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# **CEO Vision**

Vladimir Potanin
President
Chairman of the Management Board

### Nornickel – The Year of 2020

### Robust Response to Unprecedented Global Challenges

- Safety and health of employees is our top priority –
   Russia's #1 industrial company by COVID-19 spending<sup>(1)</sup>
- No material impact on operations/financial performance despite disruptions in end markets

#### Ecological Incidents – Lessons Learnt

- Immediate response delivered main stages of clean-up completed, rehabilitation in progress
- Introduction of long-term Physical Risk Mitigation programme and comprehensive ESG strategy

# Strong Financial Performance Through the Cycle

- 1H 2020 Free Cash Flow of US\$2.7bn on the back of strong macro environment & resilient operational performance
- 1H 2020 Net Debt / EBITDA of 1.2x with investment grade credit ratings reiterated by all major rating agencies

#### **Strategic Projects Delivery**

- Ramp up of Bystrinskiy project to full capacity
- Launch of construction of strategic projects:
   Sulphur Programme 2.0, South Cluster, TOF-3
- Master plan for Nornickel's 2030 footprint developed



# Customer-Centric Perspective on Commodity Business of "Tomorrow"

#### **Fundamental Needs**

### **New Economy Imperatives**

Availability of Resources

**Uninterrupted Supply** 

Quality Requirements and Product Form



Responsible Production

Low Carbon Footprint

Transparency and Traceability

# Customer-Focused Vision for Nornickel: Crafting Value Proposition and Competitive Advantage of "Tomorrow"

# Addressing fundamental needs

Robust Production Volume Growth of "Green Economy" Metals (+30-40% by 2030)

Highly Reliable Supply Chain with Proven Track Record

High Quality Product Portfolio and Further Diversification

Ambitions

# Striving to be on top of the agenda of "Tomorrow"

ESG – Crucial Element of the Investment Plan and Organizational Design

1st Quartile GHG Emissions
Intensity

Digitalization of Metal Contracts



# Pursuing Balanced Financial Model to Support Long-Term Strategy

Leading shareholder returns through the cycle

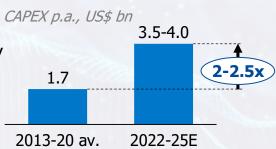


#### **Rising requirements for the social license to operate:**

- Contribution to regional development
- Social programs for employees and indigenous people
- Major Initiatives, e.g. Housing renovation program
- Charity & sponsorship

#### **New investment cycle**

Ensuring long-term sustainability and growth contributing to "Green economy"



#### **Robust financial policy**

Targeting to sustain investment grade credit rating

Moody's Baa2 (Stable)

S&P Global BBB- (Stable)

FitchRatings BBB

BBB- (Stable)



# Health & Safety and Physical Risk Mitigation Programme

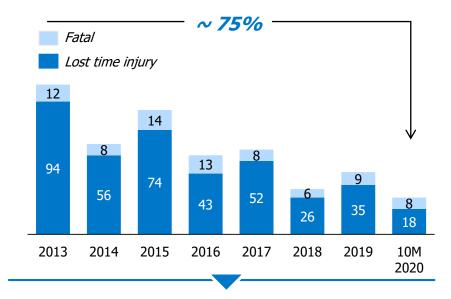
Sergey Dyachenko First Vice-President Chief Operating Officer

# Health & Safety Update: Delivering Steady Improvements Since 2013

#### LTIFR Reduced by Almost 80% since 2013

0.8 0.62 0.48 0.44 0.36 Accident Statistics Improved by Almost 75% since 2013

**Employees** 



Committed to create a strong safety culture at all levels of the organization

2016

2017

 Regular internal audits of occupational safety and health management system

#### **Health & Safety KPIs**

2014

2015

- 20% of the Group's KPIs are linked to TRI (total recordable injuries)
- A failure to prevent a fatality would reduce performance bonus for COO and heads of production units

0.17

10M

2020

0.32

2019

0.23

2018

LTIFR (1\*10<sup>-6</sup>)

2013

# Health & Safety: Strong Performance Relative to Industry

# **LTIFR Remains Below the Global Mining Industry Average**

LTIFR<sup>(1)</sup> per 200k Hours

As of 1H 2020

# **Assessment of Occupational Safety Culture: Score Significantly Improved Since 2014**

Bradley Curve Indicator





- LTIFR remains below the global mining industry average
- Commitment to create strong safety culture at all levels of the organization
- 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 H&S average yearly reduction of occupational injuries by c.15% since 2016

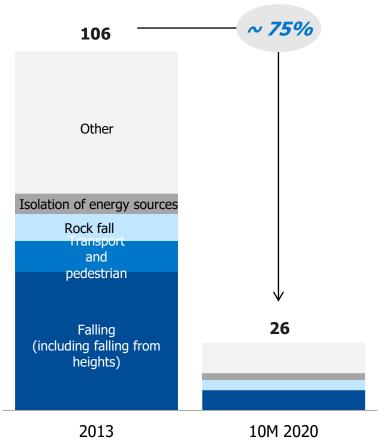
## Selected Labour Safety Initiatives



Strict Safety Rules were introduced in 2014



**16 corporate standards** have been implemented to minimize the risks and improve occupational HSE management system



# **Selected Initiatives to Improve Industrial Safety and Labour Protection**



#### Work at heights

- Implementation of corporate standard «Work at heights»
- Construction of special training sites
- Roll out of special training programs
- Introduction of new safety measures and tools to prevent falling from heights



#### **Transport and pedestrian**

- Implementation of corporate standard for transport and pedestrian
- Roll out of electronic positioning systems in all underground mines for transport and employees has been launched
- >80% of transport at Polar Division equipped with on-board video recording systems



#### **Rock fall**

- Introducing rock bolting systems in underground mines
- Fully mechanized rock scaling is implemented across mining assets
- Automated roof bolt setters have been put into operations allowing miners fully avoid danger zone
- Employees equipped with new bracing equipment (steelpolymer rock holdfast)
- Forehead is secured with a temporary bracing equipment during the gunite covering



#### **Isolation of energy sources**

- Implementation of corporate standard «Isolation of energy sources»
- All electrical equipment is tested and checked regularly
- Roll out of special training programs
- Installation of special «blocking devices» to prevent injury
- Energy isolation matrices developed for all equipment



# 2020 Environmental Incidents: Delivering Prompt Responses



#### **May 29**

Leakage of 21 kt diesel fuel from the emergency fuel storage at Heat and Power Plant Nº3 (HPP-3) in the Kayerkan neighborhood of Norilsk owing to defects in the projects' design/construction and permafrost thawing



#### Main stages of clean-up completed; Rehabilitation ongoing

- Clean-up operation launched immediately.
- 90%+ of leaked fuel collected and contaminated soil removed
- The spill has been fully localized.
   Contamination of Pyasino lake has been prevented
- Technical investigations by the government and ERM completed



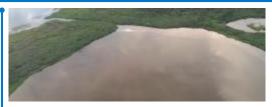
#### **June 28**

Pumping out of recycled industrial water from the technical water sump, part of the tailings' system of Talnakh Concentrator, into tundra due to management concerns of sump overflow related to heavy rains



#### The incident is fully resolved

- Zero tolerance to ecological violations demonstrated: employment of the plant's director, deputy director and chief engineer was terminated
- Water tests detected no excess of permissible limits for hazardous materials



#### **July 12**

Leakage of 44.5t of aviation fuel from the pipeline during the transfer of this fuel from a river barge to a fuel storage in the vicinity of the Tukhard settlement



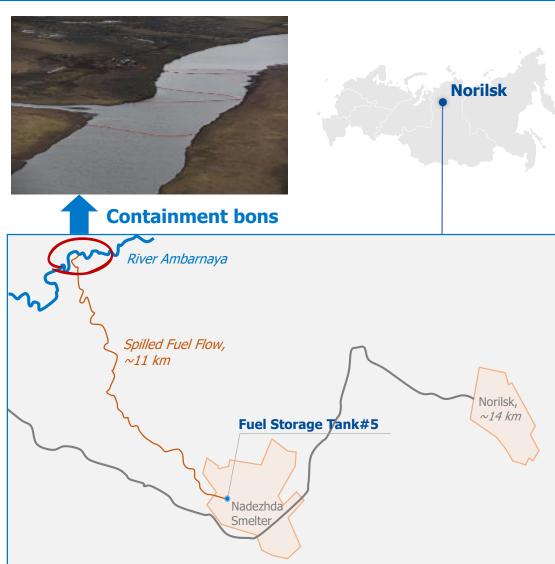
# Remediation plan implemented and complete

- Gross negligence by line management identified upon internal investigation
- Environment has been rehabilitated
- Water and soil tests detected no excess of permissible limits for hazardous materials



### **HPP-3 Incident Overview**

- On May 29, 2020, an incident occurred whereby the containment of the emergency fuel storage at Heat and Power Plant № 3 (HPP-3) in the Kayerkan neighborhood of Norilsk failed due to sudden sinking of piles, resulting in the fuel leakage
- Over a short period of time, 21.2 kt<sup>(1)</sup> of diesel fuel leaked beyond the bunding perimeter into a designated pit, nearby soil and into the Bezymianny stream
- The fuel spill through Bezymianny stream via Daldykan river reached Ambarnya river, where bons prevented the contamination of Pyasino lake
- The city has not been impacted since the HPP-3 is located remotely from Norilsk
- Upon completion of the bulk of the cleanup in September, according to the Company's current estimates, the fuel spill was split approximately 33% / 67% between soil and water



# Key Milestones of Clean-Up Program and Rehabilitation

### 2020 Phases 1 & 2:

Clean-up

(launched May 29th, completed by June)

2020

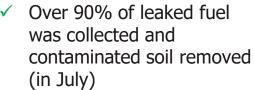
Phase 3:

Collection of the residues, transportation and utilization (completed in October) 2020-2023

Phase 4:

Rehabilitation / utilization (in-progress)





- Contaminated soil was placed into sealed-off hangars to prevent further risk to the environment
- Water-fuel mixture collected from Ambarnaya river and near HPP-3 placed into temporary tanks
- ✓ Almost 700 people and 300 equipment items were involved in the clean-up



- ✓ By the end of September,
   35k cubic meters of waterfuel mixture collected
- ✓ Fuel residues in soil and water collected (sorbent bons)
- River shores treated with sorbents and washed off
- Collected water-fuel mixture was transported to an industrial site near Nadezhda for further separation
- Separation of fuel from water completed



#### 2020-2021

 Development of a monitoring programme (water bodies and soil) and rehabilitation plan for the contaminated land and river shores

#### 2021-2022

 Reproduction of aquatic bioresources

#### 2020-2023

- Utilization of the separated water, contaminated sorbents, collected contaminated soil
- Rehabilitation of the impacted soil

### Area Rehabilitation and Restoration in Progress

- Soil rehabilitation in the vicinity of HPP-3 in progress
  - ✓ Replacing contaminated soil near HPP-3
  - Seeding grass at the impacted area
- Rehabilitation of the coastline of the Ambarnaya river
  - ✓ A total of 489k sq m of land were treated with 121t of turf sorbents
  - Almost 1k of square meters of the coastline of Ambarnaya river and 21k square meters of the coastlines of the Bezymianny stream and Daldykan rivers were washed
  - ✓ The residues washed from the rivers' coastlines captured by 110 lines of sorbent bons
- Collection of the fuel residues, washing and treatment of river shores with sorbent agents will continue until the start of the winter season of 2020
  - ✓ Will resume in 2021 and 2022, as necessary







### ERM Assessment of the HPP-3 Incident: Causes and Mitigation

Environmental Resources Management Limited (ERM) has prepared a report at the request of Nornickel's BoD assessing the root causes, contributing factors and critical systems affecting the 29 May 2020 incident

#### **ERM Assessment**

- Failure in the 1981 design/1984 construction (piles were shorter and not installed into bed rock)
- Permafrost melting
- Insufficient specific monitoring: foundation and permafrost
- Insufficient bund and tertiary containment measures
- Compliance over risk management
- Inadequate risk assessment of the particular fuel tank
- Insufficient resources for immediate emergency response

#### Nornickel response/initiatives

- Emergency inspection of fuel storage facilities. Facilities "at risk" phased out; alternative fuel storages considered
- Infrastructure repair program with a special focus on fuel and energy
- ✓ Upgrade of permafrost monitoring
- Design and launch of foundations monitoring system
- Upgrade of environmental risk assessment: oversight, procedures, maps
- ✓ Upgrade of bund walls
- Upgrade of emergency response plans and response teams

"Underpinning all of this is the fact that if all piles had been installed as designed into the bedrock, this failure would not have happened"

### Comprehensive Physical Risk Mitigation Programme

### Reassessment of Risks Related to Hazardous Facilities

- ✓ Dismantling of fuel tanks #5 and #4 at HPP-3 and similar fuel tanks at HPP-2
- ✓ Upgrade of fuel tanks #2 and #3 at HPP-3: anticorrosion treatment, upgrade the bunding perimeter, installation of new gas detectors
- Detailed action plan to improve industrial safety presented to Rostechnadzor (Russian technical watchdog)
- ✓ Ad-hoc audit of all (600+) industrial buildings and facilities launched

# Large-Scale Upgrade of Energy Infrastructure

- ✓ Additional RUB100bn (c. USD1.3bn) investments announced over 2020-2024 into modernization and improvement of industrial safety of energy infrastructure on Taimyr Peninsula
- ✓ The investments will include broad range of projects related to replacement of equipment at heat and hydro power stations, upgrade of power grid and gas pipeline systems and modernization of fuel tank storages

### Roll-Out of Permafrost Thawing Monitoring

- ✓ An agreement with the leading Russian space monitoring company, Sovzond, for monitoring of permafrost-based structures using satellite images and early detection of any possible deformations
- Evaluation of supporting posts deformation and soil temperature by means of confirmative geological drilling
- ✓ Installation of strain gauges and temperature sensors
- ✓ Upgrade of the Diagnostic Center of Polar Division and Permafrost laboratory

## Physical Risk Mitigation Programme: Permafrost Thaw Monitoring



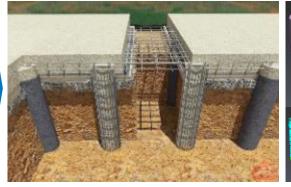
# Comprehensive analysis of permafrost thaw impact on foundations:

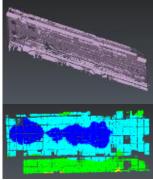
- ✓ Interferometric analysis of satellite images to identify both vertical and horizontal changes in foundation structures
- Confirmative geological drilling to secure real-time thermometric monitoring of foundations. Comparison of historical permafrost / soil temperature diagrams with up-to-date data sets
- Seismoacoustic method of piles condition analysis and early detection of potential structural deformations and rusting
- ✓ Geodesic surveying of buildings structural parts

#### **Permafrost Map: Russia**



#### **Drilled Piles Foundation Monitoring**





## Maintaining Full Transparency, Utilizing Best Practices



#### **Full information transparency:**

- Special live updates on the company's website and social media
- Ad hoc investor's call and communication
- · Regular IR disclosures and Board updates
- Regular Board reviews of the environmental matters occured in June-September

#### Active utilization of best industry practices during clean-up and rehabilitation:



- Close engagement with the Russian environmental regulators over the clean-up, monitoring and preparation of rehabilitation program
- Utilizing most internal resources and engaging most external help to deliver the fastest possible clean-up (EMERCOM, Russian oil&gas majors)
- Appointment of ERM, a world-class, international specialist environmental company, to provide independent environmental advisory review of the events surrounding the oil spill, the potential causes and remedial actions undertaken and planned
- Cooperation with the Norway marine rescue service on water-fuel separation
- Consultations with leading Russian and international private and government research institutes and scientists over the most efficient rehabilitation initiatives



- <u>Detailed action plan to improve industrial safety</u> at the Company's facilities has been developed and presented to the government's technical supervision agency (Rostechnadzor)
- Detailed rehabilitation plan to mitigate the impact of the fuel spill in Norilsk has been developed and presented for approval by the Interagency Commission created in accordance with the order of the Russian Ministry of Natural Resources



# Sustainable Development

Andrey Bougrov Senior Vice-President

# Strengthening Commitment to Sustainable and Responsible Mining



#### **Environment**

- The Sulphur Programme 2.0 (air strategy) targeting major reduction of SO<sub>2</sub> footprint on track
- Developed holistic environmental strategy
- Introduction of a climate change strategy
- Launch of independent assessment of environmental impact
- Remediation of the recent environmental incidents on track



#### **Social**

- Delivered improvement in LTIFR and fatalities
- Commitment to further reduction of LTIFR and zero fatalities reiterated
- Independent assessment of impact on local communities and indigenous people commissioned
- Increased support to local communities and indigenous people
- Provided full support to regional healthcare system, local communities and employees to mitigate COVID-19 impact
- Reiterated strong overall social and charity commitment



#### **Corporate Governance**

- Introduction of a new ESG-focused corporate governance structure
- Transition to a new divisional structure
- Revamped environmental oversight, risk management and monitoring
- Development of ESG roadmap aiming to bridge the gaps against best international practices
- Expansion the ESG-related KPIs to include environmental targets (in progress)
- Improved ESG-related disclosure: Scope 1&2 and 3 GHG emissions, CDP, tailings management, indigenous people



## Holistic Environmental Strategy

#### **Developing a comprehensive strategic focus**





**NEW** 



**NEW** 

Land Tailings & Waste



Biodiversity

**NEW** 

**NEW** 

#### **Core strategic initiatives**



# **Environmental Excellence in Operations**

reduce environmental footprint/risks of operations



#### Rehabilitation

rehabilitate legacy pollution and fully remediate incidents



#### **Biodiversity**

restore biodiversity

#### **Enabler initiatives**



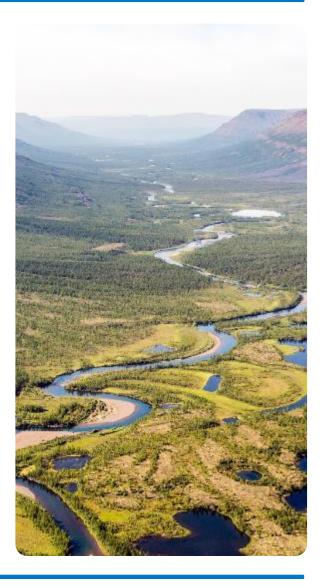
Clean tech development



Governance & Organization



Communications & Stakeholder engagement

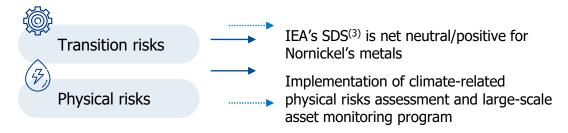


# Climate Change Strategy

#### **Climate change 2030 targets**

- 1 Maintain absolute Scope 1+2 GHG emissions from operations<sup>(1)</sup> below 10 Mt CO<sub>2</sub>e
- **Maintain** Scope 1&2 GHG emissions per t of Ni-equivalent in the **bottom quartile** of global metals and mining industry GHG intensity curve<sup>(2)</sup>

#### Climate-related risk assessment & governance



### Key initiatives in climate change strategy



Mitigation of physical risks



Increase in energy efficiency



Reduce CO<sub>2</sub> emissions



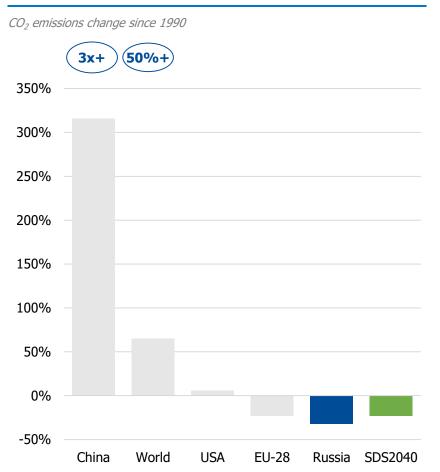
#### **Key actions 2021+**

- Develop and launch monitoring system of the industrial and municipal foundations based on perma-frost in Norilsk (incl. satellite and GIS)
- Introduce and implement divisional and asset-level strategy:
  - Design key initiatives to achieve higher physical risks mitigation, increased energy efficiency and reduction of CO2 emissions
  - Develop capital expenditures plans and projects timelines
- Align climate change disclosure with TCFD requirements



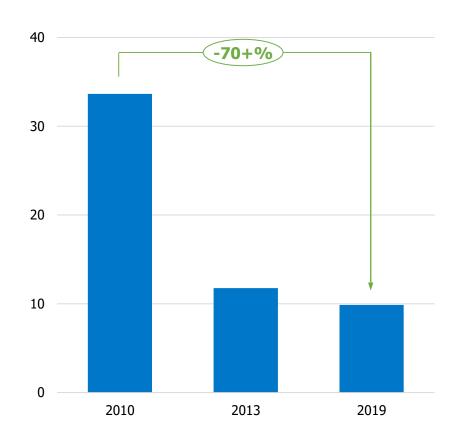
## Russia Is on Track to Meet Paris Agreement Targets

#### Russia is on Track to Deliver on IEA's SDS 2040 Target



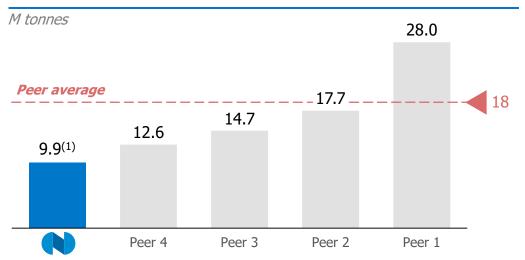
#### Nornickel Has Significantly Reduced its Scope 1&2 Carbon Footprint from 2010

Mt



# Competitive Position of Nornickel in GHG Emissions Levels: Well Ahead of Global Peers

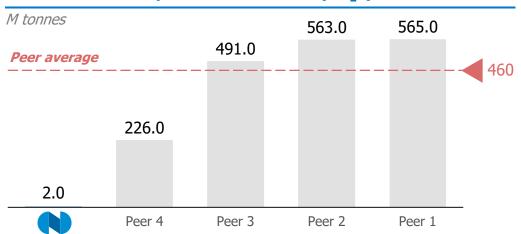
#### Scope 1&2 GHG emissions (CO<sub>2</sub>e)





**2017-2019 average share** of renewable energy in electric power consumption in the Norilsk region

#### Scope 3 GHG emissions (CO<sub>2</sub>e)

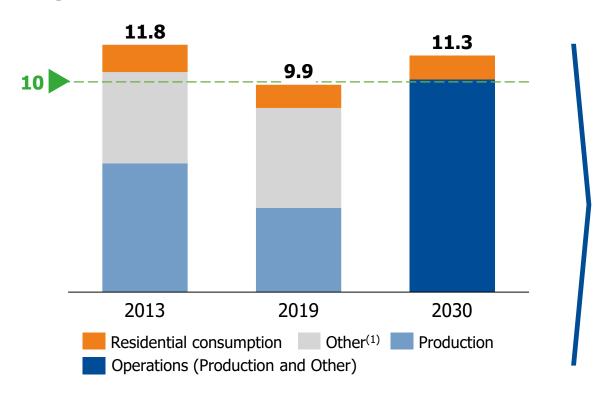




**2017-2019 average share** of renewable energy in electric power consumption of the Group

# 2030 Climate Change Target: Maintain Scope 1&2 GHG Emissions from Operations Below 10 Mt CO<sub>2</sub>e

Mt CO₂e



2030 Target to
Maintain Scope 1+2
Emissions from
Operations
Below 10 Mt CO<sub>2</sub>...

...amid production growth and ramp-up of Sulphur Programme 2.0

## **Environmental and Climate Change Performance and Targets**



**Climate** 

change

### $\langle \rangle$

#### **Strong performance**

NN vs. Peer avg.<sup>(1)</sup>
-38%

-138x

1.0x

**-65%** 

Absolute emissions, Scope 1+2, Mt CO<sub>2</sub>e Absolute emissions,

Scope 3, Mt CO<sub>2</sub>e<sup>(2)</sup> Renewable electricity

Renewable electricit share<sup>(3)</sup>, %

#### **Targets**

Minimize impact on climate change (reduce CO<sub>2</sub> intensity emissions) and mitigate physical climate-related risks



**CAPEX** 

**TBD 2021** 

#### Key next steps:

Delivery on energy efficiency,  ${\rm CO_2}$  reduction and physical risks mitigation initiatives



Air



#### **Strong performance**

NOx emissions, K tonnes -80%

Solids / Dust, tonnes



#### **Targets**

Improve air quality (reduce SO<sub>2</sub> emissions) in the areas of operations (Norilsk industrial area and Kola Peninsula)



**CAPEX** 

**US\$ 3.6bn** 

#### **Key next steps:**

Execute on Sulphur Programme 2.0 and other air emissions reduction projects



#### Water

 $(\lozenge)$ 

#### **Strong performance**

Total water withdrawal, M m<sup>3</sup> -51%

Total water discharge, M m<sup>3</sup>

Water recycled and reused ratio, %

#### **Targets**

Maintain recycled water ratio and reduce pollution; continue providing clear water to local communities



Build and run new water treatment facilities, adopt new technical solutions, remediate pollution from environmental incidents in line with GNE<sup>(4)</sup> recommendations



**CAPEX** 

**US\$ 1.1bn** 



1.5x

## **Environmental Performance and Targets**



Tailings & Waste



#### **Strong performance**

NN vs. Peer avg.(1)

Non-mineral waste recycled and reused ratio, %

**1.4**x



#### **Targets**

Maintain safe operation of tailings facilities and minimize environmental impact of mineral and non-mineral waste

#### **Key next steps:**

Build mass balance model for waste management and prepare for the self-assessment under Global Tailings Standard



**CAPEX** 

**US\$ 0.6bn** 



Land

(Ø.

#### **Strong performance**

Total land disturbed, K hectares

-90%



#### **Targets**

Rehabilitate legacy damage and upgrade mine and plant closure plans

#### **Key next steps:**

Review asset closure plans in all divisions; follow GNE<sup>(2)</sup> recommendations in soil recovery; waste collection and land reclamation at Norilsk area



APEX

**US\$ 0.3bn** 



**Biodiversity** 

 $ot\otimes$  Strong performance

#### Legacy focus:

- Supporting of several nature reserves (Taimyrsky, Putoransky, Pasvik, Laplandsky and other Nature Reserves)
- Protection of rare animal species and support of the reproduction of aquatic bioresources



#### **Targets**

Strengthen biodiversity program

#### **Key next steps:**

Biodiversity remediation following recent environmental incidents, launch regular monitoring of impacts on biodiversity and continue support of nature reserves



**CAPEX** 

**TBD 2021** 

2. Great Norilsk Expedition



# Major Legacy Waste Collection and Land Reclamation Programme in Norilsk Area



### Targets

#### Cleaning of unused objects:

**467** abandoned buildings and structures

- 2+ M tons of waste
- **1.3+** M tons of straits and traces of production activity
- 600+ K tons of scrap metal



#### **Planned actions**

- Collection and utilization of stainless steel scrap and scrap metal
- Recycling of scrap metal
- Dismantling of buildings and waste disposal
- Sanitary cleaning of the territory



• US\$ 0.6bn (2021-2030)



# Great Norilsk Expedition: Inputs into Water, Land and Biodiversity Strategies





#### **Expedition targets:**

- Development of recommendations on minimization of environmental impact of operations in the Arctic
- Development of viable, sustainable solutions to address local environmental issues and area remediation following the recent fuel spill in Norilsk
- Research on permafrost and study of biodiversity in the Arctic region



30 scientists

from 14 research institutes of the Russian Academy of Sciences' Siberian Branch supervised by Valentin Parmon, Chairman of the Siberian Branch of the Russian Academy of Sciences



30 selected locations

for sampling examined



 $> 1,000 \, \mathrm{km}$ 

have been covered by expedition from the Bezymyanny Stream to the Kara Sea





**6** rivers inspected

including the Pyasina, Daldykan, Barn, Tareya, Dudypta, and Boganida, 2 lakes (Melkoe and Pyasino) and the coastline of the Kara Sea



at **7-8** m depth the samples from Pyasino Lake were collected

at 15 m depth permafrost temperatures were measured

# Social Strategy: Employees, Local Communities, Indigenous People, Sponsorship & Charity



#### **Employees**

- Nº1 rated employer among Top-50 largest by Forbes-Russia<sup>(1)</sup>
- Collective bargaining agreement linking salaries revision to domestic CPI
- Health and vacations compensation of travel expenses and accommodation in resorts
- Pension plans co-funded pension plan
- Extensive support through COVID-19
- Housing co-investment of home purchase



#### **Local Communities**

- Agencies for Urban Development in Norilsk and Kola Peninsula
- World of New
   Opportunities
   program supporting local
   non-profit organizations
- Relocation program relocation from Norilsk to Russia's «mainland»
- Support of regional healthcare infrastructure and local communities through COVID-19 epidemic
- Corporate volunteer program



#### **Indigenous People**

- Strong legacy engagement and support of indigenous people
- Ethnological expedition to assess the impact on recent environmental incident on indigenous people
- New RUB2bn 5-year agreement with over 40 concrete initiatives



# Sponsorship & Charity

- Supporting local infrastructure and construction of new facilities: airport, roads, city buildings, sport facilities
- Sponsorships
   Rosa Khutor Ski Resort,
   Russian Olympic
   Committee, TSKA
   Professional Basketball
   Club, International
   University Sports
   Federation and others
- Sports: support of amateur sports
- Cultural programs and initiatives



# Social Strategy: Ethnological Expedition – Assessing Impact on Indigenous People



**100 Interviews** with local

indigenous people held



Key local ethnic groups covered by the survey (Dolgans, Nenets, Evenks, Enets and Nganasans)





Permanent settlements of indigenous people are located remotely from the HHP-3 incident area



Indigenous settlements have not been impacted by the incident

#### **Progress in 2020**

**Ethnological review** by independent experts of the indigenous people residing in the Taimyr Peninsula to assess the damage to the natural habitat of the indigenous communities caused by the fuel spill incident

- Preparation of an ethnological map
- Assessment of the environmental impact through soil and water samples, mapping of the contamination area
- A survey of indigenous people of five main ethnic groups, who are traditionally engaged in fishing on the Pyasino river

#### **Traditional Fishing Points of Indigenous People**



- ····· Water sampling points
- Soil sampling points
- **\*\*A** Traditional fishing points
- Expedition research area
- Containment booms
  - HHP-3 emergency fuel storage



# Social Strategy: Strong Legacy of Engagement with Indigenous People

#### **Strong legacy of engagement** and support of local indigenous communities

- **Social programs** provision of medical and communication services, purchasing of mobile transports and their parts, and construction tools and materials (such as snowmobiles, motor boats, outboard motors, chainsaws and building materials)
- Transportation services transportation of indigenous people and their cargos to remote locations on the Taymir Peninsula using the Company's helicopters fleet
- Support of social enterprise support and development of local communities through annual charity social programs
- Individual assistance in response to individual requests
- **Indigenous Rights Policy in** place



On September 25th, Norilsk Nickel signed a 5-year RUB2 billion **cooperation agreement**(1) with 3 associations of indigenous people, representing the prevailing majority (over 90%) of the indigenous people living in the North of Russia and most of the indigenous people living in the Taymir Peninsula



initiatives included into the program



Over **90%** of the indigenous population covered by the cooperation agreement

#### **Key initiatives:**

Support of traditional way of life of indigenous peoples of Taimvr Peninsula

**Education and culture** (supporting educational projects, building a community center etc.)

**Housing projects** (building houses)

**Sports and infrastructure** (playgrounds, providing sport equipment etc.)

Healthcare (new first aid posts, purchase of special equipment etc.)

**Tourism** & other development and support projects

# Social Strategy: Response to Coronavirus – Safeguarding Employees and Supporting Local Communities



#### \$120 mln<sup>(1)</sup>

Coronavirus-related spending in 9M 2020, including purchases of medical supplies and equipment



- 100% of salaries maintained with additional compensation to employees working on sites and in the office
- Office employees transitioned to working from home
- All operating assets supplied with individual protection gear, tests, health monitoring devices, sanitizers etc.



#### **Local communities**

- Purchased medical supplies and equipment (including 412 medical ventilators, 15 mobile and 2 stationary labs, 7 emergency care vehicles, over 372k COVID tests)
- Supported an increase of local hospitals' capacity
- Supported small and medium enterprises
- Supporting local volunteers to look after those who are in need



# New processes & procedures

- Monitoring of employees' health on a regular basis
- Mandatory COVID-19 testing
- An emergency response team (ERT) has been established
- 2-week quarantine for employees arriving to Norilsk
- Extended fly-in shifts for Chita/Norilsk



**66%** supporting employees

additional compensation to employees, social payments



30% supporting local communities

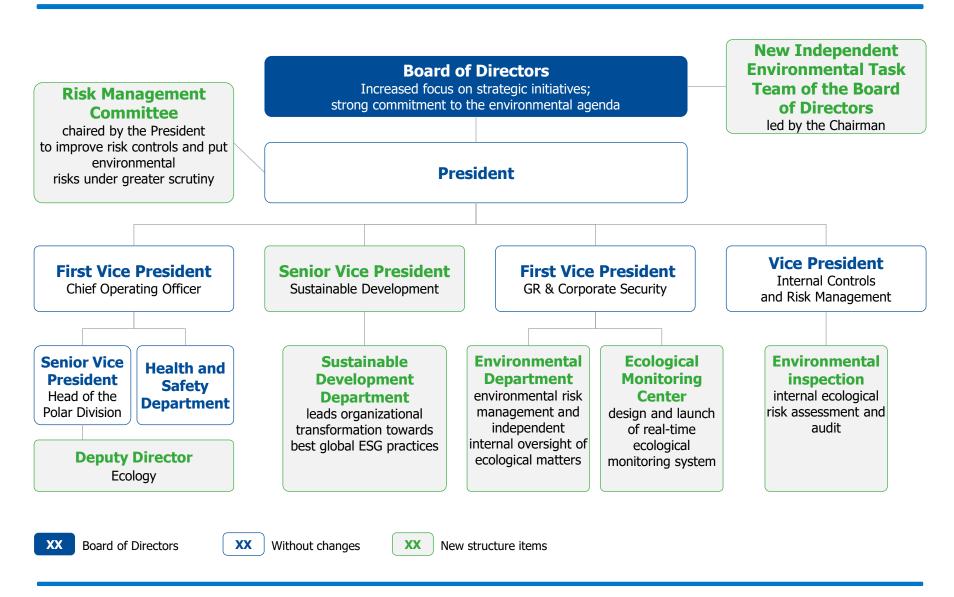
medical equipment



Breakdown of coronavirus-related expenses in 9M 2020(1)



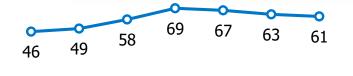
# Corporate Governance: New Organizational Structure – Responding to New Challenges



## Independent Assessment by ESG Rating Agencies

#### SUSTAINALYTICS

- **ESG rating 61/100** as of June'20 (33% score improvement since 2015)
- ESG Risk Rating «High» Reiterated
- Industry position -27/57, Average performer reiterated



2015 2016 2017 2018 2019 Apr-20 Jun-20

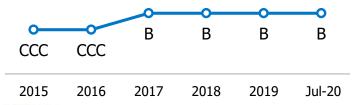


- Reiterated as an index constituent in June 2020
- Overall ESG score 4/5 (improvement from 2.4 since 2017), which puts NN in the top percentile
- Industry average 2.2/5

2.4	3.1	3.0	4.0
2017	2018	2019	Jun-20



- ESG rating «B» confirmed as of July'20 in line with peers (improvement from CCC since 2015)
- Industry average «B»





- ESG score 44/100 (63% score improvement since 2018)
- Industry average 39/100





# Advancing ESG Agenda Towards Best Practices



### **Progress in 2020**

- New long-term sustainable development strategy with specific targets
- New climate change strategy with specific targets
- Redesigned corporate governance systems and environmental risk management instruments
- Increased Board oversight of ESG matters and strategy
- Started self-assessment for IRMA and ICCM
- Independent assessment of environmental impacts: ERM, Big Norilsk Expedition, Ethnological Expedition
- Reduced SO<sub>2</sub> emissions at Kola Division

### **Improved disclosure**

- Scope 1 & 2 CO<sub>2</sub> emissions in line with GHG protocol
- Audited Scope 3 downstream emissions
- Disclosure on Air and Water to CDP
- Tailings dams' management
- Engagement with indigenous people



### 2021 Targets

- Roll-out of ad-hoc strategies at the divisional level
- Setting environmental 2030 targets, development of key initiatives and capital investment plans
- Expand management ESG KPIs to include environmental performance
- Continue with execution of Sulphur Programme 2.0
- Launch waste collection and land reclamation programme in Norilsk
- Continue with full rehabilitation of the impacted environment following the diesel spill incident
- Design and roll-out of permafrost-based foundations monitoring in Norilsk
- Applications to ICMM and IRMA
- Upgrade of internal procedures in line with ICMM, IRMA principles
- Prepare TCFD compliance roadmap



# Operations Update Sergey Dyachenko First Vice-President Chief Operating Officer

# Unlocking the Resource Base Potential – Growth Targets Reconfirmed

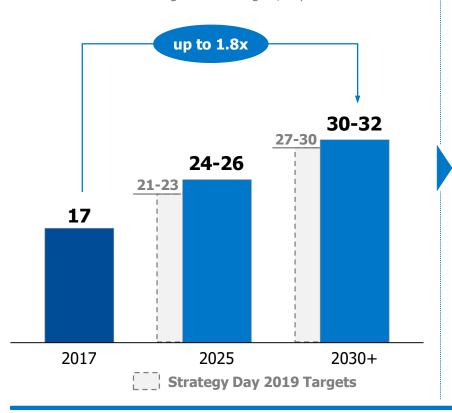


Ore Mining: 2020-2030

**Long-Term Development Projects: 2030+** 

The potential of Nornickel's unique resource base reconfirmed. Ambitious growth targets maintained

Ore mining in Norilsk region, Mtpa



New ore mining projects set to secure Talnakh deposit development well beyond 2030

**Mining Project** 

**Incremental Development** 

**Project Details** 



Komsomolsky

- +385 Mt of ore
- +1.4 Mt of Ni
- +2.8 Mt of Cu
- +1.2 kt of PGM
- Throughput: +2 Mtpa
- LOM: +46 years
- Next stage to be launched in 2025



Oktyabrsky

- +211 Mt of ore
- +0.6 Mt of Ni
- +2.4 Mt of Cu
- +0.7 kt of PGM
- Throughput: +2 Mtpa
- LOM: +27 years
- Next stage to be launched in 2026



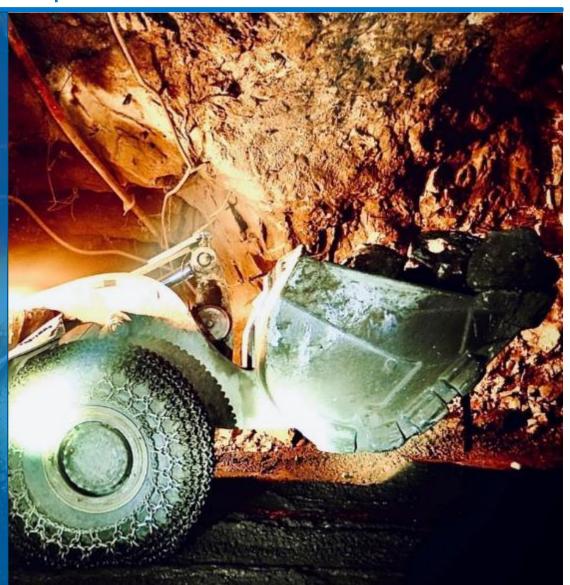
Taimyrsky

- +186 Mt
- +1.2 Mt of Ni
- +2.8 Mt of Cu
- +0.9 kt of PGM
- Throughput sustained
- LOM: +44 years
- Next stage to be launched in 2026



# Skalisty Mine Development Update

- The deepest mine in Eurasia
- Main shaft sinking completed (2 051 m depth)
- Full commissioning of the main shaft scheduled for mid-2021
- Feasibility study for autonomous mining at 2-2.5km depth in progress
- First ore from the deep mine (Skalisty Gluboky) is scheduled for end 2024
- Commissioned mining capacity in 2020: ~200 ktpa of high-grade ore
- CapEx 2021–2025: ~US\$0.7 bn



# South Cluster Project Update

- Large-scale, long life (25+ years) brownfield asset at the bottom of the global PGM cost curve
- O/P and U/G operations leverage synergies from existing infrastructure
- FS and detailed engineering completed. Open-pit ore mining to commence in Q2, 2021
- Pre-stripping works estimated at 565.6k m3
- FS and detailed engineering completed

### **Target Annual Capacity**

Ore	Mt	9
PGMs	koz	750-850
Ni	kt	13+
Cu	kt	20+



# Kola Concentrate Loading Points – Project Update

- The project enables re-direction of Kola concentrate flows to other facilities post shutdown of nickel smelter in Russia-Norway border zone as part of Sulphur Programme 2.0
- Construction of the first loading point for low-grade concentrate completed. Design capacity of 250 ktpa reached within 2 months of operations
- Total Capex of ~US\$90 mn
- FS for the construction of the second loading point for highgrade nickel concentrate underway



# Kola Nickel Refinery Upgrade – Status Update

- The project envisages an upgrade of Tankhouse-2 facility to a more efficient and environment-friendly electrowinning technology
- Construction completed
- Production of high quality nickel cathodes commenced
- Current production capacity is at 85% from design (145 ktpa).
   Technical retrofitting program in place to reach full capacity
- Total CapEx: US\$470 mn



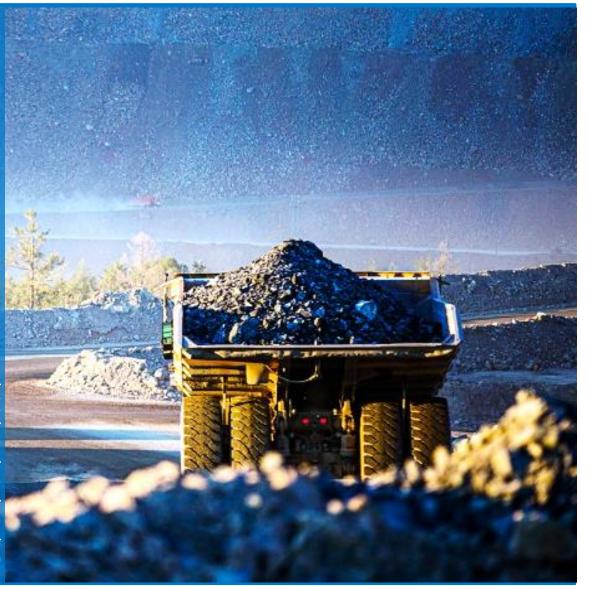
# Bystrinsky Project: Target Capacity Achieved

- One of the largest completed greenfield projects in the Russian mining industry
- Ore reserves: 316 Mt @
   Cu ~0.7%; Fe ~23%; Au
   ~0.9 g/t<sup>(1)</sup>
- Full ramp-up achieved in 2Q 2020
- 1H 2020 EBITDA: US\$277 mn

Operating Performance Outlook

2020E 2021E
Ore Mt<sup>(2)</sup> 10 10
Cu in conc. kt 60-63 65-70
Au in conc. koz 236-241 230-240

1.7-1.9



### Notes:

2. Processed ore

Iron Ore conc. Mt

<sup>1.</sup> According to the Russian classification (A+B+C1+C2),

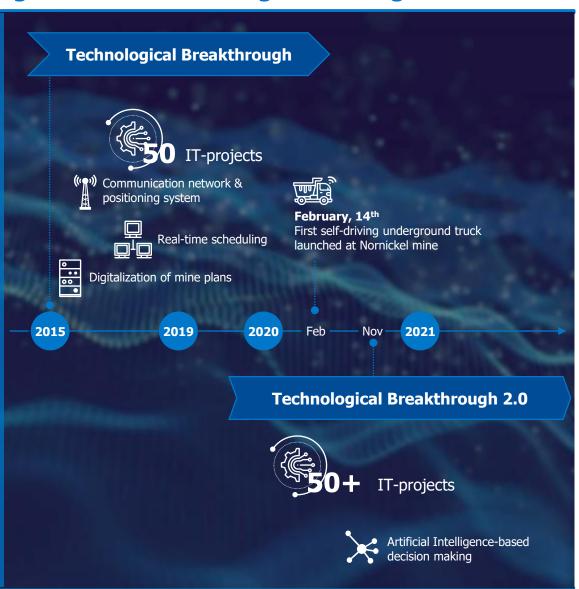
# Technological Breakthrough 2.0: Towards Digital Mining

### **Key achievements in 2015-2020**

- √ 100% mine plans digitalized in 3D
- √ 100% ore reserves digitalized
- √ 80% of mine development operations are monitored via a dedicated real-time software
- √ Wi-Fi in shaft: 365 hotspots installed
- ✓ Each unit of mine equipment is connected 24/7
- √ 3000+ IT systems users trained

### **Technological Breakthrough 2.0**

- ✓ AI-based decision making
- ✓ Autonomous mining
- Digitalization and modelling of concentrating and smelting operations





### Efficiency Improvement Programme Results: 2017 Targets Achieved

### **Targets Announced in 2018**

### **Production growth**



**5-8%** (2020 vs. 2017)

# Labor productivity growth 12-15%

(2020 vs. 2017)

### **Delivery in 2020**



*NiEq production per employee*<sup>(1)</sup>



### **Programme Initiatives**

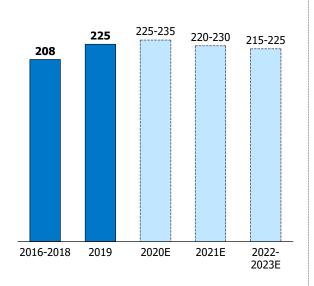
- ✓ Reduced haul distance
- ✓ Roll-out of best drilling practices
- Improved equipment utilization rates
- Application of digital instruments to improve extraction
- Exclusion of non-production personnel losses
- Centralization of auxiliary transport
- Centralization of maintenance personnel
- "Continuous improvement" programme in action with 20,000+ initiatives under review
- All targets of the first cycle efficiency improvement program (2017-2020) have been achieved
- Benefits of highly efficient measures with quick impact were successfully realized
- Programme to continue with the next stage targeting business processes reengineering with a focus on the development of lean production tools

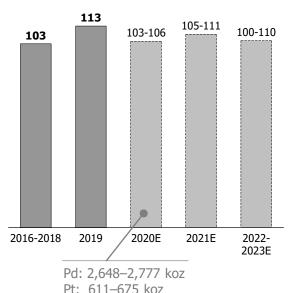
### Production Guidance for 2020-2023<sup>(1)</sup>

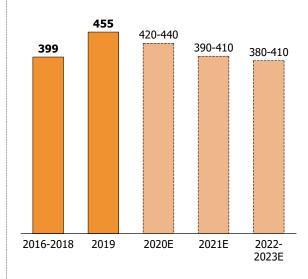












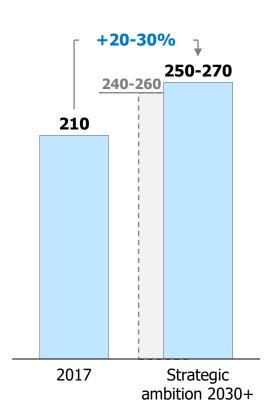
- Nickel and PGM volumes are expected to decline moderately subject to planned furnaces maintenance at Nadezhda smelter
- Copper production to decline temporarily in 2021-2022 due to secondary feedstock depletion and expected to recover by ~2024-2025 driven by higher mined ore volumes

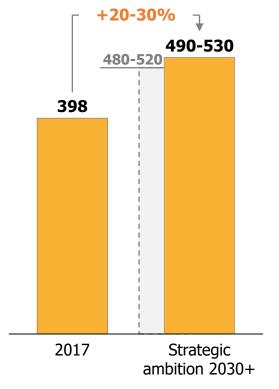
# Strategic Ambitions for 2030+ Metal Production<sup>(1)</sup>

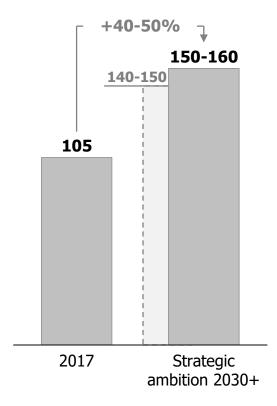












**NORNICKEL** 

Targets set in 2019



# The Strategy of Sustainable Growth

Sergey Dubovitskiy Senior Vice-President Strategy, Strategic Projects, Logistics & Procurement

### Nornickel's Strategic Framework

MORE...

...GREENER METALS...

...FOR
A GREENER
WORLD

### **Mining Volumes Growth**

Resource base potential reconfirmed, 2030 production growth targets moderately increased to 20-30% for base metals and 40-50% PGMs<sup>(1)</sup>

### **Climate Change**

Secure long-term competitiveness of our product offering by maintaining 1st quartile GHG emission intensity

### **Downstream Upgrade**

Fit-to-size upgrade and expansion of downstream capacities, positioning to address evolving market needs

### **Sulphur Programme 2.0** & Broader ESG Agenda

Radical emissions reduction: 10x times by 2025 in Norilsk region; total eradication of cross-border emissions at Kola

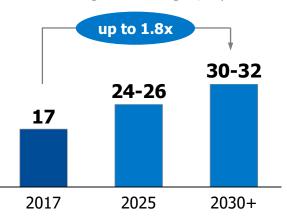


# Crafting Long-Term, Efficient & Reliable Downstream Configuration

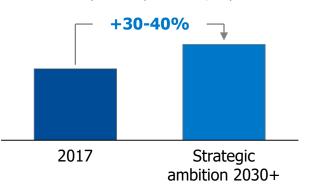


# **Resource Base Potential & Production Targets Confirmed**

Ore mining in Norilsk region, Mtpa



Ni-equivalent production, Mtpa





### **Downstream Development Rationale**



Leveraging off existing production sites



Balancing the entire production value chain



Ensuring technology fit

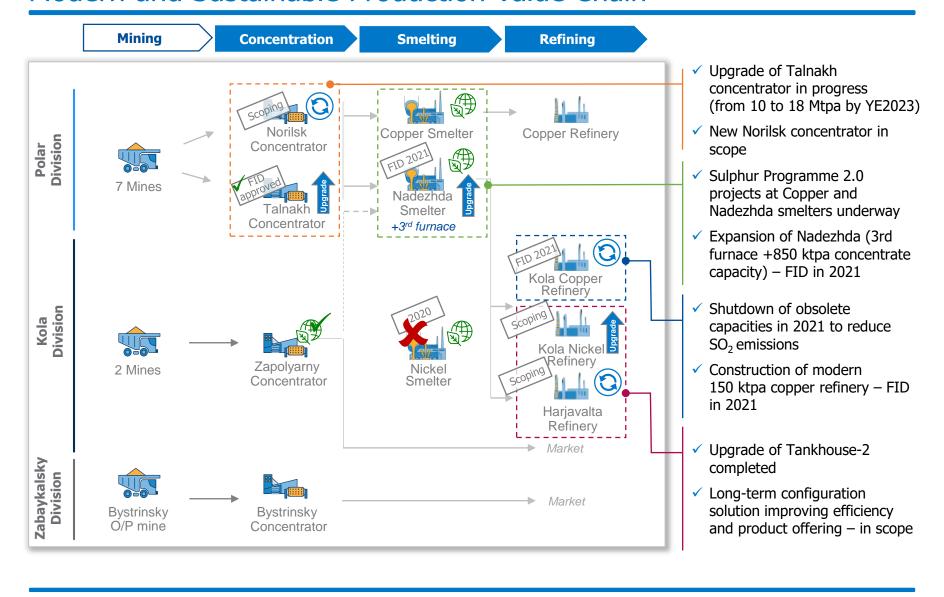


Pursuing holistic environmental strategy



Synchronizing with infrastructure development & modernization

# Downstream Development Roadmap: Towards Scaled-Up, Balanced, Modern and Sustainable Production Value Chain



# Modern Concentration Facilities: 3<sup>rd</sup> Stage of Talnakh Concentrator

- Capacity expansion to accommodate for ore production growth ("South Cluster")
- Additional capacity:
- +8 Mtpa
- Targeting higher recoveries for all key metals:

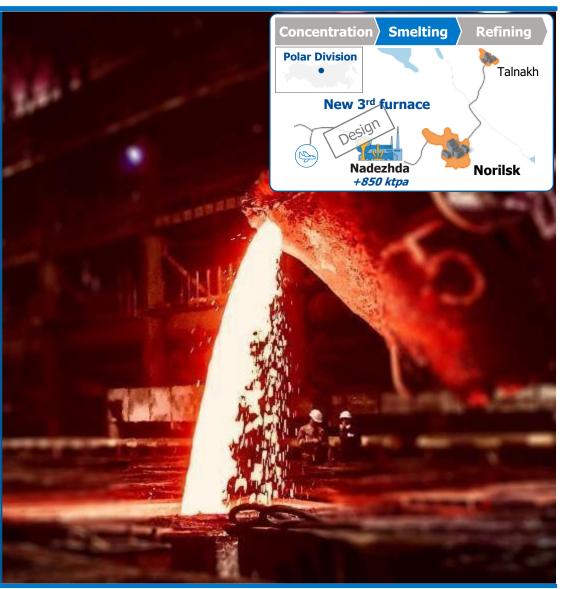
**+4% to +7%** (~US\$150 mn p.a. EBITDA impact)

- Construction started
- Ramp-up: 2023-2024



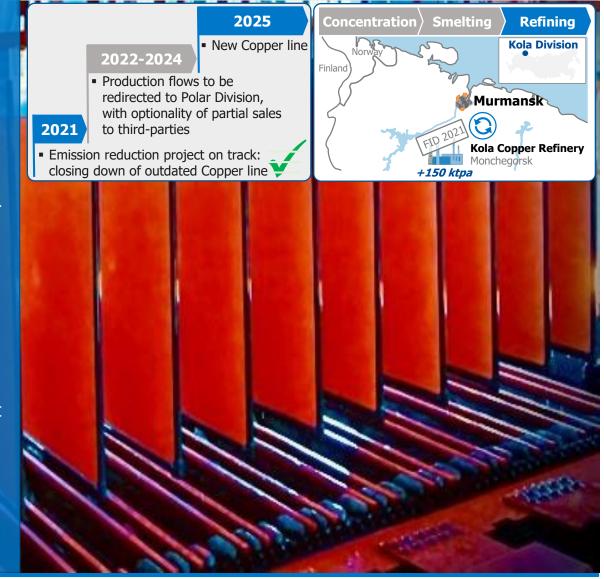
# Expansion of Nadezhda Smelter: New 3<sup>rd</sup> Production Line

- Nadezhda Smelter capacity increase:
- +850 ktpa
- +30% of Ni conc. smelting
- Overall throughput increase and backup for shutdown maintenance
- New line to be fully integrated in Sulphur Programme 2.0 (incremental US\$300 mn CAPEX to scale up ongoing projects)
- Fit into the Nadezhda Smelter's existing production site confirmed
- Expected launch: 2025



# New Copper Refining: Modern Environmentally-Friendly Technology

- New Cu refining hub to replace existing obsolete Copper line (to be phased out in 2021)
- Based on modern efficient technology: «roasting-leachingelectrowinning»
- Kola's Copper refining capacity to double:
  - 150 ktpa (from 75 ktpa today)
- Fully environmentally compliant
- Expected launch: 2025



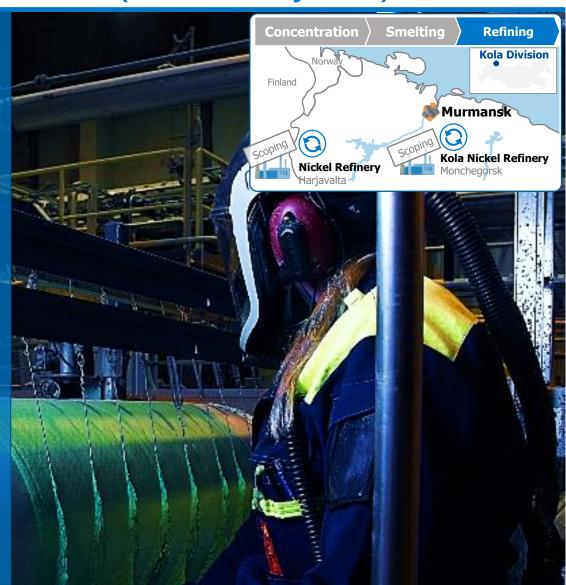


# Nickel Refining Strategy: Targeting Fully Modernized and Scaled up Refining Facilities at Kola Division (Kola and Harjavalta)

### Strategic vision for Nickel Refining:

- 100% modernized
- Expanded to capture 20-30% Ni production growth
- Tailored for the long-term Nickel product offering to the evolving high-growth, high-margin segments of the market
- Built-in flexibility to react to market needs

Scoping studies to define specific projects / technologies to be completed in 2021



# Energy Infrastructure Modernization: Interim Delivery and Plans

### 2013-2020 Delivery

- ✓ Replacement of 6 powergenerating units at hydro power plant (out of total 7)
- Replacement of 1 power generating unit at thermal power plant 2 (out of total 2)
- ✓ Replacement of medium-pressure turbines at thermal power plant 1
- √ 14 new natural gas wells

### **2021-2025 Development Plans**

- Industrial safety and physical risk mitigation programme<sup>(1)</sup>
- 5 new power-generating units at thermal power plants 2 and 3
- Grid modernization
- Gas pipeline extension, 4 new automated gas distribution stations
- Upgrade of gas booster stations
- Gas wells drilling programme





# Nornickel's Strategic Framework: ...GREENER METALS...

### **Climate Change**

Maintaining the industry's lowest carbon footprint & enhancing competitive position of "Tomorrow"

### **Sulphur Programme 2.0**

Eliminating SO<sub>2</sub> legacy impact



# **ESG Strategy**

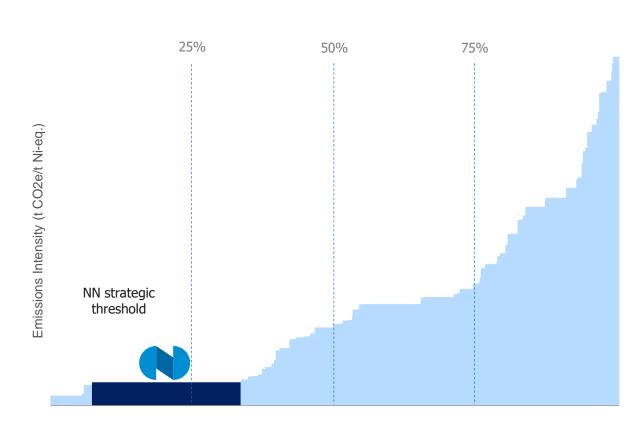
Holistic environmental programme with clear long-term targets

# Lowest Quartile Emissions Intensity Base Metals Producer. Targeting to Sustain Industry-Leading Position in the 1<sup>st</sup> Quartile

Combined leadership of Nornickel on both cost and CO<sub>2</sub> intensity curves to ensure unique competitive advantage in the economy of "Tomorrow"

Long-term target to sustain industry-leading positions in the 1<sup>st</sup> quartile of the emission intensity curve

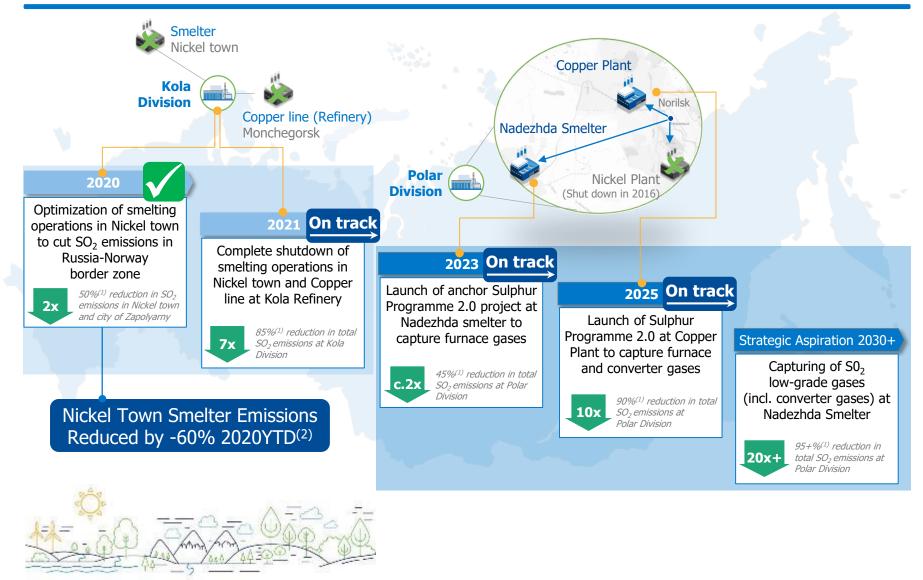
### Nornickel's emissions (tCO<sub>2</sub>e/t Ni-eq.) for nickel



Production (cumulative centile)



# Sulphur Programme 2.0: Environmental Roadmap



# Sulphur Programme 2.0: Construction Status

### Nadezhda Smelter

Flagship project to capture furnace gases and establish acid neutralization facilities and infrastructure:

- ~85% contracts legally binding
- Project design allows for expansion of the smelter (3<sup>rd</sup> Furnace)
- Piling, steel works, gypsum storage dam raising in execution

### Copper Smelter

Project to capture 99-99.5%+ SO<sub>2</sub> (in line with global benchmarks); construction of continuous converting unit, preparatory works, design update:

- Phase 1: Gas cleaning unit reconstruction initiated. ~45% contracts legally binding
- Phase 2: Basic Engineering / Design in progress. Construction to commence in 2H2021

Nadezhda
Smelter
Copper
Smelter
Phase 1
Phase 2
Phase 1
Phase 2





# Developing Capabilities to Deliver on New Investment Cycle



### **Tackling challenges of** contractor labour force deficit

Developing infrastructure for fly-in construction workers (e.g. housing capacity for 1000 persons by YE2020 with further scale-up to 4000 in 2021)



- Widening pool of construction companies in Norilsk region
- Developing new contracting models for Norilsk: unit rates, framework and "service" contracts, etc.



New **Investment** Cycle

### Developing internal capabilities

- Establishing dedicated Major Projects function
- Developing project management internal resources:
  - > 1000 employees to work in project offices at all levels in 2021 (doubling from 2019 level)
- ✓ Streamlining processes for maintenance CAPEX and construction infrastructure development:
  - Delegation of respective authorities to regional divisions
- Enhancing risk management and monitoring systems as well as dedicated project management software

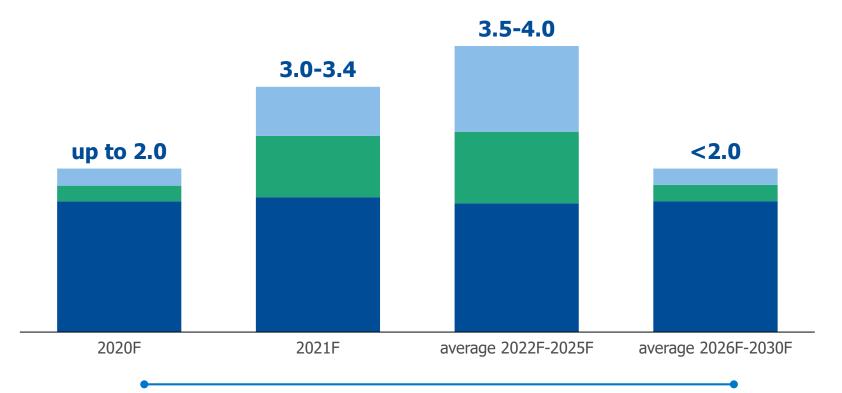
# **CAPEX Guidance**

CapEx, US\$ bn

Growth projects

Environmental projects

Base investment program & other projects



Guidance reiterated with incremental investments balanced by the effect of ruble depreciation



# Financial Performance

Sergey Malyshev Senior Vice-President Chief Financial Officer

# Financial Performance Highlights

**EBITDA Margin** 

50%+

Industry leading EBITDA margin through the cycle owing to the lowest production cash cost in the sector **Revenue Mix** 

Pd 48%

of total metal sales

High profitability owing to naturally diversified metals' basket and efficient cost control

**Cash Flow Yield** 

>30%

of total metal sales

Strong cash generation

Leverage

<2x

Net debt/EBITDA

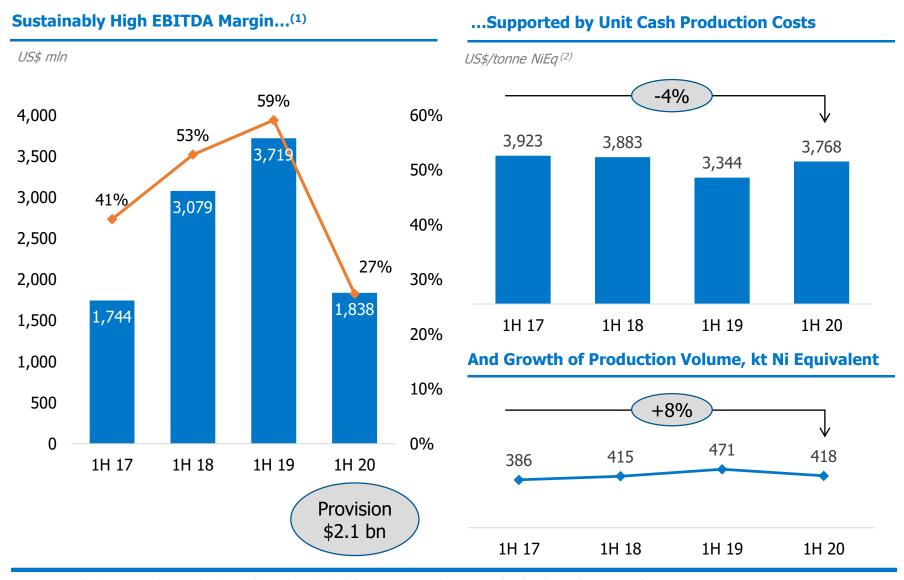
Strong balance sheet through the cycle, conservative leverage policy **Dividend Yield** 

10%+

Industry leading dividend yield<sup>(1)</sup>



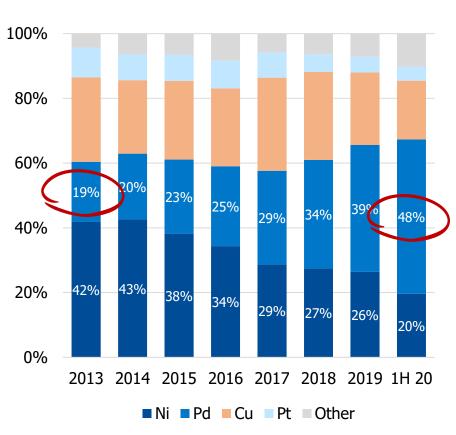
# Strong Margins Through the Cycle Supported by Low Unit Cash Costs

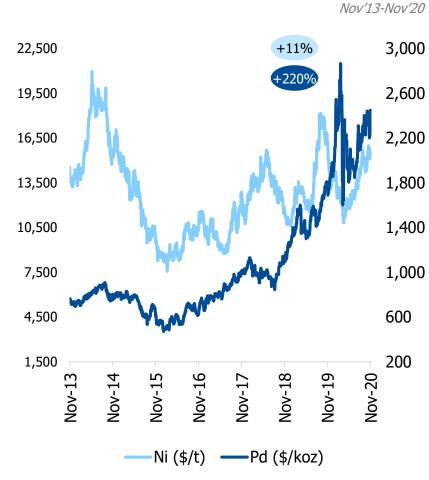


### Naturally Balanced Metal Mix: Palladium Almost 50% of Revenue

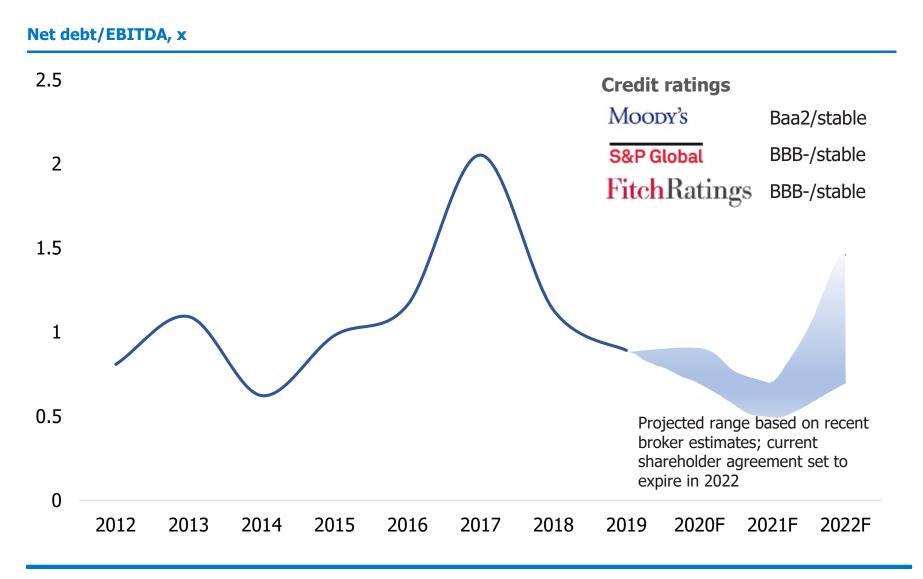
The Growing Share on PGMs: Palladium Contribution Up to Almost 50%







# Investment Grade Ratings Maintained as Credit Metrics Remain Robust



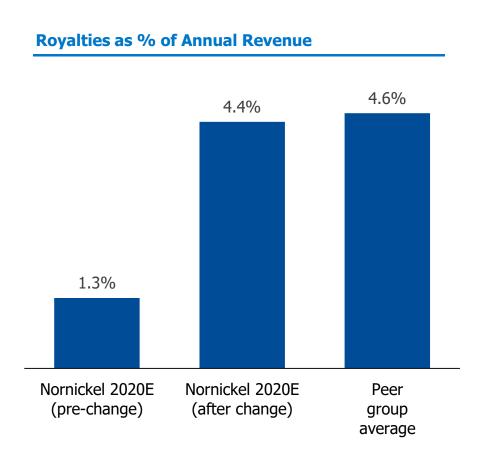
# Debt Structure, Interest Rates Improved in 2020

### **Liquidity and Debt Repayment Schedule**(1)

US\$ bn **Landmark financing deals in 2020:** 8.2 Record-low coupon rate of 2.55% on a USD Eurobond by Russian / CIS issuer 2.8 US\$4.15bn syndicated facility priced at LIBOR+140bp Average cost of debt down to 2.9% as of 1 Dec 2020 4.4 3.6 5.4 1.9 0.0 0.1 2022 2024+Current 2020 2021 2023 liquidity ■ Committed credit lines and overdrafts ■ Cash and equivalents (est. on 1 Dec 2020) ■ Debt repayments

# MET Hike to Bring Royalties In Line with Global Average

- 3.5x Mineral Extraction Tax hike on select Russian mining and fertilizer sub-sectors becomes effective on 1 January 2021
- For example, Polar Division 'flat rate' MET goes up from RUB 730/tonne of ore mined to RUB 2,555/tonne
- For Nornickel as a whole, if the hike became effective on 1 January 2020 the level of royalties would be about 4.4% of annual revenue, on par with global peers





### IT Infrastructure Enables Effective and Smooth Operation

- In 2014-2019, IT infrastructure underwent complete overhaul, with industry standard IT systems for operations, accounting and reporting implemented throughout the company
- This enabled smooth transition to remote work during the COVID-19 pandemic.
   Around 10,000 office workers were moved to work-from-home within two weeks in March
- Moreover, transition to Shared Services approach and standardization led to faster reporting
- For example, the Company's 2020 annual consolidated accounts are scheduled to be released 50 days earlier than they were for 2013





# **Key Sensitivities**

### **Approximate estimated impact on 2020 EBITDA of a 10% change:**

	Sensitivity, US\$ mIn	Expected 2020 average
RUB/US\$ exchange rate	577	RUB 72.75
Palladium price	553	\$2,161/Oz
Nickel price	280	\$13,424/t
Copper price	294	\$5,954/t



# Markets Update

Anton Berlin
Vice President,
Sales and Distribution

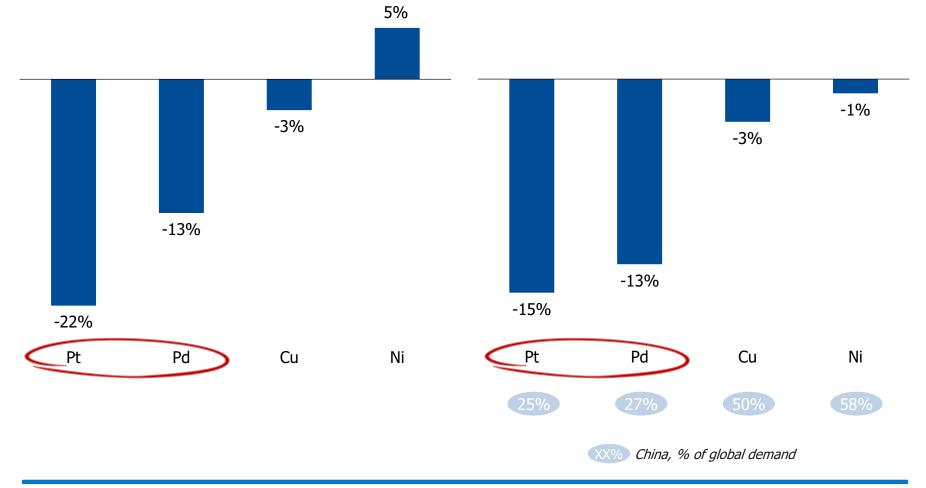
### COVID-19: Major Distortion to Commodity Markets in 2020



Supply 2020E vs 2019



Consumption 2020E vs. 2019



# Volatile Macro: Unprecedented Contraction Followed by Fast "V-shape" Recovery

# **Quarterly GDP Growth: Strong Rebound Expected in 2021 to Above Pre-virus Growth Rates**

# 

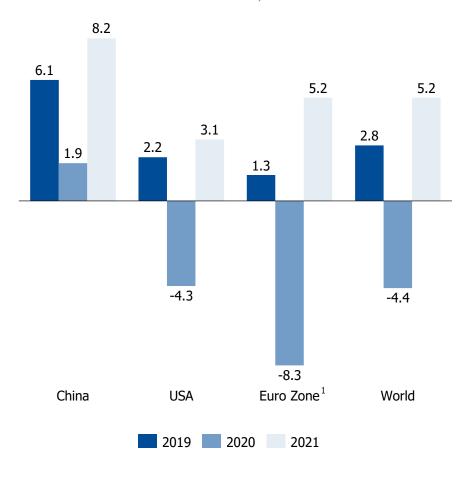
20

— China

20 20

#### Global Economic Growth in Major Markets is Temporarily Affected by COVID-19 Spread

IMF Forecast for 2020-2021 GDP Growth, %





USA

(10)

(15)

(20)

GDP Growth, % Y-o-Y

21 21 21 22

----- Russia

20 21

----Euro Zone

<sup>1.</sup> Euro zone includes the following countries: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Slovak Republic, Slovenia, Spain.

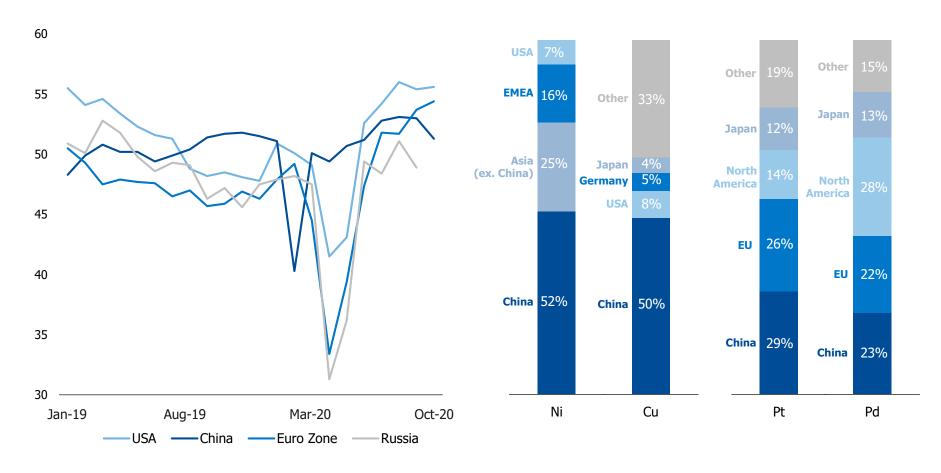
## Challenging Macro Environment: Contraction in Industrial Consumption of Metals

# **Sharp Contraction in Global Industrial Production, China Leading the Recovery**

Manufacturing PMI, Monthly Data

#### China – the Largest Consumer of Base Metals, Europe and US – Main PGM Consumers

Breakdown of global consumption of metals by geography

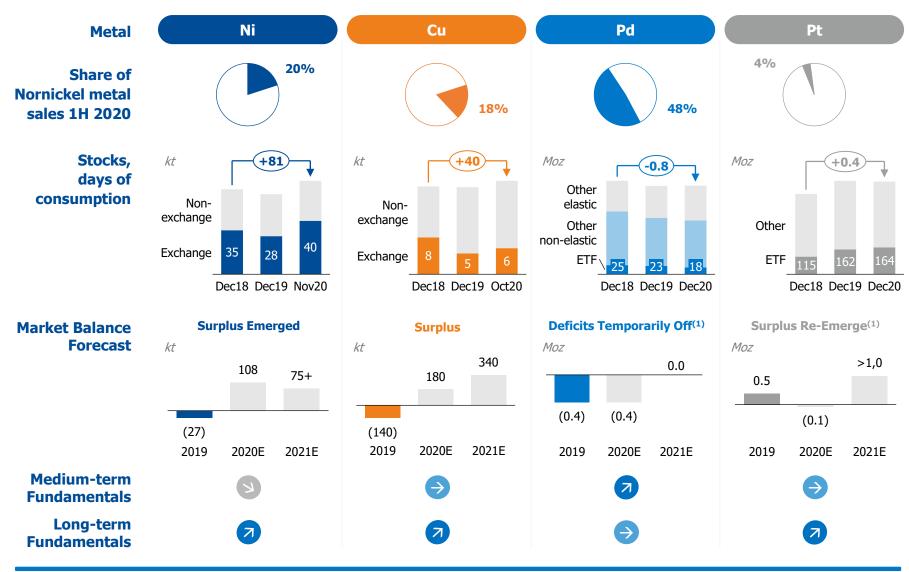


Sources: Bloomberg

Note: Metals breakdown as of 2019



#### Metal Markets Outlook — View on Fundamentals



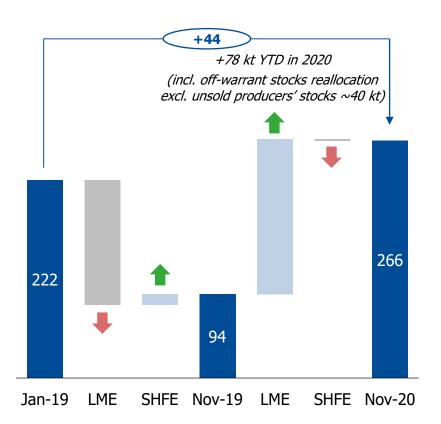
Source: Company estimates Notes: 1. Excluding investments Figures may not sum up due to rounding



### Nickel Exchange Stocks Back to Elevated Levels

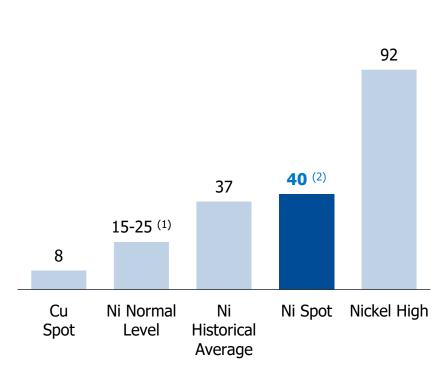
# **Exchange Inventories Restored on Stock Reallocation and Market Surplus**

Ni, kt



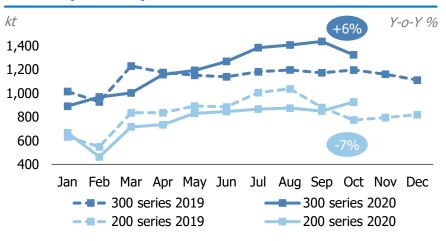
## Nickel Inventories Declined by Over 50% from Peak Levels of 2015 But Still Above Normal

Days of consumption

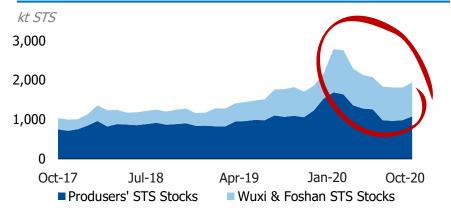


# Nickel in Stainless: 300 Series Production in China and Indonesia Showing Sustainable Recovery

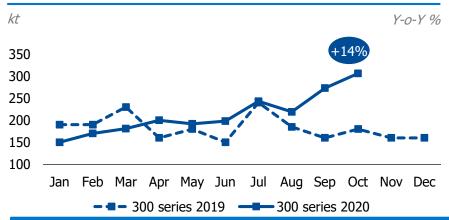
# China: Growth in 300s Driven by Stimulus Package, 200s Impacted by Weak White Goods Demand<sup>(1)</sup>



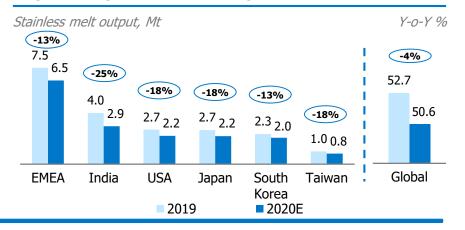
# Stainless Stocks in China: Significant Decline in Q2-Q3 Due to the Recovery of Consumer Demand



# **Production Growth in Indonesia: Delong Mill Launched and Tsingshan Production Has Been Recovering**

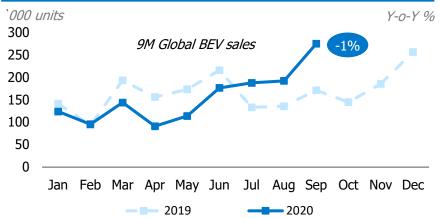


## The Rest of the World: Stainless Output Severely Impacted by COVID-19 Disruption of End Demand

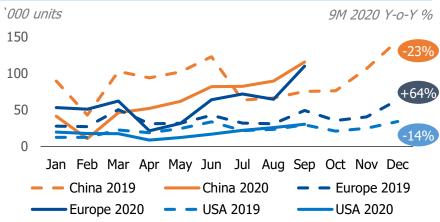


## Nickel in Batteries: Europe Leading the Growth, China Struggling to Recover

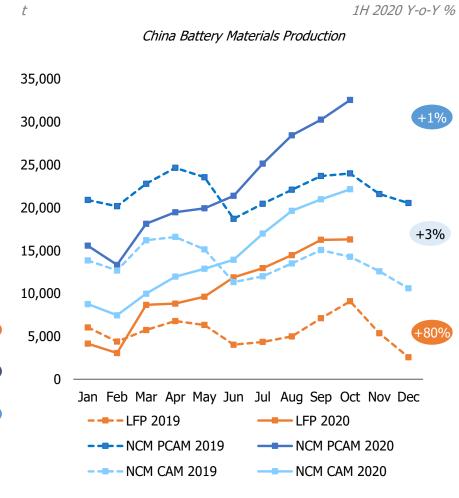
# Global BEV Equivalent Sales<sup>(1)</sup> Rebounded Strongly in Q3 Primarily Owing to Europe



# BEV Sales<sup>(1)</sup> in Q3 Rose Across All Regions, Europe Is Surging While China Remains in Negative Zone



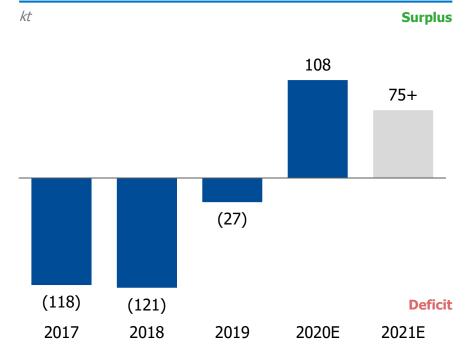
# China LFP Output Growing Amid Tesla's Expansion, Stabilisation of NCM on the Recovery of NEV Sales





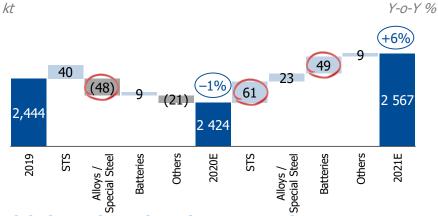
## Nickel Market Newly Emerged Surplus to Sustain Through 2021

**Substantial Market Surplus in 2020 Exacerbated by COVID Impact and Surge of Indonesian NPI** 

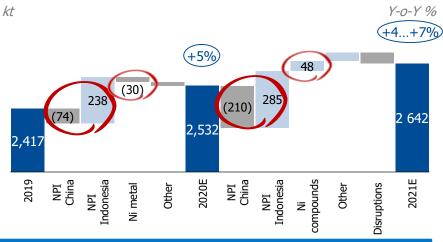


- 2020 impact of COVID-19: revision of market surplus forecast by 100+ kt Ni
- 2021 major uncertainty: demand recovery and further supply disruptions subject to epidemic situation, whereas NPI supply growth continues

# **Global Demand: Recovery Will Depend on the Epidemic Impact on Consumer Demand in 2021**



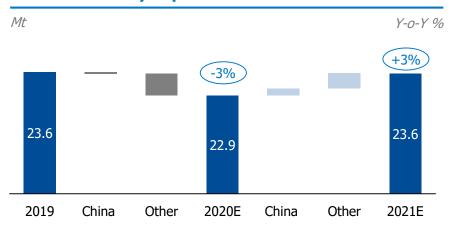
Global Supply: Indonesian NPI Continues to Rampup Through 2021 (+285 kt Ni units)



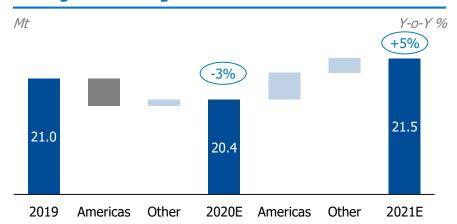


### Copper: Impacts of COVID-19 on Demand and Supply is Marginal

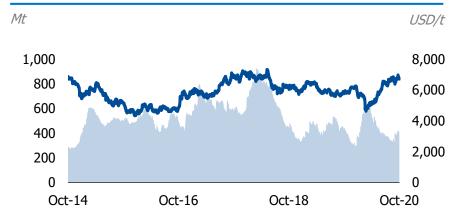
# Global Consumption: Marginal Impact in 2020, Modest Recovery Expected in 2021



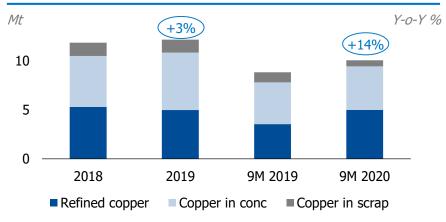
## Global Mined Copper: Production Cuts and Outlook Downgrades Owing to COVID-19 in 2020



# **Refined Copper Inventories Remain Low on Demand Recovery**

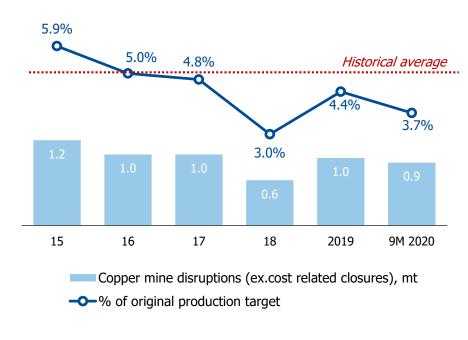


# Chinese Copper Imports Were Strongly Up (+14%) in 9M 2020 on Economic Recovery



# Copper Demand and Supply: Strongest Resilience Among Metals to Coronavirus-Related Disruptions

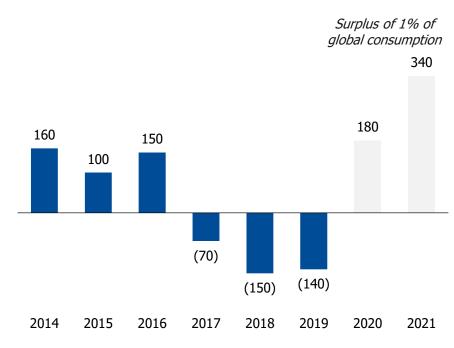
# **Copper Supply Disruptions: 2020 YTD Below Historical Average**



• **2020 impact of COVID-19:** the volume of copper supply lost, which can be directly attributed to the coronavirus estimated at 650 kt (3% of global production), with over 60% of the losses in Peru and Chile

## Market Balance: Marginal Surpluses Expected, But Resilience to Coronavirus to Be Further Tested

kt

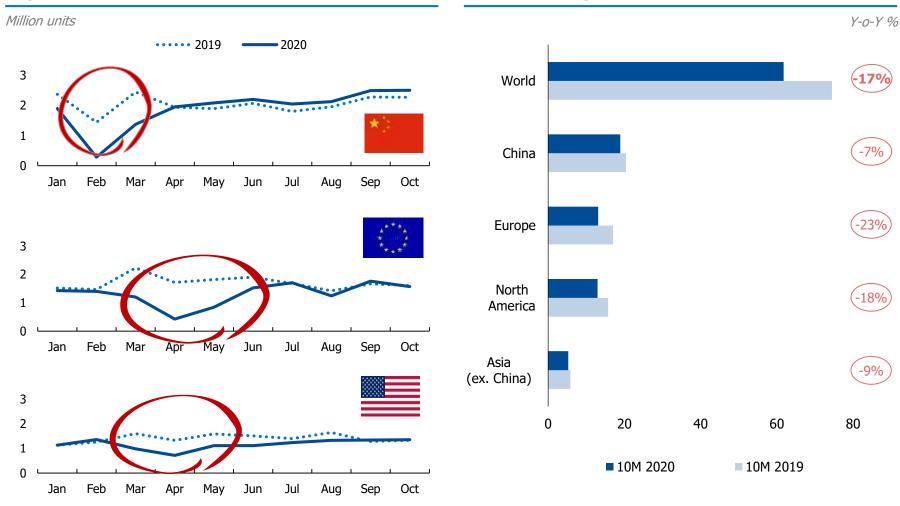




### Global Light Vehicle Sales Are Recovering After COVID-Related Slump

#### **Major Auto Markets Have Recovered...**

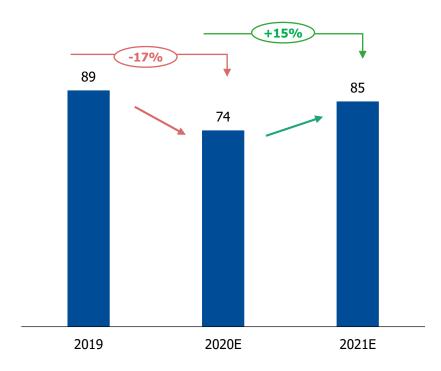
#### ...But Global Light Vehicle Sales Are -17% YTD



# Palladium Demand Drivers: Rising Loadings to Offset Partially Weaker Sales in 2020

# Global Autos Outlook: Production to Rebound Strongly in 2H2020 and 2021

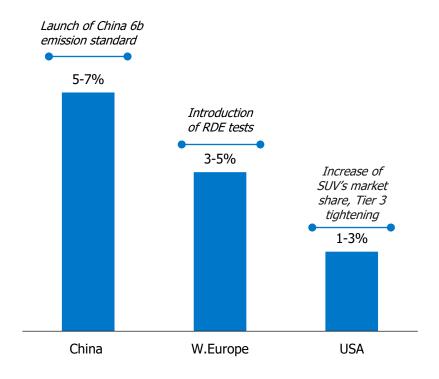
Light vehicles production, million units



- 2020 will be depressive for auto industry possibly the worst crisis in decades
- Full recovery and come-back to pre-COVID levels is expected post-2021

## Pd Loadings in Autocatalysts Will Continue to Grow

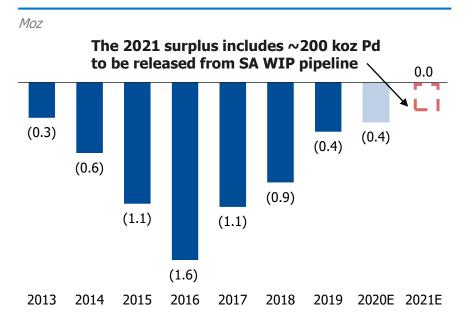
Average PGM loadings per vehicle, change in 2020





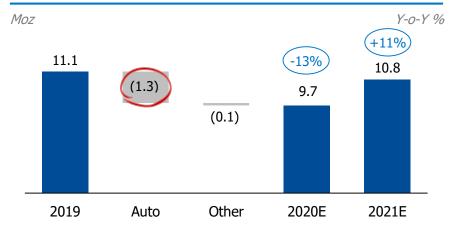
# Palladium Market to Remain Balanced as Auto Industry is Experiencing the Biggest Contraction in Decades

## Pd Deficit Remained in 2020 While 2021 is More Balanced

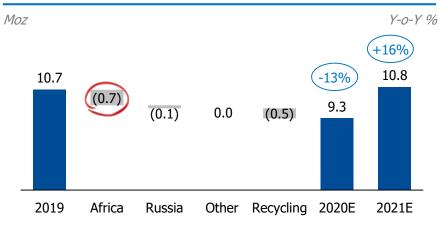


- 2020 impact of COVID-19: the worst crisis in auto sales in many decades; consumers stockpiles through-out the value chain added to supply, further reducing metal purchases from miners. Disruptions in SA offset the drop in demand
- 2021: recovery subject to COVID-19 impact on travel, pre-2020 levels of car sales not expected until 2022 at best. WIP release in SA adds ounces

## **Demand: Pd Among the Metals Impacted the Heaviest by COVID**



Supply to Drop by -13% Mostly Due to lower South African Supply and Recycling





Note: Market balance is given excluding ETF

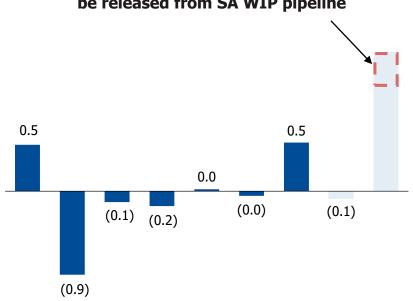


## Platinum Market Remained Oversupplied Amidst Falling Auto and Jewellery Demand

## **Balanced Market in 2020 and Apparent Surplus in 2021**

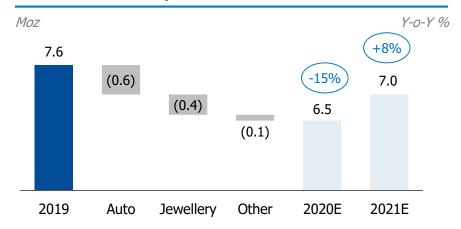
Moz



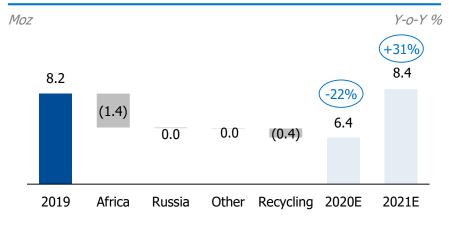


2013 2014 2015 2016 2017 2018 2019 2020E 2021E

# **Demand: Sharp Reduction on Weak Global Car Sales and Jewellery**



# Refined Supply: Hit by Amplats Force Majeure, SA Lockdown and Electricity Problems in SA

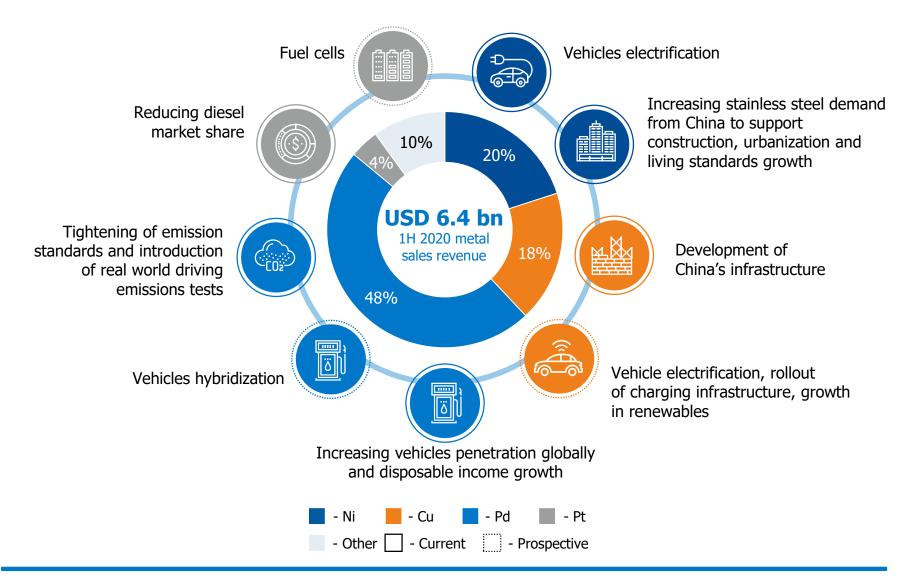


Source: NN Analysis

Note: Market balance is given excluding ETF



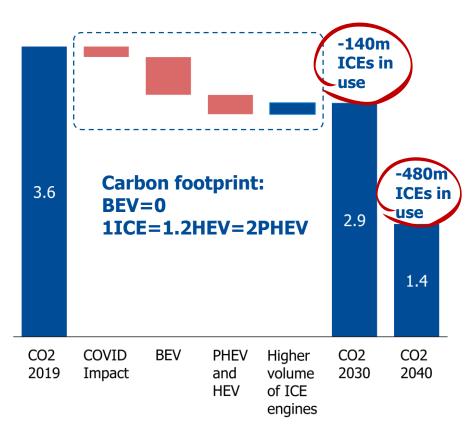
# Long-Term Trends Supporting Consumption Growth for Nornickel's Metal Basket



# Global Decarbonisation per IEA Sustainable Development Scenario: Implied Electrification of Light Vehicles

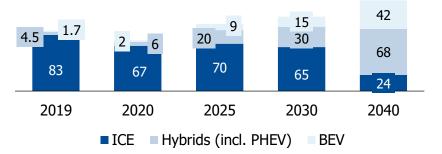
SDS Targets for the Reduction of CO2 Emissions by Light Vehicles: 20% by 2030 and 60% by 2040 (1)

Light duty road transport direct CO2 emissions, Gt



Implied Autos Mix by 2040: BEVs – 30%, ICE Containing Vehicles, Including Hybrids – 70%

Light duty vehicles sales, m units

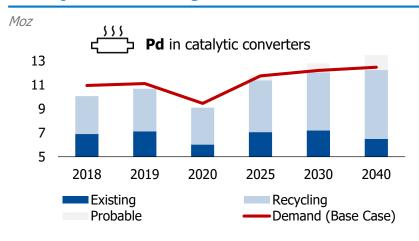


**Emission Regulations for ICE-containing Cars to Continue Tightening, Driving PGM Loadings Higher** 

Car exhaust emission standards 2020 2030+ 2025-2027 Euro 6d Euro 7 (exp.) Euro 8 (exp.) China 7 (exp.) China 8 (exp.) China 6a US Tier III BIN 70 **BIN 50** BIN 30 (exp.) Catch-up with DM Catch-up with DM **EM** markets old rules markets markets

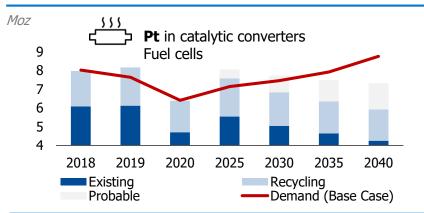
## SDS Targets for Decarbonisation – Neutral Impact on PGMs

# Palladium: Deficits to Sustain, Balanced Market in LT Subject to Flattening Demand Growth



- Modest LT demand outlook: `20-40 CAGR of 1-2%
- ...but significant incremental demand in the medium term: +1.8 Moz by 2025, +0.9 Moz by 2030
- Growing number of light vehicles on population growth and rising incomes
- Growing number of ICE-containing hybrids
- Tightening emission standards for ICEs to drive higher
   3PGM loadings (with likely Rh substitution by Pd)
- Modest supply outlook: `20-40 CAGR of 1-2%
- Increasing recycled supply due to growing number of spent-out catalysts and higher loadings
- New mining projects: South Cluster, projects in South Africa and Zimbabwe

#### Platinum: Well in Surplus Until (Possibly) 2030+

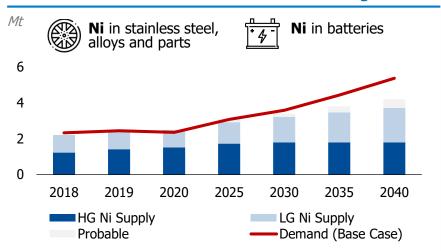


- Modest LT demand outlook: `20-40 CAGR of 1-2%
- Demand drivers: partial substitution of Pd with Pt in ICEs
- Growing fuel cells
- Limited LT supply growth: `20-40 CAGR of <1%</li>
- Reduction of primary supply due to mines depletion owing to historical underinvestment in South Africa



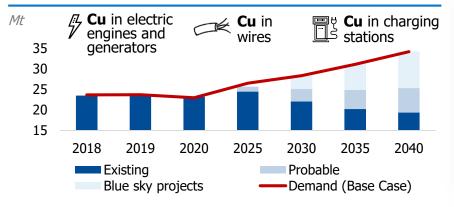
### SDS Targets for Decarbonisation – Positive for Base Metals

#### **Nickel: Balanced with Deficits to Rise in Longer-term**



- Strong demand outlook: `20-40 CAGR of >4%
- Expected demand additions due to change in autos' mix:
   +0.3 Mt, including 0.2 Mt from BEVs/hybrids by 2025,
   +0.3 Mt by 2030
- Growing xEVs including battery-containing hybrids
- Catalyst chemistry switch towards higher Ni loadings (from NCM 1:1:1 towards NCM 9:0.5:0.5)
- Uncertainty: Ni-chemistry vs LFPs in CAMs
- Strong supply outlook, but mostly in low grade Ni: '20-40 CAGR of 2-3%
- Challenges in increasing sustainably mined high-grade supply
- Non-sustainable mining of low-grade supply

#### **Copper: Balanced, Demand-Driven Market**



- **Healthy demand outlook:** CAGR `20-40 of 2%
- Expected demand additions due to change in autos' mix: +1.4 Mt, including BEVs, hybrids and charging infrastructure by 2025, +0.7 Mt by 2030
- Growing xEVs including battery-containing hybrids
- Build-out of power generation, distribution and charging infrastructure
- Limited supply growth: CAGR '20-40 of <1%</li>
- High flexibility to add new supply



### Global Decarbonisation – Risk Assessment for Nornickel's Metals

		2040:	Ni	PGMs	Cu
Grow of BE	th of market share Vs				<b>7</b>
Grow	th of hybrids		<b>2</b>	<b>7</b>	
Fuel o	cells			7	
(4) carbo	th of renewables/low on fuel in power ration		<b>7</b>	7	
expai	ge and grid nsion to support th of xEVs		7		7
Net impact	ŧ		7		7

#### 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 industrial consumers throughout the value chain as well as traders and commodity investors
- Digital assets (tokens) are backed by commodities and can be settled physically or financially
- First deals to be done in Dec 2020
- We envisage offering a part (up to 20%) of our sales to industrial customers in 2021 through digital transactions
- Investment opportunities to be probed by the market
   Ridgex, an ETC structure has been established
- The transactions will be done via Atomyze, a digital platform built by IBM and based on a modified Hyperledger Fabric blockchain technology



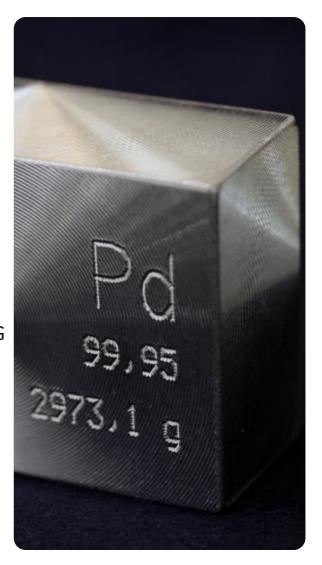
### Tokenization Program Benefits for Norilsk Nickel

- Additional source of physical metal liquidity through extended portfolio of industrial clients (especially in automotive industry) and investment demand
- A tool for inventory management under unfavorable market conditions
- Development of investment instruments backed by metal products as a source of long-term low-cost financing for upstream projects



## Tokenization Program Benefits for End-Users

- 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, possible block chain verification of ESG
   credentials and carbon footprint
- Optimized physical metal inventory
   to support lean and sustainable manufacturing



## **Tokenization Program Benefits for Investors**

- Acquiring financial assets with no restrictions
   pertaining to using LME deliverable metal and issuing
   warrants
- Acquiring financial assets with a competitive cost of ownership and transaction fees
- Creation of financial products reflecting spot base metal prices with reasonable cost of ownership – no other viable options for investors
- Creation of financial products reflecting prices of minor metals that lack reliable benchmarks and commodity exchange liquidity – no other viable options for investors



# Industrial and Investment Tokens Bringing Additional Value For The Market

#### (IT) Industrial Tokens

#### **Investment Tokens**

		ABT (Asset Backed Tokens)	IBT (Industry Backed Tokens)
Description:	A supply agreement specifying product quality, delivery and schedule	Competitive investment/ hedging instrument based on spot prices	Low-cost investment instrument with no storage fee
Backed by:	Metal tied to specific grades, delivery and payment terms; a digital replica of a physical contract	Metal not tied to specific grades, delivery and payment terms	Mineral reserves and the issuer's balance sheet
Redeemable by:	Metal	Metal/Fiat	Metal/Fiat
Transferable to other Platform participants			

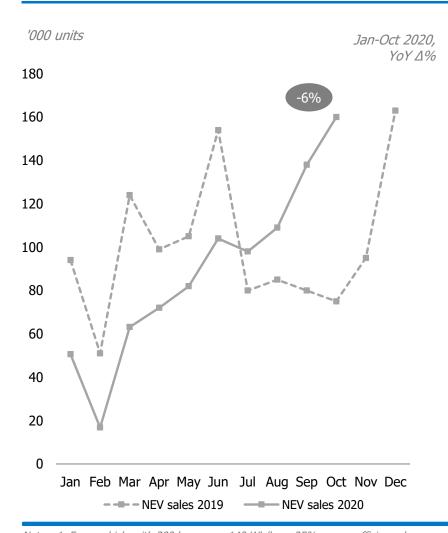
#### A Token-Backed ETC Product

- **Ridgex Investment plc** a standalone Irish Section 110 Special Purpose Vehicle a typical structure for issuing metals-backed Exchange Traded Commodities (ETCs)
- **Structure is 'orphaned'**, i.e. it is not owned by any other entity but has independent directors that provide regulatory oversight
- Regulated by the Central Bank of Ireland (CBI) through the filing of a Base Prospectus for a Secured Metal Linked ETC Securities Programme
- The Base Prospectus allows for the issuance of 6 series of ETCs, each one backed by the individual metal, metals issued are **Gold, Silver, Platinum, Palladium, Nickel, Copper**
- Ridgex ETCs will be listed on **Deutsche Boerse**, **London Stock Exchange**, **Borsa Italiana** and **SIX (Switzerland)**.

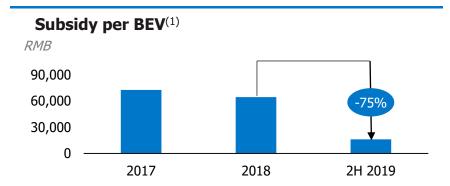
# **Appendices**

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

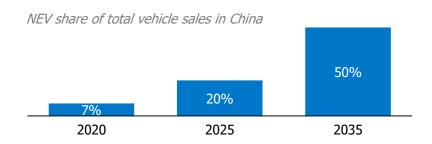
# Sales of NEV Decreased for 12 Consecutive Months Due to Tightening Subsidies and COVID Impact



#### The Shift from Tax Subsidies to Dual Credit System



#### **New Government Targets for NEV Sales**

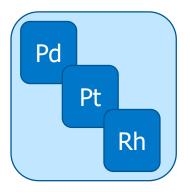


# **Incentives to Produce BEVs with Longer Driving Range**

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

#### Pd Substitution with Platinum in Gasoline-fired Vehicles

#### Tri-Metal Solution



#### Currently tested for:

#### **SUV/Trucks**



Mostly in

20-30%

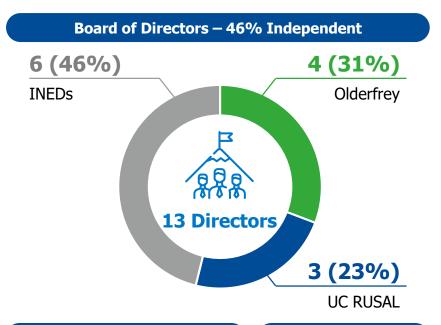
Potential loading share for substitution

Potentially 200-400koz pa by 2023-2024 in the US market (if all models switch, but highly unlikely)

#### Challenges:

- High engine temperatures limit potential for substitution
- Technical challenges due to RDE and tighter emission legislation
- Pd supply is diversified and expected to grow while Pt supply is skewed to SA and stagnating
- Risks of Pt deficits long term while elasticity of Pt ETFs is uncertain

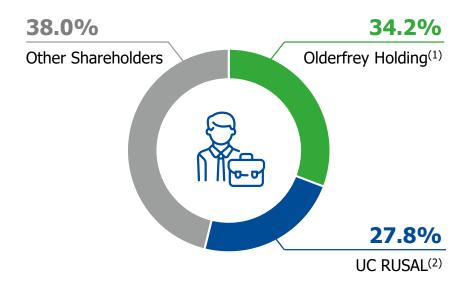
## Corporate Governance: Focusing on Long-term Value Creation



Board Committees	Chaired by	
Audit and Sustainable Development Committee	Roger Munnings	(S)
Budget Committee	Sergey Batekhin	
Strategy Committee	Maxim Poletaev	
Corporate Governance, Nomination and Remuneration Committee	Robert Edwards	$\bigotimes$
Independent Environmental Task Team	Gareth Penny	$\otimes$

#### **Shareholder Structure**

As of September 30, 2020



#### **Major Shareholders Agreement**(3):

Valid until 1 January 2023



