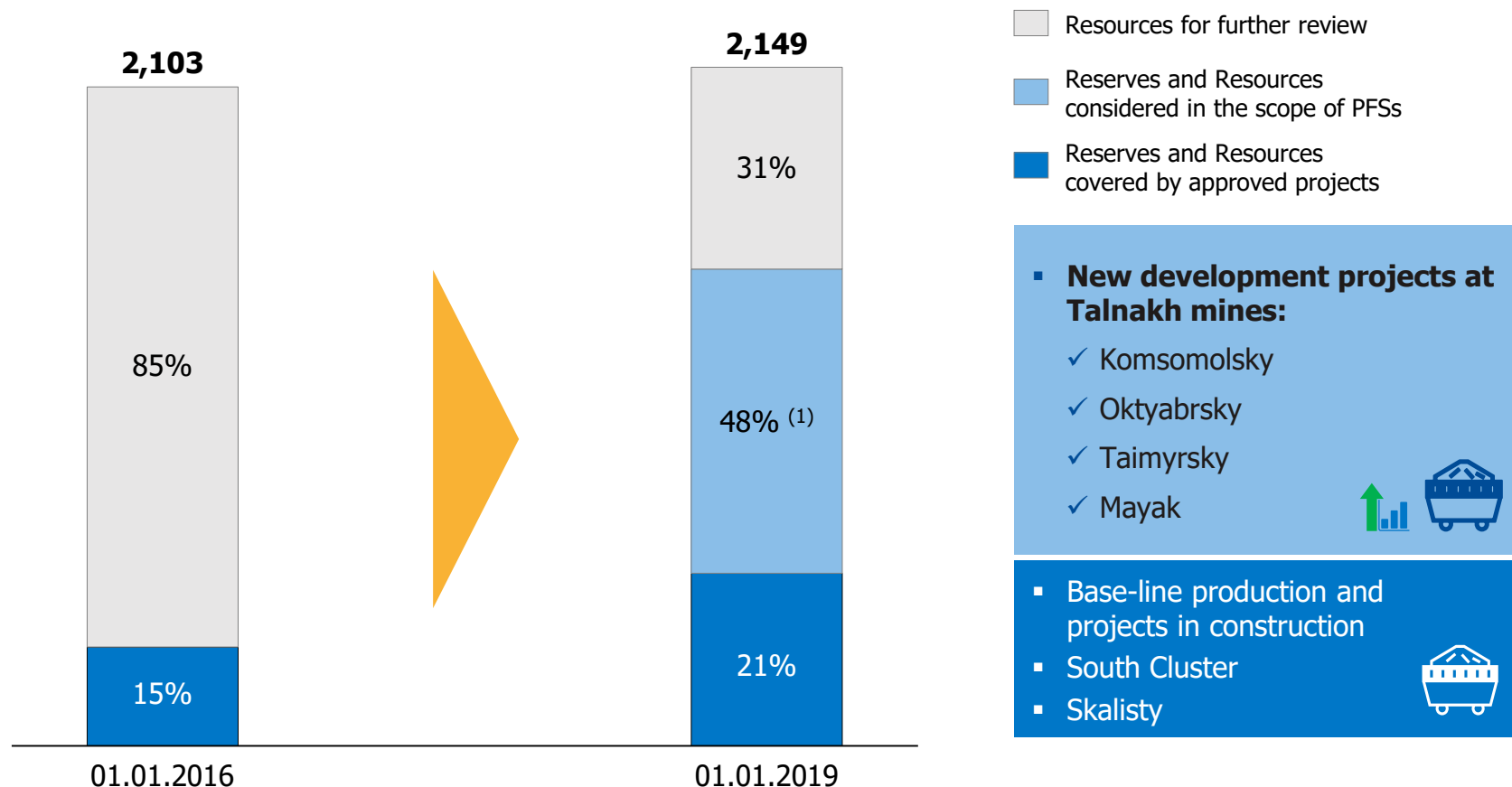
Sources: Companies' filings, Nornickel estimates

Note: Reports and reserves presented on 100% consolidated basis, calculations based on the latest publicly available data

Converting Unique Resource Base into Development Projects

Reserves and Resources, Polar Division + South Cluster

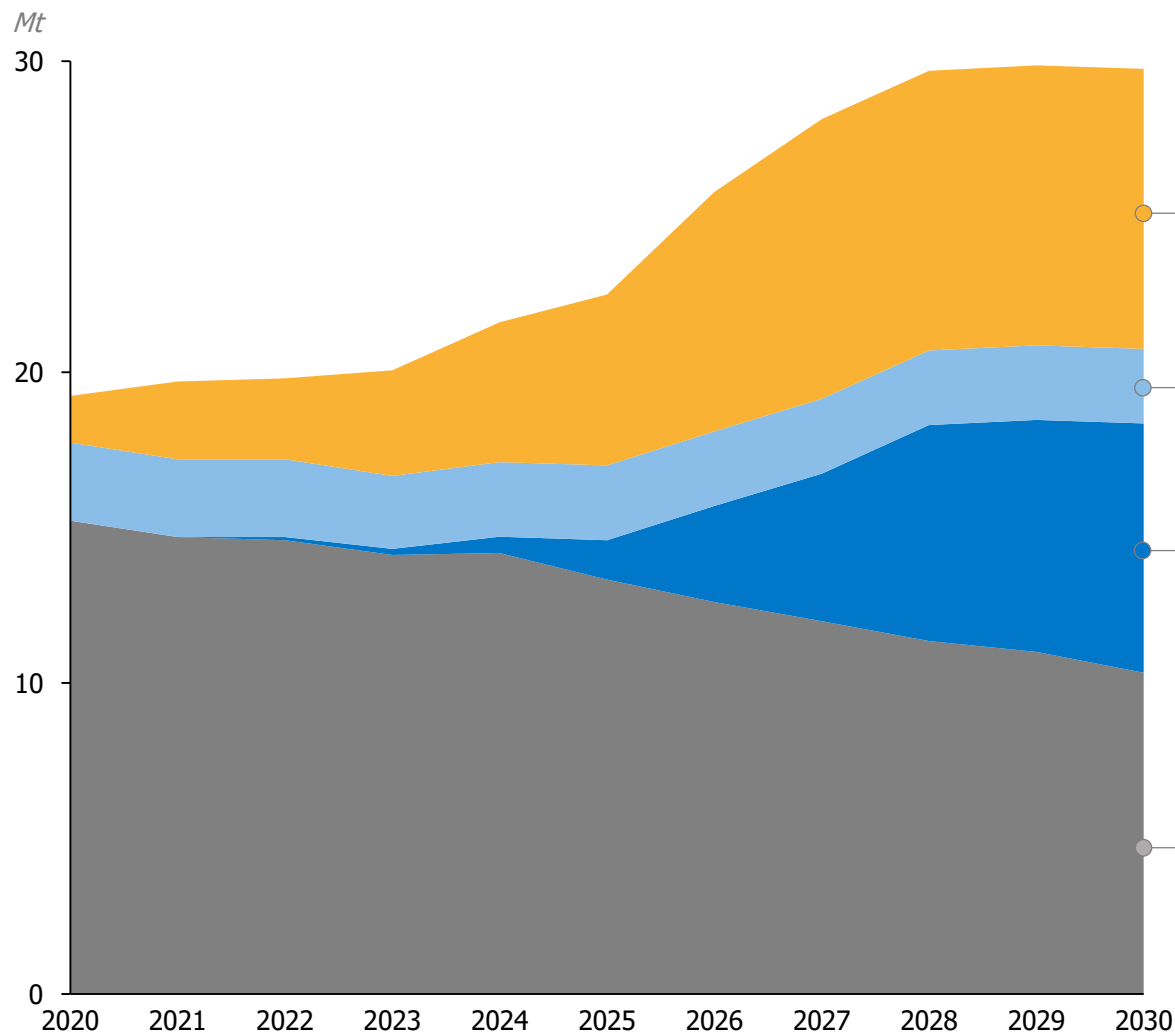
Mt



Note: 1. Includes all mineral resources, considered in the scope of pre-feasibility studies

Charging Up Mining Growth at Polar Division

Norilsk Industrial District: Ore Mining Profile







Key Upstream Growth Projects

- ✓ "South Cluster" Project
- ✓ Skalisty Mine Development
- ✓ New Development Projects at Talnakh Mines
 - Oktyabrsky
 - Komsomolsky
 - Taimyrsky
 - Mayak
- ✓ Base-line production and projects in execution

Downstream and Infrastructure

- Kola Nickel refinery upgrade
- Kola concentrate loading unit
- Infrastructure upgrade
- 3rd Stage of Talnakh Concentrator upgrade

New Development Projects at Talnakh Mines – Update

Mining Project	Incremental Reserves in Development	Project Details	Stress-tested IRR ⁽¹⁾	Project Stage
Komsomolsky 	<ul style="list-style-type: none"> +385 Mt of ore +1.4 Mt of Ni +2.8 Mt of Cu +1.2 kt of PGM 	<ul style="list-style-type: none"> Throughput: +2 Mtpa LOM extension: +46 years Next stage to be launched in 2025 	>20%	PFS
Oktyabrsky 	<ul style="list-style-type: none"> +211 Mt of ore +0.6 Mt of Ni +2.4 Mt of Cu +0.7 kt of PGM 	<ul style="list-style-type: none"> Throughput: +2 Mtpa LOM extension: +27 years Next stage to be launched in 2026 	>20%	PFS
Taimyrsky 	<ul style="list-style-type: none"> +186 Mt +1.2 Mt of Ni +2.8 Mt of Cu +0.9 kt of PGM 	<ul style="list-style-type: none"> Throughput sustained LOM extension: +44 years Next stage to be launched in 2026 	>20%	PFS
Mayak 		<ul style="list-style-type: none"> Preliminary throughput expansion studies to be finalized in 2020 		Scoping

Source: Company data

Note: 1. Consensus prices with 20% discount

Skalisty Mine Development Update



Project Description

- Production capacity: 2.5 Mtpa
- Ore reserves: 66 Mt
- CapEx 2013–2019: US\$1.6 bn
- CapEx 2020–2023: ~US\$0.6 bn
- Autonomous operations being considered



Project Update

- Commissioned mining capacity in 2016-2019: ~1.4 Mtpa
- Expected launch in 2020: 200 ktpa
- #10 ventilation shaft sinking is completed (2,056 m deep)
- Completion of main shaft is scheduled for June 2021
- Lateral development will commence in December 2019
- Scope of work in 2017-2019 ⁽¹⁾:



966 m Shaft sinking



14,791 m Lateral development on the upper levels

Status

~2.3 Mt ore mined in 2019

Target Capacity

~2.5 Mt ⁽²⁾



Notes: 1. For both shafts; 2. With gradual replacement of "old" capacity

South Cluster Project Update



Project Description

- Large-scale, long life (25+ years) brownfield asset at the bottom of the global PGM cost curve
- Project resources ⁽¹⁾: 165 Mt of ore @ 3.9 g/t PGMs; 0.2% Ni; 0.3% Cu
- O/P and U/G operations leveraging off the existing infrastructure
- Waste stripping commenced in May 2019 and is on schedule with a ramp-up beginning in 2021-2022
- FS and detailed engineering to be completed in 2020



Operating Performance Outlook

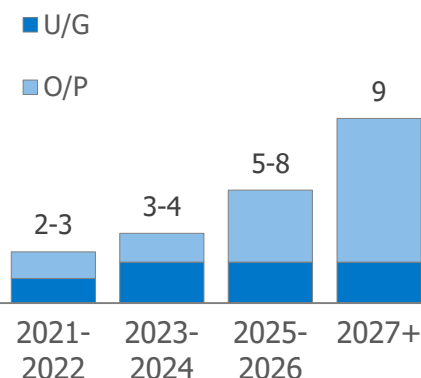
Target Annual Capacity

Ore	Mt	9
PGMs	koz	750-850
Ni	kt	10+
Cu	kt	15+

EBITDA ⁽²⁾: **US\$0.7 bn+**

Mining CapEx ('19-'27): US\$0.9 bn

Ramp-Up Schedule, Mt of Ore



Notes: 1. Unaudited data; 2. Based on long-term consensus price forecasts

Kola Concentrate Loading Unit – Project Update



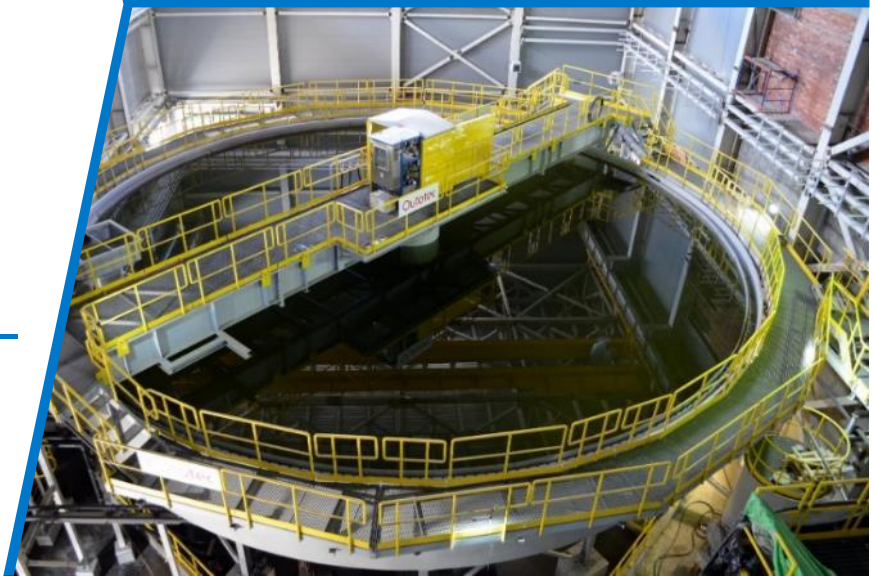
Project Description

- Environmental project enabling re-direction of Kola concentrates to other facilities post shutdown of nickel smelter resulting in eradication of SO₂ emissions in Nickel town (cross-border zone with Norway)
- Key Objects:
 - Construction of the flotation circuit to produce two types of marketable nickel concentrates
 - Construction of the low-grade nickel concentrate loading point
- Total Capex of ~US\$90 mn



Project Update

- The unit is in the hot commissioning stage
- Full completion expected by the end of 2019



Kola Nickel Refinery Upgrade – Status Update



Project Description

- Modernization of Tankhouse-2 with 20% capacity increase (from 120 ktpa to 145 ktpa)
- Additional improvements:
 - ✓ increased nickel recovery from high-grade matte by over 1.0%
 - ✓ work-in-progress inventory optimization
 - ✓ reduction of environmental footprint
- Capex for 2019: ~US\$100 mn
- Total Capex of US\$450 mn



Project Update

- Current status: Hot-commissioning (70% of cells at full capacity)
- Full design capacity and parameters by the end of 2019



Source: Company data

Energy Infrastructure Modernization to Support New Growth Cycle



Project Description

- New production growth targets to be accompanied by the staged upgrade of the energy infrastructure
- Energy projects scheduled for 2020-2025:
 - Replacement of 2 and installation of 3 new power-generating units at the thermal power plants 2 and 3
 - Power grid and gas pipeline system modernization
 - Hydro power plant upgrade (replacement of turbines and introduction of an automated dispatch system)
- 2020-2025 energy infrastructure CapEx: ~US\$2 bn



2019 Project Update

- Replacement of 5th turbine at Ust-Khantayskaya hydro power plant (out of total 7) completed, the other two to go
- Replacement of one of the power-generating units at the thermal power plant 2 is in progress



Bystrinsky Project Update



Project Description

- The largest greenfield project in the Russian mining industry
- Location: Chita, Zabaikalsky region
- The 10 Mtpa concentrator was fully commissioned in August
- Regulatory approvals for supporting infrastructure expected by 2019YE
- Ore reserves: 341 Mt, grades: Cu – ~0.7%; Fe – ~21%; Au – ~0.9 g/t ⁽¹⁾
- New jobs: >2,000
- 1H 2019 EBITDA: US\$160 mn



Operating Performance Outlook

		2018	2019E	2020E
Ore	Mt ⁽²⁾	4	8	10
Cu in concentrate	kt	19	40-46	55-65
Au in concentrate	koz	90	192-212	220-240
Iron Ore Concentrate	Mt	0.4	1.0-1.2	1.5-1.7

Notes:

1. According to the Russian classification (A+B+C1+C2),
2. Processed ore



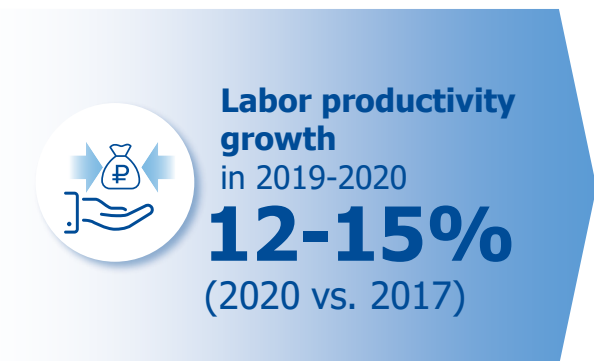
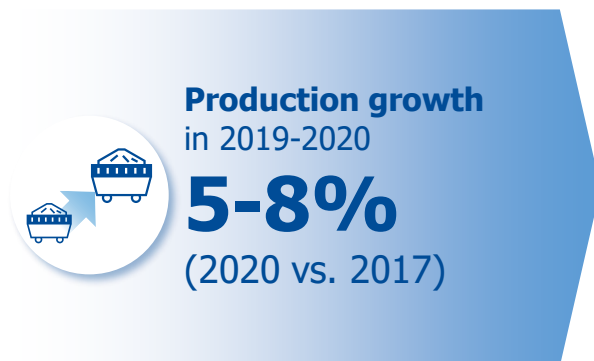
Technological Breakthrough

- Nor Nickel's "Technological Breakthrough" – ongoing programme aiming at the roll-out of advanced digital designing, planning and operational control of mining activities of the Company
- To date, the following tasks have been accomplished:
 - Complete resource model of all mining assets
 - Digital planning starting from LOM down to the short-term scheduling (hour)
 - Dynamic simulation of mining activities
 - Real-time metal accounting
 - U/G personnel and equipment monitoring for safety and operational control
 - Real-time dispatching system
- Newly built control centers at Polar Division mines providing a real-time 24/7 monitoring and correction of mining operations
- Similar digital control centers to be rolled out at Kola Division in 2020
- A fully autonomous smart digital mine project is being designed for a new Skalisty mine



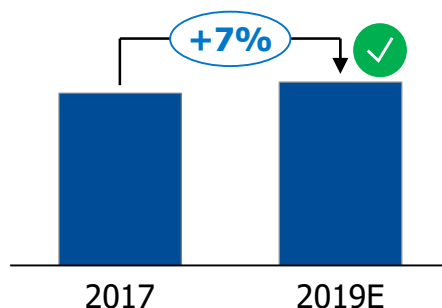
Efficiency Programme Delivery: Strong Momentum To Continue into 2020

Targets Announced in 2018

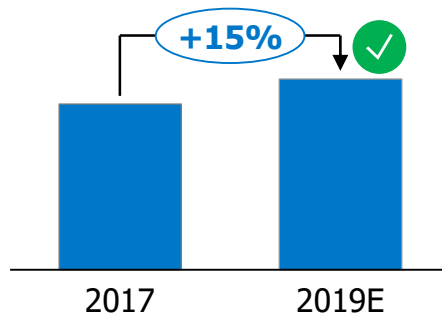


Delivery in 2019

NiEq production ⁽¹⁾



NiEq production per employee ⁽¹⁾



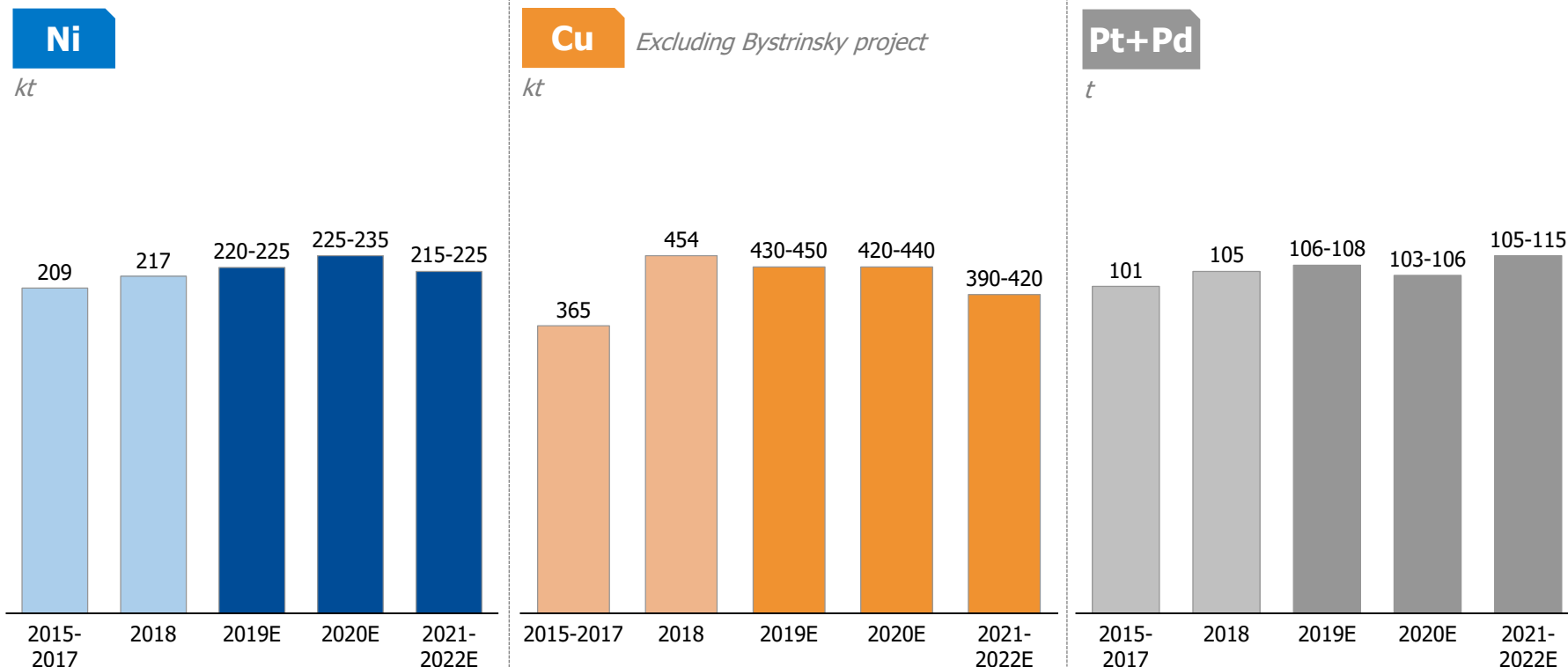
Selected Initiatives

- ✓ Roll-out of advanced mine planning, including simulation modeling
- ✓ Improving equipment utilization rates
- ✓ Full-scale roll-out of digital control centers
- ✓ Nearly half of productivity gains is driven by debottlenecking of existing assets across the value chain
- ✓ Roll-out of shared services to all business units
- ✓ Centralization of support functions
- ✓ "Continuous improvement" programme in action with 10 000+ initiatives under review

2020 Target: Keep the momentum and continue with roll-out of efficiency initiatives

Note: 1. Not including Bystrinsky project

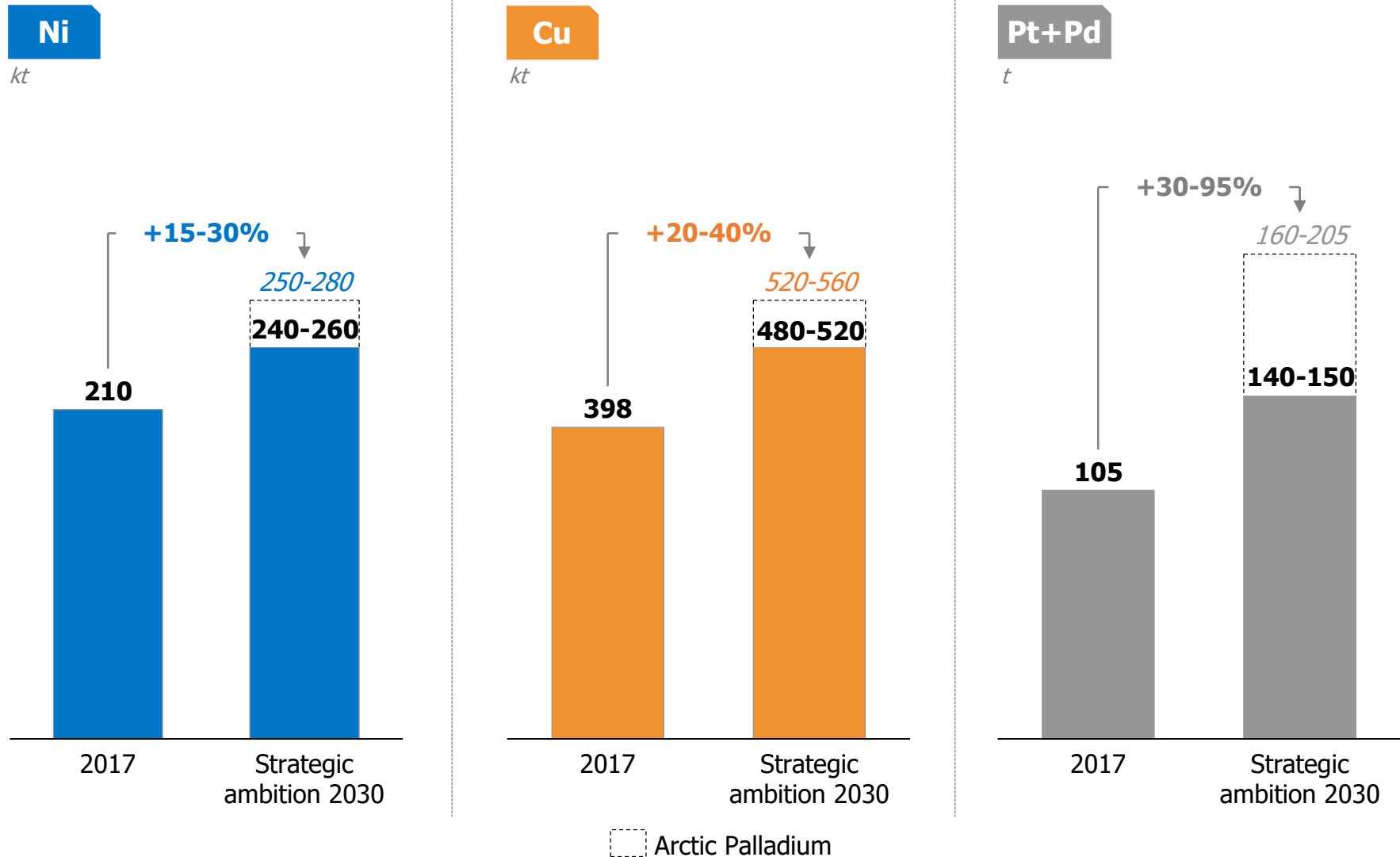
Production Guidance for 2019-2022 (1)



- Copper production temporary decline in 2021-2022 due to secondary feedstock depletion is expected to recover by ~2024-2025 driven by growth of mined ore volumes
- Nickel and PGM volumes are expected to subside moderately due to and subject to planned furnaces maintenance at Nadezhda smelter

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

Strategic Ambitions for 2030+ Metal Production (1)



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



The Strategy of Sustainable Growth

Sergey Dubovitskiy
Vice-President for
Strategy & Strategic Projects

Holistic Environmental Programme: Progressing on Sustainability Journey



Sustainable Operations

Sulphur Programme 2.0:

Target: up to 20x ⁽¹⁾ reduction in SO₂ emissions at Polar Division and 7x ⁽¹⁾ at Kola



Sustainable Arctics

Commitment to sustainable future for our home regions

Collaboration with think tanks and research institutes on "Sustainable Arctics" topics

Sustainable World

Maintaining the lowest-in-class carbon footprint
Enabling the global shift to cleaner mobility

Note: 1. As compared to "base" year (2015)

Holistic Environmental Programme: Action Plan



Sulphur Programme 2.0

- Introduce efficient solution for SO₂ capturing at Polar Division, an upgrade to Sulphur Programme 1.0
- Progress further on a comprehensive multi-stage journey towards global industry benchmarks in environmental footprint



Sustainability Reporting

- Continue working on transition to international standards in sustainability reporting enhancing disclosure in climate change topics



Research on Sustainability & "Green" Technologies

- Support joint research and collaboration with R&D centers and think tanks with a focus on green technology and broader "sustainable Arctics" agenda

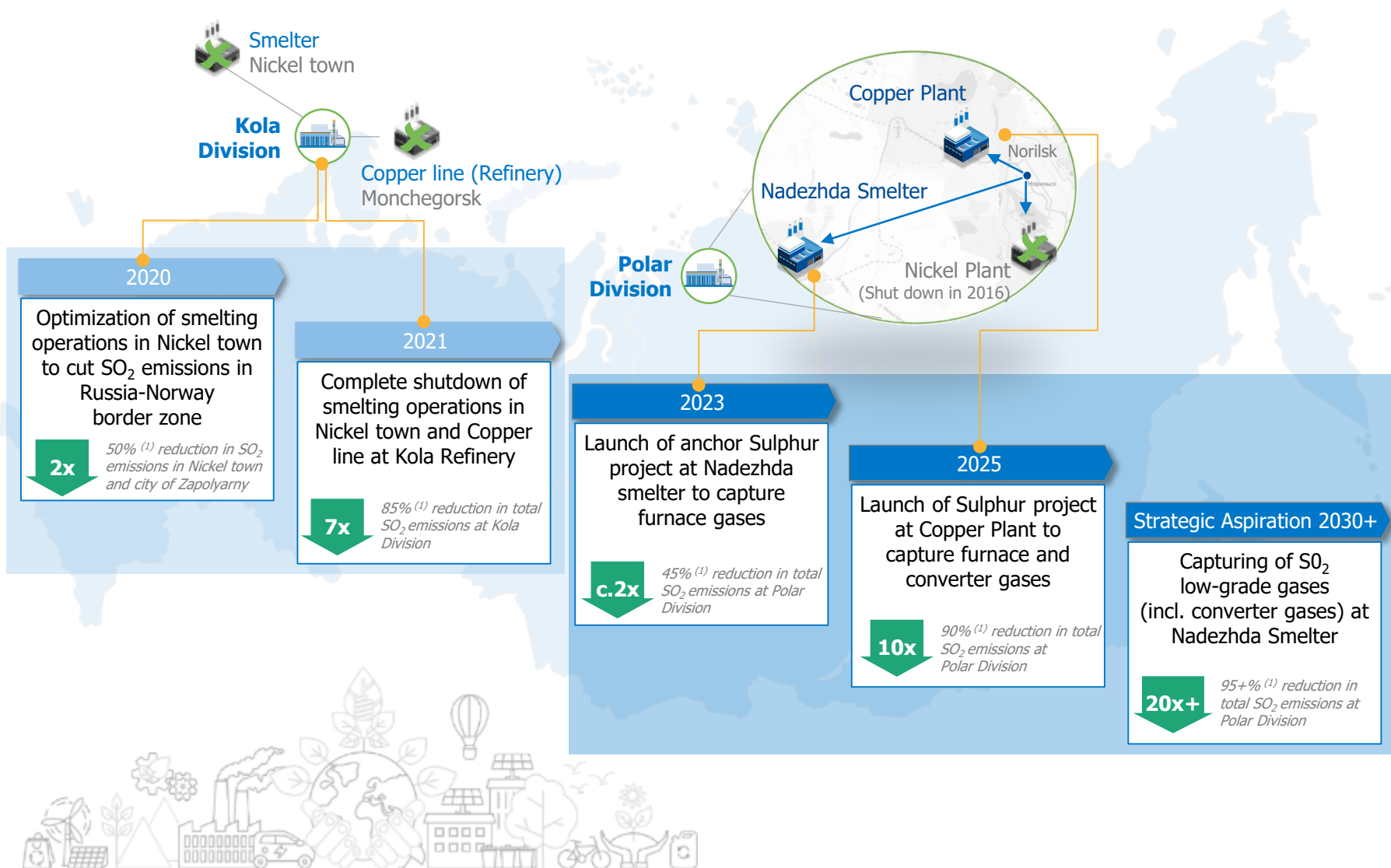


Organization Enablement

- Set up executive taskforce sponsored by Board Chairman to drive Holistic Environmental Program

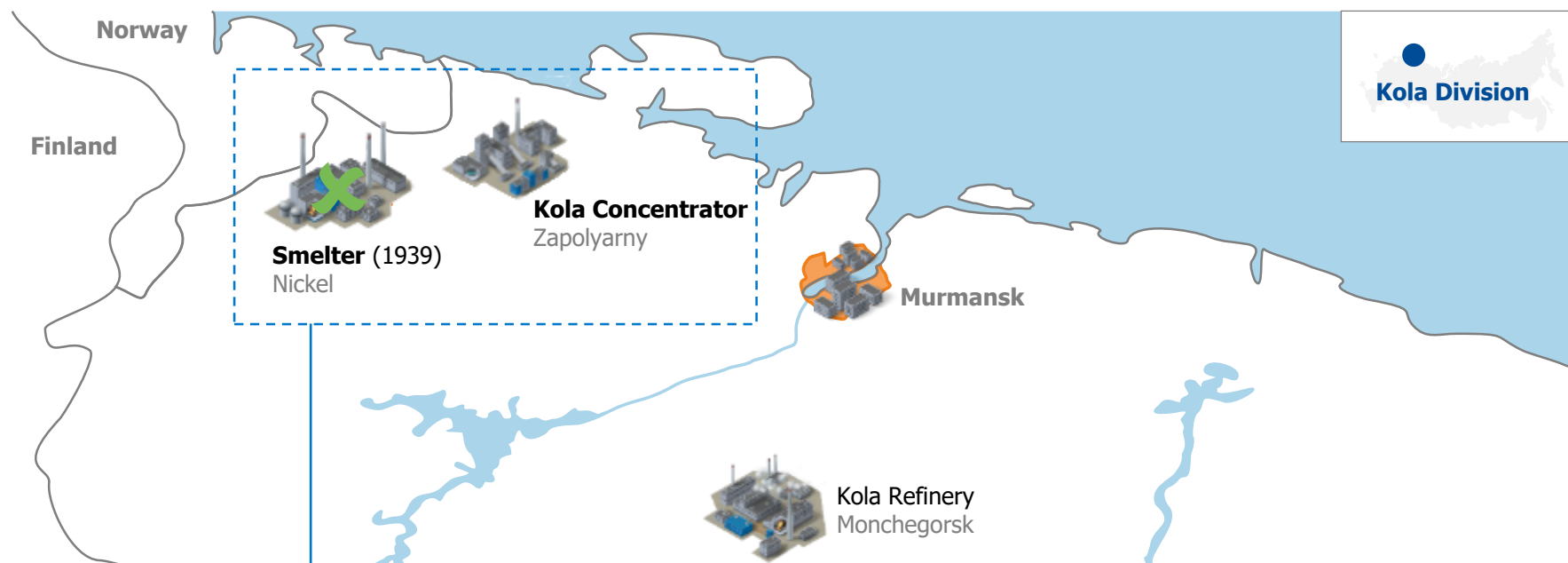


Sulphur Programme 2.0: Environmental Roadmap



Note: 1. As compared to "base" year (2015)

Sulphur Programme 2.0: Eradicating Emissions at Kola Cross-Border Area

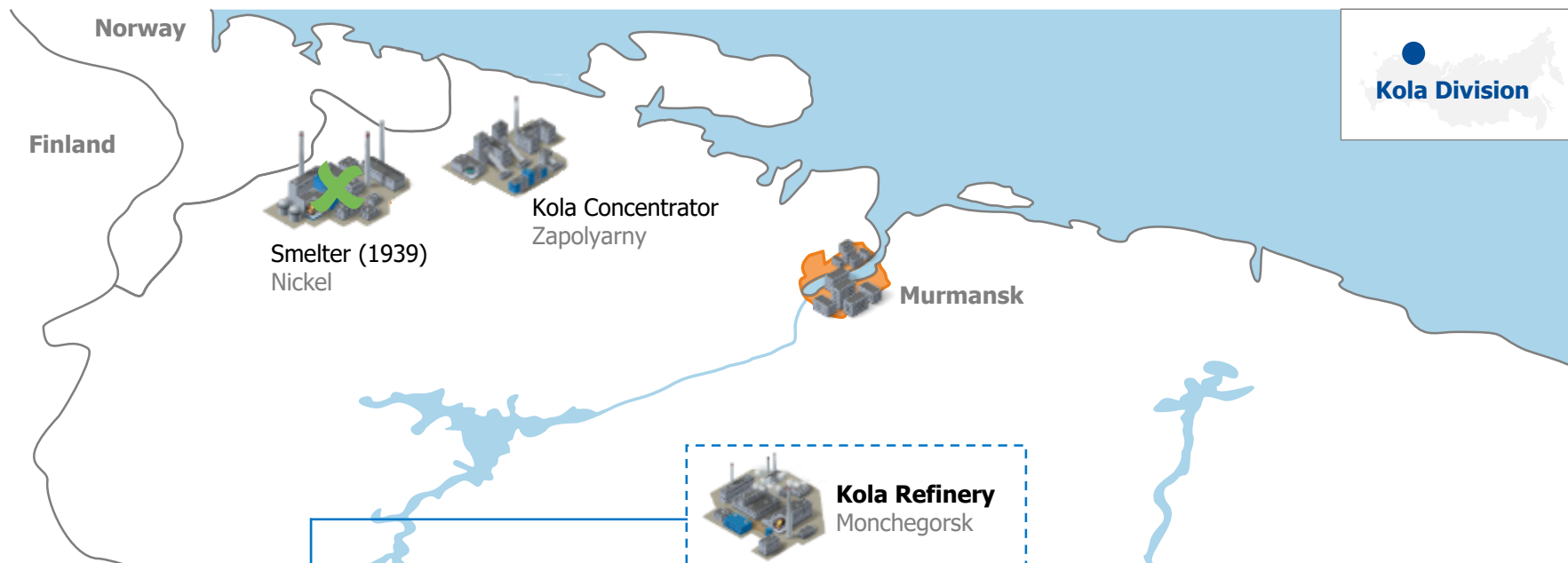


2020	2021
<ul style="list-style-type: none"> ✓ Transition to concentrate briquetting technology (completed in 2016-17) ▪ Partial shutdown of electric furnaces at the Smelter in Nickel town ▪ Upgrade of concentrator with additional flotation circuit and loading facility ▪ "Low-grade" Kola concentrate: sales to third parties 	<ul style="list-style-type: none"> ▪ Complete shutdown of smelting operations in Nickel town to eradicate SO₂ emissions in the cross-border area ▪ "High-grade" Kola concentrate: market alternatives could be considered, however priority will be given to own smelting capacities at Polar Division subject to productivity improvements/debottlenecking initiatives

-50%
overall reduction
of SO₂ emissions
by Kola Division
(2020 vs 2015)

-100%
Smelter's SO₂ emissions
in cross-border area

Sulphur Programme 2.0: Dramatically Reducing Emissions at Kola Division



2021

- Complete shutdown of Copper line at Kola Refinery eliminating the major source of refinery's SO₂ emissions, which is located closest to the residential area
- Product flows to be re-directed to Polar Division where capacity will be available due to secondary stock depletion and debottlenecking initiatives, with optionality of partial sales to third parties
- Longer term options for the site include construction of modern, fit-to-size capacities to process growing volumes, which will be assessed against market alternatives

High-grade
matte
separation

Nickel line



✓ Upgraded to leaching technology (2019)

Copper line



2x



4x



4x



anode

EFs



Electro-

lysis shop

-85%+

overall SO₂
emission reduction
by Kola Division
(2021 vs 2015)

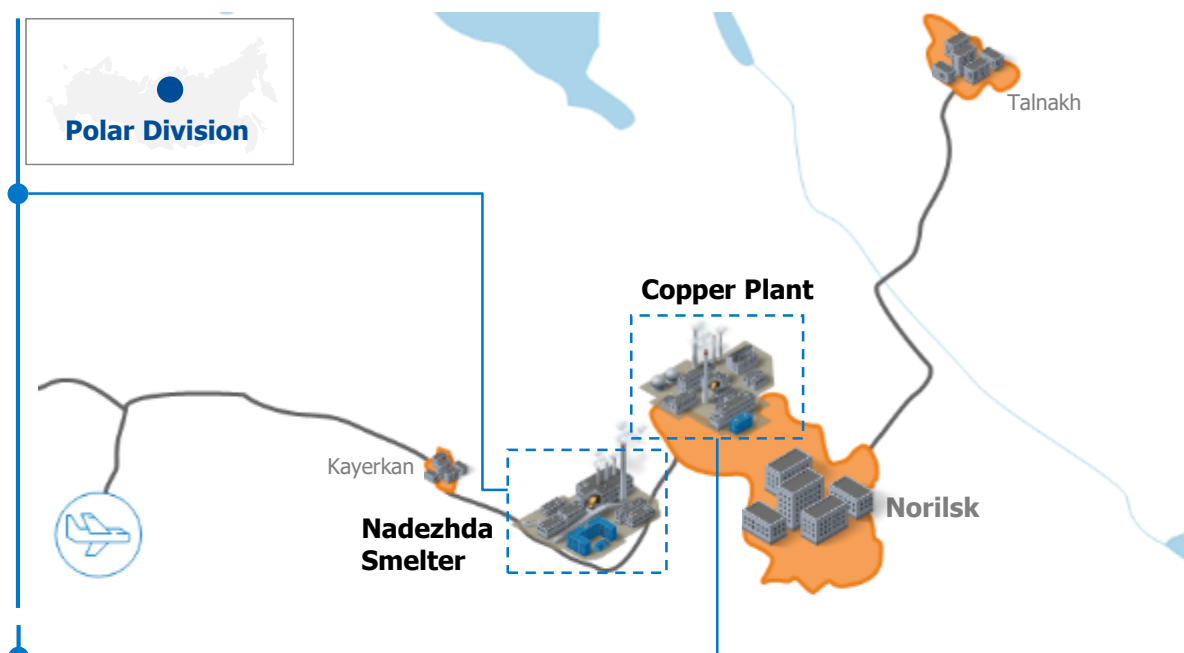
Sulphur Programme 2.0: Comprehensive Environmental Solution for Polar Division

Nadezhda Smelter:

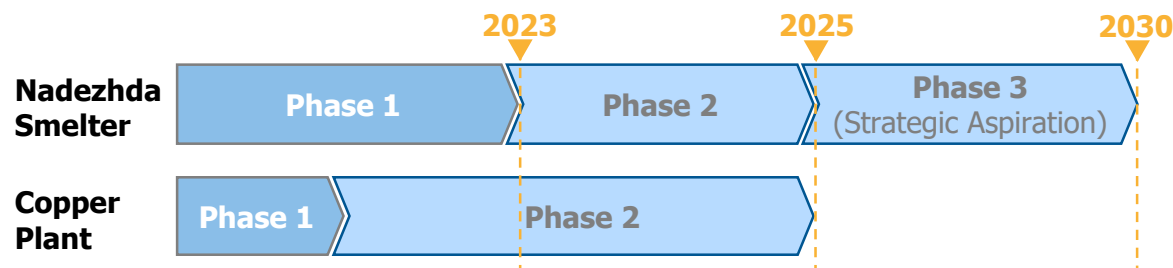
- **Phase 1:** Anchor project to capture furnace gases at Nadezhda and establish acid neutralization facilities and infrastructure (incl. gypsum storage) – to be completed by 2023
- **Phase 2:** Expansion of neutralization infrastructure (for sulphuric acid from Cu stream) by 2025
- **Phase 3 (Strategic Aspiration):** Capturing of sulphur-poor gases from converter furnaces

Copper Plant:

- **Phase 1:** Preparatory works (incl. construction of gas cleaning unit and infrastructure), design update
- **Phase 2:** Sulphuric facilities to capture 99-99.5% SO₂ at Copper Plant by 2025 in line with industry benchmarks



Projects Timeline and CapEx



**Total CapEx (Phase 1+2): c. US\$3.5 bn,
of which already committed spend for Phase 1: US\$1.2-1.3 bn**

Sulphur Programme 2.0: Nadezhda Smelter (Polar Division)

2023

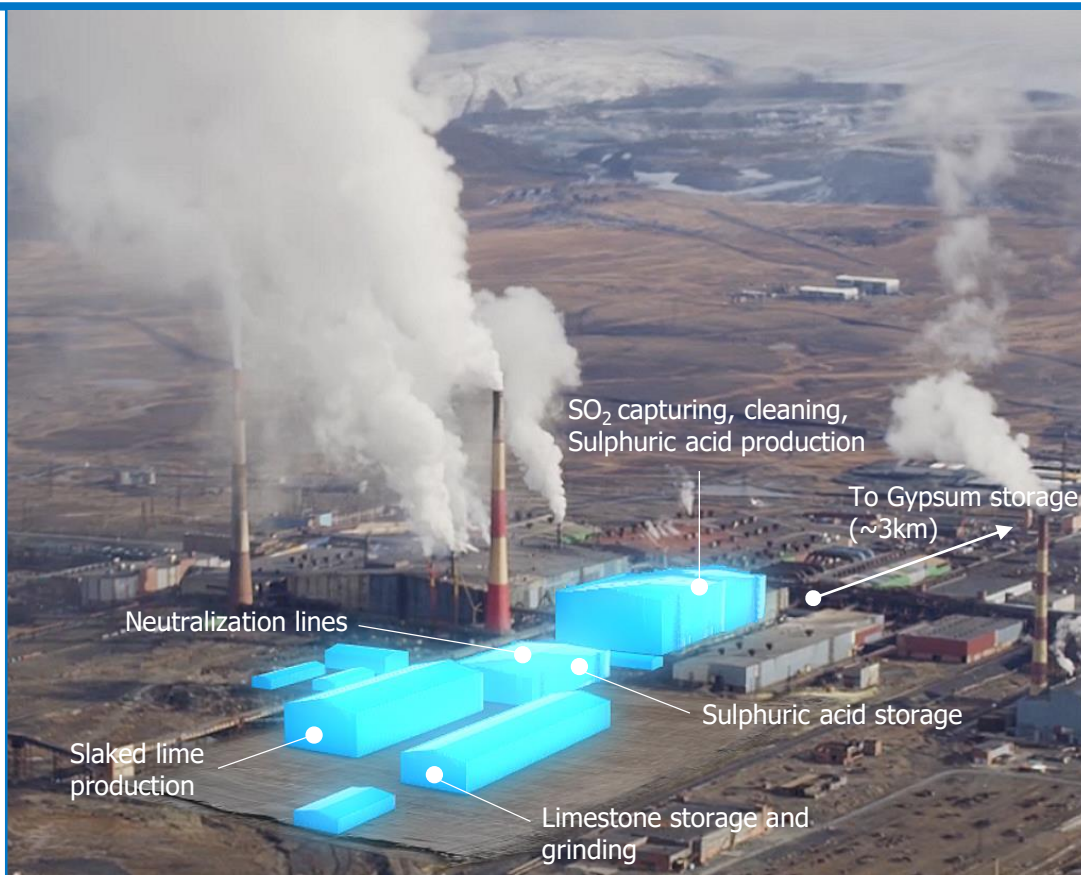
Strategic Objective: Achieve 45% SO₂ reduction for Polar Division by 2023 and establish scalable solution for sulphuric acid neutralization

Scope (Phase 1 to be completed by 2023):

- 2 lines of SO₂ capturing from flash furnaces and sulphuric acid production
- Limestone preparation and neutralization lines (sulphuric acid into gypsum)
- Gypsum storage (3 km away from the Smelter)
- Supporting infrastructure

Project status:

- Site fully prepared
- Project design completed
- Key contractors selected
- Procurement of long-lead items initiated
- Construction start scheduled for 1H2020



Click to watch the video about Phase 1 of the Sulphur Programme 2.0 at Nadezhda Smelter:

YouTube <https://youtu.be/ZuJLH3SGo00>

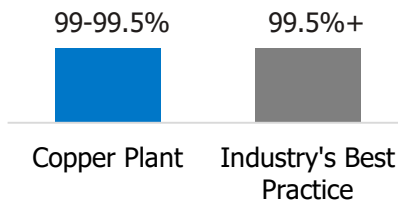


Sulphur Programme 2.0: Copper Plant (Polar Division)

2025

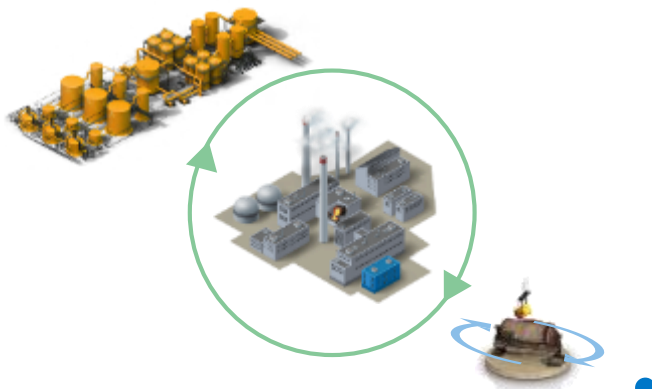
Strategic objective:

99%+ SO₂ utilization rate at Copper Plant, located within Norilsk city area, bringing it on par with industry benchmarks



Sulphuric Acid Based Technology

- ✓ Adopting proven technology (Double Contact Process) to achieve stated strategic objectives
- ✓ Leveraging off existing design solutions of Phase 1 (at Nadezhda Smelter)
- ✓ Leveraging off / scaling up sulphuric acid neutralization capacities at Nadezhda Smelter



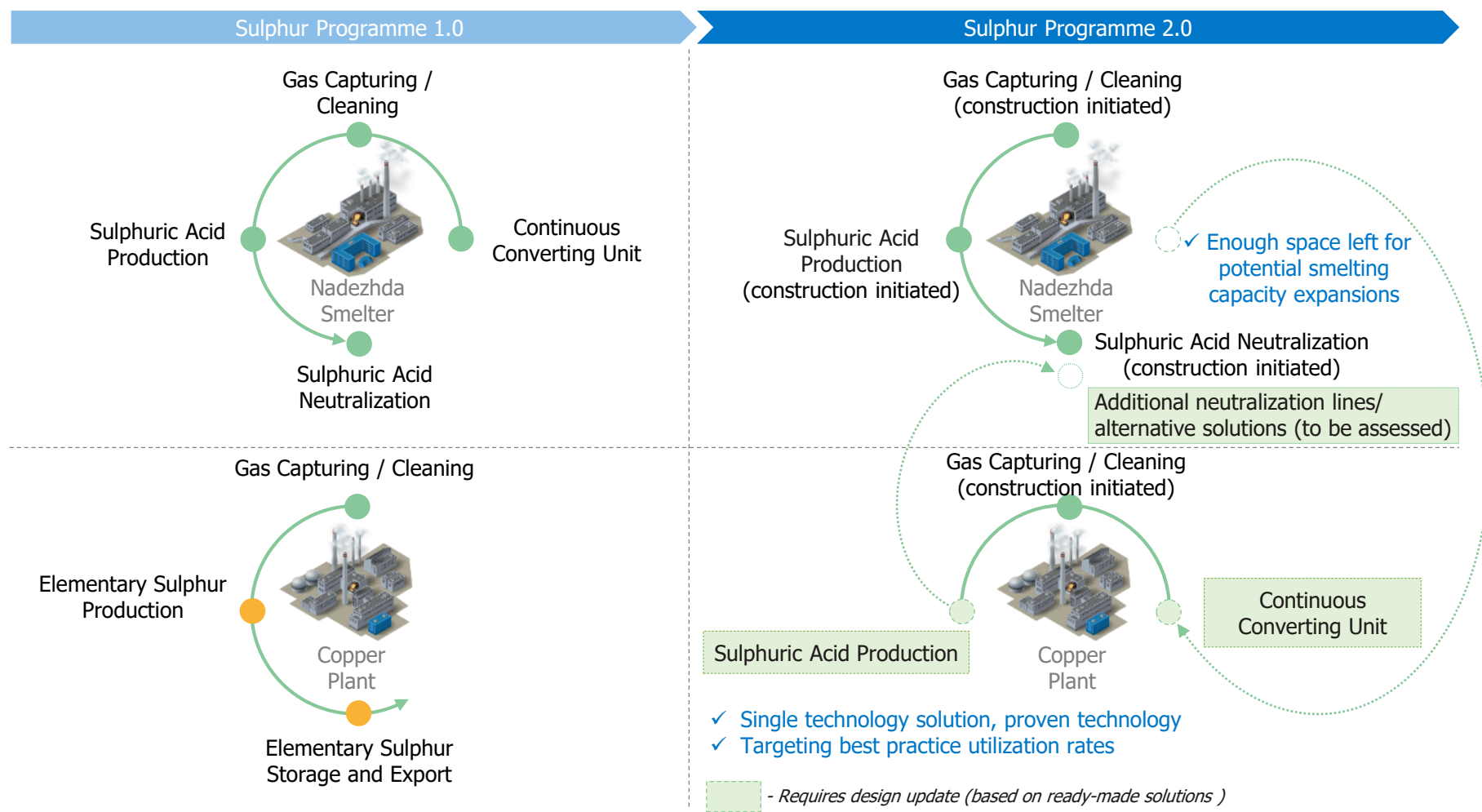
Continuous Converting Unit (Cu Stream)

- ✓ Relocating the project back to Copper Plant, leaving enough space at Nadezhda Smelter to unlock strategic optionality for capacity expansion
- ✓ Replicating technological solution from the already developed design
- ✓ Gas capturing solution to be unified with flash furnaces - based on sulphuric acid production

Action Plan - 2020:

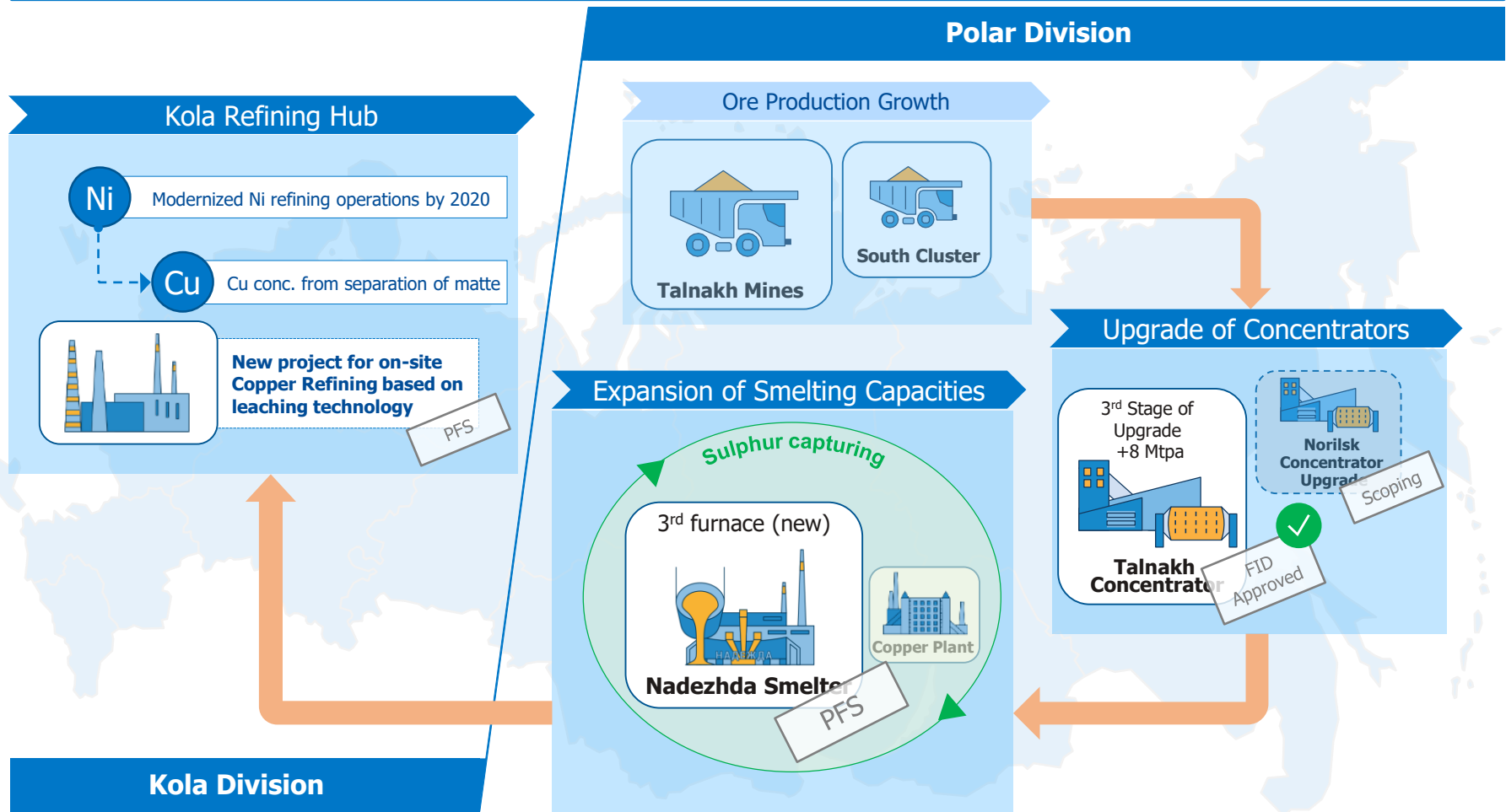
- ✓ Start construction of Phase 1 objects (gas cleaning unit, auxiliary infrastructure) as designed
- ✓ Update project documentation based on ready solutions prepared for Nadezhda Smelter project (sulphuric acid)
- ✓ Initiate project design for additional neutralization lines in parallel with the assessment of efficient solution for sulphur / sulphuric acid utilization

Sulphur Programme 2.0: Progressing to More Efficient SO₂ Capturing



- New configuration designed to achieve higher SO₂ utilization rates based on proven technology while leaving enough space at Nadezhda smelter to unlock strategic optionality for capacity expansion

Strategic Roadmap of Downstream Development



- Long-term strategic roadmap in place for fit-to-size expansion/upgrade of production infrastructure synchronized with the development of mining projects and auxiliary infrastructure
- Staged approach to investment decisions to ensure high level of optionality and continuous project improvements

3rd Stage of Talnakh Concentrator Upgrade – in Execution



Project Description

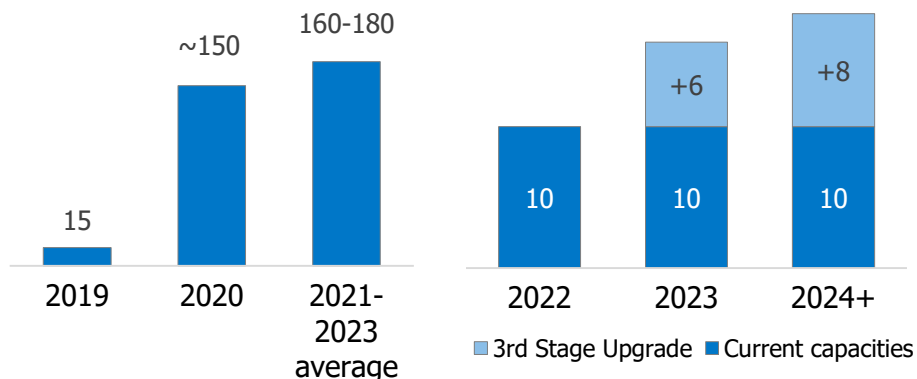
- 3rd stage upgrade of Talnakh concentrator capacity up to 18 Mtpa (+8 Mtpa) to process growing ore volumes
- Proven technology to achieve higher recoveries (+4-7% for all key metals) delivering US\$150 mn+ in incremental EBITDA annually
- Capacity expansion unlocks strategic optionality for major growth projects, including South Cluster
- Key contracts to be signed in Q1 2020



Operating Performance Outlook

Estimated CapEx ⁽¹⁾, US\$ mn

Ramp-Up Schedule, Mt of Ore



Note: 1. Including 2nd stage of the tailing dam



Option for Further Growth: Arctic Palladium – Tier 1 Asset Confirmed



Project Description

- Potentially the world's largest greenfield PGM cluster (750+ Mt M&I resources⁽¹⁾ @5.2g/t PGM, 0.3% Ni, 0.4% Cu)
- Pre-feasibility study confirmed the project as a Tier 1 Asset with over 50 years of mine life
- The project is subject to all due corporate approvals
- JV corporate setup being finalized with further details to be provided in 2020



Project Development Approach

- Staged approach to development of deposits as a single production cluster:
 - ✓ **Stage 1:** 7 Mtpa open pit mine starting production by 2024
 - ✓ **Stage 2:** +7 Mtpa underground mine launch by 2029
 - ✓ **Stage 3:** +7 Mtpa underground operation in 2030s expanding total capacity to 21 Mtpa
- Estimated development CapEx until first production ('19-'24): US\$2.8-3.2 bn, of which for Stage 1 – US\$1.4 bn

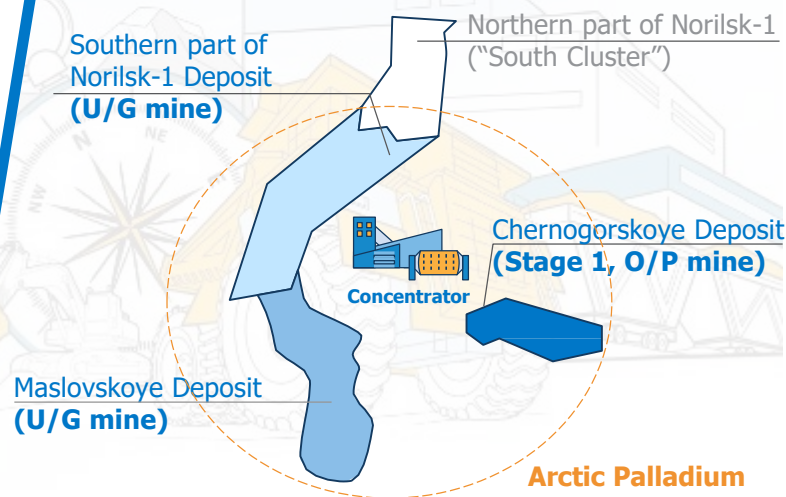
EBITDA margin
✓ **> 40%**

Revenue
✓ **> \$1^{bn}**

Long Reserve Life
✓ **> 20 years**



Tier I Asset confirmed

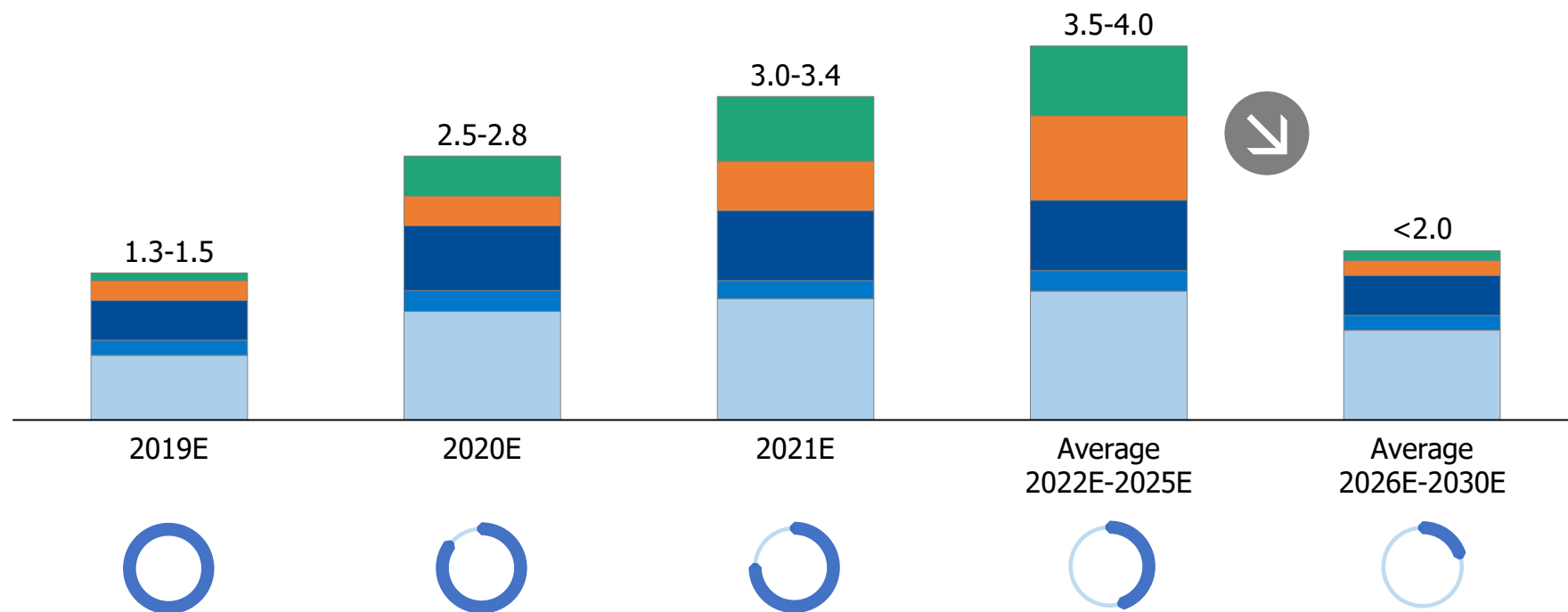


CAPEX Guidance

- Environmental (incl. related infrastructure)
- Downstream development (incl. related infrastructure)
- Mining
- Other commercial projects
- Stay-in-business

CapEx ⁽¹⁾, US\$ bn

 Share of investment projects at FS/post-FS stage



- Shift of advance payments to 1H2020
- Optimization of execution schedules

Guidance for early-stage investment projects to be specified in 2020-2021 based on design documentation, further updates of strategic mine plans as well as pace of scaling up of construction capabilities and resources in Norilsk region

Note: 1. Not including potential CapEx for Arctic Palladium



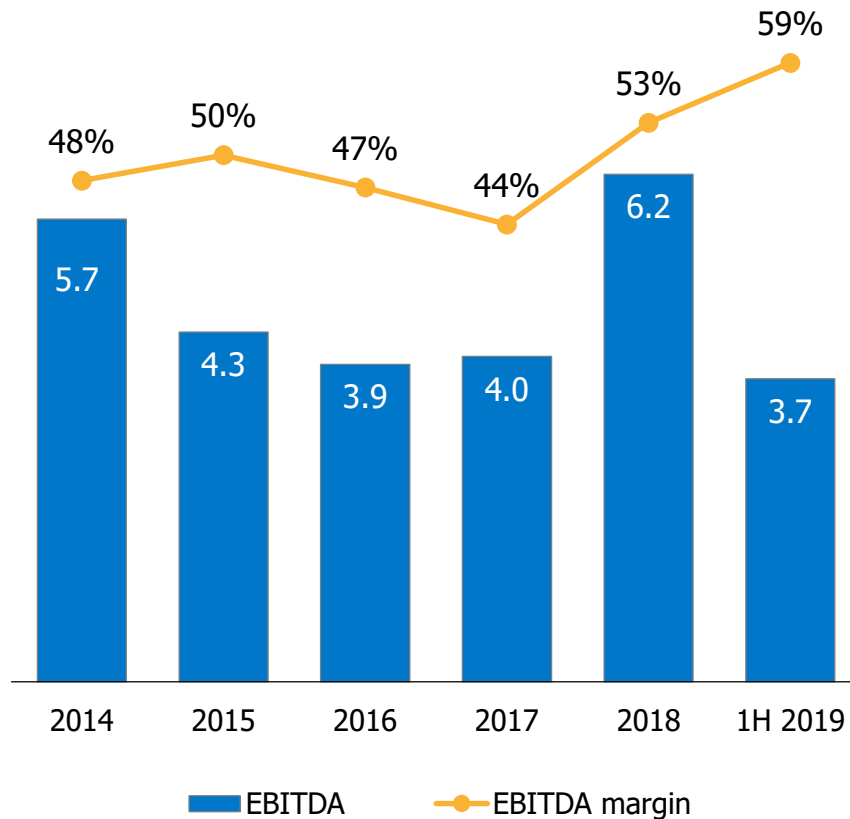
Finance and IT: Supporting Growth

Sergey Malyshev
Senior Vice-President
Chief Financial Officer

Highest EBITDA Since 2007 on the Back of Strong Operating Performance and Favorable Macro Environment

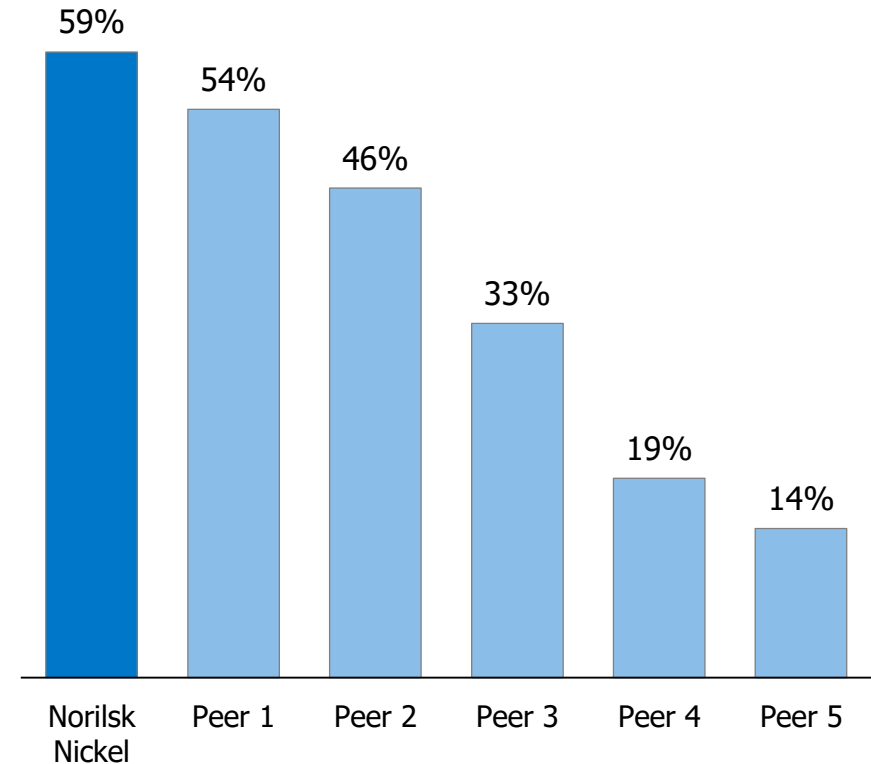
Industry Leading EBITDA Margin Through the Cycle

US\$ bn



Leading EBITDA Margin ⁽¹⁾ in Global Diversified Mining ⁽²⁾

%



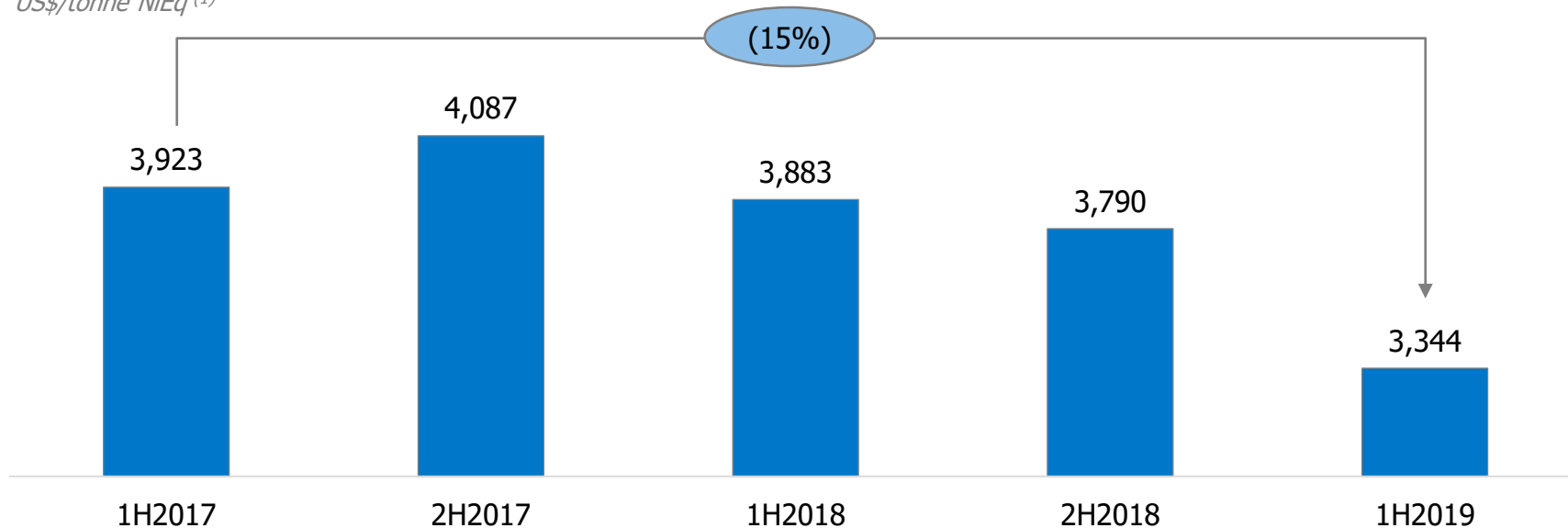
Note (1): Norilsk Nickel estimates and company reports.

Note (2): peer group includes BHP, Rio Tinto, Vale, Glencore Metals and Minerals, Anglo American.

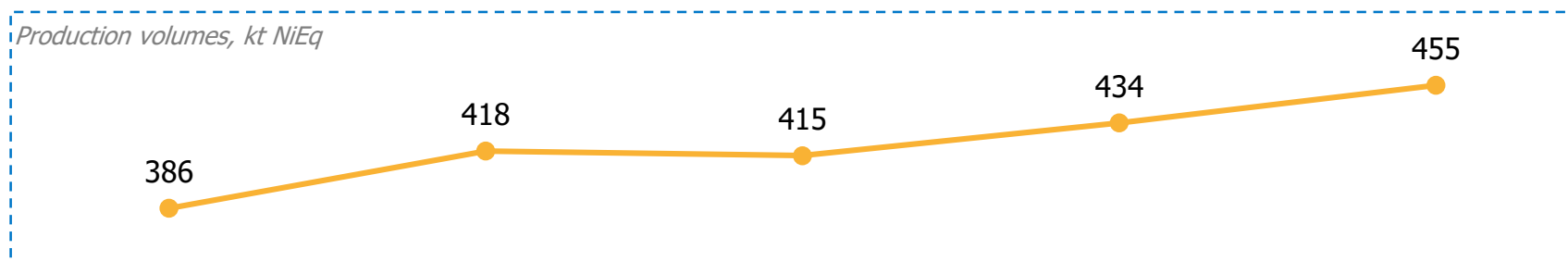
Margins Supported by the 15% Decline in Unit Costs

Nickel Unit Cash Production Costs

US\$/tonne NiEq ⁽¹⁾



Production volumes, kt NiEq



Note: 1. Ni equivalent calculated based on 1H17 average metals prices

The Company Outperformed All of 2017 Financial Targets

2017 guidance



- US\$200-300 mn of additional EBITDA per annum due to higher volumes and lower unit costs



- US\$135 mn annual savings in interest costs assuming flat LIBOR and unchanged gross debt



- ~US\$1 bn net working capital level maintained



- Successful implementation of world class IT and shared services infrastructure to support operations

2018-2019 Expected Results



Over US\$400 mn of additional EBITDA in 2019 compared to 2017 due to increase in production volumes, labour productivity, WIP release



Over US\$180 mn reduction in interest paid in 2019E compared to 2017 (while gross debt increased)



NWC expected to fluctuate within a narrow range close to US\$1 bn



ERP platform and Shared services rolled out onto all production assets, new digital initiatives executed

OpEx and EBITDA Targets Achieved Due to Higher Production Volumes at Core Operations



Efficiency improvement programme targeting annual cost reduction of US\$200-300 mn by 2020 compared to 2017

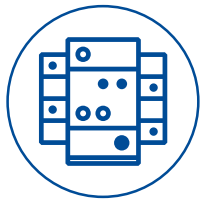
2020 Target



Flat or lower total cash costs in real terms on the back of asset upgrades and increase in labour productivity



Lower unit costs due to increased volumes and release of WIP inventory

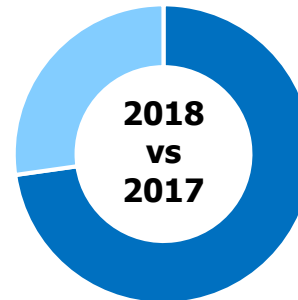


Roll-out of first-class IT infrastructure and shared services across all business units

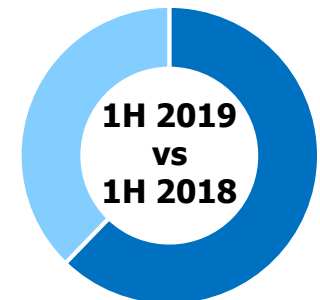
EBITDA contribution (ex. FX and inflation)

Labour cost
US\$58 mn

Release of WIP
US\$105 mn



Production factors
US\$155 mn



Production factors
US\$173 mn

Digital Solutions are Implemented Across the Value Chain



Detection of uncrushable material on the conveyor belt

Reducing crusher downtime as unwanted material is screened out



Industrial exoskeletons

Improved worker strength and endurance when handling heavy loads



AI assistant for flotation operator

Improved recoveries through control of flotation chemicals, pulp levels



Protective gear control

Automated video control of protective gear use to reduce injury rates



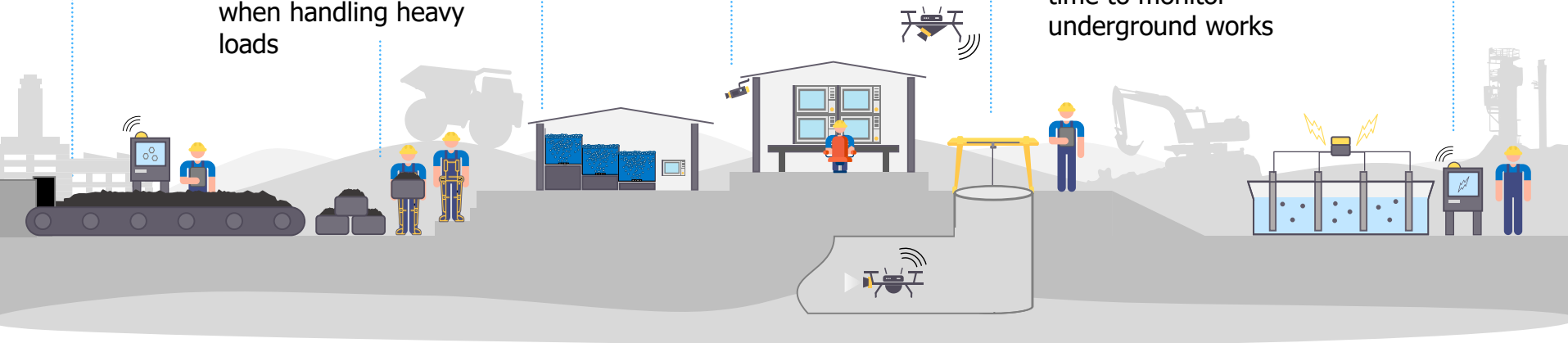
Short-circuit detection in copper electrolysis

Automated thermal imaging detection allows for reduced electrolysis cell downtime and lower work-in-progress inventory



Underground surveyor drones

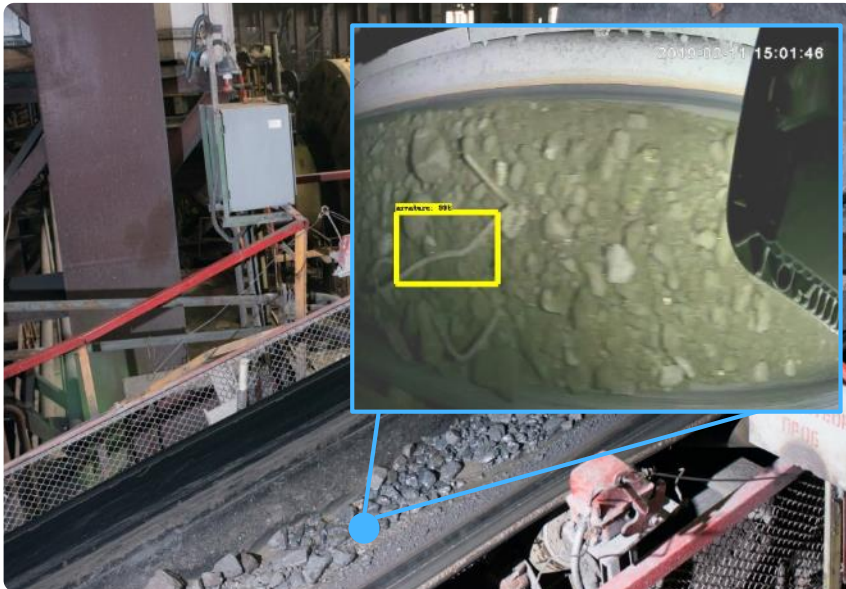
Reduced cost and time to monitor underground works



Examples of Initiatives Being Tested and Deployed



Detection of uncrushable material on the conveyor belt



AI-assisted system automatically detects uncrushable material, such as tramp metal, pieces of mine support / drilling equipment. This allows screening out of such material, reducing unscheduled crusher downtime



Industrial exoskeletons

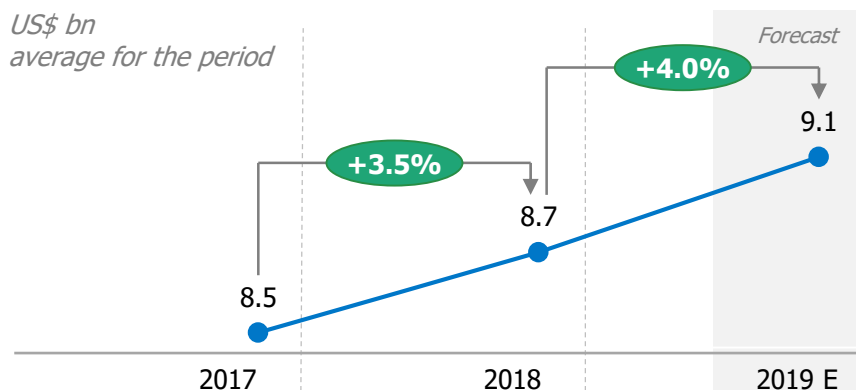


Wearable exoskeletons improve worker strength and performance when loading, unloading and performing certain repair tasks. Reduced load minimizes risk of occupational injury

Finance Costs Reduced Significantly

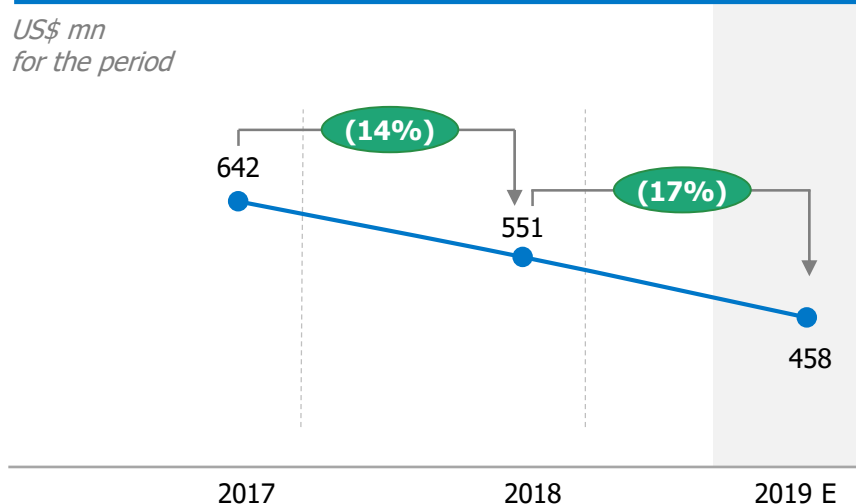
Gross Debt ⁽¹⁾

US\$ bn
average for the period



Cash Finance Costs Expected to Reduce by Almost US\$200 mn Relative to 2017

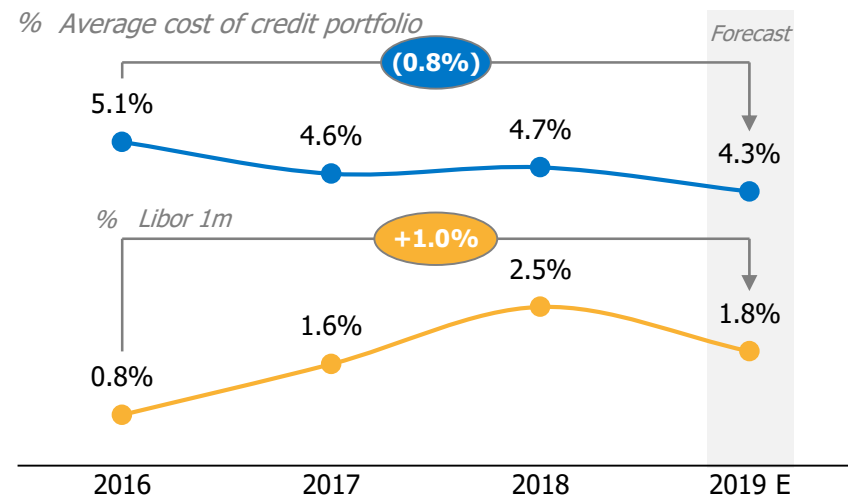
US\$ mn
for the period



Reduction of Cash Finance Costs and Decrease of Average Cost of Debt ...

- ... 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
- and keeping **neutral** balance sheet FX position

Average Cost of Debt

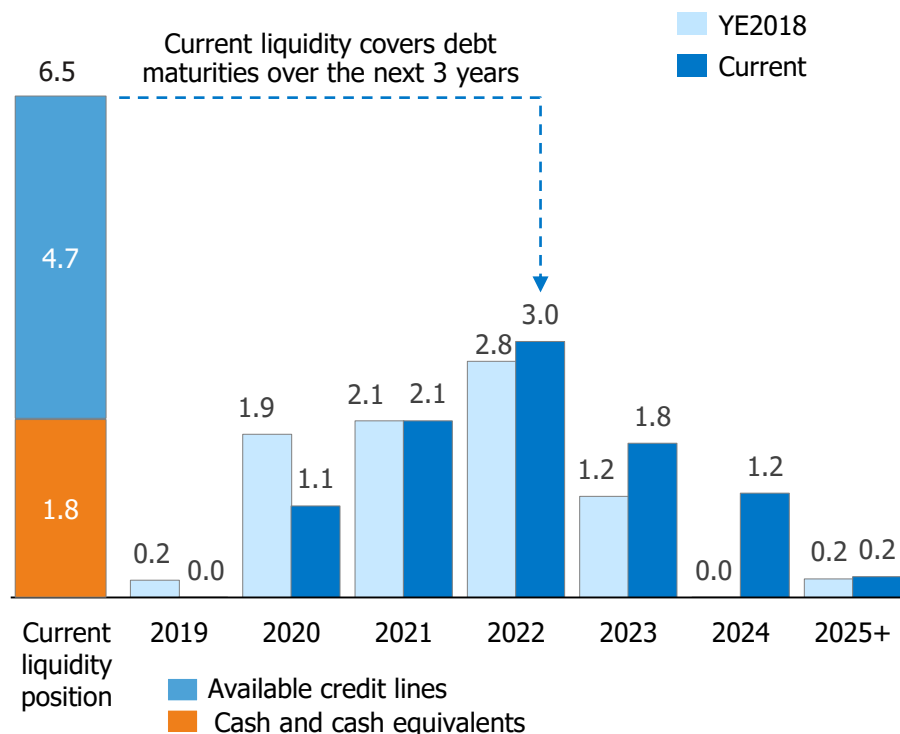


Note: 1. In 2017-2018, gross debt includes only financial lease liabilities, starting from 2019 it additionally includes other lease liabilities recognized under IAS 16

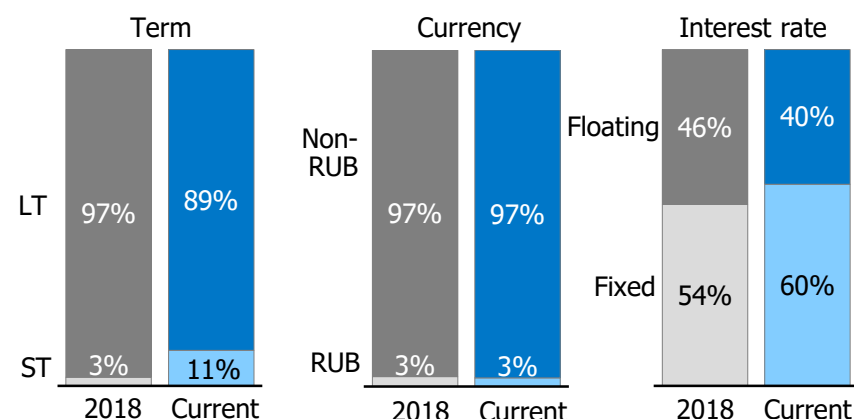
Solid Credit Quality Supported by Prudent Debt Management

Comfortable Debt Repayment Schedule

US\$ bn



Well-balanced Debt Structure



Investment-Grade Credit Ratings

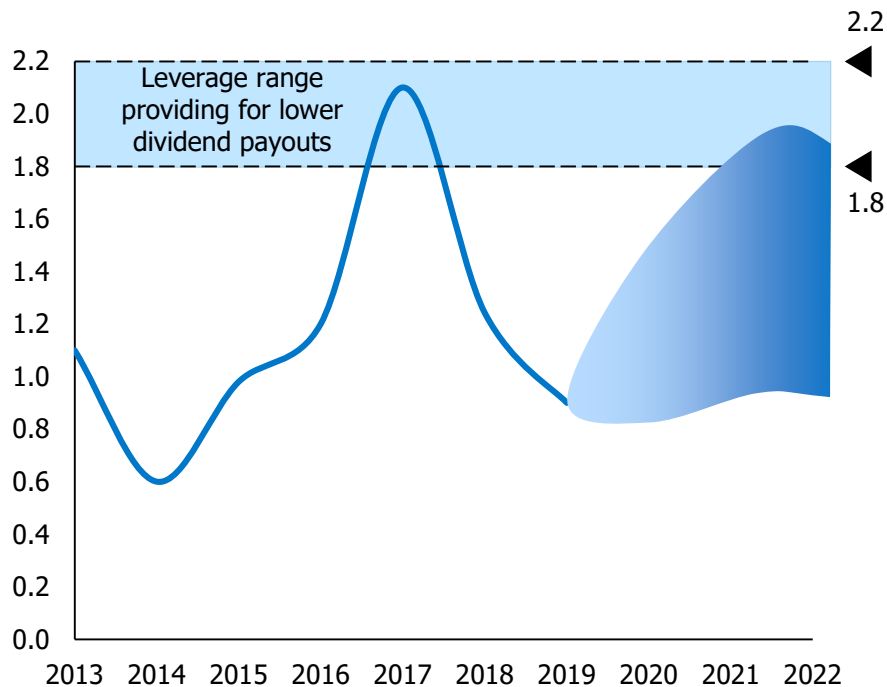
MOODY'S	Baa2/stable
S&P Global	BBB-/stable
FitchRatings	BBB-/stable

- The Group's strong liquidity position is large enough to comfortably meet all debt maturities due within a 3 year time horizon
- The Company reiterates its commitment to maintain investment-grade credit ratings from the three major international agencies

Strong Financial Standing Expected Throughout the Capex Cycle

Reduced Leverage Provides For Greater Flexibility Going Forward

Net Debt/EBITDA, x



Current Standing and Outlook

- Credit ratios have improved markedly on the back of macro environment, higher production volumes
- Dividend flexibility helps to hold down leverage in the long run, but in the short run ongoing investment cycle may drive leverage up
- Given the current financial standing, the company shall be able to maintain strong balance sheet through 2022



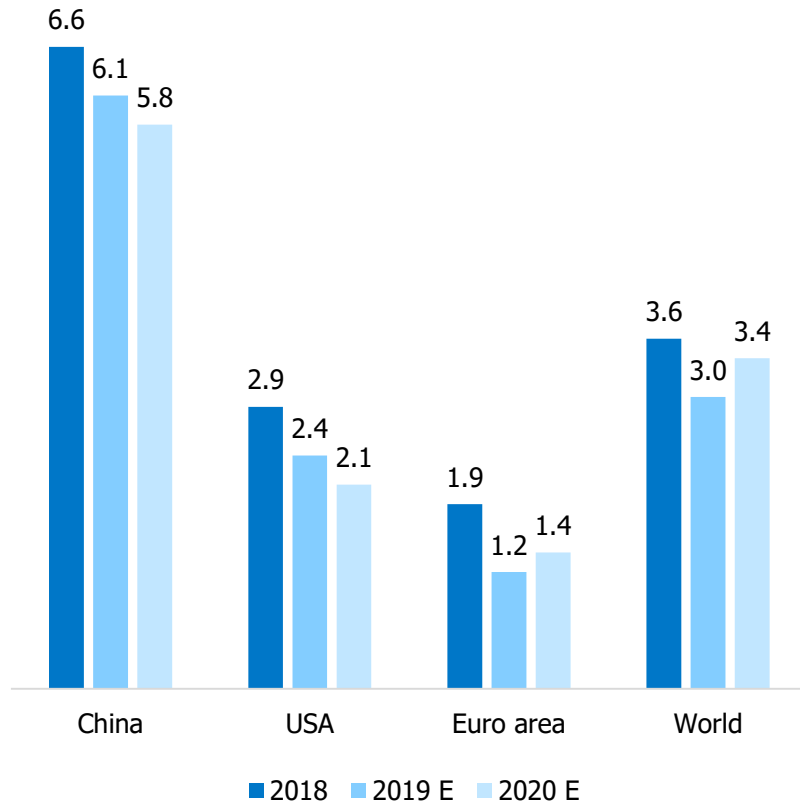
Markets Update

Anton Berlin
Head of Strategic Marketing

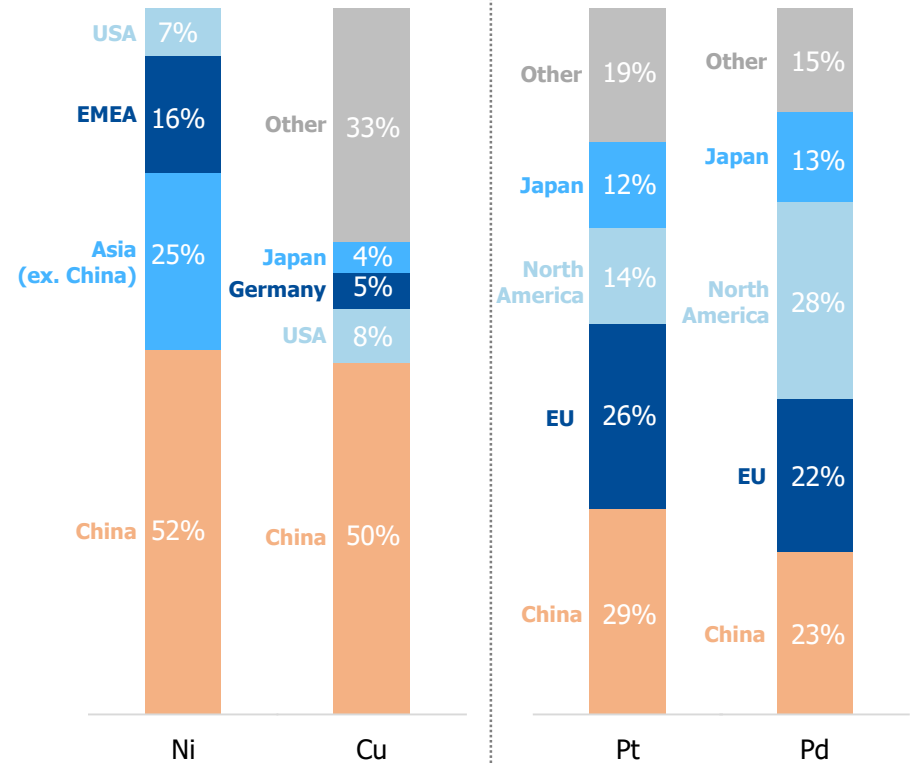
Challenging Macro Environment

Global Economic Growth in Major Markets is Subdued

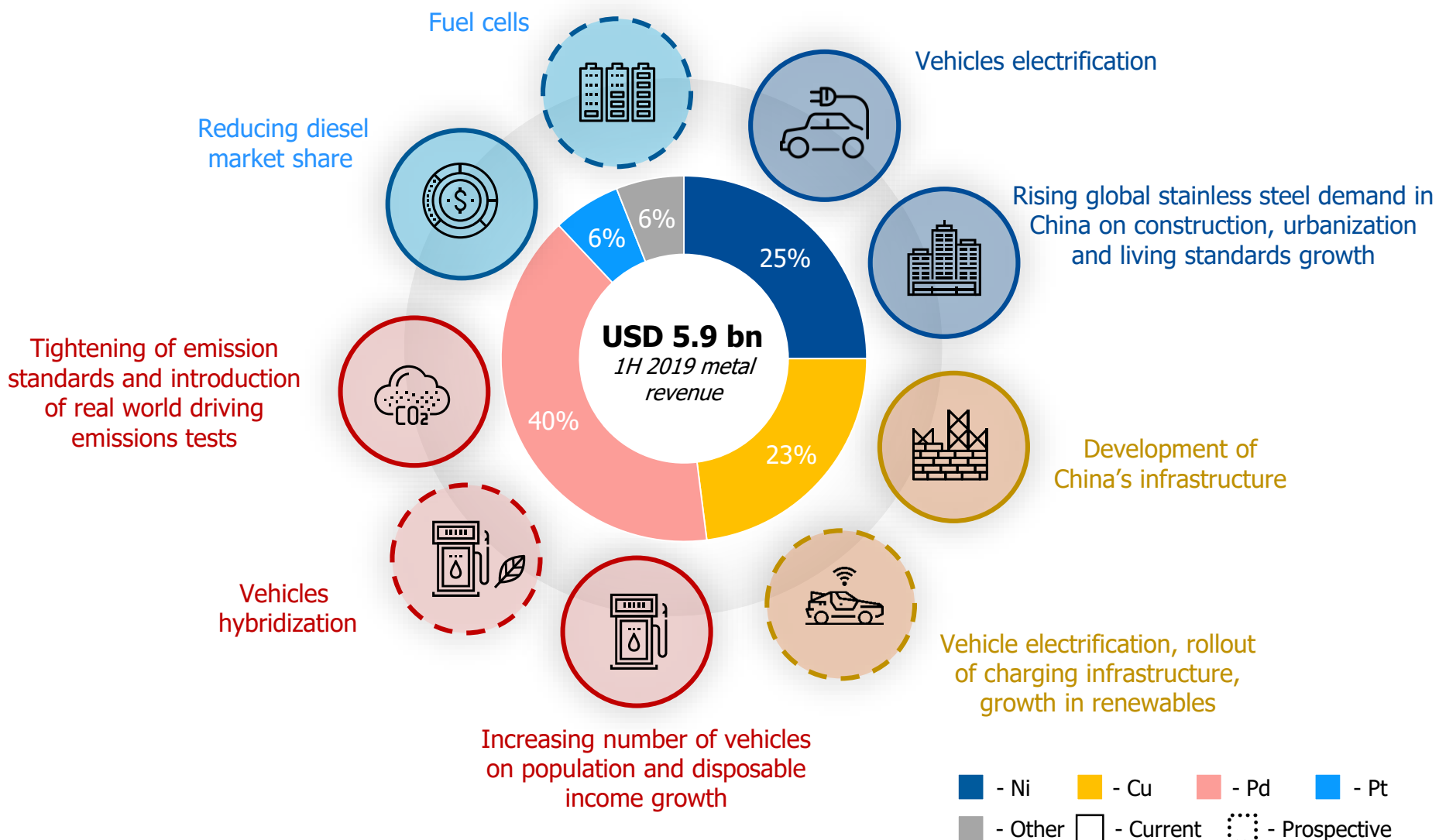
IMF Forecast for 2019-2020 GDP growth, %



China is One of the Largest Consumers of Norilsk Nickel's Core Metals

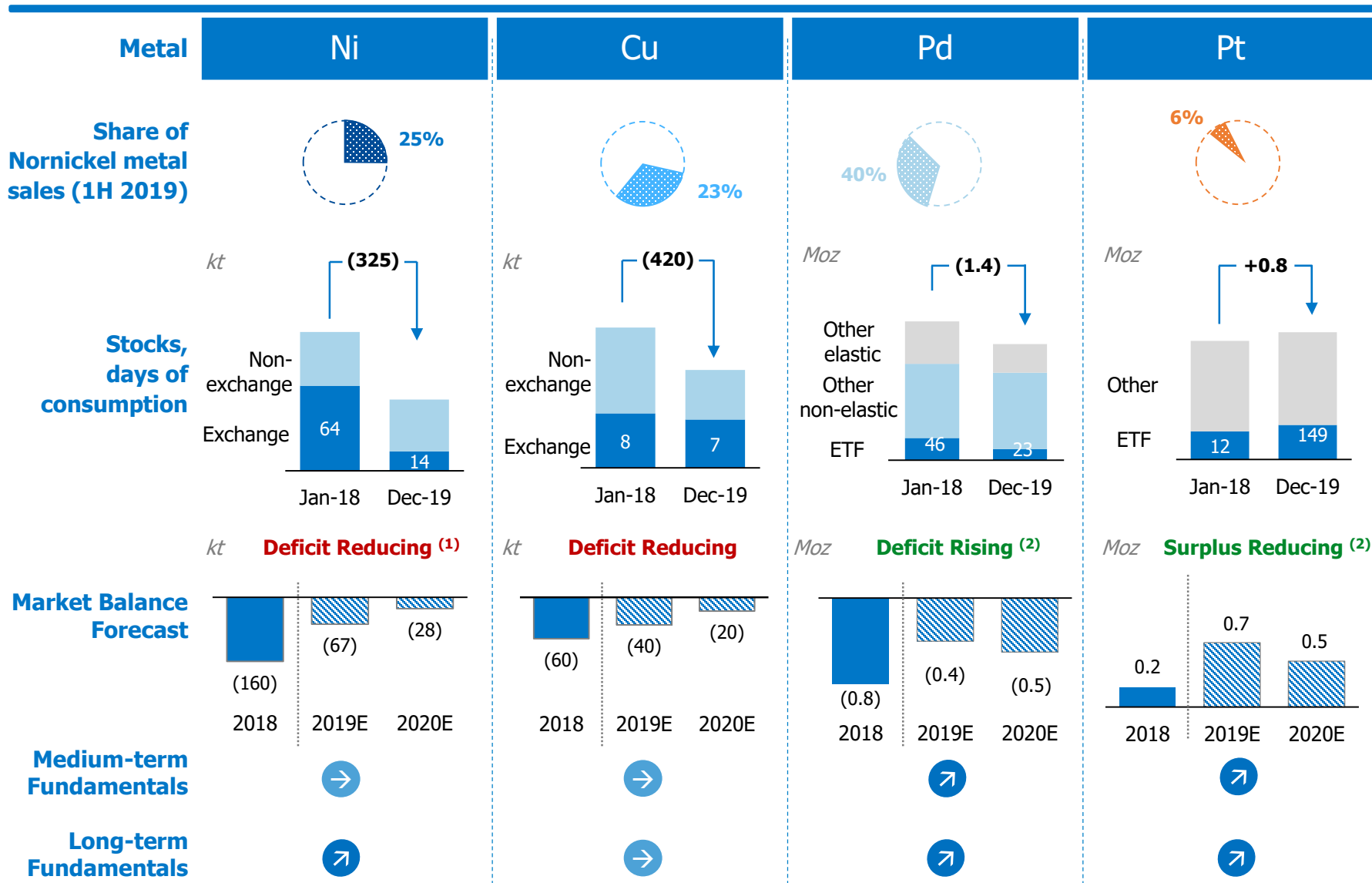


Long Term Trends Supporting Consumption Growth for Nornickel's Metal Basket



Source: Company data

Metal Markets Outlook — View on Fundamentals



Source: Company estimates

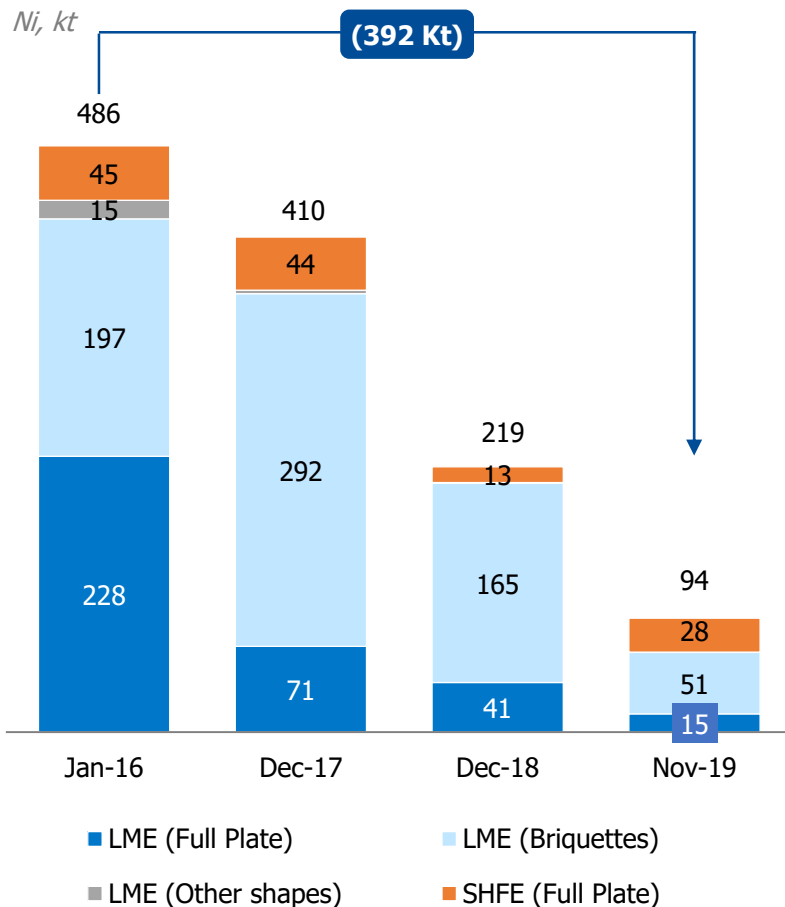
Notes: Figures may not sum up due to rounding

1. Assuming that Indonesian ore ban brought forward as scheduled

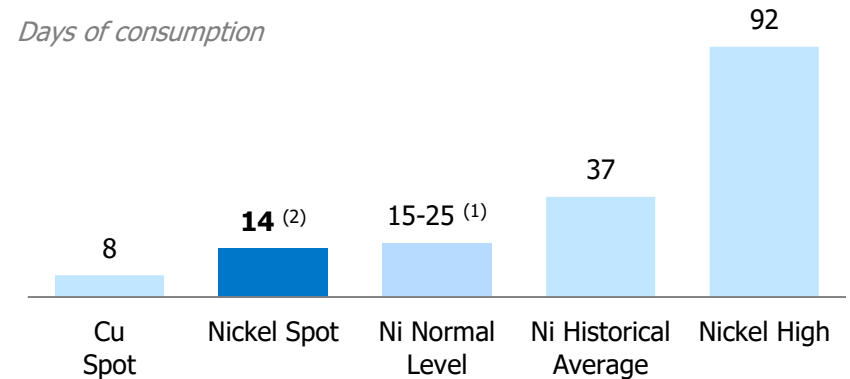
2. Excluding ETFs, investment demand and industry stocks movement. Numbers are rounded separately

Nickel Exchange Stocks Reached 7-years Lows

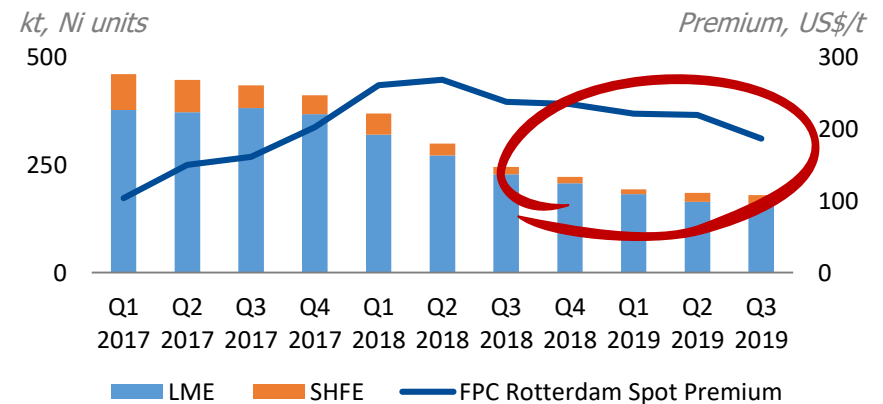
Drawdown of Exchange Inventories Continues: -129 kt 2019 YTD



Inventories Declined by Over 80% from Peak Levels to Normal Levels



Inventories Disconnect with Physical and Spot Premia: Reduction of Both



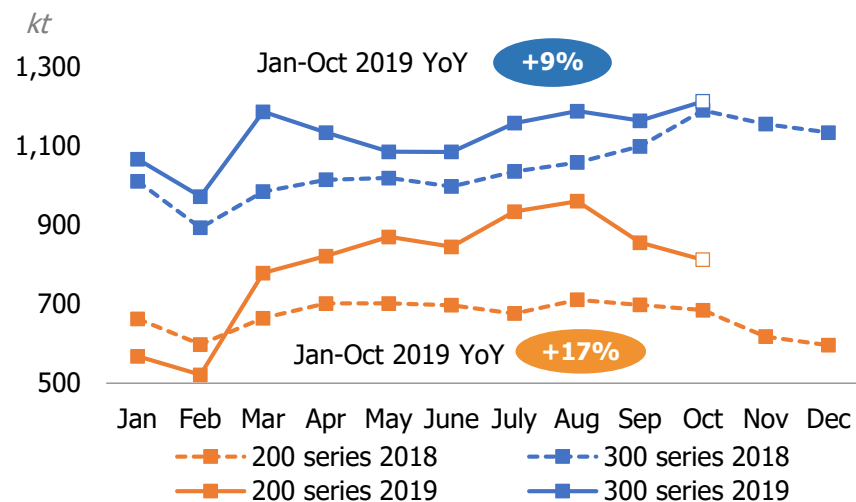
Sources: Company estimates, LME, SHFE, SMM

Notes: 1. According to markets participants, customers

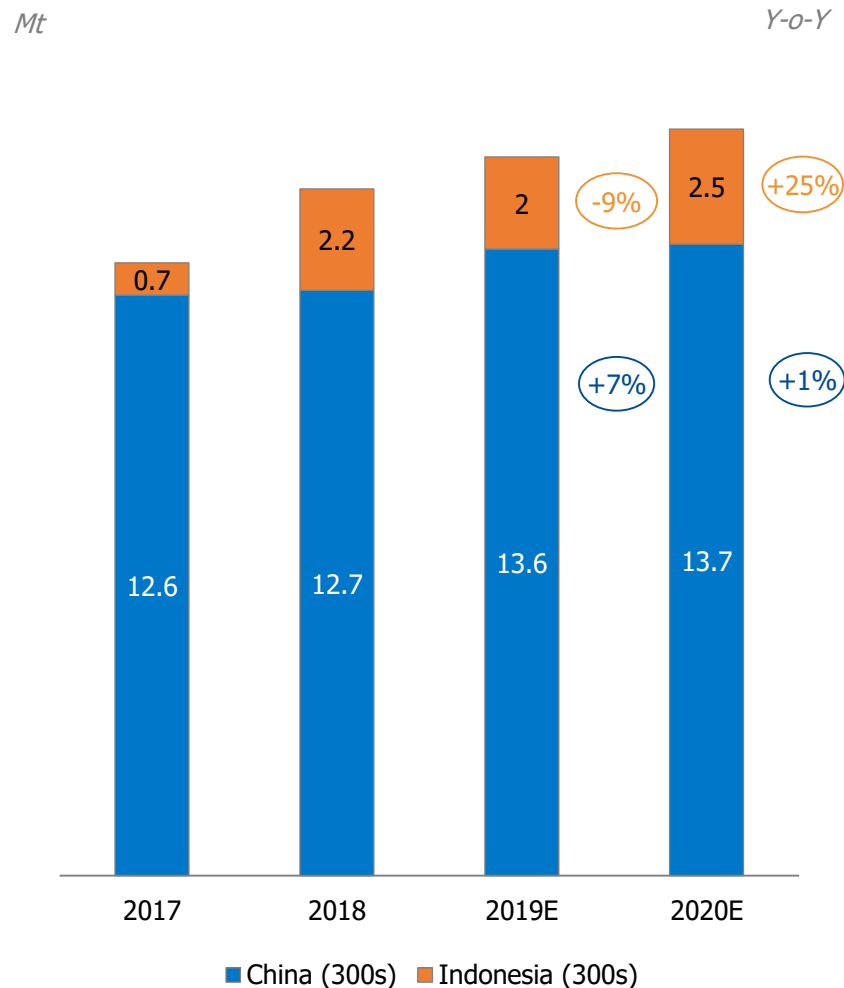
2. As of 1 November 2019

China Stainless Growth to Lose Steam in 2020

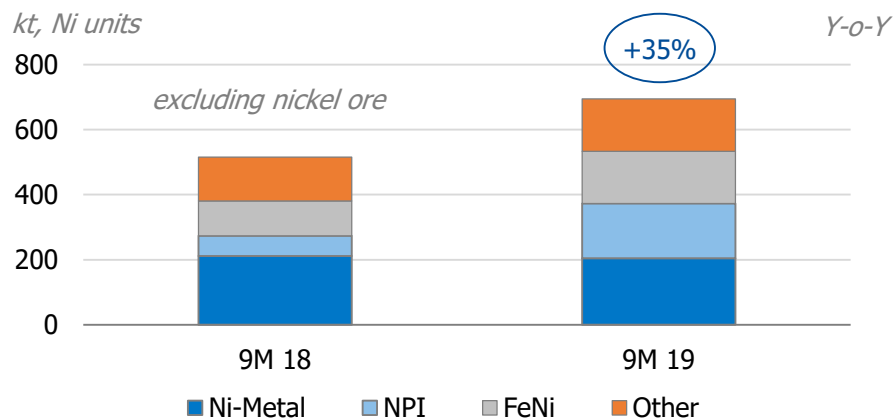
Strong Stainless Production Growth in China in 2019 YTD



Growth of 300 Stainless Steel Should be Supported by Indonesia in 2020

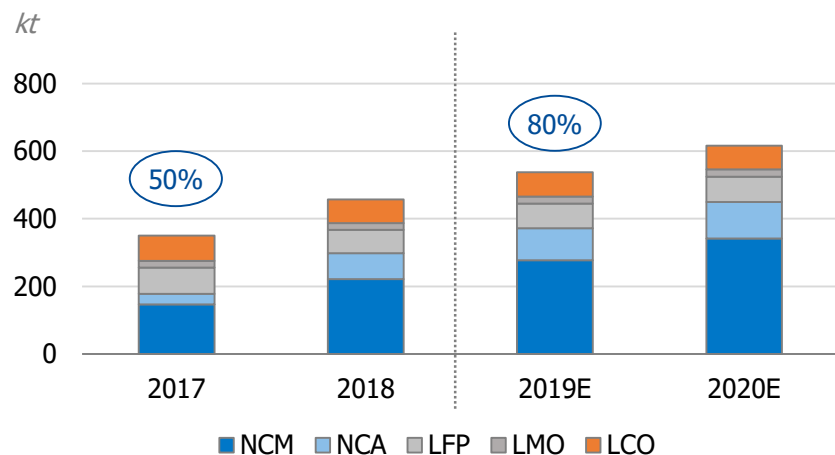


Increase of Nickel Imports to China in 9M 2019

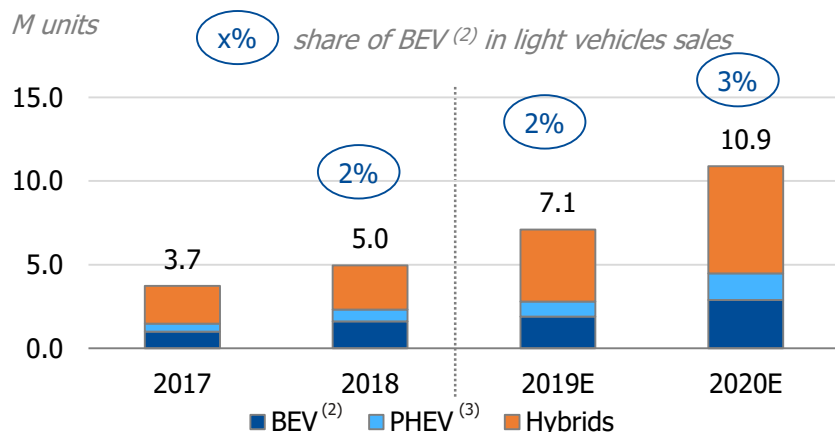


Nickel Consumption in Batteries — Continues to Rise From a Small Base

Market Share of Ni-intensive NCM / NCA Cathodes Expected to Reach 80% in 2019 ⁽¹⁾

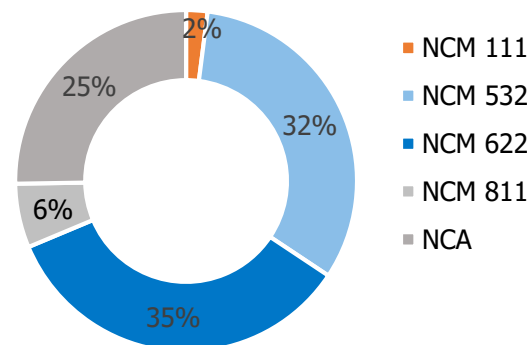


Electric Vehicles Maintain Stable Growth Rates

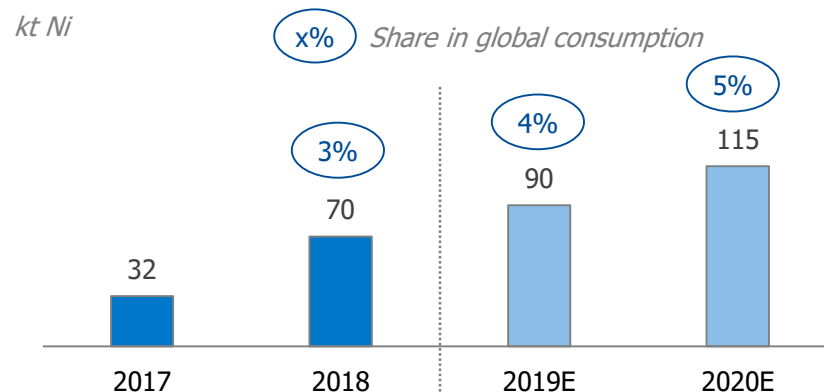


Within NCM Cathodes Chemistry Shifting towards Higher Ni Loadings

Breakdown of Global PCAM Production by Type, 2019E

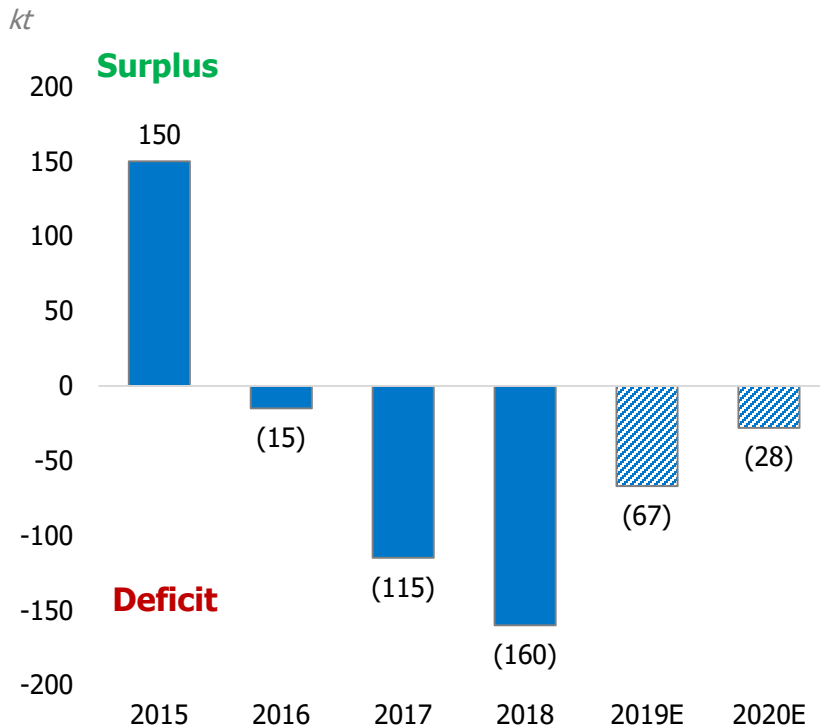


Ni Demand in EV Li-ion Batteries Rising Fast, but Still Small at 4% of Global Consumption

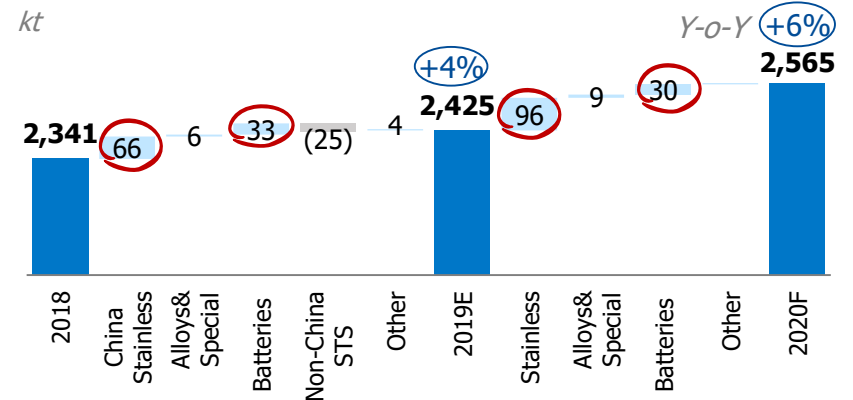


Nickel Expected to be a Balanced Market in 2019-2020

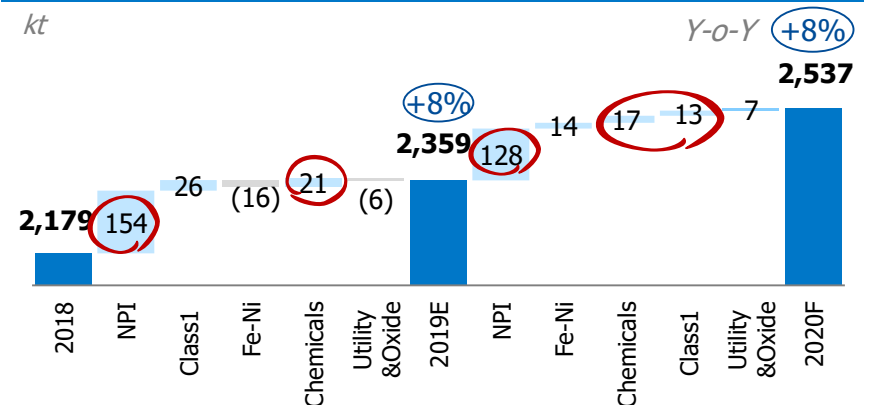
Balanced Market in 2019-2020



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



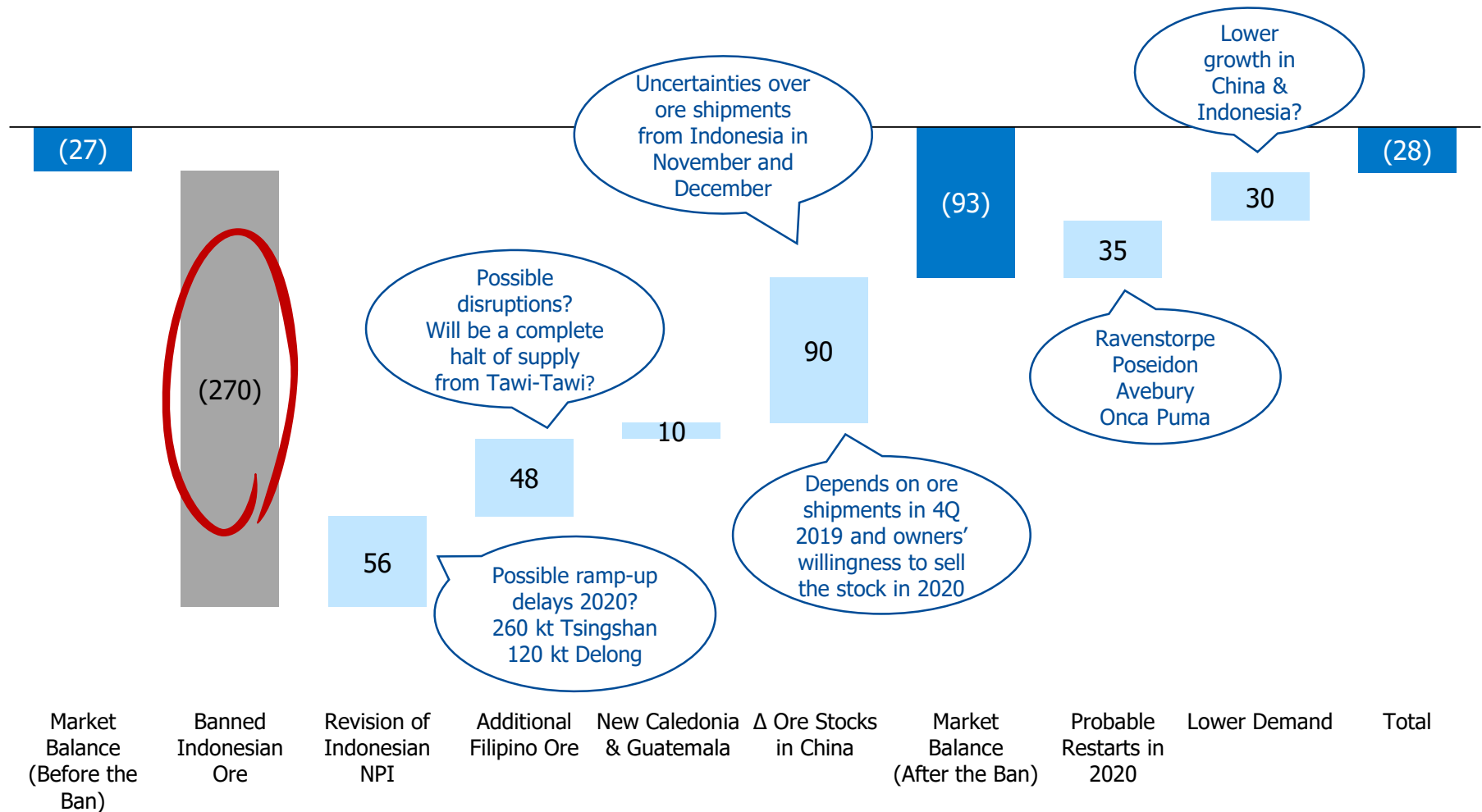
Supply: Growth Accelerating on NPI Ramp-Up in Indonesia & China and Recovery of Class 1 Ni Production



Source: Company estimates

Note: 1. Assuming that Indonesian ore ban brought forward as scheduled

Neutral Impact of the Indonesian Ban on the Market Balance in 2020



Source: Company estimates

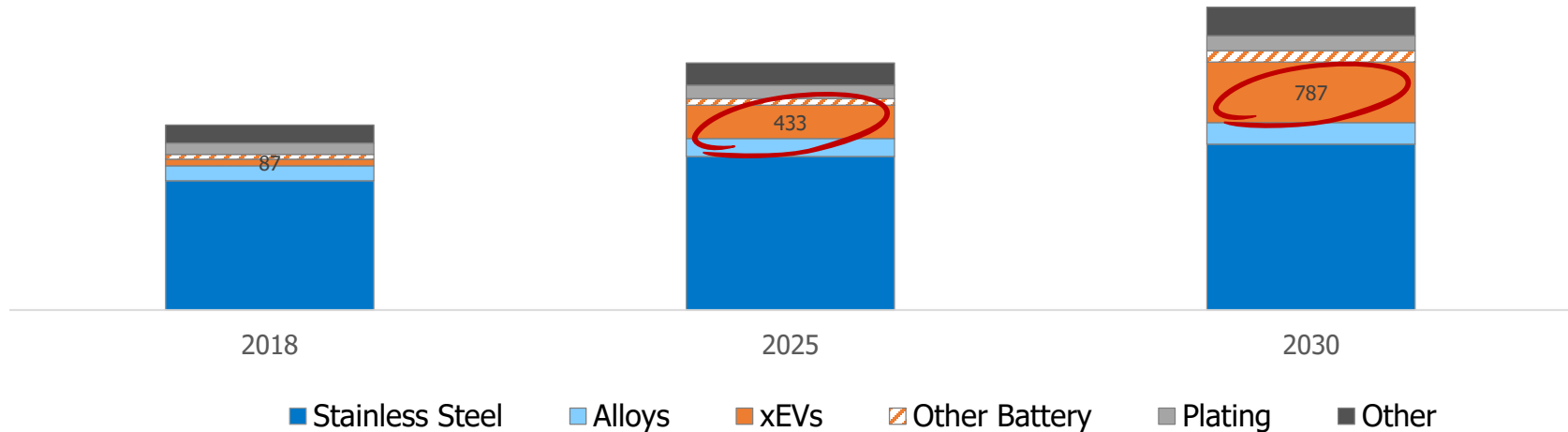
Note: Mirabela relaunch was included in Market Balance (before the ban)

Nickel Demand: Positive Long Term Outlook to Keep Market in Deficit

Growing Stainless Consumption to Compete for Ni Units with the Battery Sector

kt

Battery CAGR 17%
(2018-2030E)



Long term Trends Supporting Ni Consumption Growth:



Vehicle Electrification



Increasing mobility



Growth in
Renewables



Population growth



Growing disposable
incomes



Urbanization

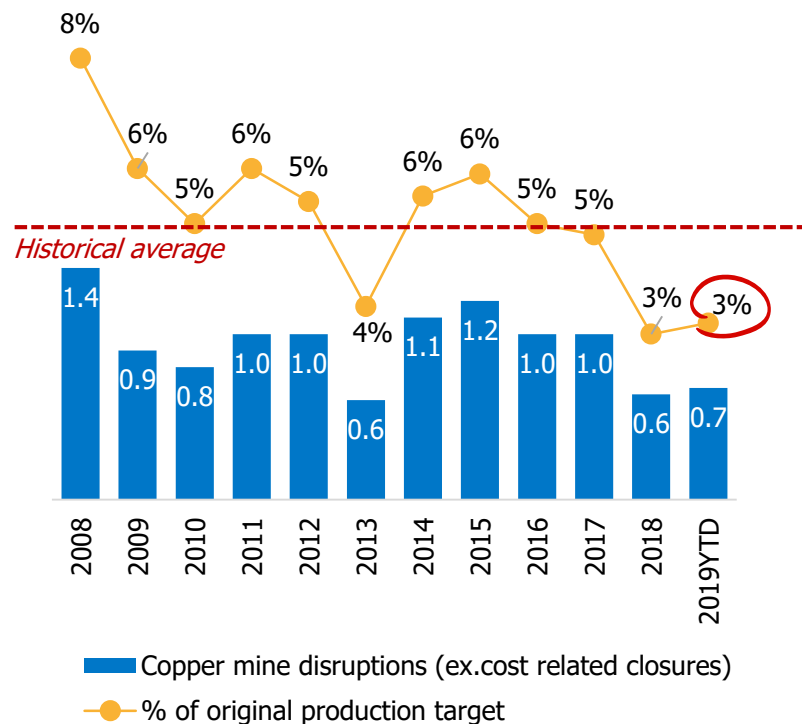
Sources: Company estimates, Wood Mackenzie

Copper: Demand Concerns Prevail in 2019

Copper Supply Disruptions in 2019: Disruption Risks Rising Sharply in 2H 2019

Mt

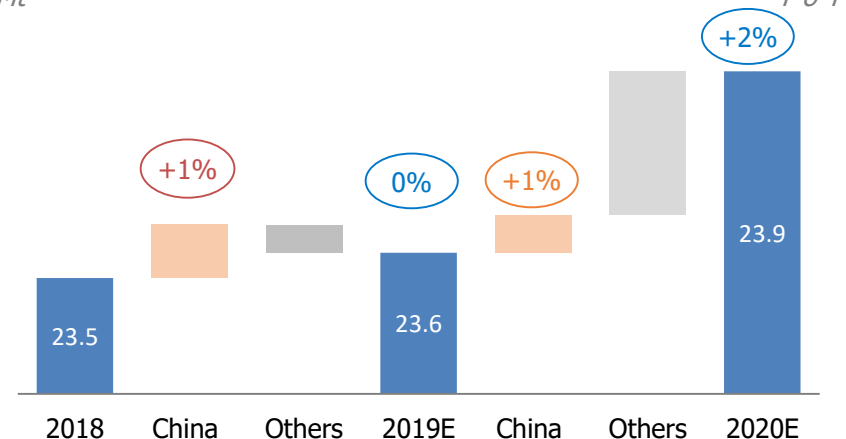
Y-o-Y



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

Mt

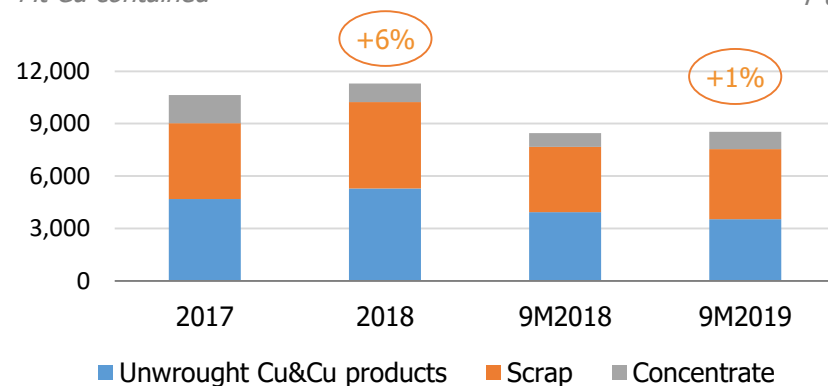
Y-o-Y



Copper Imports to China Were Flat in 9M19

Mt Cu contained

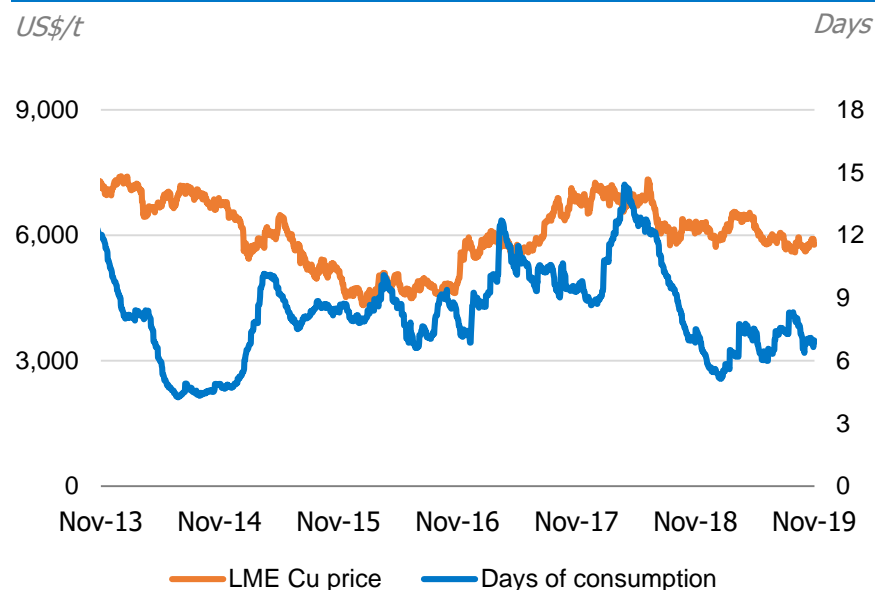
Y-o-Y



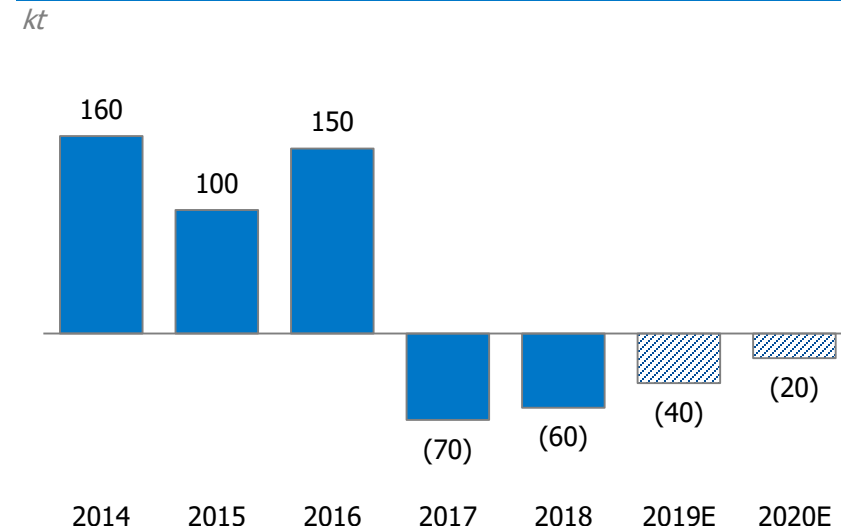
- Recent mine disruptions in Peru, Ecuador and Chile has raised the prospect of near-term market tightness

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

Visible Copper Inventories Remain Near Multi-Year Lows



Copper Market Balance: Marginal Deficits to Reduce in 2020



- + Exchange inventories running near historical lows
- + Supply disruption risk rising sharply in 2H19
- Outcome of trade dispute between USA/China – remains the main driver of investors' sentiment

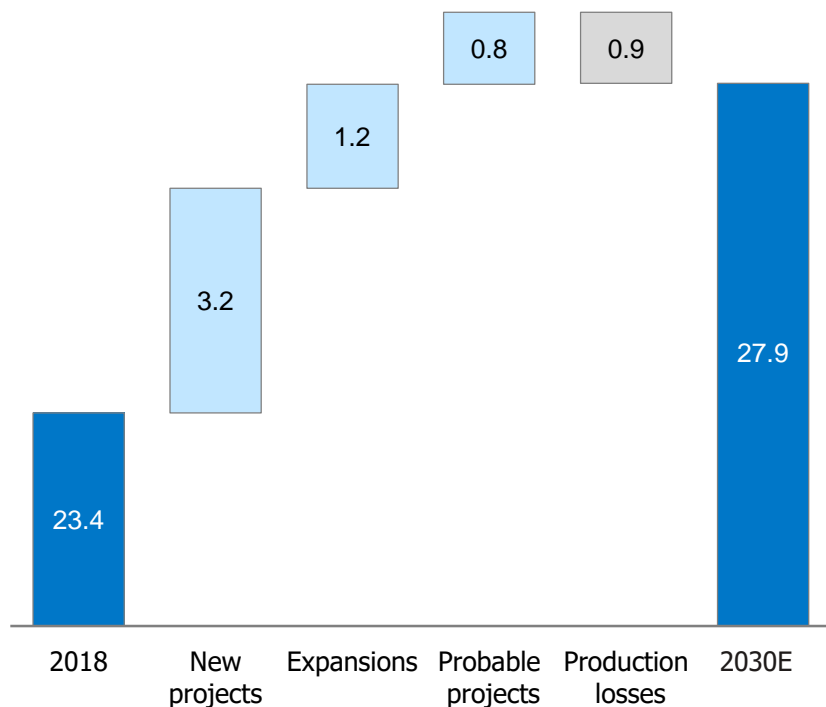
- Growth of Chinese demand normalizing
- Global economy is slowing
- + Potential supply disruption events (e.g. negotiations with labour unions) in sight

Sources: Company data, Bloomberg, as of November 2019

Long-term Copper Outlook: Supply Set to Grow While Demand Growth is Moderating

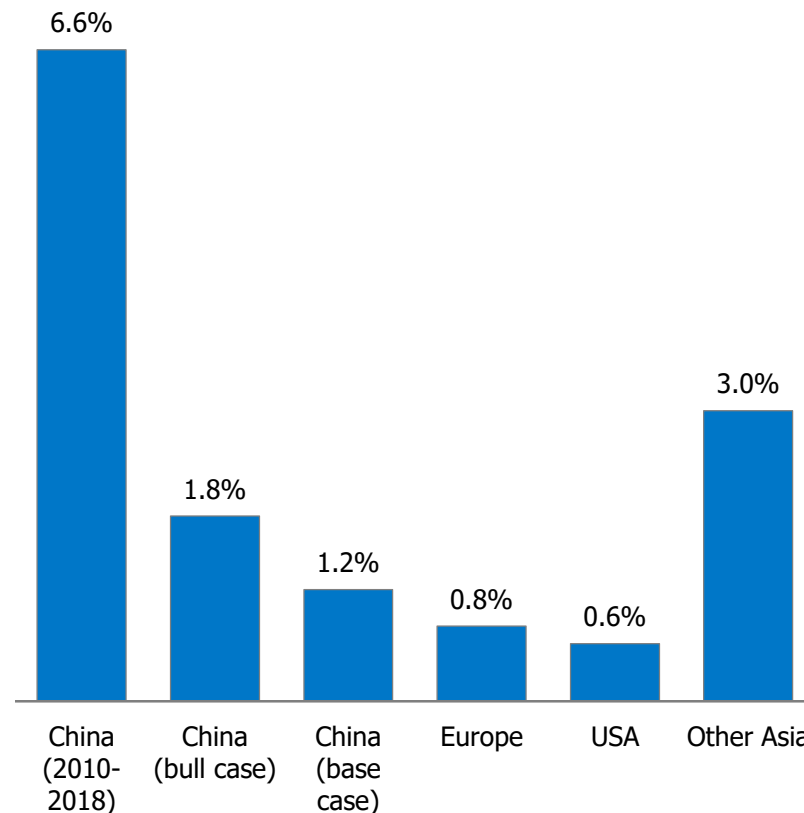
Supply Addition: Over 4 Mt May Be Added By 2030E

Mt



While China Copper Consumption Growth Rates are Rapidly Normalizing

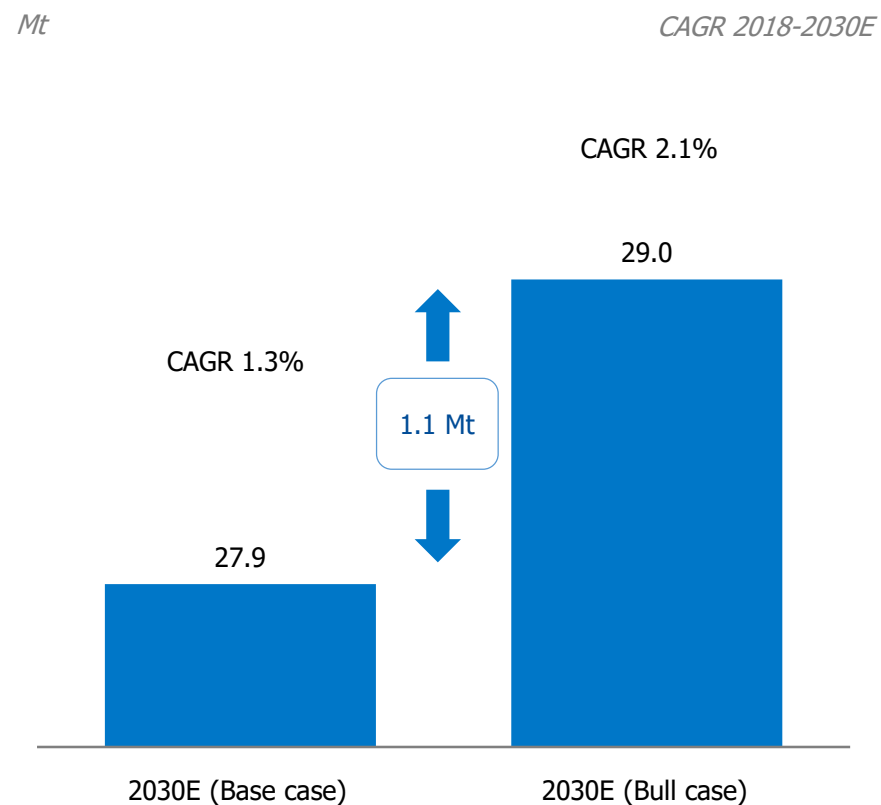
CAGR 2018-2030E



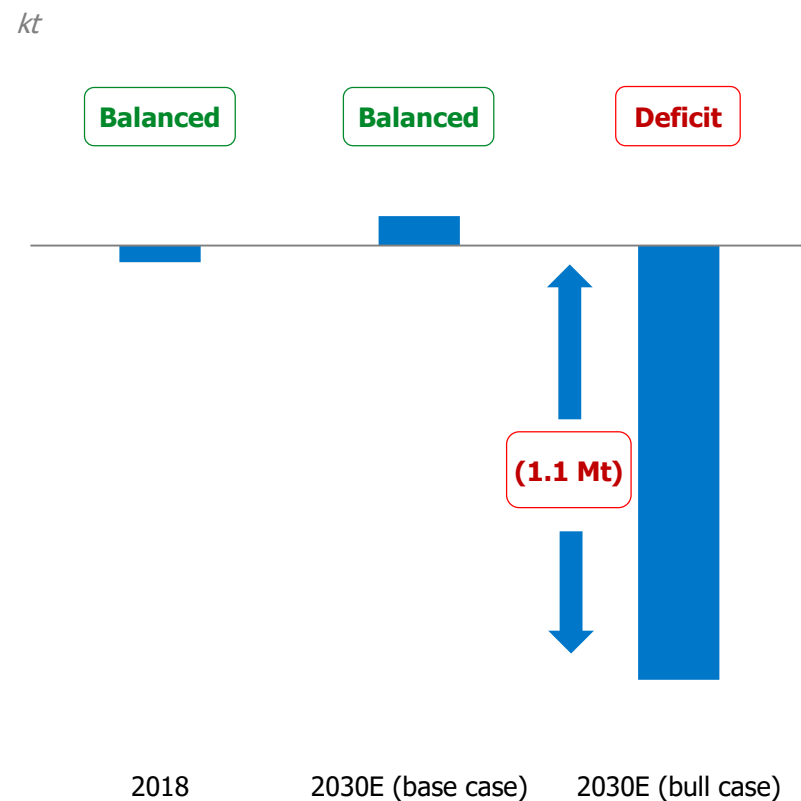
Sources: Company estimates, Wood Mackenzie

Long-term Copper Consumption Outlook

Uncertain Long-term Global Consumption Outlook...



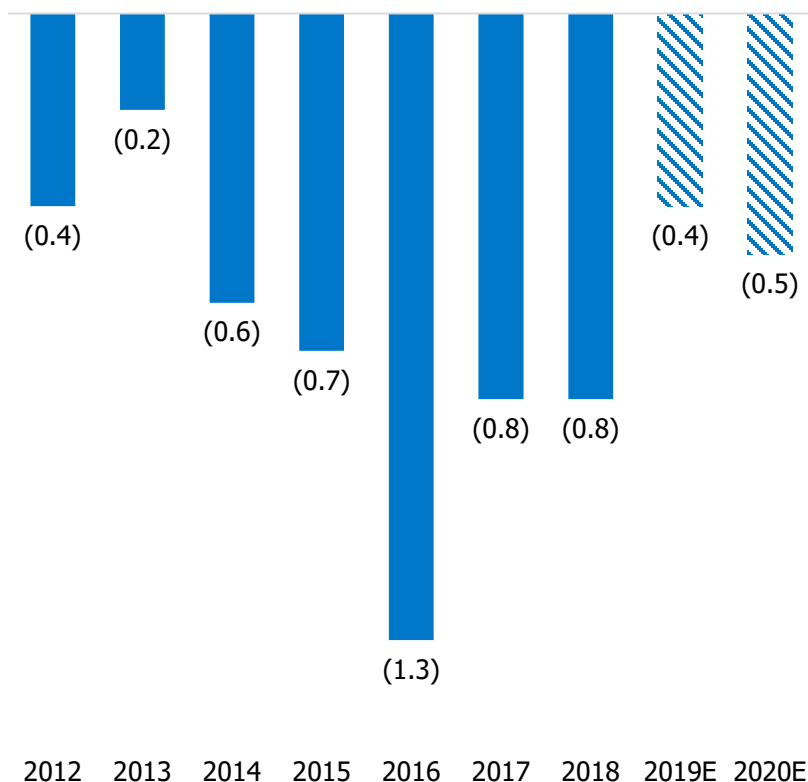
... Leading to Wide Range of Market Balance Forecasts



Palladium Market Remains in Structural Deficit

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

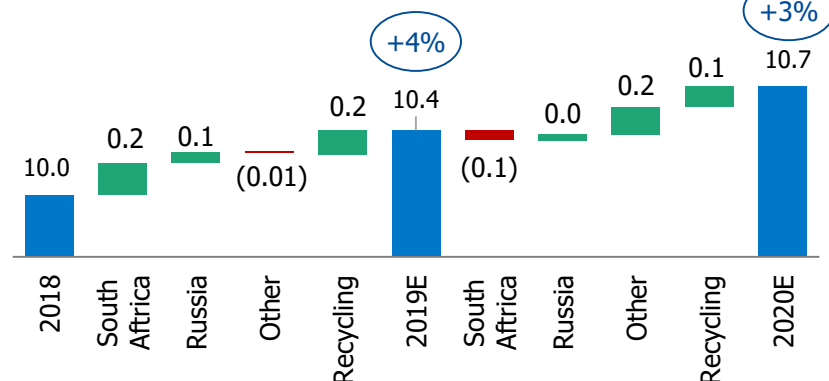
Moz



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

Moz

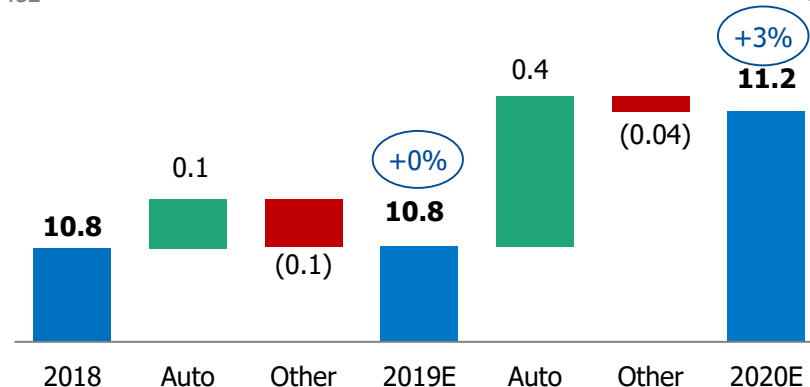
Y-o-Y



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

Moz

Y-o-Y



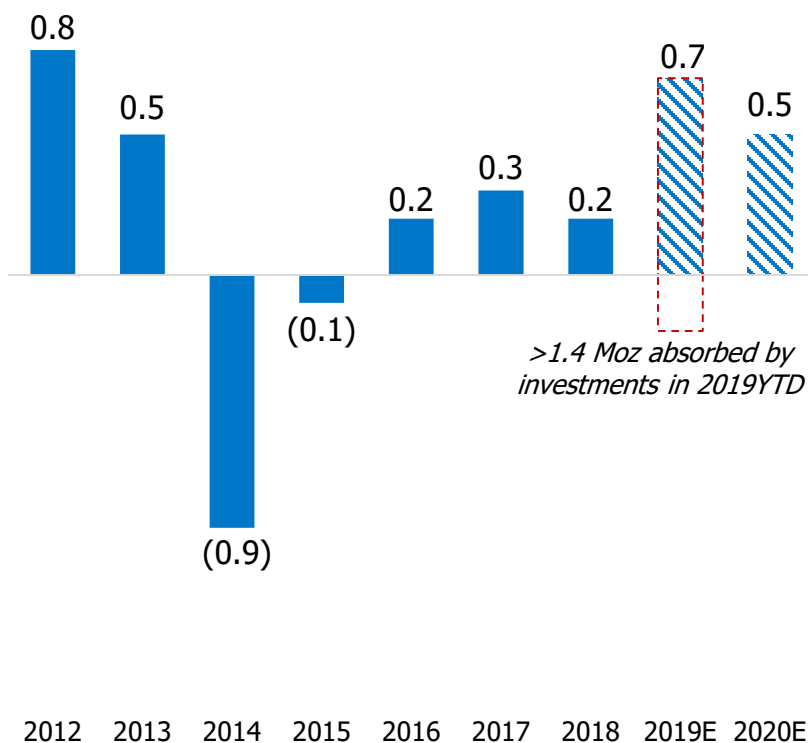
Source: Company data

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

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

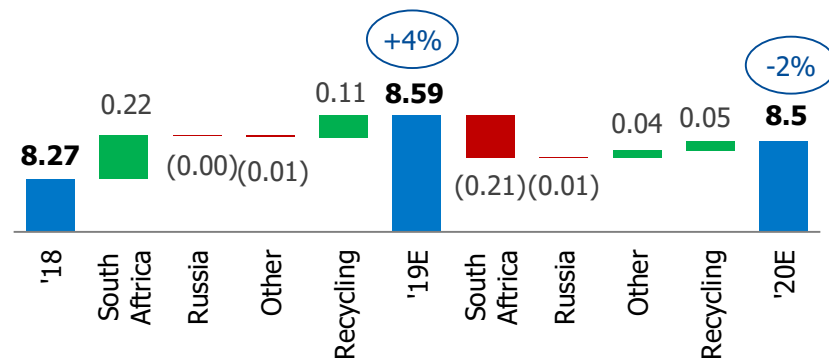
Moz



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

Moz

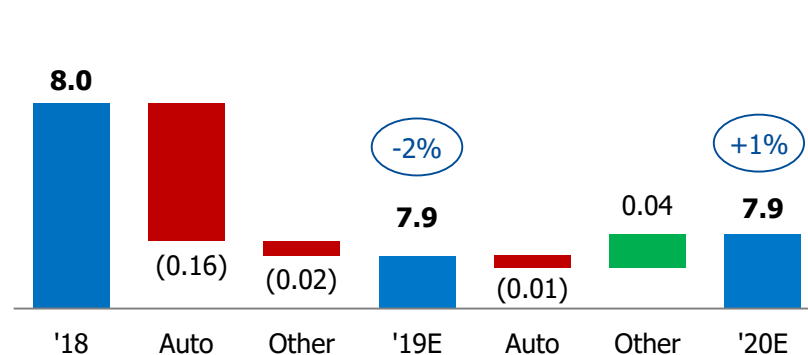
Y-o-Y



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

Moz

Y-o-Y



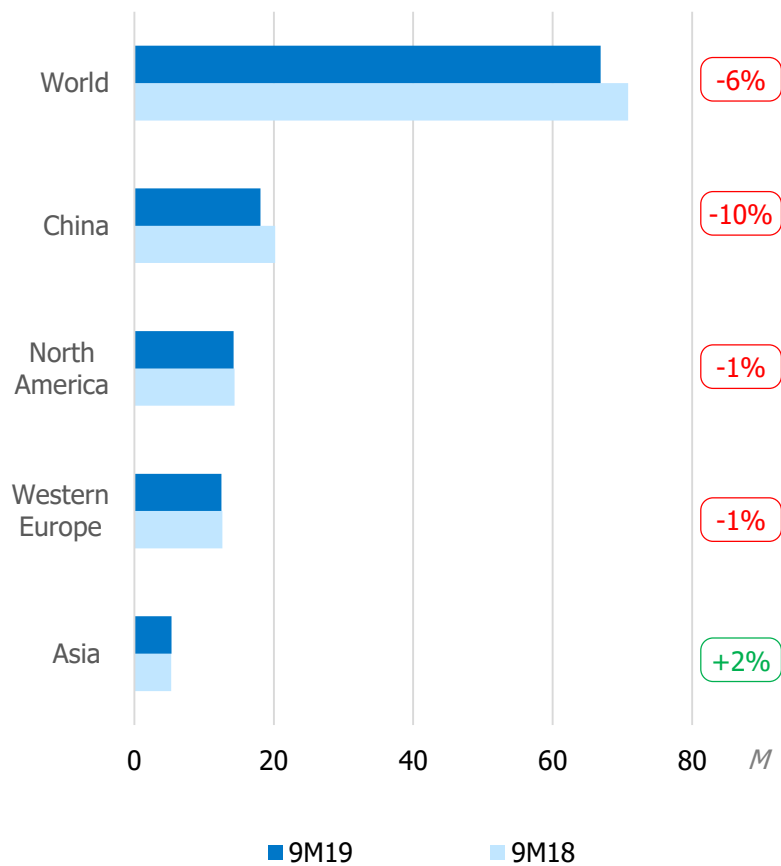
Source: Company data

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

Automotive Sales Decline but PGM Loadings Increase

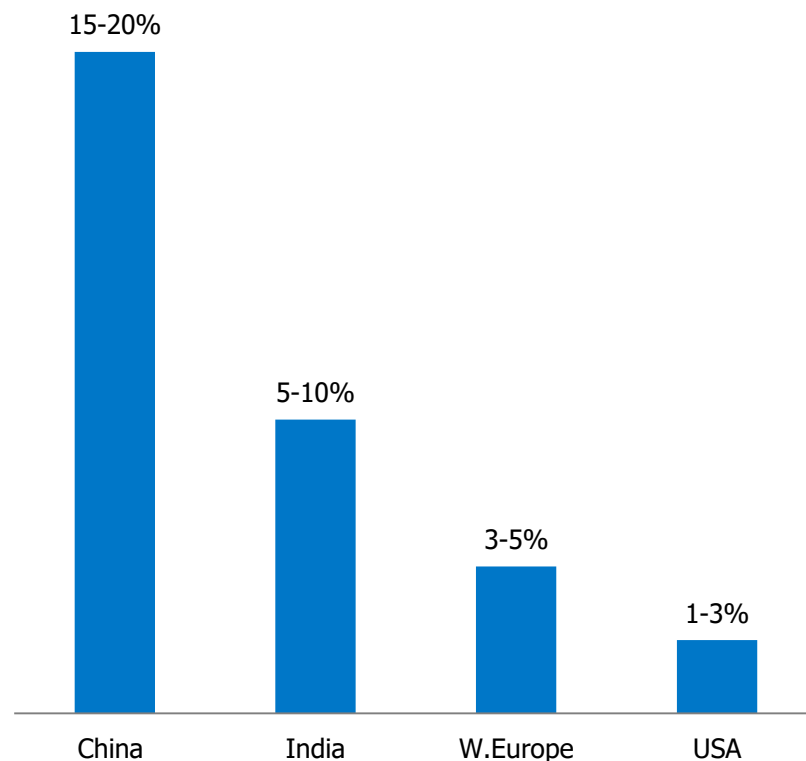
Global Automotive Sales ⁽¹⁾ Decreased by 6% in 9M 2019 Y-o-Y

xx% Change in 9M 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, (%)



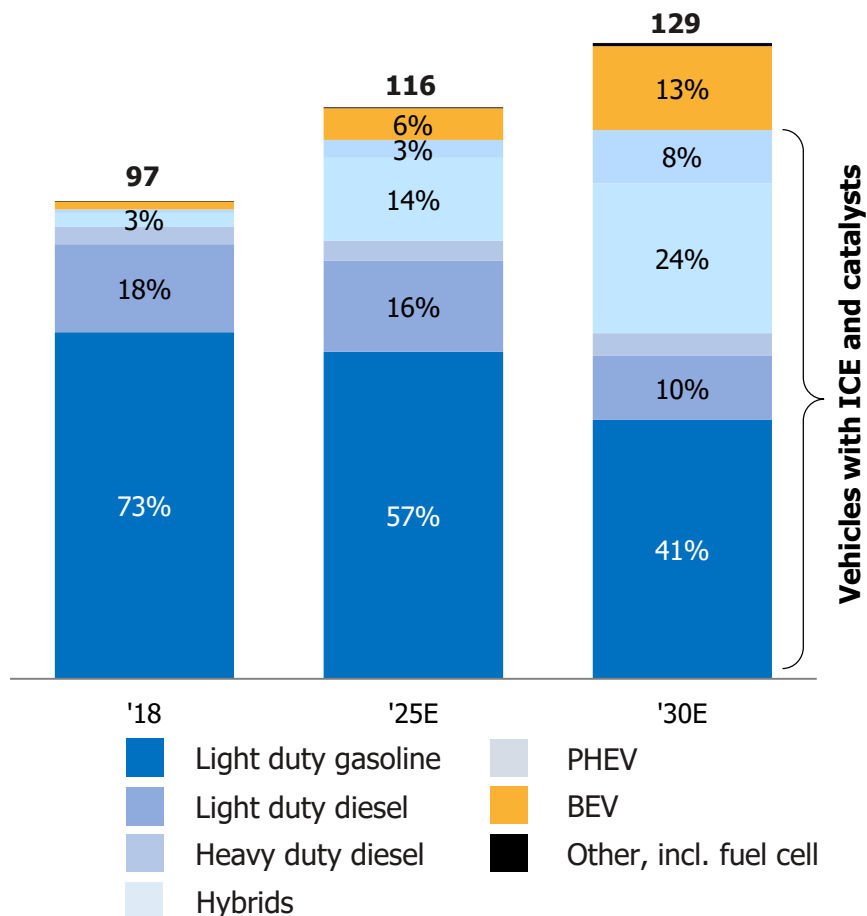
Source: LMCA, IHS, Marklines

Note: 1. Light-duty vehicles (up to 6 tonnes), North America – USA and Canada, Asia including Japan and Korea

Long-term Palladium Demand to Remain Strong

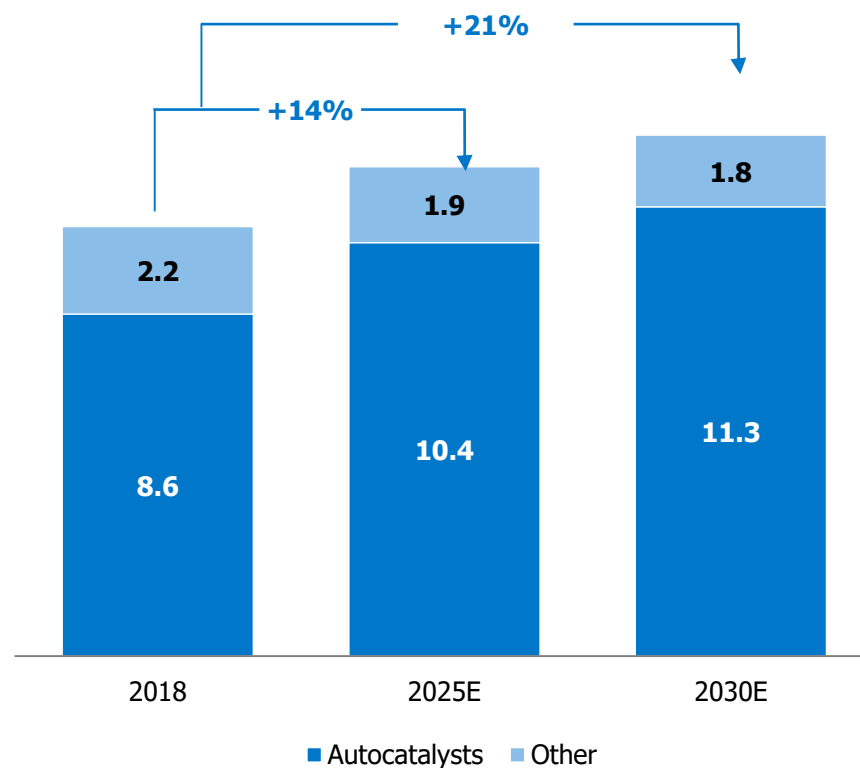
Automotive Market Is Going To Be ICE-dominated

M vehicles



Autocatalysts Will Remain Key Driver of Demand Growth in the Next 10 Years (>80% Consumption)

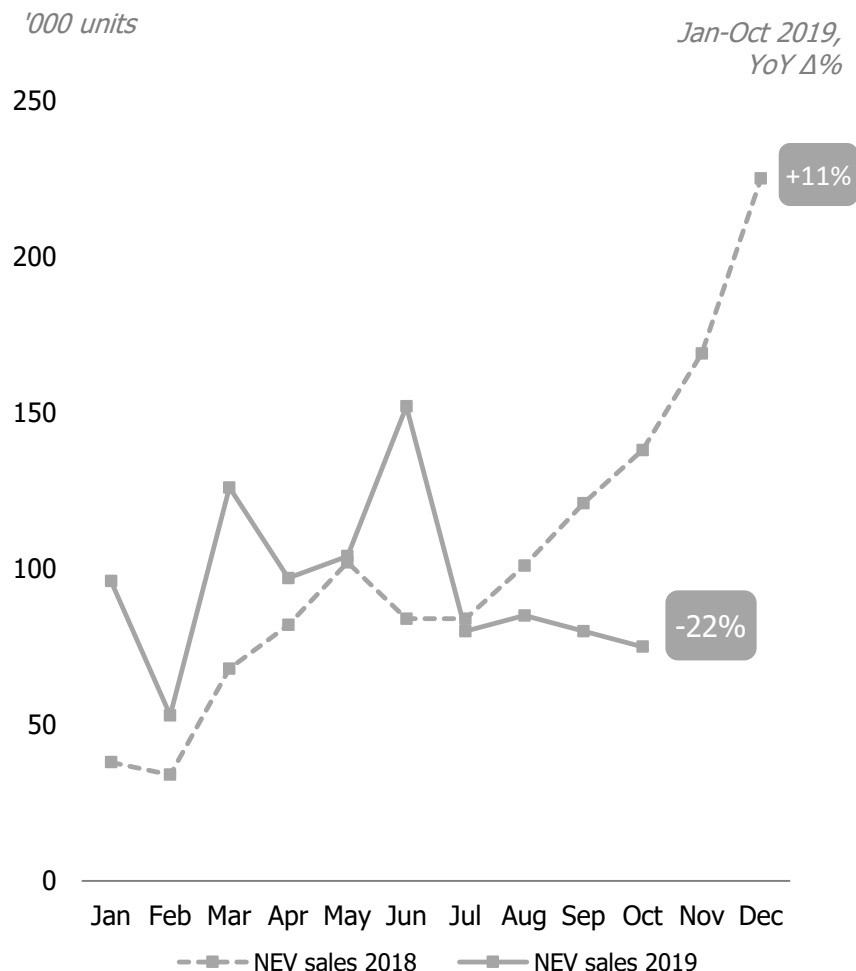
Moz



Sources: Company estimates, LMCA

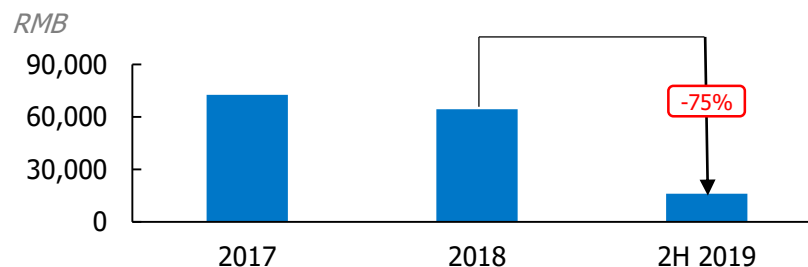
EV Sales are Very Sensitive to Subsidy Policy: the Case of China

Sales of NEV Decreased over the Last 4 Months Due to Tightening Subsidy Policies



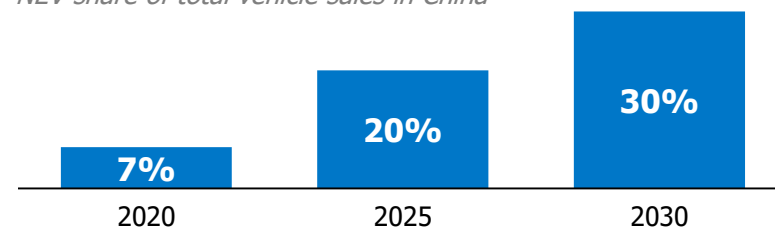
The Shift from Tax Subsidies to Dual Credit System

Subsidy per BEV ⁽¹⁾



New Government Targets for Sales

NEV share of total vehicle sales in China



The Government Incentivizes OEMs to Produce BEVs with Longer Driving Range

Vehicle type	Max points earned
BEV with long drive range ⁽²⁾	6
PHEV >80 km	2
50 km < PHEV < 80 km	1

Notes: 1. For a vehicle with 300 km range, 140 Wh/kg, +25% energy efficiency bonus and including maximum provincial incentive

2. Points earned for 1 BEV = $(0.012 \times \text{Driving range (km)} + 0.8) \times \text{Correction factor for energy efficiency}$

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
HC and CO oxidation at low temperatures	Higher	Lower
NOx reduction	Higher	Lower






- 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

Key Auto Trends Impacting Metals Demand

		Demand Implications			
		Ni	Pd	PGMs	Pt
Sustainable global automotive production growth					
Substitution of diesel for gasoline vehicles					
Growth of hybrid market share					
Growth of SUV market share and engine downsizing termination					
Strengthening emissions legislation					
Electric vehicles/batteries					

Nornickel's Metal Basket Content by Light Vehicle Type

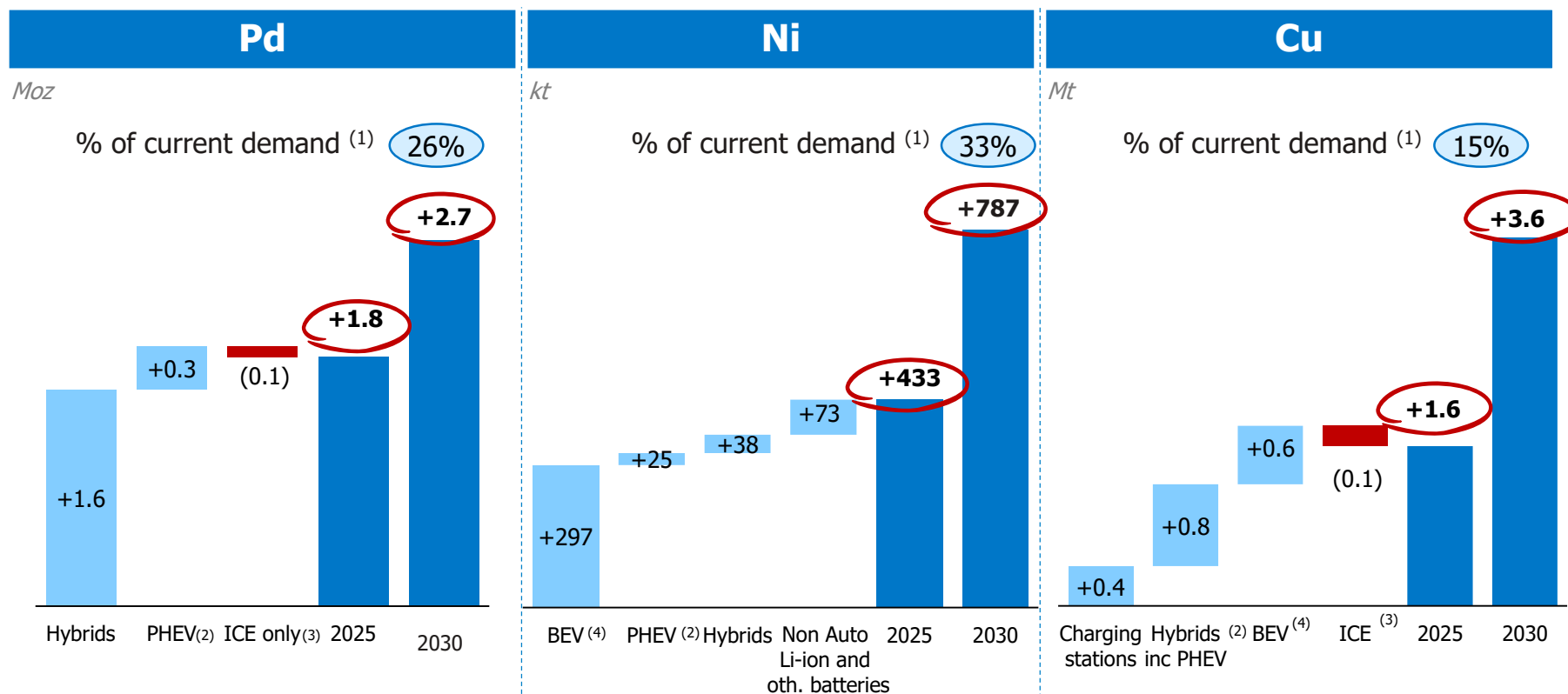
	 Gasoline	 Diesel	 Hybrid incl. PHEV ⁽¹⁾	 BEV ⁽²⁾	 FCEV ⁽³⁾
CAGR ⁽³⁾	(1%)	(1%)	+24%	+26%	+30%
Market Share ⁽⁴⁾	59%	14%	17%	8%	<1%
Ni	Stainless Steel & Parts 2-4 kg		+Batteries 5-15 kg		2-3 kg
Cu	Wires & Parts 20-25 kg		+Electric Motor, Generator Winding 45-50 kg		70-75 kg
PGM	Catalysts 2-5 g		2-6 g	-	Fuel Cell 25-35 g
Pt:Pd ratio	1:4	8:1	1:4		
Metal value per vehicle, US\$ ⁽⁶⁾	270-590	230-420	470-920	Up to 2,400	Up to 1,500

Sources: Company estimates, LMC Automotive, Bloomberg

Notes: 1. Plug-in hybrid electric vehicles, 2. Battery electric vehicles, 3. Fuel cell electric vehicles, 3. CAGR for 2018-2025E, 4. Expected market share in 2025 based on production, 5. Excluding additional infrastructure demand of 1-8 kg per charger, 6. Metal values calculated at spot prices as of 1 October 2019

Auto Driven Metal Demand Growth in 2030E vs. 2018

Metal



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

Sources: Company estimates, LMCA

Notes: 1. Based on consumption of palladium (physical), nickel and copper for 2018, 2. Plug-in hybrid electric vehicles, 3. Internal combustion engines, 4. Battery electric vehicles

Sales & Marketing Strategy

Strategic principles



Fully captive global sales & marketing network



Sales of 100% of metals produced within the financial year



Prioritization of direct long-term relationships with industrial consumers



Diversification of sales of strategic metals such as nickel and palladium by region and industry



Creation of economic value added for the Group

Objectives



Diversification of nickel sales into non-stainless applications (alloys, plating, batteries, etc.)



Strong alliance with the evolving battery sector through nickel product mix and strategic liaison



Improvement of nickel product range to better fit the changing demand structure



Maintenance of stable palladium supply to anchor clients via the Global Palladium Fund



Digitalization of selected sales contracts

Digitalization Of Sales Contracts

A new era in metal trade

- Digitalization of metal sales contracts is opening new exciting prospects in physical metal trade and industrial value chain – a new and better ecosystem for consumers as well as traders and commodity investors
- Digital assets (tokens) are backed by commodities and can be settled physically or financially
- We envisage offering a part (up to 10-15%) of our sales in 2020 through digital transactions
- The transactions will be done via a digital platform built by IBM and based on a modified Hyperledger Fabric



Benefits for industrial players

- Unique opportunities to manage upstream value chain and supply risks – tokens can be transferred to upstream processors, sold to third parties or used as collateral
- Safer, quicker transactions with lower costs
- Responsible sourcing made easier as digital tokens are backed by verified physical metal
- Smaller metals inventory to support sustainable manufacturing



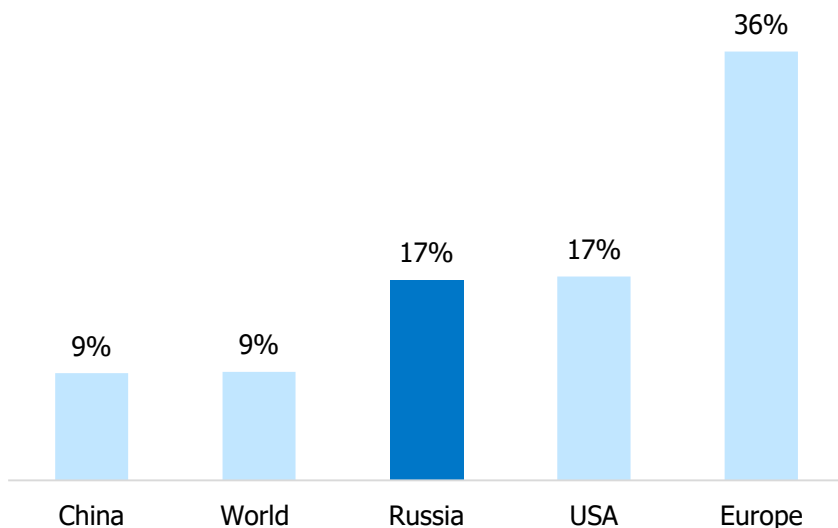
Sustainable Development

Andrey Bougrov
Deputy Chairman of the Board
Senior Vice-President

Russia Significantly Reduced Its Carbon Footprint

Renewable Energy: Russia – One of the World's Largest Producers as % of Electricity Generation

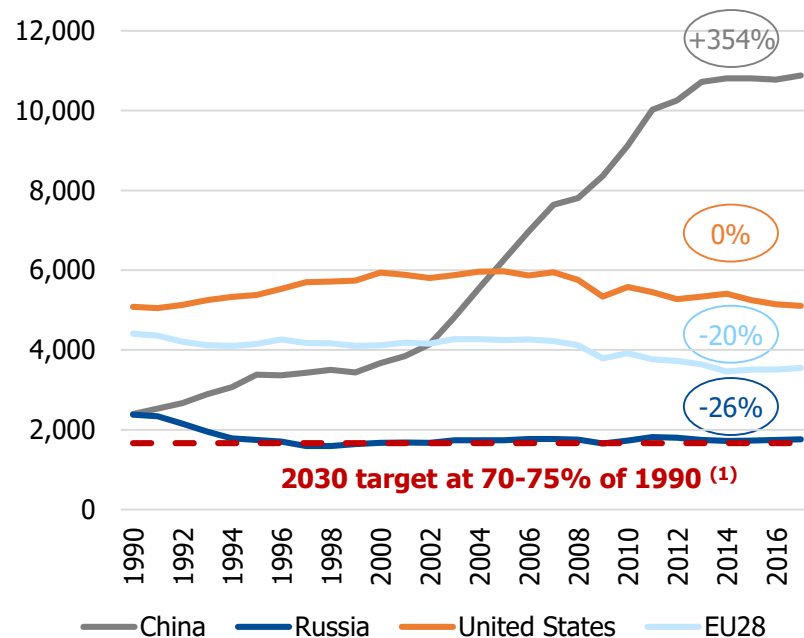
%



- Russia is the world's sixth largest producer of renewable energy
- Including nuclear, which has a low carbon footprint, the total low or no carbon footprint energy accounts for 35% of the Russia's total

CO₂ Emissions: Russia Reduced CO₂ Emissions The Most Among Industrial Nations Since 1990

Mt



- Russia reduced CO₂ emissions 26% since 1990, the date set as the base for global climate change treaties
- In spite of major economic growth, Russia's CO₂ emissions remained by and large unchanged in the past two decades

Nornickel Approach to Climate Change

Leading global supplier of materials critical to building a low-carbon economy

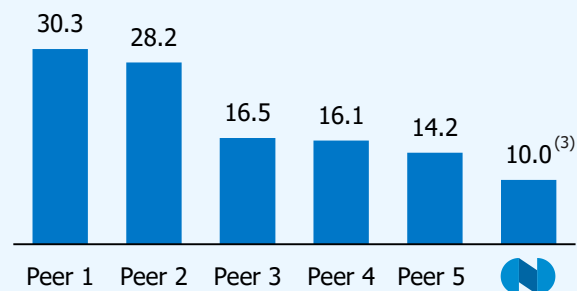


GHG Emissions

10 Mt
of CO₂ emissions ⁽¹⁾

The lowest level of emissions
among global mining
diversified majors

Direct GHG emissions intensity Scope 1, 2
Mt

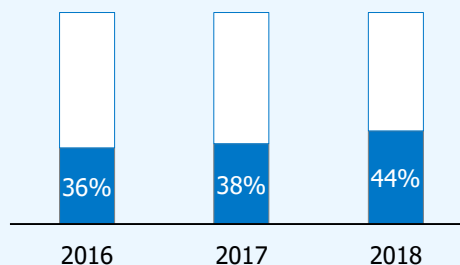


Energy efficiency

44%
electric power generated
from renewable sources

US\$ 2 bn
investments into
infrastructure ⁽²⁾ in 2020-2025

Electric power generated
from renewable sources, %

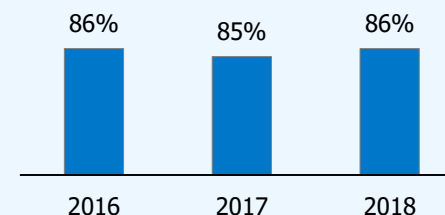


Water

86%
reused and recycled water
of total water consumed by
the Group

Access to abundant water
resources

Percentage of water reused, %



Source: Company and public data

Note: 1. Scope-1, 2. Peer group includes BHP Billiton, Glencore, Rio Tinto, Anglo American and Vale. 2. Including CapEx for gas assets.

3. Assessment made using Russian methodology

Nornickel – Critical Facilitator of the Global Low-Carbon Future

Supplying the materials critical for the development of a low-carbon economy

50-100 Mt of CO₂ emissions

*Potential savings per EV lifecycle
enabled by nickel produced in 2030 ⁽³⁾*

- **Ni** in batteries for green mobility
- **5-10 million t of annual CO₂ reduction**



- **Ni** in stainless steel rebar in critical infrastructure
- **6 million t CO₂ reduction**



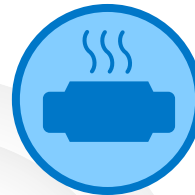
- **Ni** in stainless steel for clean and safe water
- **5.5 million t CO₂ reduction**



170-270 Mt of air pollutants ⁽¹⁾

*Potential savings per autocatalyst lifecycle
by PGMs produced in 2030 ⁽²⁾*

- **Pd** in catalytic converters reduce local emissions of air pollutants
- **Pt** in fuel cells – zero carbon footprint
- Gain of 2,500 days of average life expectancy per kg of **Pd** due to avoided local emissions



- **Cu** used as a primary conductor in the global electrical infrastructure essential to support roll-out of clean mobility



- Recycling of **Ni** containing stainless steel
- **46 million t CO₂ reduction**



Norilsk Nickel metal basket

● - Ni ● - PGM ● - Cu

Sources: Company data, Nickel institute, BASF reporting, IHS

Notes: 1. CO, Hydrocarbons and NOx; 2. Assuming annual PGM volume produced by Nornickel in 2030 would be used for catalytic converters;

3. Assuming annual volume of nickel produced by Nornickel in 2030 would be used for EV batteries

Best-in-class Corporate Governance Standards

Balanced Board Led by Independent Chairman

Gareth Peter Penny – Independent Chairman of the Board

- Member of the Strategy Committee
- 22 years work experience with De Beers and Anglo American
- CEO of De Beers in 2006-2010

Strengthening of the Board's Financial Expertise

Roger Munnings – Independent Director, Chairman of the Audit and Sustainable Development Committee since 2018

- Member of the Budget Committee, Norilsk Nickel
- Fellow of the Institute of Chartered Accountants in England and Wales
- Ex-head of KPMG Russia and CIS

Focus on Sustainable Development

Evgeny Shvarts – Independent Director, since 2019

- Member of the Strategy Committee, Norilsk Nickel
- Member of the Board of Biodiversity Conservation Centre (BCC), Charity Foundation
- Ex-director for Conservation Policy, WWF Russia

Remuneration Linked to ESG Performance

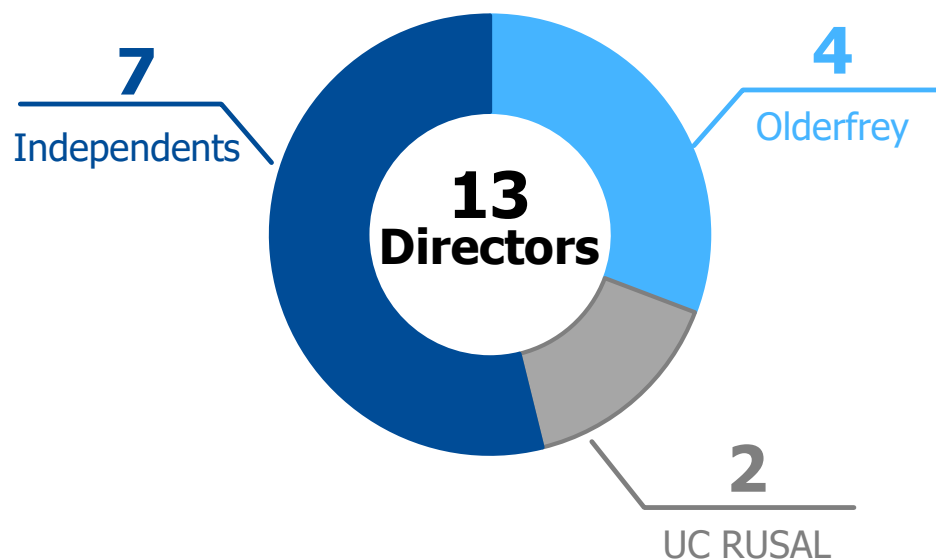
- **Block on the 20-30% of the annual bonuses** of the heads of operating units (including COO) in the case of fatal incidents
- **20% of the Group's KPI is linked to TRI (total recordable injuries)** performance

Comprehensive and transparent ESG reporting

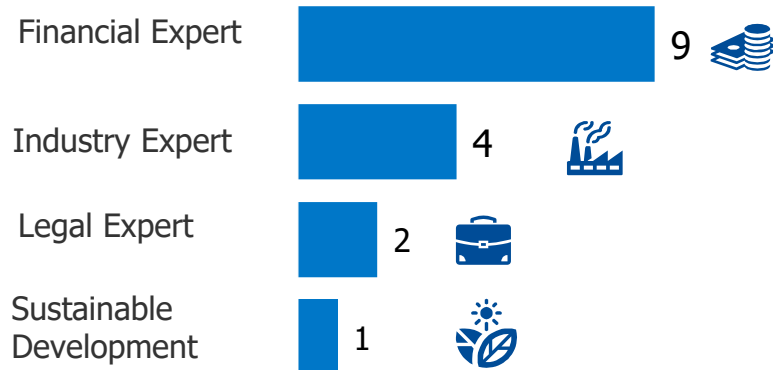
- Annual sustainable development reports prepared according to global reporting standards (GRI) and assured by a third party
- Regular communications with all leading ESG rating agencies/investors

Majority Independent Board Led by Independent Chairman

The majority of the Board is independent for the first time in the Company's history as a public company, 3 key Board Committees chaired by independent Directors



Key Expertise of Directors



Board Committees

Chaired by INED

Audit and Sustainable Development Committee	Roger Munnings	✓
Budget Committee	Alexey Bashkirov	✗
Strategy Committee	Maxim Poletaev	✓
Corporate Governance, Nomination and Remuneration Committee	Robert Edwards	✓

Source: Company data

✓ - chaired by INED

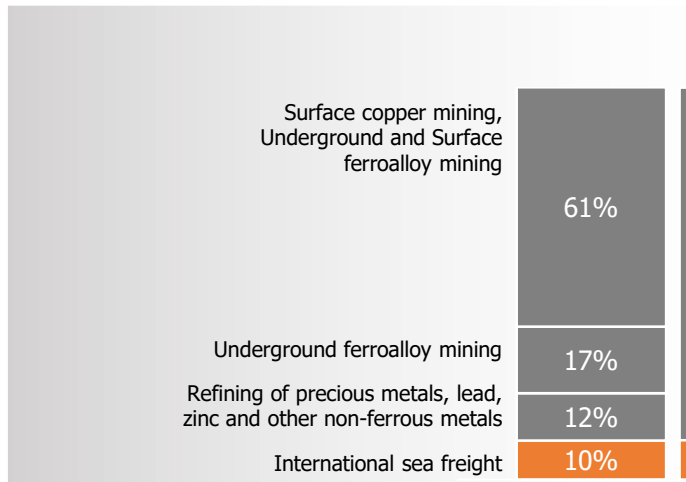
How Well ESG Ratings Know the Corporates

ASSESSMENT OF NORNICKEL

VS

NORNICKEL FACT

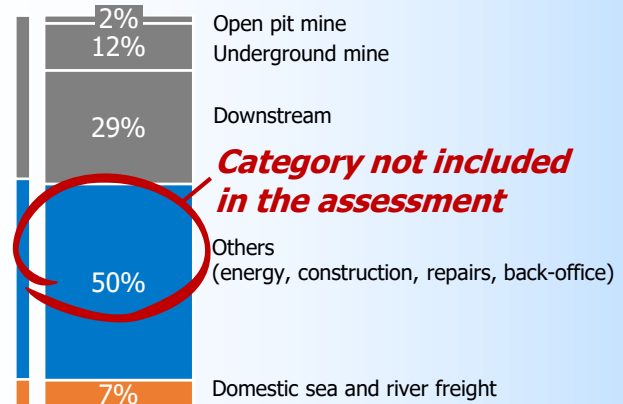
Nornickel structure by
operations



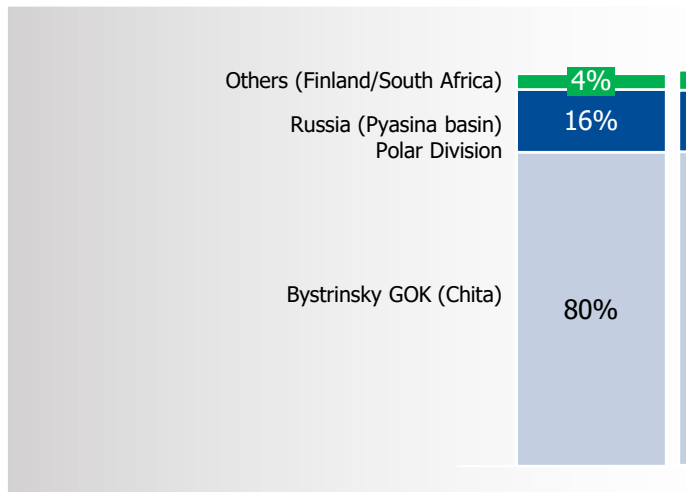
MINING & PRODUCTION ASSETS

OTHER ASSETS

LOGISTICS



Nornickel structure by
geography



Other (Finland/South Africa)

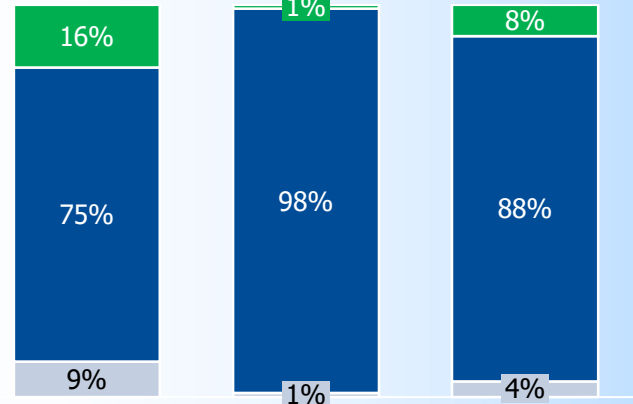
Russia (Pyasina basin)

Russia (Amur basin)

ASSETS

EBITDA

HEADCOUNT



ESG Ratings are Relative ... but to What?

ASSESSMENT OF NORNICKEL	VS	NORNICKEL FACT
Red flag due to profitability ratios above industry average	1 Financial Performance	Leading profitability in global mining industry ✓
High risk of labour unrest due to domicile in Russia	2 Labour Management	No strikes since 1990s – historically the lowest number of strikes and lockouts TOP quartile
Bottom quartile due to exposure to businesses and geographies with high accidents risks	3 Health and Safety	LTIFR sustainably well below relative to global peers ✓
Low rating on carbon emissions due to low management score	4 Environmental	The lowest CO2 emission relative to global peers ✓
High risk of corruption and instability due to country domicile (Transparency International Ranking)	5 Corporate Governance	No corruption allegations against the Company ✓

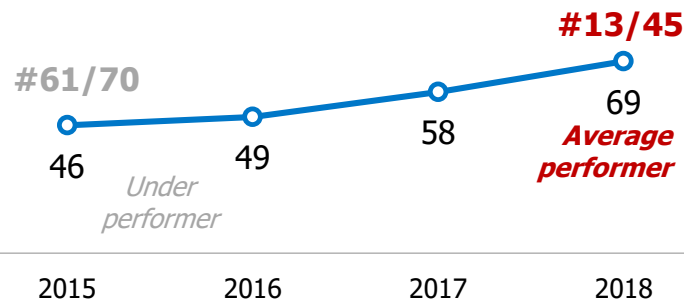
Source: Company data, MSCI

ESG Assessment Highlights

Gradual Improvement of Independent ESG Assessment

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

Rating in the global industry



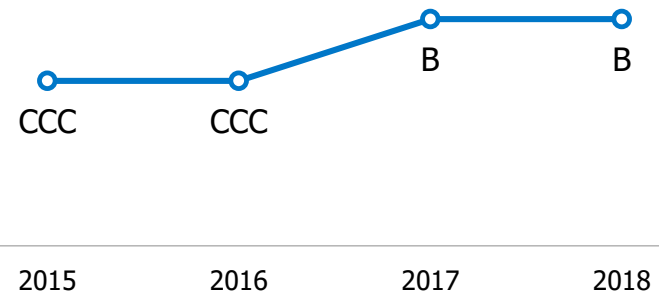
FTSE4Good

**Reiterated as an index
constituent in June 2019**
Score of **3.0/5.0** ⁽¹⁾ vs. 2.5 sector
average (up from 2.4 in 2017)



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

MSCI ESG Score: Rated «B» since 2017



Rating updated in October 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

Read more: <https://www.nornickel.com/investors/esg/>

Source: Company and public data

Note: 1. Of which 5 – is the highest; 2. of which 1 – is low, 10 – is high risk



Closing Remarks

Gareth Peter Penny
Chairman of the Board of Directors

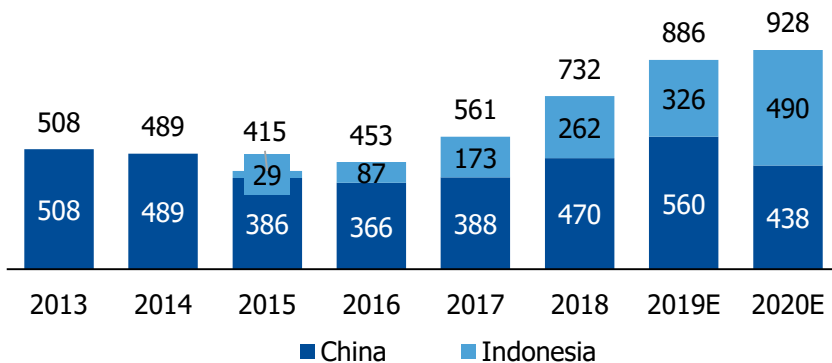
Q&A

Appendices

Global NPI Production Volumes Continue to Set Records

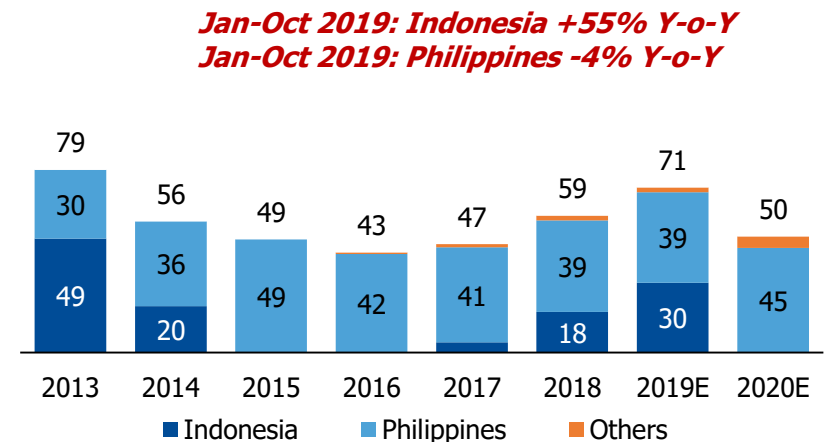
Total NPI Production: Potential NPI Supply Cut of Just 80 kt Ni After the Introduction of the Ban

kt, Ni units



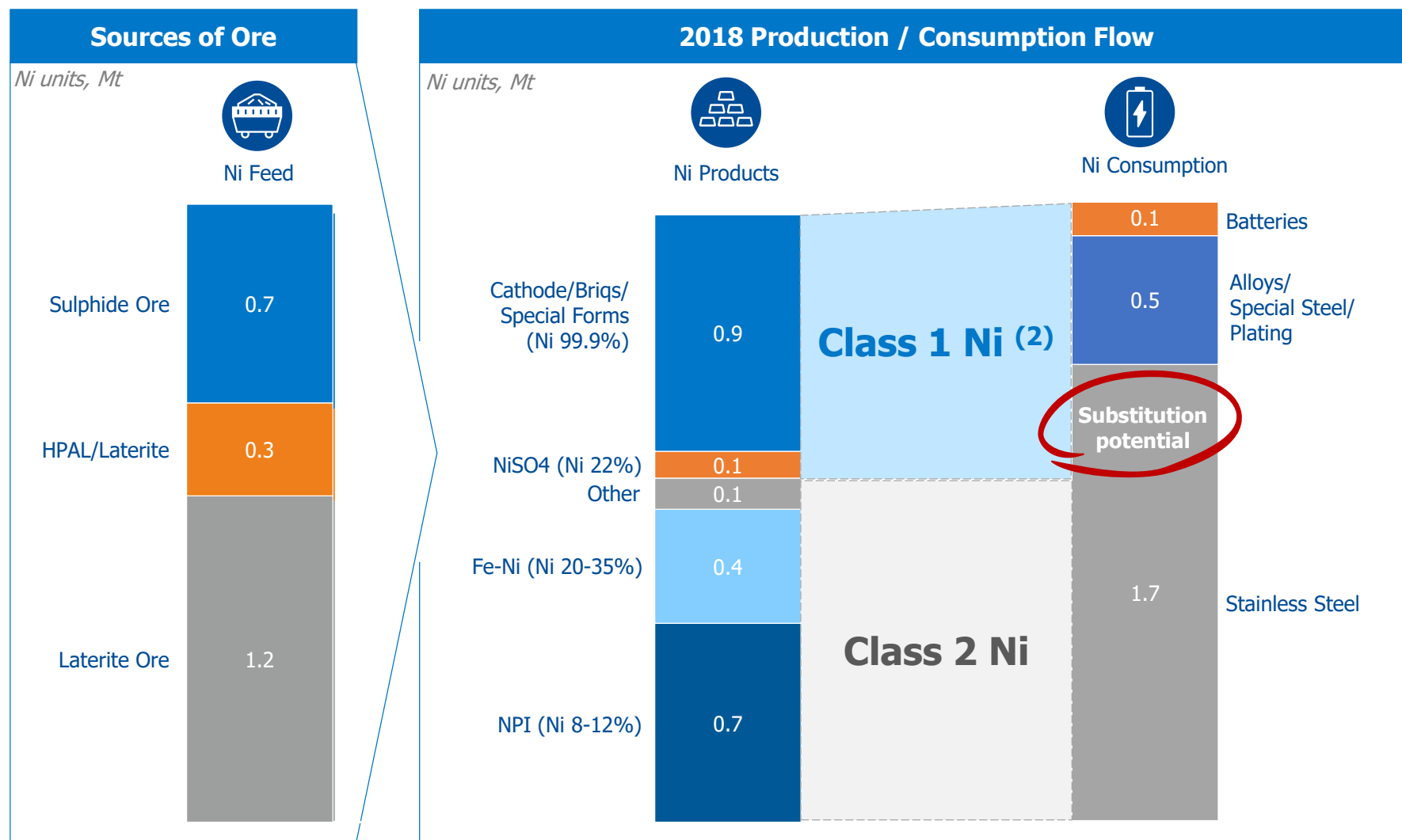
Chinese NPI Growth Dependent on Ore Availability: Up to 100 kt Ni in Ore May be Imported to China by the Year End of 2019

Ore, Mwmt



- In April 2017, Indonesia relaxed the ban on export of unprocessed nickel ore for 5 years until 2022
- In September 2019, Indonesian government brought forward a ban on nickel ore exports with grade below 1.7% from 1 January 2020
- In October 2019, export from Indonesia was halted for a few weeks due to the government investigation over massive violations of export rules
- In the long-term, up to 45% of the feed (270kt of Ni or 10% of global supply) for Chinese NPI could be at risk

Growing Supply of Low Grade Ni Feed Unlocks Class 1 Ni for Other Applications



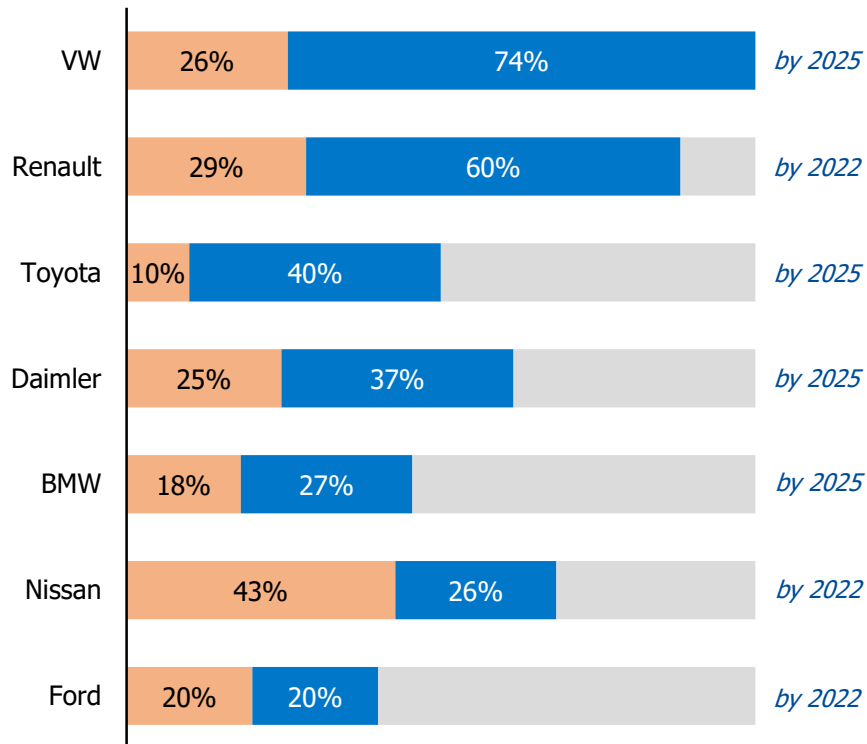
Source: Company estimates

Note: 1. As of November 1, 2018, 2. including Ni sulphates

Fleet Electrification Targets Imply Active Hybridization

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

LV production

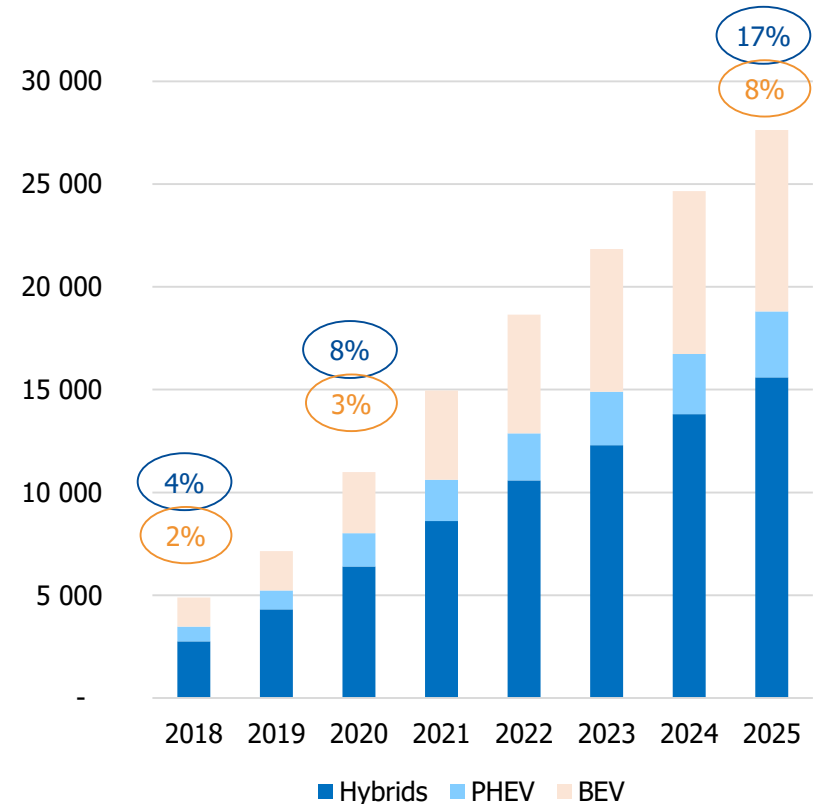


BEV models Hybrid models Internal combustion engine

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

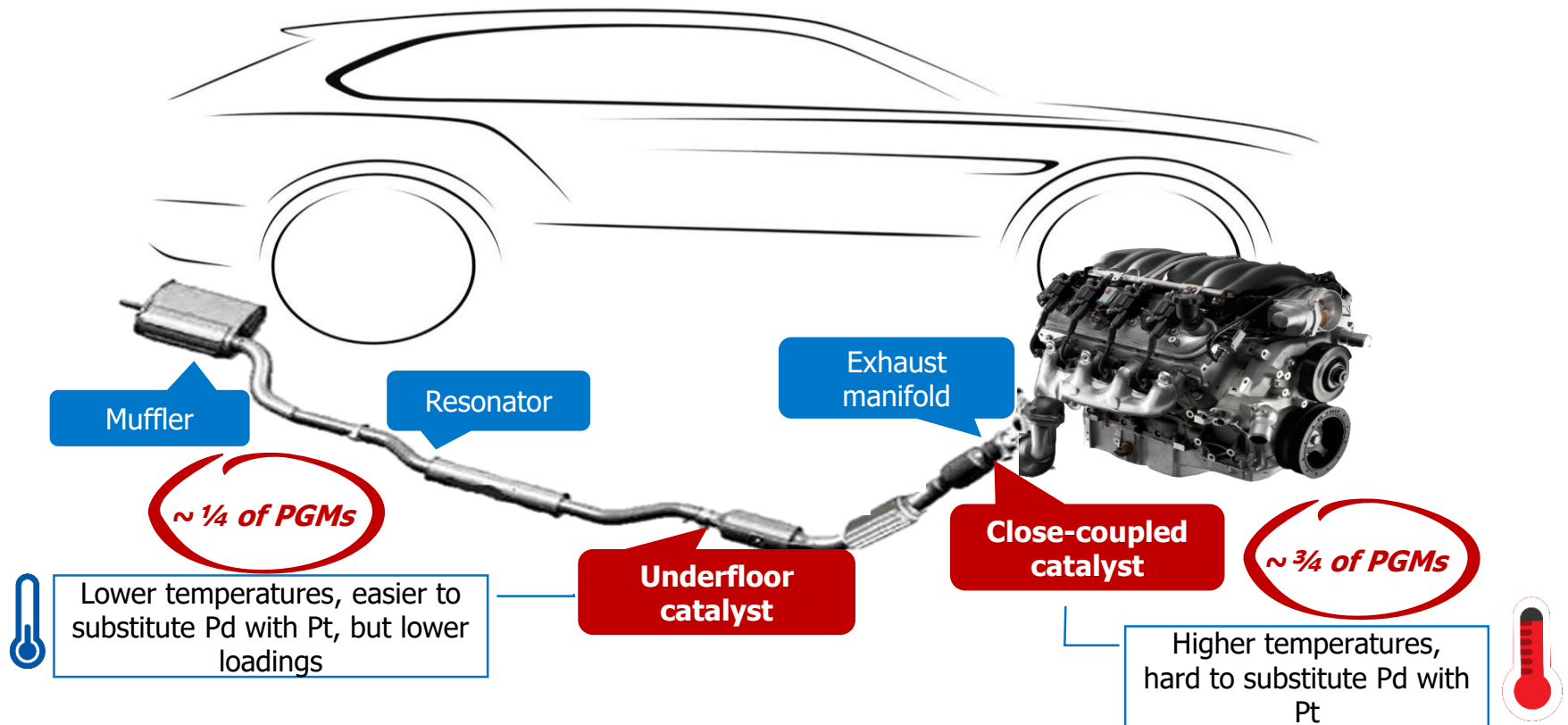
'000

(%) share in global LV production



Technical Challenges 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 (~ USD 100 per car)
- Consumer confidence in sourcing metal

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