

**FOCUS.  
COMMITMENT.  
IMPACT.**

**Analyst and Investor Day  
ESG presentation**

28 April 2020



**POLYMETAL**  
INTERNATIONAL PFC

# TABLE OF CONTENTS

- 01** Introduction  
Tracey Kerr, Independent Non-Executive Director
- 02** Recognition of our efforts  
Daria Goncharova, Chief Sustainability Officer
- 03** Safety  
Vitaly Nesis, Group Chief Executive Officer
- 04** Climate management  
Daria Goncharova, Chief Sustainability Officer
- 05** Water  
Daria Goncharova, Chief Sustainability Officer
- 06** Tailings Storage Facilities  
Daria Goncharova, Chief Sustainability Officer
- 07** Communities  
Daria Goncharova, Chief Sustainability Officer

# 01 INTRODUCTION

A winter landscape featuring a snow-covered road that curves through a line of trees heavily laden with snow. In the background, there are rolling hills and mountains under a clear, bright blue sky. The scene is captured in a cinematic style with high contrast and vibrant colors.

# A RESPONSIBLE BUSINESS IS A SUCCESSFUL BUSINESS

## Our strategic objectives within the sustainability pillar



### Maintain social license to operate

- ▼ We bring a lasting positive impact to communities through creating jobs and supply chain opportunities, while making substantial tax contributions



### Reduce environmental footprint

- ▼ As temporary stewards of valuable land, we have a deep responsibility to conserve it for future generations.



### Ensure inclusive growth

- ▼ As well as keeping more than 11,000 people safe and healthy at work, we also ensure fair and inclusive working environments



### Further develop best-in-class ESG practices

- ▼ Our sustainability governance is underpinned by a formal commitment from the top and ESG performance-related pay

# SHARING THE VALUE THAT WE CREATE

## Our capitals and value distribution

- ▼ Financial capital
- ▼ Business capital
- ▼ Human capital
- ▼ Intellectual capital
- ▼ Natural capital
- ▼ Social and relationship capital

**\$397m**

wages, salaries and other  
benefits for employees

**\$35m**

environmental  
investments

**\$15m**

community investments

**\$233m**

taxes paid

**\$1.2m**

invested in training

**\$155m**

sustainability-linked loans  
in the portfolio

# MATERIAL ISSUES

## Focusing on topics material to Polymetal and stakeholders

Material issues	Targets and indicators	Performance in 2019
Socio-economic value creation	<ul style="list-style-type: none"> <li>▶ Transparent tax disclosure</li> <li>▶ Ensuring local hiring and procurement</li> </ul>	<ul style="list-style-type: none"> <li>▶ \$233m taxes paid</li> <li>▶ 96% local nationals among employees</li> <li>▶ 56% local purchasing</li> </ul>
Health and safety	<ul style="list-style-type: none"> <li>▶ Zero fatalities</li> <li>▶ LTIFR below 0.2</li> </ul>	<ul style="list-style-type: none"> <li>▶ 2 employee fatalities and 1 contractor fatality</li> <li>▶ 0.19 LTIFR</li> </ul>
Communities	<ul style="list-style-type: none"> <li>▶ Good community relationships</li> <li>▶ Social investment and engagement</li> </ul>	<ul style="list-style-type: none"> <li>▶ Zero conflicts</li> <li>▶ \$15m invested, 588 inquires received and resolved</li> </ul>
People	<ul style="list-style-type: none"> <li>▶ Keeping turnover rate</li> <li>▶ Improving equality and diversity</li> </ul>	<ul style="list-style-type: none"> <li>▶ 5.8% voluntary turnover</li> <li>▶ 21% of employees are women</li> <li>▶ 39% of female qualified personnel and 22% of female mid-level managers</li> </ul>

# MATERIAL ISSUES (CONTINUED)

## Focusing on topics material to Polymetal and stakeholders

Material issues	Targets and indicators	Performance in 2019
Water	<ul style="list-style-type: none"> <li>Gradually decreasing fresh water use</li> </ul>	<ul style="list-style-type: none"> <li>26% y-o-y reduction of fresh water use</li> <li>87% of water reused/recycled</li> </ul>
Environmental management	<ul style="list-style-type: none"> <li>No major environmental incidents</li> <li>Reduce direct impacts on biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>Zero environmental incidents</li> <li>Environmental programme at each site</li> </ul>
Climate change	<ul style="list-style-type: none"> <li>Decrease of GHG emissions and energy consumption</li> <li>Improving climate reporting</li> </ul>	<ul style="list-style-type: none"> <li>14% reduction of carbon footprint of ounce of GE</li> <li>Climate management system implemented at 100% of operating sites with relevant staff training</li> <li>Assessed Scope 3 emissions</li> </ul>
Waste	<ul style="list-style-type: none"> <li>15% of dry tailings storage by 2024</li> <li>Reuse of at least 20% of waste rock</li> </ul>	<ul style="list-style-type: none"> <li>10% of tailings dry stacked</li> <li>14% of waste reused</li> </ul>
Suppliers and partners	<ul style="list-style-type: none"> <li>Intensifying engagement with stakeholders on responsible supply chain</li> </ul>	<ul style="list-style-type: none"> <li>7,698 suppliers audited</li> <li>Increased due diligence requirements</li> </ul>
Compliance	<ul style="list-style-type: none"> <li>Ensuring full legal compliance</li> <li>Zero penalties for non-compliance</li> </ul>	<ul style="list-style-type: none"> <li>\$8 thousand in fines for two labour cases</li> <li>\$1 thousand in environmental fines</li> </ul>

# CONTRIBUTING TO UN SUSTAINABLE DEVELOPMENT GOALS

## We align our impacts with UN's 2030 Agenda

Economy	People development	Human rights	Environment, health and safety	Land use
<ul style="list-style-type: none"> <li>▼ Contribution to national and local income</li> <li>▼ Increase in export and GDP</li> <li>▼ Poverty alleviation</li> </ul>	<ul style="list-style-type: none"> <li>▼ Employment and decent work conditions</li> <li>▼ Employee skill development and further education</li> </ul>	<ul style="list-style-type: none"> <li>▼ Industry role model in indigenous population engagement and social acceptance</li> <li>▼ Multi-regional focal point for creation of equal opportunities and non-discriminatory leadership</li> </ul>	<ul style="list-style-type: none"> <li>▼ Utilization and diffusion of innovative and environmentally sound technologies</li> <li>▼ Dissemination of best practices of monitoring and assessments, promoting risks mitigation measures among sector peers and supply chain</li> </ul>	<ul style="list-style-type: none"> <li>▼ Improved infrastructure, telecommunications, road network, power and water supplies, improved access to health and education</li> </ul>





# KEY SUSTAINABILITY RISKS

We identify and mitigate risks across our material issues

Health and safety	Environmental	Legal compliance	Supply chain	Political
<ul style="list-style-type: none"> <li>▼ Injuries (severe, minor, near-misses)</li> <li>▼ Fatalities</li> </ul>	<ul style="list-style-type: none"> <li>▼ Environmental compliance and incidents</li> <li>▼ Incidents at the tailings storage facility</li> <li>▼ Incidents at the water facility</li> <li>▼ Soil or water pollution (spills)</li> </ul>	<ul style="list-style-type: none"> <li>▼ Compliance with national and international legislation</li> </ul>	<ul style="list-style-type: none"> <li>▼ Relations with suppliers: failure to meet Polymetal's requirements, breach of tender procedures and delays in deliveries</li> </ul>	<ul style="list-style-type: none"> <li>▼ Political instability and civil unrest</li> </ul>

# COVID-19 UPDATE

## Keeping employees safe at all times

### Basic measures

- ▼ Masks, IR thermometers and rapid-response COVID-19 test kits supply
- ▼ Intensive cleaning and disinfection services, hand sanitizers
- ▼ Germicidal lamps, ozone generators and air recirculators installed in welfare facilities
- ▼ Measuring and tracking temperature of all workers and contractors
- ▼ Office employees switched to remote work
- ▼ Shifts re-schedule to ensure a 14-day quarantine period and maintain the minimum number of workers in each team
- ▼ Isolated facilities for workers arriving for a shift
- ▼ Same monitoring and isolation measures for our contractors

### Ensuring epidemic preparedness

- ▼ Response plans in case of suspected COVID-19
- ▼ Some living facilities equipped for quarantine
- ▼ Site medical facilities switched to 24/7 operation, additional equipment and transportation
- ▼ Stronger cooperation with local hospitals and the Ministry of Health on epidemic issues
- ▼ Local medical organizations and hospitals support

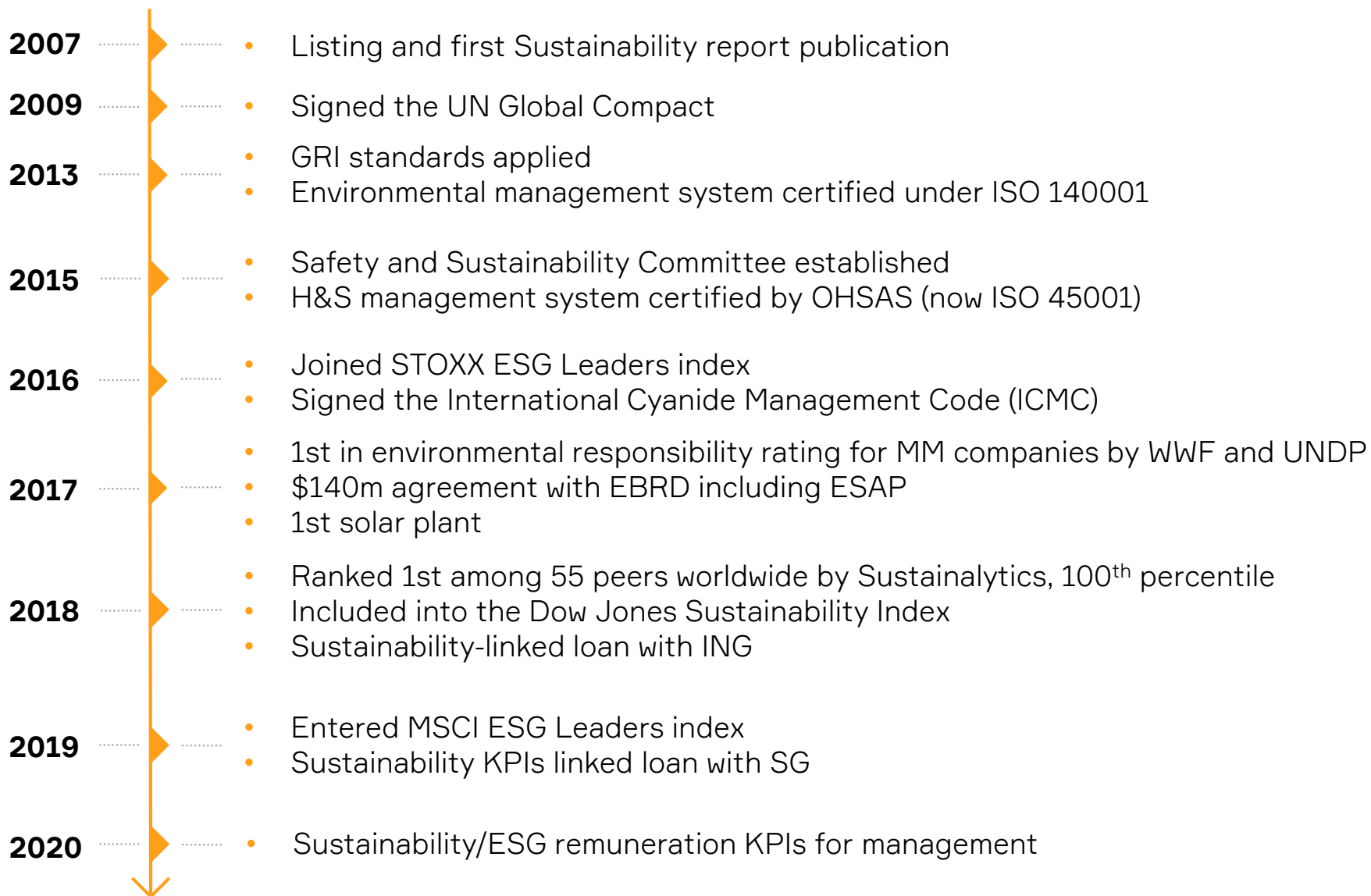
### Engagement and communication

- ▼ Hotline and COVID-19 coordinators at each site
- ▼ Updates via intranet, corporate newspaper, information desks, meetings
- ▼ Q&A articles covering shift schedule, payroll and financial support issues
- ▼ Mental health online training and engagement
- ▼ Employees volunteering to provide vulnerable groups with essential products



# 02 RECOGNITION OF OUR EFFORTS

# SUSTAINABILITY MILESTONES



# SUSTAINABILITY REPORTING AT POLYMETAL

## Applying international standards to our disclosures

STANDARD	REPORTING STATUS
GRI	<ul style="list-style-type: none"><li>Annual reporting since 2013</li><li>Data assurance by PwC</li></ul>
SASB	<ul style="list-style-type: none"><li>Metals &amp; Mining Sustainability Accounting</li><li>First time applied in SR 2019</li></ul>
CDP	<ul style="list-style-type: none"><li>Climate Change annual response since 2015</li><li>Score 2019 – D (2018: C)</li></ul>
TCFD	<ul style="list-style-type: none"><li>Gap analysis of climate related disclosures</li><li>First disclosure of Metrics and Targets, Risk Management, Strategy and Governance in SR 2019</li></ul>

# ESG LEADERSHIP

## RECOGNITION OF OUR EFFORTS TO DATE



- ▼ First and only Russian member
- ▼ 10% y-o-y score improvement



- ▼ 1<sup>st</sup> among 55 precious metals companies
- ▼ 100 percentile
- ▼ 4% y-o-y score improvement
- ▼ Score linked to the loan margin



- ▼ ESG rating A (improvement from BBB)
- ▼ Member of ESG Leaders index



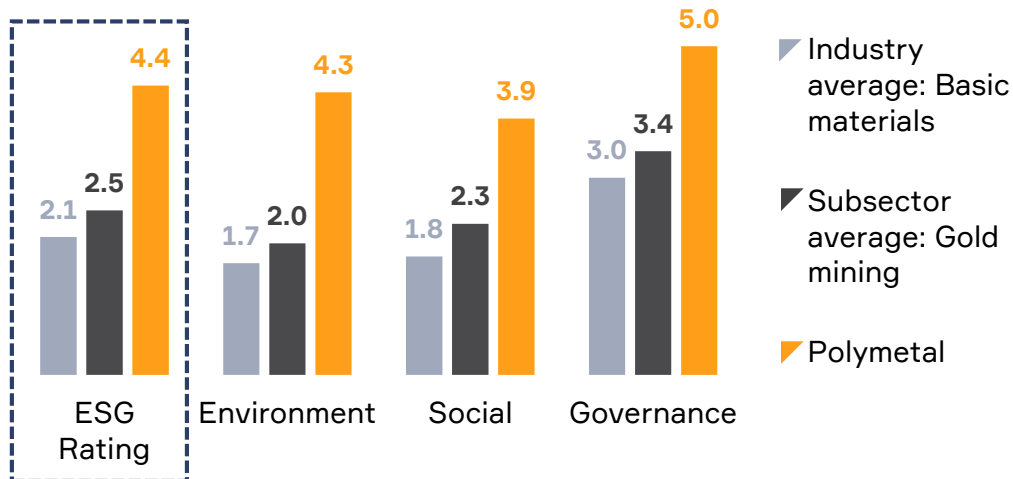
- ▼ ESG score A- (improvement from B+)



- ▼ ESG score C+ (improvement from C)

# ESG LEADERSHIP

## FTSE\* Russel rating, FTSE4Good index



FTSE4Good

- ▶ Pollution & Resources Score: 5
- ▶ Risk Management Score: 5
- ▶ Labour Standards Score: 5
- ▶ Anti-Corruption Score: 5
- ▶ Water Use Score: 4
- ▶ Climate Change Score: 4
- ▶ Human Rights & Community Score: 4

## RECOGNITION OF OUR EFFORTS TO DATE

- ▶ 1st place among metal and mining companies in a gender equality rating published by Forbes Women, being rated 12th of the 150 longlisted Russian companies.
- ▶ Best Communication of ESG and Best Annual Report (International) by IR Society Best Practice Awards 2019.
- ▶ Polymetal included in the Sustainability Yearbook 2020, the world's most comprehensive publication on corporate sustainability issued by S&P Global in collaboration with RobecoSAM
- ▶ Polymetal participated in the Sustainable Innovation Expo at the Fourth Session of the United Nations Environment Assembly in Nairobi, Kenya.

# SUSTAINABILITY-LINKED FINANCE

## Linking business benefits and sustainability goals

2017

### Our flagship project Kyzyl receives funds from EBRD

- As part of the \$140m deal, Polymetal adopted EBRD's best practices on environmental and social aspects for the development and subsequent operation of Kyzyl
- Joint inclusion project to improve opportunities for young people and women in the industry



European Bank  
for Reconstruction and Development

2018

### First Sustainability-linked loan signed with

- \$80m facility with the margin linked to the Group's ESG performance estimated by Sustainalytics (base score 77/100)
- Highest available discount in the interest rate achieved
- Current score 88/100



2019

### First KPI-linked loan signed with

- \$75m facility with the margin linked to 5 ESG KPIs:

#### Environnemental

- Implementing climate management system
- Ensuring tailing dams safety
- Reduction of fresh water use

#### Social

- Occupationnel H&S maintenance
- Support the local communities





# 03 SAFETY

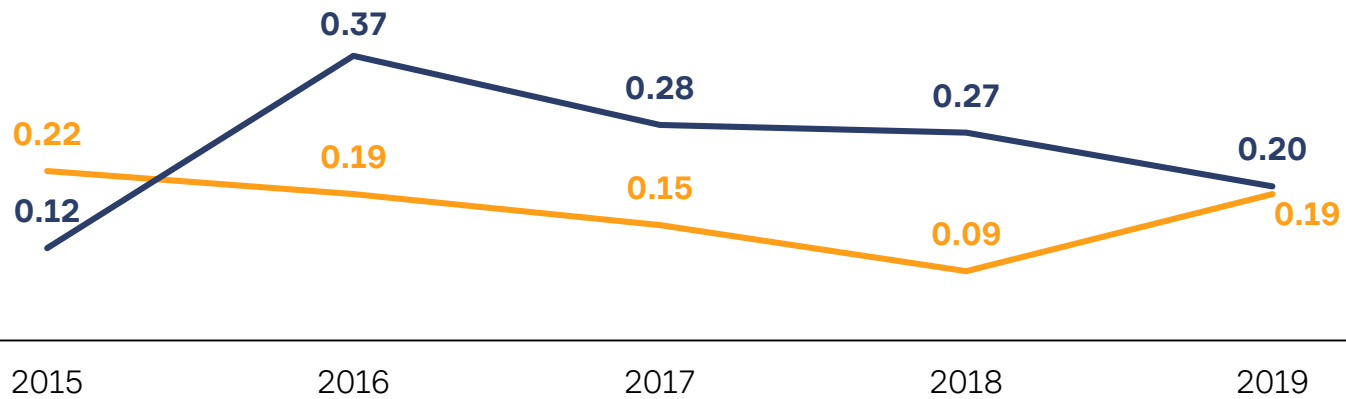


# FATALITIES AND LTIFR

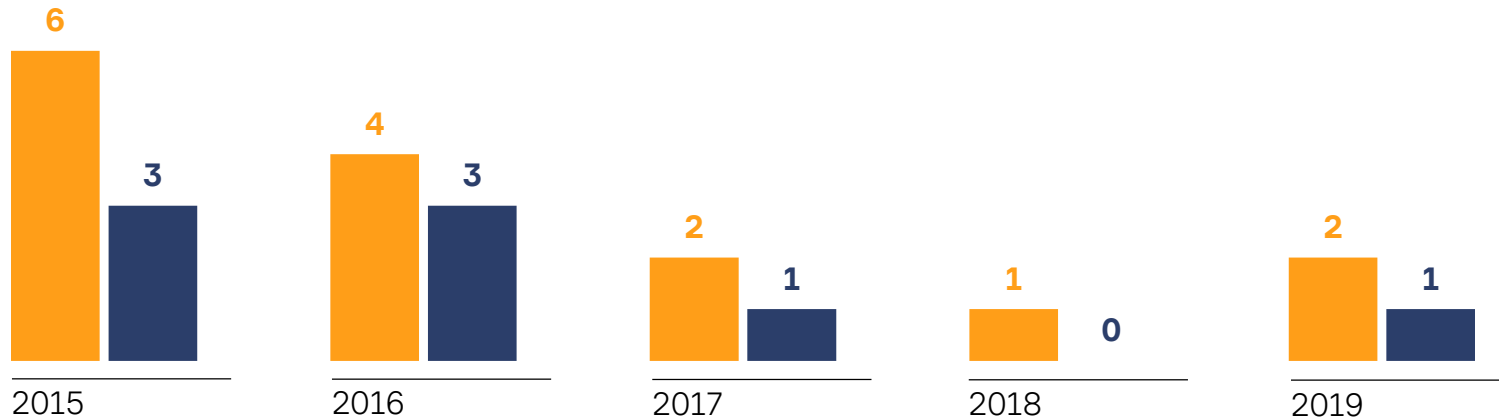
## LTIFR, per 200,000 hours worked

Polymetal

Contractors



## FATALITIES



# 2019 FATALITIES AND HOW WE RESPOND

## 2 fatalities among Polymetal employees

## Our response

- 1 at the Mayskoye underground mine – a jumbo drill rig operator was injured by the rotating boom

We updated the risk assessment cards for jumbo drillers and created a safety manual for replacing drill bits. The performance-based pay system for these staff was changed to ensure safety comes above productivity, and drilling machinery at all sites is now equipped with sensors that automatically stop drilling if the worker accidentally enters the hazardous area

- 1 at Omolon operation – a pump station operator died at the Kubaka pit

We rigorously inspected all safety fences, water collectors and reservoirs, while also adding further safety measures, prosecuting those compromising security infrastructure and partly mechanising the pumping process to minimise manual risk

## 1 contractor fatality

## Our response

- 1 fatal accident happened during truck maintenance at the Omolon mine

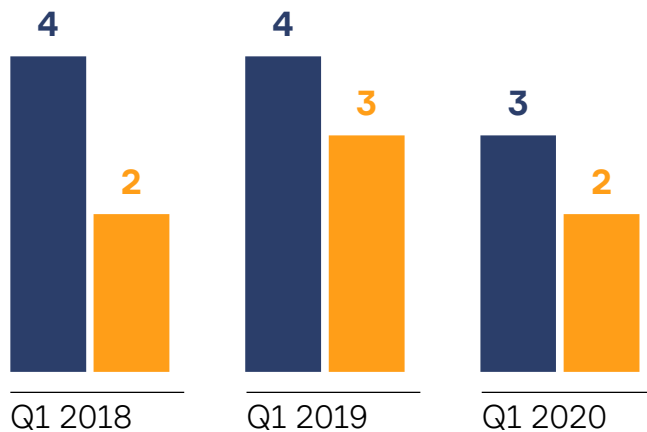
We incorporated more safety-related terms and obligations into our agreements with contractors and enhanced our responsibility for contractor safety

# Q1 SAFETY PERFORMANCE

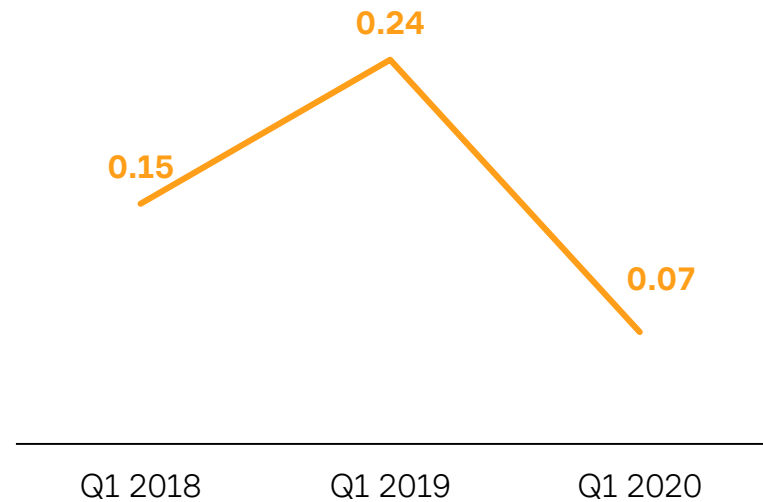
- ▶ No fatalities either among Polymetal or contractors' employees
- ▶ There were only 2 minor work-related accidents at Polymetal during Q1 2020. As a result, Polymetal LTIFR decreased by 71% y-o-y to 0.07

## LOST TIME ACCIDENTS

- ▶ Polymetal
- ▶ Contractors

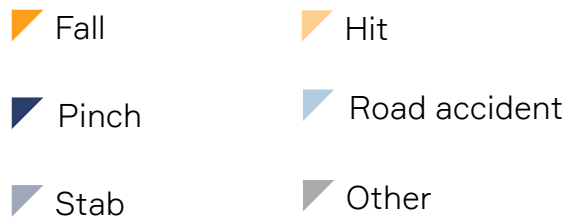
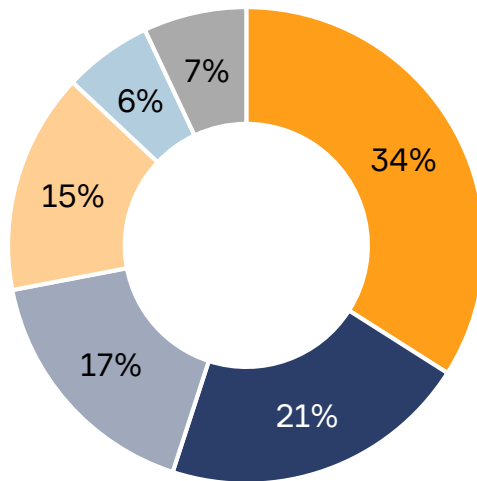


## POLYMETAL LTIFR

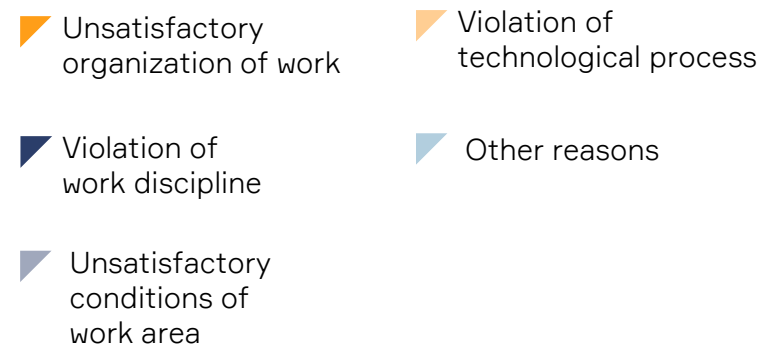
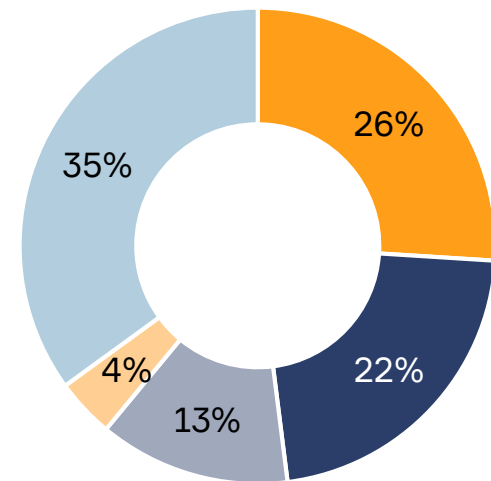


# ACCIDENTS BY TYPE AND ROOT CAUSES

ACCIDENT STRUCTURE BY TYPE FOR THE LAST 5 YEARS ACCRUED



ROOT CAUSES STRUCTURE FOR THE LAST 5 YEARS ACCRUED



# OUR SAFETY GOALS FOR 2020-2023

1

## **Achieve zero occupational injuries with fatal outcome**

- ▼ FIFR = 0

2

## **Isolate dominant risks: Trips and Falls, Vehicle collisions and Rock collapse - ensure a 15% reduction in accidents per year**

- ▼ LTIFR ↓ 15% per year

3

## **Establish / implement digital safety barriers, automate**

- ▼ Risk assessment, Control under hazardous areas and Transportation safety

4

## **Implement Safety Communication Program to raise the safety culture to the fifth level of the Hudson maturity model**

- ▼ Level ↑ to 5

5

## **Introduce the procedure for hazard identification and risk assessment to all contractor organizations working at the Company's facilities**

# PROGRAMMES INCLUDED IN OUR SAFETY PLAN

- 1. CRITICAL RISK MANAGEMENT**  
(elimination or reduction of dominant risks)

  - ▶ Capturing 10 dominant risks
  - ▶ Monitor efficiency of risk management implementation
  - ▶ The main objective is to prevent reoccurrence of hazardous situations and to reduce injury frequency rate

---

- 2. TRANSPORTATION SAFETY PROGRAMME**  
(transport safety improvement)

  - ▶ Prioritise most probable risks, reduce their share in the number of incidents
  - ▶ Analyse root causes of risks, focusing on the role of human factor and environmental impact

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- 3. CONTRACTORS SAFETY PROGRAMME**  
(contractors safety improvement)

  - ▶ We continue to treat contractor workers in the same way as employees when it comes to operational safety
  - ▶ Enhance our responsibility for contractor safety and introduce more safety-related obligations into our agreements with contractors

---

- 4. FORMING DIGITAL BARRIERS**  
(elimination of possible entry into hazardous areas)

  - ▶ Automatic data collection and analysis system is in early stage of development
  - ▶ The main objective is to reduce response time to a dangerous situation by monitoring hazardous areas and workers activity

# SAFETY RELATED CHANGES IN REMUNERATION

- ▼ Switch from LTIFR to days lost due to work-related injuries (Disability) as a Health and Safety KPI.

This will help us monitor and address the severity of injuries. We will continue to apply a penalty factor of up to 50% of the annual bonus earned for non-safety-related KPIs in case of fatal/severe accidents

- ▼ Inclusion of long-term disabilities and fatalities occurring at our contractors into KPI calculation while a 50% penalty factor in case of fatalities/severe injuries will also be applied

**Health & Safety KPI share  
in total KPI structure**

**25%**



# 04 CLIMATE MANAGEMENT



# CLIMATE STRATEGY

**2016**

- Adopted Carbon Management Policy

**2018**

- Developed Climate Management System including 2 standards, on risks and opportunities assessment and carbon footprint calculation
- Conducted pilot estimation of carbon footprint at the Albazino mine

**2019**

- Climate Management System implemented at our all our mines
- Training on climate risks assessment provided to all relevant employees
- TCFD's (Task Force on Climate-related Financial Disclosure) recommendations to reporting applied

**2020**

- Estimate financial costs and profits from climate change
- Set long term goals on GHG reduction

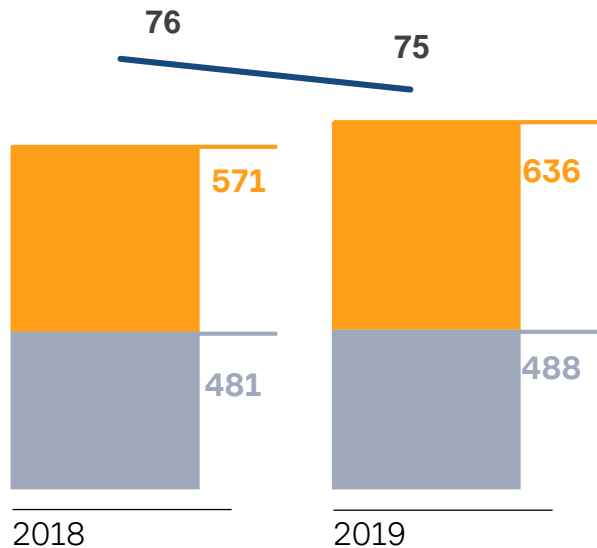
**2021**

- Position Polymetal at the 2°C trajectory

# PERFORMANCE 2019

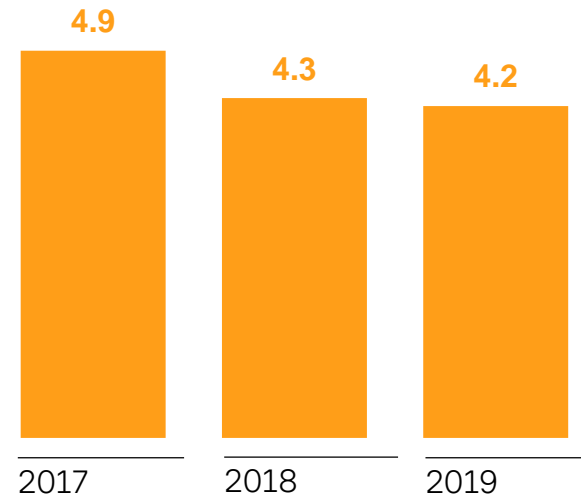
## Improving energy efficiency

SCOPE 1 AND SCOPE 2  
GHG EMISSIONS<sup>1</sup>, Kt CO<sub>2</sub>e



■ Scope 1  
■ Scope 2  
— GHG emissions intensity, t CO<sub>2</sub>e/Kt of ore processed

ENERGY INTENSITY,  
GJ per Oz of GE produced



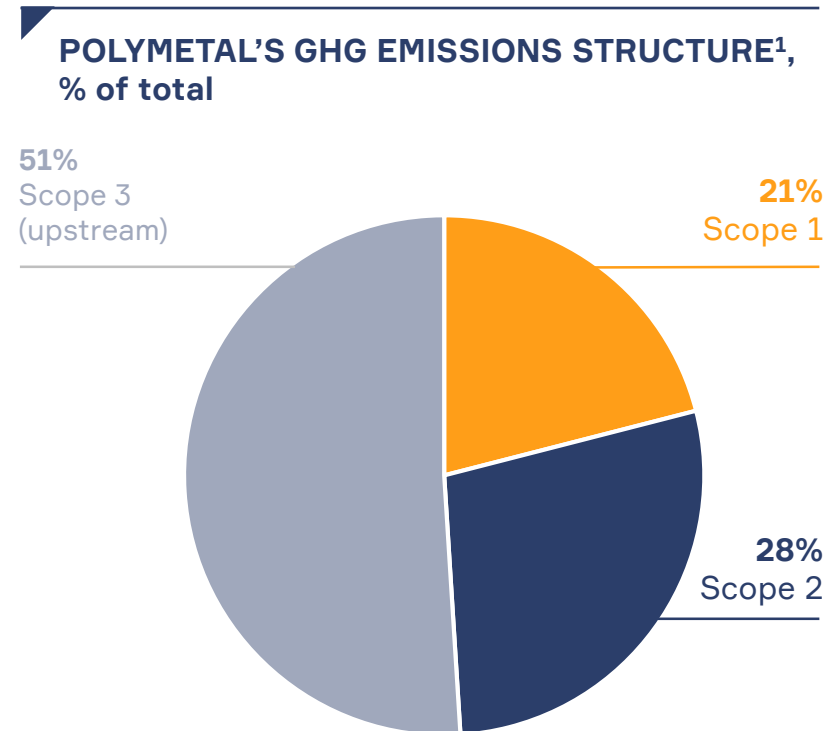
Notes:

1) The new methodology has been applied since 2019 to reflect a wider scope of emissions, data for 2018 has been restated accordingly for comparative purposes. Data for 2017 and earlier calculated based on the old methodology is considered to be unrepresentative.

# CARBON TRANSITION FOR A GOLD COMPANY

## Embracing opportunities in a low-carbon economy

- ▼ Upgrading to energy-efficient technologies (LEDs, energy storage, etc)
- ▼ Decarbonizing electricity (replacing diesel with renewable energy or electric grid)
- ▼ Decarbonizing transport (use of battery-electric vehicles and low-carbon transport technologies)



Notes:

1) GHG Protocol Scope 1 emissions derive from sources owned or controlled by Polymetal; scope 2 derive from purchased electricity; scope 3 include upstream and downstream-generated emissions

# RENEWABLE ENERGY

## First in Russia solar energy at the mine

### WIND TURBINE AT UNCHI PORT



### SOLAR POWER PLANT AT SVETLOYE



### Plans forward:

- ▶ 2 full scale Solar Power Station at Prognoz (5 MW in 2023) and Omolon (2.5 MW)
- ▶ 2 Small Wind Solar Hybrid Systems at Svetloye (5 kW)
- ▶ Power plants at Varvara (4 kW\*3, small), Albazino (25 kW), Nezhda (6 kW) and Omolon (Kubaka 2.5 kW)

Total expected capacity 7.6 MW and more than 6.5 thousand tonnes of CO2 avoided yearly

# DECARBONIZING ELECTRICITY

Strengthening business continuity while decreasing carbon footprint

Low-carbon projects	Mine site	Launch year	Yearly GHG decrease, Kt of CO2e	Budget, \$m <sup>1</sup>
Solar power plant (2.5 MW) replacing diesel electricity generation	Omolon	2020	2.2	3.9
Power lines connecting the site to the grid network and replacing diesel electricity generation	Nezhda	2021	47.8	91.5
Power lines connecting the site to the grid network and replacing diesel electricity generation	Albazino	2024	15.5	~95
Solar power plant (5 MW)	Prognoz	2022	4.3	N/A

Notes:

1) Excluding VAT and based on the assumption that RUR/USD rate is 63 in 2020

# DECARBONIZING TRANSPORT

Low-carbon transport projects	Mine site	Project status	Budget, \$m <sup>1</sup>
3 electric underground LHDs	Mayskoye	Active	4.3 (for 3 LHDs)
5 electric excavators replacing diesel-fuelled ones	Kyzyl	Active	22.2 (for 5 excavators)
Electric excavators replacing diesel-fuelled ones (1 electric excavator already in use)	Komar	2020	3.3 (for 1 excavator)
Electric underground LHDs and trucks (Sandvik, Sharf)	Mayskoye	2020	Under consideration
Underground electric conveyer system replacing 20 diesel trucks (5.3 Kt of CO <sub>2</sub> e avoided per year)	Mayskoye	2022	30

## ELECTRIC UNDERGROUND LHD AT MAYSKOYE



## ORE CONVEYER SYSTEM AT DUKAT



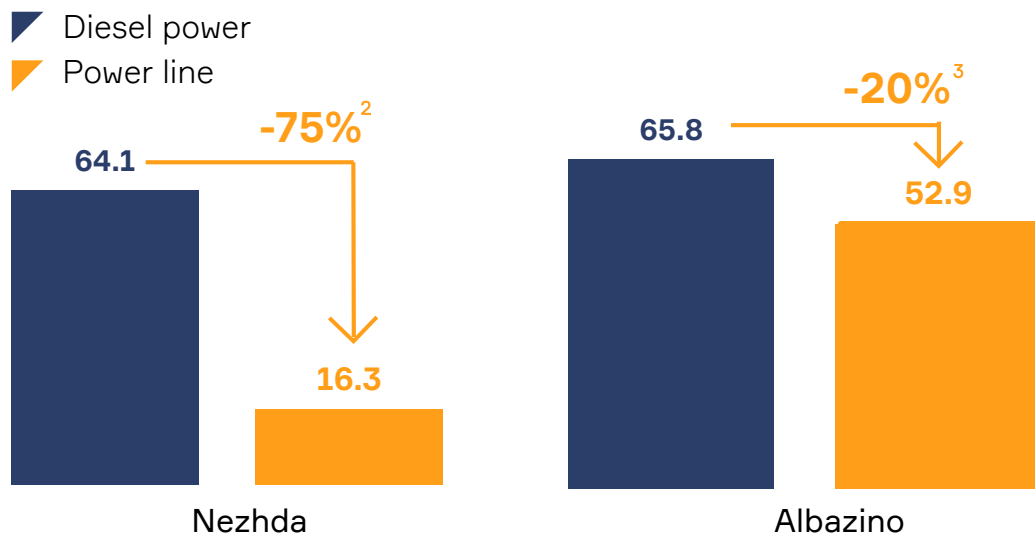
Notes:

1) Excluding VAT and based on the assumption that RUR/USD rate is 63 in 2020

# ELECTRICITY GRID IMPACT

- Polymetal is planning to build power lines to Nezhda and Albazino production sites
- Due to grid connection to hydro power plants in Yakutia (Vilyuy, Svetlinskaya), Khabarovsk (Bureyskaya) and Amursk (Zeyskaya) regions, power lines construction will significantly decrease our carbon footprint<sup>1</sup>
- As per estimation, power lines projects at Nezhda and Albazino will result in a 5% reduction in Group Scope 1 + Scope 2 GHG emissions

## GHG EMISSIONS REDUCTION RESULTING FROM GRID CONNECTION, Kt



### Notes:

- With a potential to further decrease GHG emissions through connection to Tugurskaya tidal power plant
- Assuming 95% of electricity to be generated by hydro plants, 5% by gas-fired power stations. Heating to be provided by a coal-fired boiler
- Assuming 60% of electricity to be generated by natural gas, 40% by hydro plants



# TCFD DISCLOSURE

<b>Governance</b>	<ul style="list-style-type: none"> <li>▶ <b>Board oversight</b> – we have updated TORs of Safety and Sustainability Committee</li> <li>▶ <b>Management role</b> – we have linked their incentives to sustainability KPIs</li> </ul>
<b>Strategy</b>	<ul style="list-style-type: none"> <li>▶ <b>Resilience of strategy</b> – we adapt to be better prepared for future climate change impacts</li> <li>▶ <b>Climate change mitigation</b> works to avoid the risks of changing climate by reducing the emission of GHGs – we implemented energy management and climate management systems</li> <li>▶ <b>Climate change adaptation</b> works to manage risks caused by climate change already locked in and from the potential for more severe changes in the future</li> </ul>
<b>Risk management</b>	<ul style="list-style-type: none"> <li>▶ <b>Risks and opportunities</b> – we implemented new standard in 2019, assessment is ongoing, collaboration with Carbon Trust, climate risk to be integrated in overall risk management by 2021</li> </ul>
<b>Metrics and targets</b>	<ul style="list-style-type: none"> <li>▶ We use <b>climate related metrics</b> since 2013</li> <li>▶ We calculate scope 1,2,3 emissions and <b>estimate products carbon footprint</b> since 2019</li> <li>▶ We set <b>climate-related targets</b> (energy efficiency and reduction case-by-case)</li> </ul>

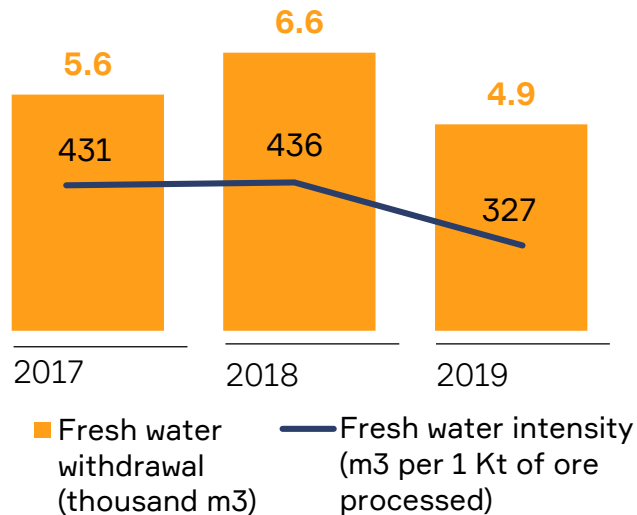
# 05 WATER



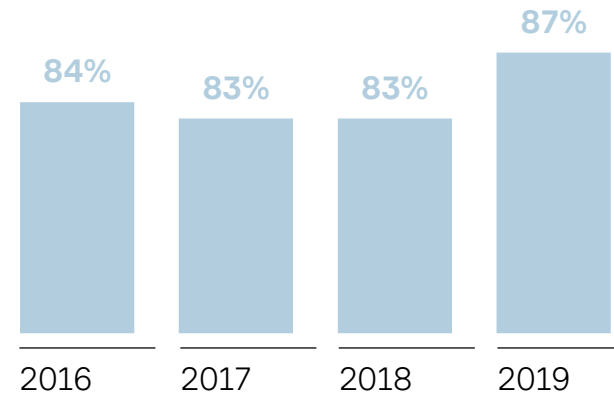
# WATER: A SHARED RESOURCE

## Decreasing fresh water use

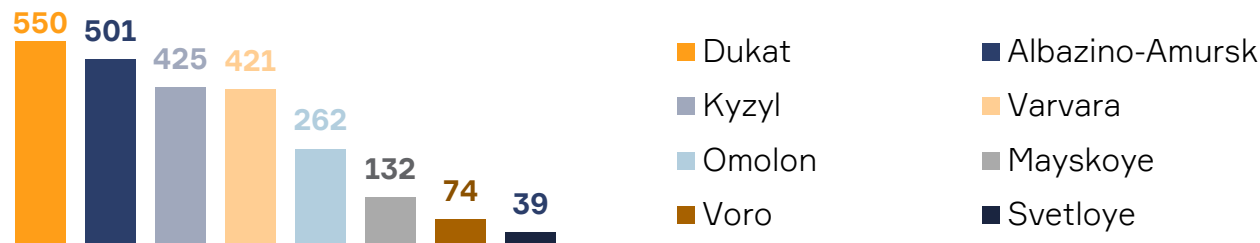
### FRESH WATER USE



### SHARE OF WATER RECYCLED AND REUSED, % of total water used



### FRESH WATER USE INTENSITY BY MINES<sup>1</sup>, m3 per 1 Kt of ore processed



Notes:

1) Includes only water used in technological processes

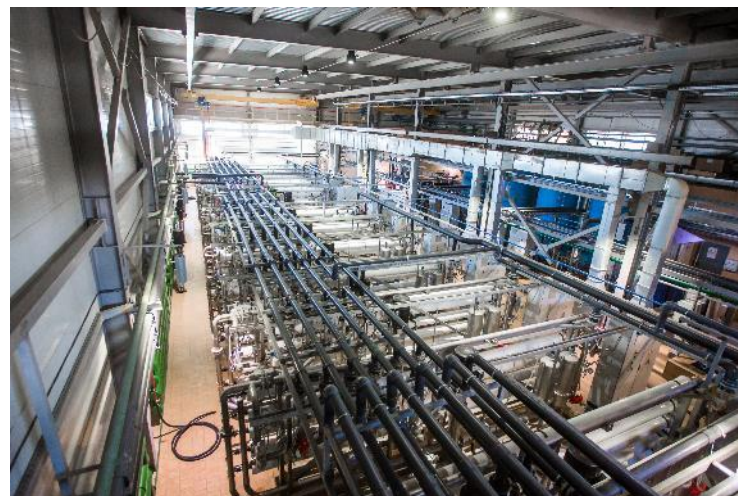
# WATER TREATMENT

## Ensuring safe water discharge

- ▶ We rigorously ensure all discharge is purified using mechanical, physico-chemical and biological processes.
- ▶ We continually monitor the quality of surface and ground water to ensure zero contamination

Water project	Mine site	Project status	Budget, \$m <sup>1</sup>
Reverse osmosis <sup>2</sup> implementation to improve discharge water quality	Voro	2020	3\$
Upgrading the settling ponds for mine water	Albazino	2020	0.7\$
Water treatment facilities renovation	Dukat	2020	0.7\$

### REVERSE OSMOSIS AT AMURSK POX



#### Notes:

1) Excluding VAT and based on the assumption that RUR/USD rate is 63 in 2020

2) Reverse osmosis is a continuously operating treatment technology that uses pressure to pass source water through a thin membrane and thereby separate impurities from water

# 06 TAILINGS STORAGE FACILITIES



# OUR APPROACH

## Responsible TSF management at every stage

- ▼ Robust national standards for design, maintenance and monitoring in countries of our operations
- ▼ Corporate policy on Tailings and Water Storage Facilities Management updated in 2020
- ▼ TSF and Cyanide Management Systems in place
- ▼ Ongoing monitoring
- ▼ Emergency preparedness
  - ▼ Emergency plan is regularly reviewed and approved by state emergency agencies
  - ▼ Zero communities in potential affected area in case of failure
  - ▼ Zero employees would be trapped
  - ▼ Insignificant localized impact

**9**  
conventional  
TSFs

**2**  
dry cake  
storages  
(10% of tailings)

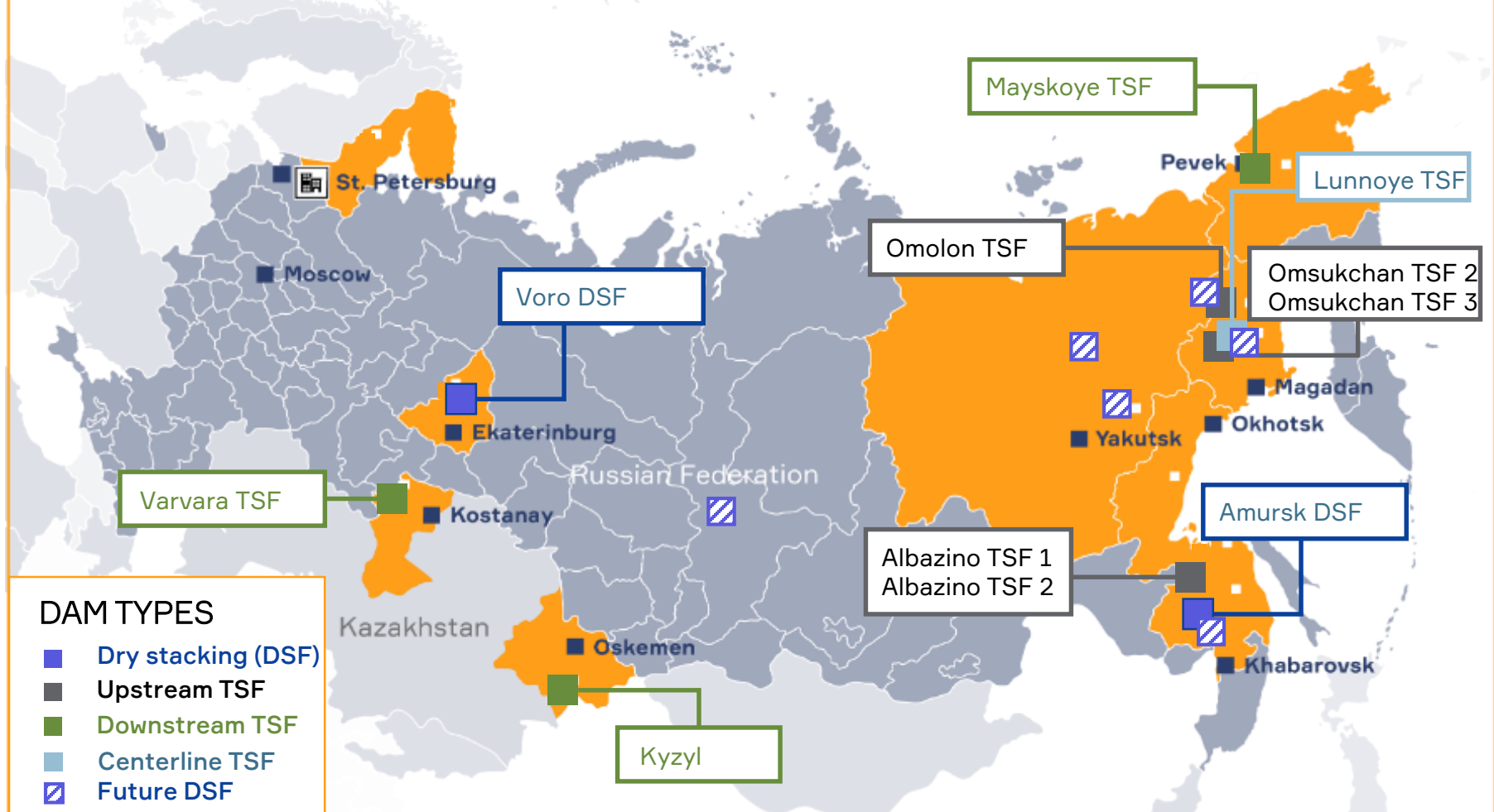
**6**  
TSFs audited by  
authorities  
in 2019

**0**  
environmental  
accidents

**2**  
sites - Amursk POX and Voro - have  
been certified as being in full  
compliance with the International  
Cyanide Management Code

# LOCATION AND TYPE OF OPERATED FACILITIES

Seismic conditions and permafrost in Russia and Kazakhstan are big advantage compared to Latam and Africa



# TSF RISK MANAGEMENT

## Strengthening identification and reducing risk exposure

### ANALYSIS

- ▼ Historic accidents
- ▼ Audits and inspection reports, environmental impact assessments, projects safety examinations, hazardous production facilities inspections
- ▼ Environmental monitoring data

### RISK ASSESSMENT

- ▼ Hazards identification
- ▼ Estimation of potential failures frequency
- ▼ Assessment of potential losses
- ▼ Comparing risks against limits

External hazards	Internal hazards
Meteorological conditions	Human factor (errors, improper actions or inactions)
Seismic activities	Changes in features of materials the facilities are made of
Hydrogeological and geological structure of the site	Static and dynamic loads on structures and their foundations
Dangerous geological processes	Variable temperature effects
Drilling and blasting	Suffusion processes
Fire	Mechanical and electrical systems
Vandalism and terrorism	



# STRATEGIC APPROACH TO TAILINGS SAFETY

## Managing one of the most material industry issues

- ▼ At all our new mines we will deposit our tailings as dry filtered cake
- ▼ We will slowly convert our rehabilitated and closed TSFs into DSFs
- ▼ We will use backfill method to reduce waste disposal on lands

### **To ensure that we implement our intentions in practice, we:**

- ▼ Operate 2 DSFs – Voro and Amursk POX
- ▼ Design and construct 5 DSFs – at Omolon (2021), Nezhda (2021), POX-2 (2022), Dukat (2023), Progoz and Veduga
- ▼ Estimate integrity and develop best design solutions for backfilling – at Mayskoye

# SWITCHING TO SAFER TAILINGS DISPOSAL

## Environmental benefits of dry stacking

### ▼ Safety and pollution control

- ▼ Structure of waste deposition are is stable – no risk of major accident/ dam failure
- ▼ Waste is physically and chemically stable – no risk of pollutant leaching and release, including seepage to groundwater
- ▼ Safer for wildlife – no dam means no risk for birds
- ▼ Deposition site is easier to close and rehabilitate
- ▼ Minimal containment required



### ▼ Reduces environmental footprint

- ▼ Reduced land use by 20% thanks to higher density of dry stacks
- ▼ Reduced consumption of water and minimal water management
- ▼ Dewatered waste is transportable by track or conveyor



# APPLYING BACKFILLING TECHNOLOGY

## Benefits of placing materials back into excavation voids

### POSITIVE IMPACT

- ▶ Assures ground stability
- ▶ Prevents stope wall spalling and convergence and reduce surface subsidence
- ▶ Provides roof support, confining pressure and long-term stability
- ▶ Increases safety
- ▶ Prevent surface subsidence
- ▶ Improves ventilation circuit in the mine
- ▶ Minimise the footprint (e.g. as opposed to building ponds or heaps, binders help to minimise groundwater contamination);
- ▶ Reduces the risk of collapses by filling the drift instead of building a new pond or heap
- ▶ Increases water recovery from the tailings prior to storage

### DISADVANTAGES

- ▶ High OPEX for production and transport of high density tailings
- ▶ Risks of liquefaction of the tailings if saturation levels are high. Barricade walls usually required.
- ▶ Seepage of tailings effluent into groundwater, thus possible contamination
- ▶ Extra manpower and equipment management (operation of an independent plant required)
- ▶ Ore dilution from poor quality fill placement or extraction management

# 07 COMMUNITIES



# IN DIALOGUE WITH OUR NEIGHBOURS

## Stakeholders engagement and performance 2019

- ▼ \$15m invested in local communities
- ▼ \$233m taxes paid
- ▼ Zero conflicts
- ▼ 588 enquiries from communities (100% responded to)
- ▼ Community surveys involving 1,164 people
- ▼ 49 public hearings and community meetings, involving 2,530 people
- ▼ 22 site visits
- ▼ 6 interactions with local community members and indigenous people
- ▼ 1,700 publications in local mass media

**17**  
**districts**  
in Russia

**3**  
**districts**  
in Kazakhstan

**5 indigenous**  
**communities**  
in regions of the Group's operation

# COMMUNITY ENGAGEMENT GOALS

## How we plan to further create value for stakeholders

- ▶ **Improving the quality of life** of the local population and supporting the social and economic development of the regions where the Company operates, taking into account the special status of local indigenous minorities
- ▶ **Maintain favourable and constructive relationships** with the communities
- ▶ **Creating job opportunities** for the locals, supporting associated industries and suppliers
- ▶ **Respecting human rights**
- ▶ **Understanding of social risks and impacts**, with the aim to minimise the risks and increase positive impact

# HOW WE MANAGE COMMUNITY RELATIONS

## Corporate documents and strong management team

Polymetal's policies and procedures:

- ▶ Code of Conduct
- ▶ Anti-Bribery and Corruption Policies
- ▶ Human Rights Policy
- ▶ Political and Charitable Donations Policy
- ▶ Community Engagement Policy
- ▶ Environmental Policy
- ▶ Internal procedures and regulations on the community engagement



### COMMUNITY RELATIONS MANAGEMENT

Group CEO

Deputy CEO for communities and information

PR Director

Communities and External communications Director

Mine managers for communities

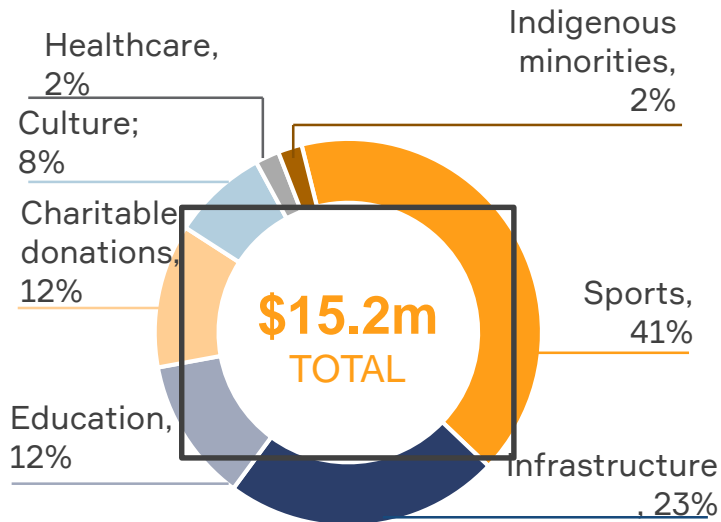
Local departments for Public Relations



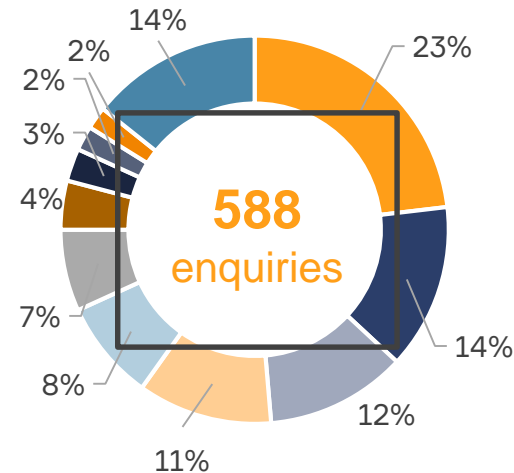
# SOCIAL INVESTMENTS AND ENGAGEMENT 2019

## Bringing a lasting positive impact to communities

**COMMUNITY INVESTMENT, as % of total spend**



**COMMUNITIES ENQUIRIES BY TOPIC, as % of total enquiries**



- Charity and targeted financial assistance
- Culture and events for youth
- Sport and sports events
- Education
- Infrastructure
- Job opportunities
- Environmental impact
- Healthcare
- Culture and traditions of IMN
- Environmental education
- Other <sup>1</sup>

**33 socio-economic partnership agreements**  
 10 of them include indigenous minorities support

Notes:  
 1) Includes other requests for financial and in-kind help



A close-up photograph of a pine branch with several brown, textured pine cones. The background is blurred, showing more of the tree and some green foliage. A dark blue semi-transparent rectangular box is overlaid on the left side of the image, containing the word 'APPENDIX' in white, bold, uppercase letters.

# APPENDIX

# TAILINGS STORAGE FACILITIES

## 9 TSF + 2 DSF

Plant	Dam type	Year of the launch	Current volume (x10 <sup>6</sup> m <sup>3</sup> )	Next external audit*
Albazino TSF 1	upstream	2011	8.3	2022
Albazino TSF 2	upstream	2018	0.9	2022
Omolon TSF	upstream	2010	5.8	2022 – TSF closure, switch to dry stacking
Omsukchan TSF 2	upstream	2002 (1984)	7.7	2023
Omsukchan TSF 3	upstream	2007	7.4	2023
Varvara	downstream	2007	25.6	2021
Kyzyl	downstream	2018	0.9	2024
Mayskoye	downstream	2012	3.3	2020
Lunnoye TSF	centerline	2001 (1984)	4.2	2023 2025 – TSF closure, switch to dry stacking
Amursk DSF	dry stacking	2012	1.7	
Voro DSF	dry stacking	2000	8.7	

\*TSF audits by independent audit by hired external consultants with international expertise schedule might vary in case of any revealed issues/ incidents

# TSF INTEGRITY MANAGEMENT

- ▼ **Appropriate engineering design in compliance with national regulations**
  - ▼ Selection of the site is based on engineering and geological studies, including groundwater data, estimations of impermeability of rocks lying in the dam basement and slopes stability
  - ▼ Independent expertise of design is ensured as a part of obligatory permission for construction and operation
- ▼ **Quality construction**
  - ▼ Quality assurance and quality control across all construction phases
- ▼ **Ongoing operating discipline**
  - ▼ Operating and maintaining the dam in accordance with its design requirements
  - ▼ State agencies representatives inspect if the tailing dam is operated correctly and in compliance with the design, the compliance certificate is issued after such inspections. TSF should be put in official state register of hazardous facilities
  - ▼ Personnel is required to have work permissions and undergo trainings
  - ▼ Environmental monitoring and comprehensive inspections under the chief engineer's supervision
  - ▼ Environmental safety required from suppliers and contractors

# TSF INTEGRITY MANAGEMENT (CONTINUED)

## ▼ Monitoring, surveillance and review

- ▼ Ensuring the dam is functioning as intended
- ▼ On-site monitoring systems, continuous observation and diagnostics (water levels, temperature and dam body movements are estimated)
- ▼ Data is collected, classified and sent to the Management Company and Polymetal Engineering for the further analysis

## ▼ Change management

- ▼ Identifying, assessing and mitigating the impacts of any changes on dam design and integrity

## ▼ Liabilities

- ▼ Obligatory insurance of the civil responsibility is carried by an owner of the hazardous industrial facility

## ▼ Emergency

- ▼ There is an emergency response plan and storage of materials (rocks) and equipment to provide an immediate response in case of emergency
- ▼ Emergency drills are conducted regularly
- ▼ Responsibilities in case of emergency
- ▼ Financial provisions available to offset negative impact
- ▼ Design amendment where applicable

# INTERACTING WITH LOCAL COMMUNITIES

## Tools and channels

### STAKEHOLDER GROUPS

- ▼ People (including Indigenous minorities of the North, vulnerable groups, etc.)
- ▼ Authorities and governments
- ▼ Organisations and activists, including non-profit, social, environmental and charity
- ▼ Employees and their families
- ▼ Candidates for employment
- ▼ Mass media

### HOW WE ENGAGE

- ▼ Corporate disclosure – website, sustainability reports, direct lines, information boards, media, etc.
- ▼ Feedback boxes on information stands and grievance mechanism, telephone, email
- ▼ In person meetings with company representatives
- ▼ Public hearings
- ▼ Site visits
- ▼ Annual results meetings
- ▼ Communities satisfaction surveys
- ▼ Public programs and joint projects as part of the social agreement