



Climate Change Report

2021

About this report

This is our first Climate Change Report compiled in line with the recommendations of the Financial Services Board's Task Force on Climate-related Financial Disclosures (TCFD). It is released as a separate strategic, comparable and reliable disclosure of climate-related information with details about our commitments, risk assessments and goals. Our Climate Change Report accompanies our annual submissions under the Carbon Disclosure Project (CDP). The scope of our climate change targets and data covers all our operations.

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For more information

You can read more at www.polymetalinternational.com
If you would like further information or to provide any feedback, please do get in touch:
sustainability@polymetalinternational.com
We look forward to hearing from you.

Our targets and ambitions

30%

reduction of GHG emissions
intensity per oz of GE by 2030



30

Water
management

31

Reforestation



30

Grid
access

29

Renewables



29

Open-pit and
underground
electrification



31

Energy
efficiency



01



Welcome from our Board Chair

A successful business is a sustainable business



The past year has been a stark reminder that, as a species and as a civilisation, we are vulnerable to even minute changes in the natural world. Climate change brings an even greater threat than COVID-19. It is a challenge that requires the full weight of governments, businesses and civil society to take decisive and bold action.



Climate-related impacts and risks are an integral part of our planning for the future. We assess climate risk for business strategy and financial planning.”

At Polymetal, climate change poses a material risk to our operations. We have a profound responsibility to reduce our own contribution to climate change, while also building operational resilience in the face of global warming. The gravity of the challenge requires transformational changes in how we extract precious natural resources, alongside rigorous carbon accounting to measure the exposure of our assets and the environments and communities around them.

It is important to note, however, that the materials we mine are becoming increasingly critical to transitioning to a low carbon economy, whether it is silver and copper in wind and solar energy components or gold in digital devices that reduce or avoid carbon.

An ambitious path to climate action

We have formally committed to support UN Sustainable Development Goal 13 and take urgent action to combat climate change and its impact, starting by disclosing actual and potential climate-related risks and opportunities for our business strategy and financial planning, where such information is material.

Climate change poses a significant risk to our physical infrastructure, particularly in permafrost regions. Renewable energy is playing a growing role in our transition strategy, while also supporting energy security at remote mining sites that lack connection to grid power. Going forward, we plan to include renewable energy source requirements in our contracts with suppliers. We are also stepping up energy efficiency innovation with mobile fleet electrification, underground electric-driven conveyors and reforestation programmes, among many other initiatives.

We have set a new ambitious target to reduce Scope 1 and 2 GHG emission intensity per ounce of gold equivalent by 30% by 2030 and to reduce absolute GHG emissions by 35% in the same period. In order to meet these targets, we will invest \$1,100 million in green projects by 2030. This will be funded in part by green and sustainability-linked loans and we have already raised \$280 million in such loans, earmarked specifically for our transition projects. These funds now comprise 16% of our overall debt outstanding. They also commit us to implement a comprehensive climate management system, ensure tailings storage safety and reduce fresh water use.

Driving momentum from the top

In order to drive momentum and accountability, we have established Board-level procedures to assess and manage climate and financial risks, with detailed scenario analyses (see page 13-16). In parallel, we embrace opportunities of energy efficiency with a robust energy management system, regular energy audits and efficiency projects such as grid connectivity at remote sites. The Board has ultimate responsibility for decision-making and for ensuring that any material climate-related risks and issues are appropriately identified, managed and monitored. An environmental, social and governance (ESG) KPI applies to myself, our Chief Operating Officer, mine directors, subsidiary directors and their deputies, senior managers and heads of the key operational units and their deputies. Individual Polymetal sites have energy efficiency targets and all Polymetal senior and middle managers at high-emitting production sites have KPIs relating to energy management.



Welcome from our Board Chair continued

The Board and I remain fully committed to open and detailed disclosure of our progress and approach. Having adopted climate-related metrics since 2013, we are continually widening the scope of and accuracy of reporting. We have published our integrated Climate Change Policy, while our reporting aligns with the Taskforce on Climate-related Financial Disclosures (TCFD) and we were rated of B- in our CDP disclosure for 2020. As we push forward with an ambitious 10-year GHG reduction plan and a path to carbon neutrality by 2022, we work closely with environmental partners, local communities, sector peers and suppliers to pioneer new ways to reduce our impact and inspire wider action.



Ian Cockerill
Board Chair



Our climate-action journey

While this is our first climate report, we have been on a climate-action journey for almost a decade.

2013

- Reported GHG emissions for the first time

2015

- Submitted first climate change data to CDP

2016

- Adopted Carbon Management Policy
- Introduced first underground electric vehicles (EVs) – LHDs at our Mayskoye mine

2017

- Piloted first renewable power generation project (solar panels at Varvara)
- Implemented corporate Energy Management system aligned with ISO 50001:2011
- Set first GHG emissions reduction target

2018

- Started to develop Climate Management System, including climate risks assessment
- Launched a solar power plant with a capacity of 1MW at our Svetloye mine
- Adopted Energy Policy
- Received one of the best disclosure scores among Russian companies, participating in CDP

2019

- Implemented Climate Management System at our all our sites and provided training to all relevant employees
- Applied TCFD's (Task Force on Climate-related Financial Disclosure) recommendations to reporting
- Reported Scope 3 emissions for the first time

2020

- Re-assessed climate change risks
- Elaborated climate adaptation scenario until 2030
- Signed Memorandum of Understanding with SMT Scharf AG for a potential strategic cooperation in underground EVs development
- Improved CDP Climate Change score from D to B-
- Signed a \$125 million green loan with Societe Generale under the Green Financing Framework
- Signed preliminary lease agreement for the single circuit 110 kV grid power line to Nezhda

2021

- Positioned Polymetal at the 2°C trajectory
- Estimated financial impact from climate change



Our position on climate change

Driven by our purpose

Our purpose

To ensure responsible and efficient mining that is a force for good for society. We aspire to be equal to the challenge and deliver benefits to all impacted by our corporate existence.

Our actions

Managing our footprint

- Managing our operational footprint, Scope 1 and 2 emissions
- Controlling our Scope 3 emissions
- Allocating capital to green and impact projects

Making a global change

- Build success of sustainability and innovations
- Improve processes and progress towards technological solutions
- Establish partnerships with energy suppliers
- Report on progress and performance

Our ambition

To cut our GHG emissions intensity per oz of GE by

30%

by 2030



05



At a glance

Operating in climate-sensitive regions

Our operations consist of high quality assets, a strong growth pipeline and an expanding exploration programme.

Often located in remote regions, we have nine gold and silver mines across Russia and Kazakhstan, with two major development projects, Amursk POX-2 and Nezhda, in the Russian regions of Khabarovsk and Yakutia.

In Russia, we operate in five different climatic zones, including European Russia, Western and Central Siberia, the Far East, Yakutia and Chukotka. Our Kazakhstan assets are concentrated in the northern regions, each having their own climate.

In addition, some Russian assets are located in the permafrost region. Since permafrost zones are especially vulnerable to climate change, we pay special attention to the safety of our facilities and thoroughly monitor all soil changes as indicators of potential climatic disturbance to the ground and foundations of our assets.

Mean permafrost temperature, °C

- below -9°C
- -5°C to -9°C
- -3°C to -5°C
- -1°C to -3°C
- +3°C to -1°C (sporadic permafrost zones)



- ◆ Operating mine
- ◆ Development projects

Operating

- ⚡ Grid access
- ⚙️ Renewable energy source
- 🏠 In-house diesel energy generation

In progress

- ⚡ Grid access
- ⚙️ Renewable energy source
- 🏠 In-house diesel energy generation

- 📍 Competence centre
- Southern border of the permafrost area



Our focus on sustainability and innovation are key to achieving long-term benefits for all stakeholders.”

Our strategic approach

Our climate action model

Key goals

Responsible and efficient mining

Resilience to climate change

Committed to reducing global warming

Our strategic priorities

Carbon footprint reduction (Scope 1 + 2)



Energy efficiency improvement



Partnership through value chain and scope 3 reduction



Path to net-zero



How we enable resilience and responsibility

Improving GHG accounting and climate risk assessment

- Climate change policy
- GHG accounting standard and GHG accounting policy
- Scenario analysis for climate risks

Setting ambitious targets

- 30% reduction of GHG emissions intensity per oz of GE by 2030
- 35% reduction of absolute GHG emissions by 2030
- Long-term goals until 2050 and path to net-zero by the end of 2022

Developing green projects

- Grid connection and decarbonisation, mobile fleet electrification, renewable energy generation, energy efficiency and other green projects
- Capital expenditure estimate for green projects by 2021-2030 is \$1,100 million

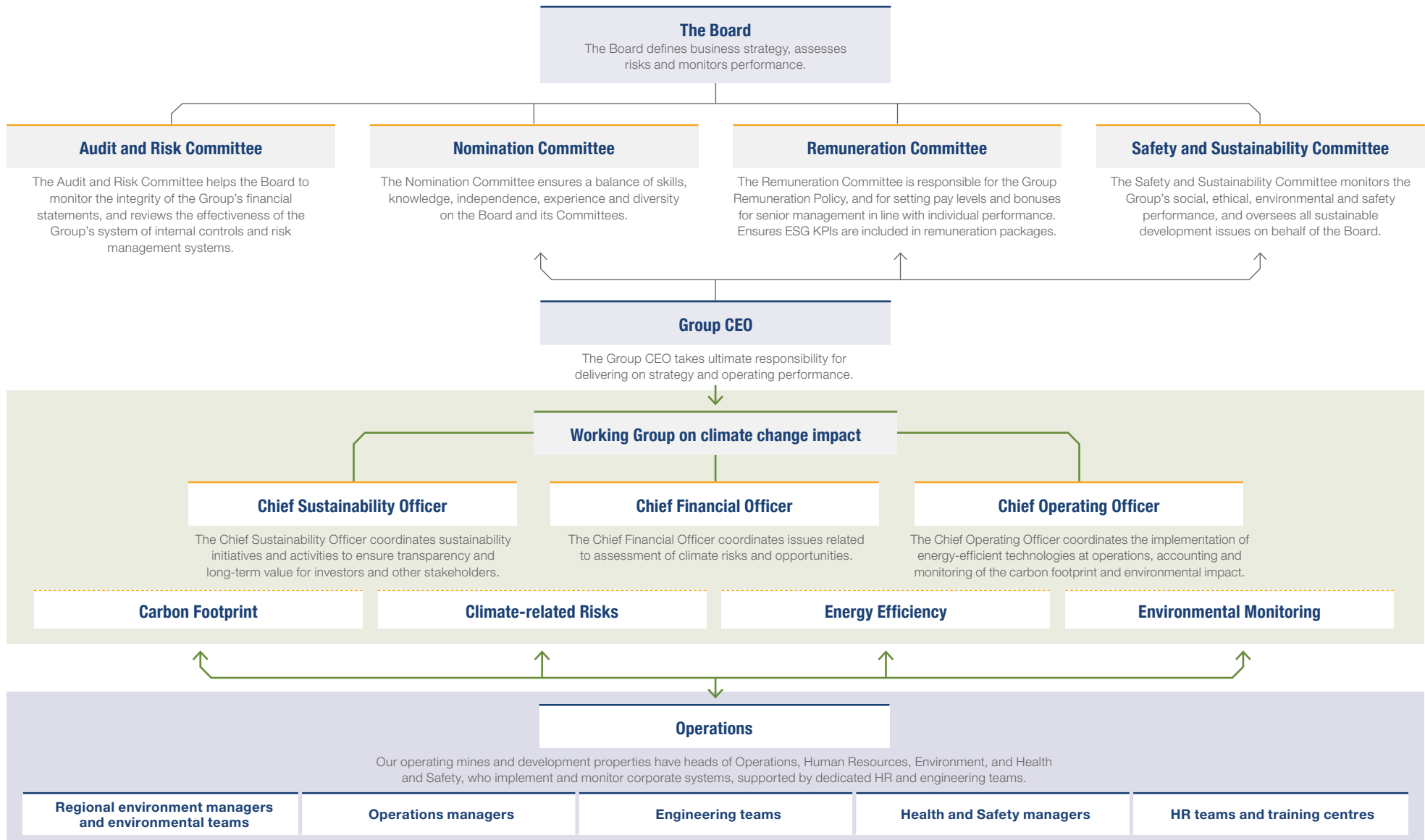
Improving transparency

- Detailed reporting (Annual Report, Sustainability Report (GRI, SASB, TCFD, external assurance), Climate Change Report)
- Encourage our partners to apply the same strict standards to reduce their carbon footprint as we have accepted ourselves



Board oversight and role of management

Our governance framework



Board oversight and role of management continued

Robust accountability



Delivering on our strategic sustainability and climate objectives requires leadership from the very top of the organisation. Our approach is therefore overseen by Board-level Committees, with our Group CEO having ultimate accountability. During the year, our Board conducted several sustainability performance reviews, approved sustainability strategy initiatives and gave final sign-off on our sustainability reports.

The Safety and Sustainability Committee has a mandate to provide support to the Board on the Group's safety record, sustainability performance and ethical conduct. It oversees our approach and the implementation of short and long-term policies and standards. The Committee also makes sure that we work ethically, transparently and responsibly, engaging with key stakeholders and local communities.

In 2020, the Safety and Sustainability Committee was focused on sustainability and climate-related topics such as approach to climate strategy, ways of reducing our carbon footprint, the Task Force on Climate related Financial Disclosures and the Paris Agreement, energy efficiency and ways of reducing energy consumption.

Plans for 2021 include focus sessions on renewable energy and biodiversity. Joint meetings are planned with the Audit and Risk Committee to ensure that our risk systems cover all aspects of safety and sustainability (including assessment of climate-related risks).

In line with the Company's enhanced emphasis on environmental, social and governance (ESG) issues, from 2020 the Group CEO has a new ESG KPI accounting for 10% of the total KPI measurements. The new ESG KPI and the health and safety KPI now constitute 35% of the overall KPIs. The sustainability/ESG KPI is defined each year by the Safety and Sustainability Committee in line with the Group's long-term targets and is based on a comprehensive scorecard.

For 2020, our focus was on environment and social partnership in our host regions, and we made sure that we were putting in place a structure that would work for the long-term and address the most important matters for Polymetal, including developing a detailed programme for greenhouse emissions reduction, reducing fresh water use for processing and implementing a diversification programme.

Performance against the scorecard is assessed by the Safety and Sustainability Committee and recommended for approval by the Board, with the Group CEO abstaining on any decisions in relation to the scorecard. For 2020, the Group achieved a result of 140% for the ESG KPI on the back of a strong performance in our ESG programmes.

To ensure consistent application and measurable results, the ESG KPI is cascaded to all relevant employees: Group CEO, COO, mine directors, subsidiary directors and their deputies, senior managers in the management company and heads of the main operational units and their deputies.

Tracey Kerr

Chair, Safety and Sustainability Committee



We devote a significant amount of time to our climate strategy and make sure that it aligns with Group strategy.”

Strategic monitoring and disclosure

Policies

- Climate Change Policy (2021)
- Environmental Policy (2020)
- Energy Policy (2018)
- Tailings and Water Storage Facilities Management Policy (2020)
- Mine Closure Policy (2019)
- Green Financing Framework (2020)

Standards and systems

- Environmental Management System
- Climate Management System
- Energy Management System

Risk management

- Risk Management System with climate-related risks assessment

Targets

- Energy, water and carbon emissions targets

KPIs

- Energy, water and carbon emissions KPIs are part of management remuneration

Reporting

- Annual Report
- Sustainability Report (GRI, SASB, TCFD, external assurance)
- CDP disclosure
- The non-financial data pack on the website



Our Climate Change Policy

Commitments and provisions



The Board of Directors of Polymetal International plc (Polymetal), cognisant of the risks that a changing climate pose to the long-term viability of the business, and the potential impact that climate change can have on its operations and the communities where the Group operates, its suppliers, partners, investors, and other stakeholders, is hereby adopting this Climate Change Policy. The Board and management have carefully considered and analysed the Group's current carbon footprint and mapped out a realistic and achievable strategy to reduce the Group's emissions of greenhouse gases, implement international best practices to achieve climate change mitigation and inform the Group's employees and stakeholders of the seriousness of the Group's commitment in this regard."

Carbon footprint management

- We each account for and disclose data on GHG emissions throughout the production chain as well as the carbon footprint of the product according to our Greenhouse Gas Emissions Accounting Standard, based on the Guidelines for National Greenhouse Gas Inventories (IPCC, 2006) and the following parts of the GHG Protocol: Policy and Action Standard, Scope 2 Guidance, and Technical Guidance for Calculating Scope 3 Emissions.
- We are each working on setting ambitious targets to reduce our carbon footprint in the medium to long term, including the achievement of carbon neutrality where technologically feasible.
- We are each making coordinated efforts to reduce GHG emissions and improve energy efficiency by introducing state-of-the-art technology, equipment and work practices. We are developing low-carbon processes and installing renewable energy sources where applicable to our part of the Group's business.
- We each thoroughly plan energy consumption, are improving accounting methods and controlling energy consumption, aimed to assist us to achieve targeted efficiency at each operation.
- To improve efficiency we have together adopted our measures to implement the Energy Policy and have each introduced the Energy Management System developed and implemented in accordance with ISO 50001.

Climate risk management

- We each recognise and identify climate risks. We forecast potential negative impacts on our part of the Group's business that may arise due to changing climate and work to adapt to and, where possible, mitigate them.
- We each evaluate and monitor risks and opportunities related to climate change. Polymetal updates periodically its adaptation scenarios depending on possible future conditions, including business-as-usual scenario and the scenarios of maintaining the average global temperature increase to below 2°C above pre-industrial levels and making efforts to limit the temperature increase to 1.5°C, to inform implementation measures and procedures developed by all Group companies.
- We have reflected the importance of climate change action in the Group's Executive Remuneration Policy and reinforced the link between climate change performance measures and executive remuneration. Each year the Safety and Sustainability Committee considers appropriate climate control performance indicators to be included in or added to the Sustainability/ESG KPI scorecard for the relevant Management in line with the Group's long-term targets.

Information transparency and disclosure

- We publicly disclose data on the key climate risks and opportunities, the GHG emissions reduction strategy and climate risk management. We each continuously improve the quality of analysis by monitoring progress on carbon footprint reduction and step-by-step implementation of the unified climate reporting standards.

- We each provide all our employees with access to information on our corporate goals and environmental protection indicators. Corporate responsibility for climate and environment is enshrined in the Environmental Management System (EMS), so far as it is applicable to our business.
- We each raise awareness among our employees, suppliers, investors and communities where we operate about climate change, our climate strategy and the necessity of action towards reducing their carbon footprint. We encourage our partners, contractors and suppliers to apply the same strict standards to reduce their carbon footprint as we have accepted ourselves.

Our global commitments on climate change



United Nations
Global Compact



Approach and scenarios

Our approach to scenario analysis

The seriousness of global climate change challenges all of us to reduce our carbon footprint. To achieve this, we employ advanced technologies and continually improve operational performance, while evaluating both our impact on climate change and how it affects us. Gold mining and processing requires a substantial amount of power and produces greenhouse gases as a result.

Evaluation of climate risks is an integral part of the Company's strategy and an essential factor that affects the decision-making for each project during its entire life cycle, from scoping study to operations and reclamation. Acknowledging the importance of climate change risks and the volatility of climate factors, we have conducted a scenario analysis for climate risks in 2020–2021, which we are integrating into our corporate Environmental and Climate Management Systems.

The scenario analysis complies with the TCFD guidelines for three climate scenarios that correspond to the baseline goals of the Paris Climate Agreement to limit the global temperature increase to 2°C above pre-industrial levels, while pursuing efforts to limit the increase to 1.5°C.

The basis of the analysis is the future-oriented climate models developed by the Intergovernmental Panel on Climate Change (IPCC). Known as Representative Concentration Pathways, these models address the changes of greenhouse gas concentrations in the atmosphere and the associated environmental changes. The IPCC models and relevant academic research enable us to evaluate the potential effects of climate-related factors on the Company's assets and provide a key for assessing the natural risks caused by climate change.

The scenario analysis includes:

- RCP1.9 model (a global average temperature increase limited to below 1.5°C relative to pre-industrial levels)
- RCP2.6 model (a global average temperature increase of between 1.5°C and 2°C relative to pre-industrial levels)
- RCP4.5/RCP6.0 models (a global average temperature increase above 2°C relative to pre-industrial levels)

Given the wide geography of our operations (including permafrost regions), we recognise the significance of monitoring and in-depth analysis of the climate change impact. To enhance the credibility of risk assessment with regard to the regional factors, the scenario analysis relies on climate data from our Environmental Monitoring System in addition to the IPCC data, as well as retrospective data from national climate services and departments (i.e. Roshydromet and Kazhydromet) in order to account for regional specifics of climate change and its impacts. When we analysed the key climate aspects in our operating regions, we used the data archives from the respective weather stations dating back to 1950. This enabled us to develop an up-to-date climate profile for each asset, which became the basis for modelling possible climate change outcomes.



Our scenario analysis complies with the TCFD guidelines for three climate scenarios that correspond to the baseline goals of the Paris Climate Agreement.”



Approach and scenarios continued

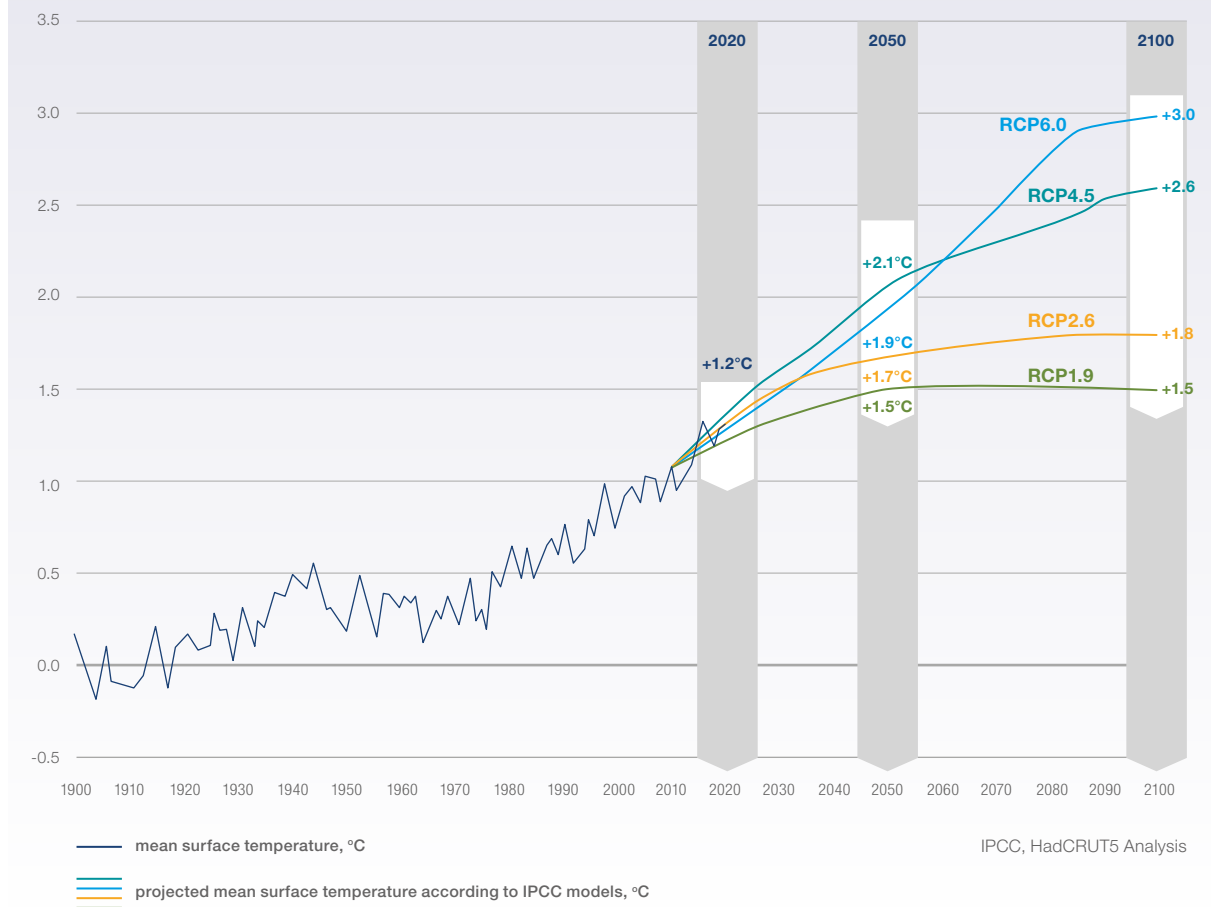
Our approach to scenario analysis continued

The ongoing transition to a low-carbon economy at the global and national levels brings about political, legal, economic, technological and other changes. These changes also produce so-called transitional risks. Transitional risks primarily affect the economic performance of companies and have little effect on the physical aspects of operations. Therefore, the IPCC climate models do not give the desired result when assessing the transitional risks. For a deeper analysis of the transitional risks, our climate risk assessment approach includes the scenario models developed by the International Energy Agency (IEA), which consider climate challenges through the prism of strategic shifts in global politics and the economy.

IEA has developed three basic transition scenarios:

- **Current Policies scenario:** based on the laws, policies and strategies in place in 2018 remaining unchanged. This would escalate tension across almost all aspects of energy security and trigger an uncontrolled rise in the average global temperature throughout the 21st century.
- **New Policies scenario:** based on the laws, policies and strategies in place in 2018, as well as those new ones announced and planned, being in place. This would lead to some improvement in energy security and climate change, but would not limit the average global temperature increase to 2°C by the end of the 21st century.
- **Sustainable Development scenario:** this implies an accelerated transition to clean energy, guiding the world to sustainable development with regard to climate change, providing universal access to energy and clean air, and limiting the average global temperature increase to well below 2°C relative to pre-industrial levels.

PROJECTED CHANGE IN GLOBAL MEAN SURFACE TEMPERATURE, RELATIVE TO THE PRE-INDUSTRIAL LEVEL



Approach and scenarios continued

Our scenarios

Developing relevant scenarios

Based on the IPCC and IEA scenario models, we have conceived three climate scenarios that tackle the impact of climate change on the Company:

- **Sustainable Development scenario:** a fast transition to a low-carbon economy, limiting the global average temperature rise to 1.5°C above pre-industrial levels.
- **Paris Agreement scenario:** limiting the rise in global average temperature to below 2°C above pre-industrial levels.
- **Business-as-Usual scenario:** a slow transition to a low-carbon economy with the developing countries lagging far behind; the global average temperature rise is well above 2°C relative to pre-industrial levels.

These scenarios do not represent development strategies, nor do they offer specific measures. Although they do not predict changes in the environment and what measures will be taken by society, governments and investors, they hypothesise about the course of events, enabling us to model future climate changes and assess the potential risks. The climate scenarios should therefore be viewed as a tool designed to help the Company to make informed and climate-focused management decisions.



Every company selects its own time horizons for scenario analysis and must factor in the specifics of its operations.”



Choosing relevant time horizons

Every company selects its own time horizons for scenario analysis and must factor in the specifics of its operations and features of corporate governance and planning. When establishing the horizons for the scenario analysis, we took guidance from relevant corporate regulations and practices and made provisions for integrating the assessments into the corporate risk accounting system and technical and economic models.

The **short-term horizon** of scenario analysis looks up to one year ahead and covers the operational planning and goal-setting phases. The most significant physical and transition risks are monitored along with the progress of applied mitigation measures, while the data are being collected and updated to refine the long-term models. The major challenges are associated with transitional climate risks, primarily related to carbon regulation at international and national levels. No visible shifts are observed in the environment relative to the baseline over such a short period.

However, as part of our operational monitoring, we continuously keep track of the identified acute physical risks and, if required, adjust our adaptation measures.

The **medium-term horizon** of the scenario analysis is between one and five years ahead and corresponds to the period of technical and economic modelling. On this horizon, the transitional risks remain significant, while the physical risks become more pronounced. Assessment of the climate risks and opportunities on the medium-term horizon enables us to identify the likely critical effects of climate change, develop adaptation measures and form a technical and economic model for each asset, both separately and for the Group as a whole. In this way, the climate risk assessment is fully integrated into the Group's climate and economic policies.

The **long-term horizon** of the scenario analysis enables us to assess potential climate changes and their impact on assets throughout the entire life cycle. No time constraints are imposed on the long-term horizon to ensure each asset is approached individually and for a climate risk matrix to be developed for both operating and developing projects. We assess climate changes throughout the entire life cycle and evaluate the potential impact of these changes on our operations. This enables us to develop a long-term strategy for adapting to climate changes and to incorporate appropriate design solutions that may help to avoid or minimise potential damage and impact on the environment. These solutions are already at the design stage of development.

Approach and scenarios continued

Our scenarios continued

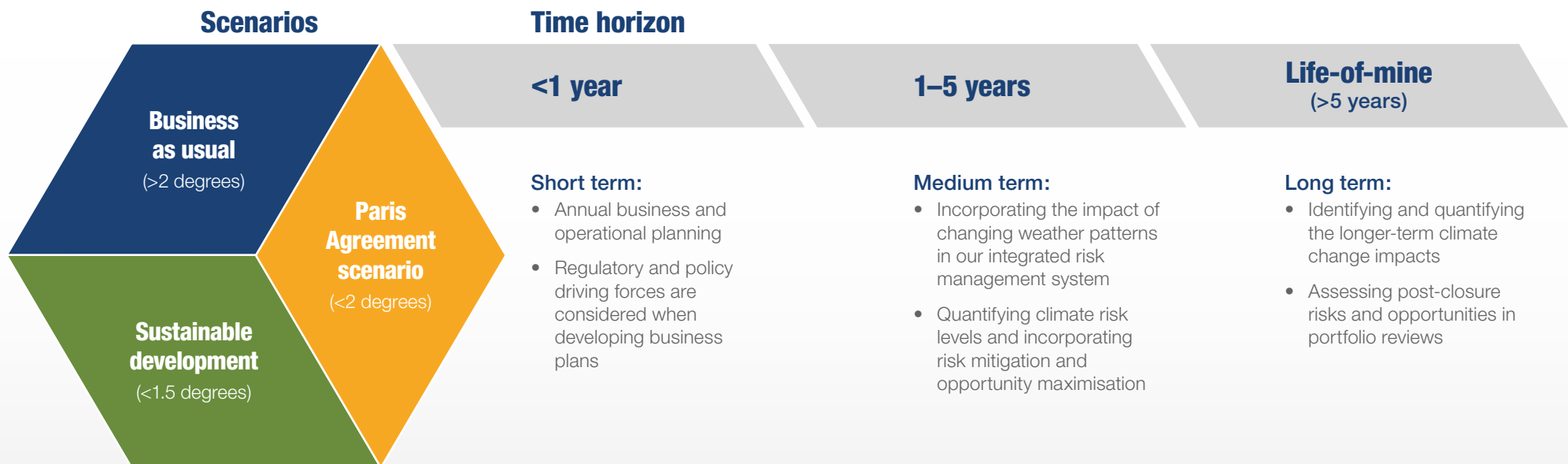
Considering regional specifics

Our operating assets are located in remote regions of Russia and Kazakhstan, and all have their own specific climate and natural features. Climate change has an overall impact on all climate zones and local ecosystems. At the same time, the ongoing changes are heterogeneous and manifest themselves differently. Being aware of the complexity and heterogeneity of climatic processes, we thoroughly analyse the regional aspects of our assets and consider, among other things, region-specific processes, such as thawing of permafrost and changes in the seasonal regimes of seas and rivers.

To take account of the climate features and the intensity of climate change in every region of our operations, we selected sets of meteorological data for each asset, using information from Roshydromet and Kazhydromet. Using this data, we developed climate profiles for each asset. A climate profile contains the data on the frequency and severity of extreme natural events, including trends and climate change over the past 20 years. This tool, together with global IPCC research and RCP models, gives us the means to properly assess the potential climate change and the possible risks for each asset.

This approach is also applicable to future projects. When assessing the potential for further operations in a new region, an analysis of its climate profile enables us to consider potential climate risks and regional climate features at early stages, therefore significantly increasing the Group's resilience to climate change.

We have mapped each scenario above across three timeframe horizons:



Approach and scenarios continued

Our scenarios continued

SUSTAINABLE DEVELOPMENT SCENARIO

IEA's Sustainable Development scenario RCP 1.9

Short term (<1 year)

Preparation for the implementation of EU cross-border carbon regulation and national/international emissions trading schemes in Russia and Kazakhstan.

Medium term (1-5 years)

Implementation of EU cross-border carbon regulation and national/international emissions trading schemes in Russia and Kazakhstan.

Implementation of the Best Available Technology mechanism and strengthening of environmental insurance requirements at national level.

Boost development of CO₂ removal technologies (processes to capture CO₂ directly from the ambient air and store it elsewhere) and renewables.

By 2025: CO₂ prices about \$63 per tonne in advanced economies and about \$43 per tonne in developing economies by 2025. Noticeable decrease in fossil fuel consumption and increase in renewable energy sources.

Long term (>5 years)

By 2030: Widespread use of CO₂ removal technologies. Global net anthropogenic CO₂ emissions decline by about 45% from 2010 levels (40–60% interquartile range), reaching net zero around 2050 (2045–2055 interquartile range).

By 2040: CO₂ prices about \$140 per tonne in advanced economies and about \$125 per tonne in developing economies.

By 2050: Decrease in fossil fuel consumption by more than 2.5 times and increase in renewable energy sources by more than 3.3 times. Slight increase in the frequency of weather extremes. Risk monitoring and preventative adaptation are required.

By 2060–70: Global net anthropogenic GHG emissions reach net zero.

Limiting global warming to <1.5°C
global net zero by 2050

PARIS AGREEMENT SCENARIO

IEA's New Policies scenario + new regulations RCP 2.6

Preparation for the implementation of EU cross-border carbon regulation. No changes in carbon regulation in developing economies.

Fast development of CO₂ removal technologies (processes to capture CO₂ directly from the ambient air and store it elsewhere) and renewables.

Noticeable decrease in fossil fuel consumption and increase in renewable energy sources.

By 2025: Implementation of EU cross-border carbon regulation. Preparation for the implementation of national/international emissions trading schemes in Russia and Kazakhstan (pilot projects, local regional experiments). CO₂ prices about \$63 per tonne in advanced economies.

Implementation of the Best Available Technology mechanism and strengthening of environmental insurance requirements at the national level.

By 2030: Implementation of national/international emissions trading schemes in Russia and Kazakhstan.

By 2030: Global net anthropogenic CO₂ emissions decline by about 25%, reaching net zero around 2070 (2065–2080 interquartile range). CO₂ prices about \$43 per tonne in developing economies.

By 2040–45: CO₂ prices about \$140 per tonne in advanced economies and about \$125 per tonne in developing economies.

By 2050: Widespread use of CO₂ removal technologies. Noticeable but not critical increase in frequency of weather extremes: detailed risk monitoring and preventative adaptation required.

By 2070: Greater than twofold decrease in fossil fuel consumption; renewable energy sources more than triple.

By 2100: Global net anthropogenic GHG emissions reach net-zero.

Limiting global warming to <2°C
global net zero by 2070

BUSINESS AS USUAL

IEA's Current Policies scenario RCP 4.5 / RCP 6.0

No changes in national/international carbon regulation.

No cross-border carbon regulation and emissions trading schemes or carbon taxes at national level.

Global net anthropogenic CO₂ emissions remain at 2010–20 levels.

Slow development of CO₂ removal technologies and renewables.

Maintaining the structure of energy consumption and share of fossil fuels at the level of 2010–20.

By 2025: Noticeable increase in the frequency of weather extremes – preventative adaptation is strongly required.

Maintaining the structure of energy consumption and share of fossil fuels at the level of 2010–2020.

Slow development and limited use of carbon dioxide removal technologies.

By 2030: Implementation of EU cross-border carbon regulation. CO₂ prices about \$63 in advanced economies. No emissions trading schemes or carbon taxes at national level in developing economies.

By 2030–52: Global warming is likely to reach 1.5°C between 2030 and 2052.

By 2050: Frequency of weather extremes more than doubles, especially in Arctic zones and permafrost areas. Decisive adaptation measures to physical climate risks need to be taken.

By 2050–2100: Global net anthropogenic CO₂ decline by 10–15% from 2010 levels.

By 2100: Global warming is likely to reach more than 2.7°C.

Unlimited global warming (>>2°C)
NO global net zero target

Risks and opportunities continued

Risk assessment criteria

Potential risk impacts

Risk impact:	▲ ▲ ▲ ▲ ▲ Insignificant	▲ ▲ ▲ ▲ ▲ Minor	▲ ▲ ▲ ▲ ▲ Moderate	▲ ▲ ▲ ▲ ▲ Major	▲ ▲ ▲ ▲ ▲ Catastrophic
Business disruption / asset damage and other consequential loss	Less than 1% Adjusted EBITDA	1–5% Adjusted EBITDA	5–10% Adjusted EBITDA	10–20% Adjusted EBITDA	More than 20% Adjusted EBITDA
Politico-economic impact	Minimal financial impact	Material financial impact	Serious financial impact	Major financial impact	Extreme financial impact
Technology impact	No need to change existing technologies	Insignificant technology update required	Serious technology update required	The best available technology needs to be implemented in the medium term	The best available technology is urgently required
Social impact	Public awareness may exist but no public concern	Local social issue or public concern	Regional social issue or public concern	National social issue or public concern	International social issue or public concern
Physical impact of climate change	Minimal impact	Material impact	Serious impact	Major impact	Extreme impact

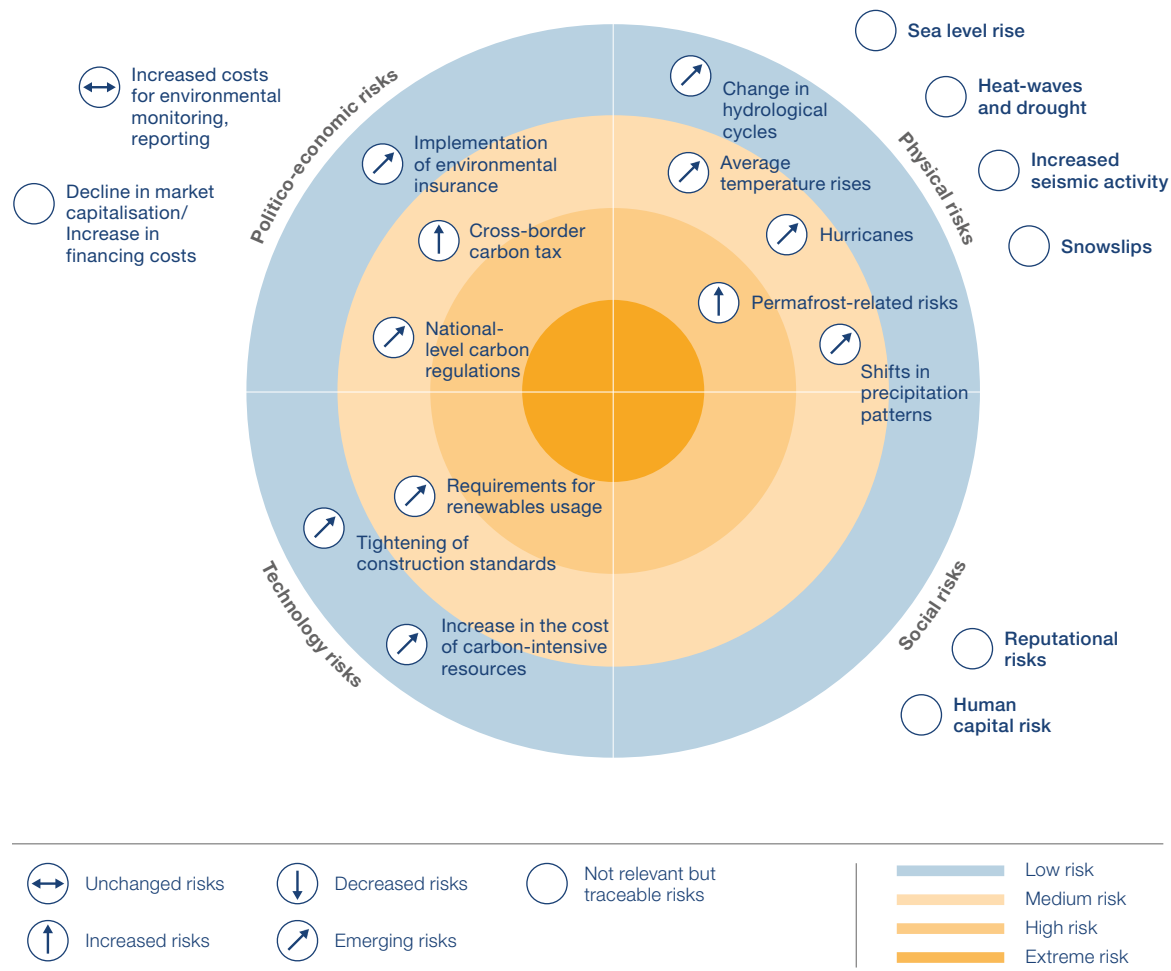
Likelihood (for physical risks)

Rare	Unlikely	Possible	Likely	Almost certain
Never occurred or is highly unlikely to occur in the next 20 years	Occurred several times or could happen within 20 years	Occurred at some point within 10 years and may re-occur within 10 years	Occurred infrequently: less than once a year and is likely to re-occur within 5 years	Occurred frequently: one or more times per year and is likely to re-occur within one year

Risks and opportunities continued

Risk management

Climate risk radar



We used TCFD approaches to complete the scenario analysis of climate-related risks. To identify relevant patterns, trends, driving forces, and related uncertainties we used a Social, Technology, Economic, Environmental, and Policy analysis (the STEEP model).

All risks and opportunities identified through the driving force analysis have been included in a single register, and their significance assessed at both operational and Company levels.

The risks found significant at the Company level were considered as a separate group. Significant risks included those associated with carbon regulations, the transition to low-carbon technologies, and more frequent extreme weather events. To address these risks within the risk management system, we assigned responsibility to relevant departments (at operational, subsidiary and Company head office levels), completed a financial assessment of potential impacts and compiled a list of adaptation and mitigation measures.

Risks that were considered minor or immaterial based on the results of the significance analysis were left in the single-risk register. However, no financial assessment of the impacts or development of adaptation measures was carried out for those risks.

Those risks included reputational and social risks, as well as market risks associated with reduced market capitalisation and increased cost of financing. Traditionally, we have placed a special emphasis on safety and development opportunities for our employees and continuously improved disclosure of our environmental impacts and stakeholder relations, and we work actively towards adaptation to other groups of climate-related risks. This ensures a low level of reputational risks and high resistance to them. Moreover, this group of risks is characterised by extremely high uncertainty and is highly dependent on successful adaptation to other climate risks (both regulatory and physical).

The risks emanating from increased regulatory requirements for climate-related reporting and an increased administrative burden are mostly regarded as having taken place and are also classified as transition risks.

At the same time, due to the high uncertainty of climate factors, monitoring of the significance of these non-physical risk categories will continue. These risks can be reassessed and included in the list of significant risks if any external conditions or scenario assumptions change.

Scenario analysis shall be revised and updated, and climate risks shall be reassessed at least once every three years. However, the scenario analysis and key climate-related risk assessment can be conducted more frequently in the event of significant political and economic changes or a more drastic change of climatic factors.

Risks and opportunities continued

Transitional risks

	Climate change impact	Exposure to transitional risks			Adaptations
		1.5°C scenario	2°C scenario	Business-as-usual scenario	
Short-term	We do not anticipate any significant changes occurring over the short term. Implementation of transboundary regulatory controls can potentially commence.	▲▲▲▲▲ Insignificant Relevant risk	▲▲▲▲▲ Insignificant Relevant risk	▲▲▲▲▲ Insignificant	<ul style="list-style-type: none"> Approval of mid-term goals on GHG emissions reduction and adaptation plan until 2030. Development of long-term goals until 2050 and achieving carbon neutrality. Ongoing monitoring of legal initiatives on climate related regulation.
Mid-term	In the +1.5°C and +2°C scenarios, we expect the introduction of transboundary regulatory controls, which will have an impact on exports (concentrate, Dore bars). National carbon regulations (such as carbon offset credits) may potentially be introduced.	▲▲▲▲▲ Minor Relevant risk	▲▲▲▲▲ Minor Relevant risk	▲▲▲▲▲ Insignificant	<ul style="list-style-type: none"> Consistent carbon footprint reduction and transition to low-carbon energy solutions, including switching to power grids, implementation of renewables, transition to electric underground equipment, etc. Change in concentrate sales: exclude export and concentrate processing at our POX-2 plant located in Russia. Approval of long-term goals on carbon footprint reduction until 2050 and of the carbon neutrality achievement plan.
Long-term	Apart from the implementation of international and national carbon regulatory controls, we expect the introduction of more rigorous requirements for implementing best available technologies over a long-term horizon. We also anticipate stricter design standards and requirements, particularly those applicable to dams and other hazardous facilities.	▲▲▲▲▲ Moderate Relevant risk	▲▲▲▲▲ Minor Relevant risk	▲▲▲▲▲ Minor Relevant risk	<ul style="list-style-type: none"> GHG emissions reduction by 30% by 2030 (emission intensity, kg CO₂e per oz GE) and increased share of renewables to 7% of energy generated by 2025. Moving towards carbon neutrality according to the defined targets. Transition to low-carbon technologies and to green electricity wherever possible. Evaluation of the potential of hydrogen technologies. Rehabilitation of depleted deposits and complete reforestation of closed mine sites.

Risk type:



Cross-border carbon tax















National-level carbon regulations



Compulsory requirements for renewable energy usage and tightening construction standards

Risks and opportunities continued

Acute physical risks

	Climate change impact	Exposure to acute physical risks			
		1.5°C scenario	2°C scenario	Business-as-usual scenario	Adaptations
Short-term	Minor increase in frequency of extreme weather events is expected. Assets located in the permafrost zone are most exposed to risks (e.g., thermokarst processes).	▲▲▲▲▲ Insignificant  Relevant risk	▲▲▲▲▲ Insignificant  Relevant risk	▲▲▲▲▲ Insignificant  Relevant risk	<ul style="list-style-type: none"> Development of preventative measures including reliability enhancement of the facilities located in the permafrost areas as well as dams and other hazardous facilities. Improved monitoring system of facilities located in the permafrost areas (compilation of a single register of all facilities, updating of building and facility operating rules).
Mid-term	In the +1.5°C and +2°C scenarios, the frequency and severity of surge precipitation could increase. In the Business-as-usual scenario, the frequency of storm and hurricane winds could increase significantly. In all scenarios, the permafrost will continue to degrade and thermokarst processes become more probable. This could result in damage to critical infrastructure and hazardous facilities (such as dams, tailings storage facilities, power lines, and transport infrastructure).	▲▲▲▲▲ Minor   Relevant risk	▲▲▲▲▲ Minor   Relevant risk	▲▲▲▲▲ Moderate    Relevant risk	<ul style="list-style-type: none"> Installation of automated monitoring systems and permafrost stabilisation systems. Installation of tailings dam monitoring systems. Transition to dry stacking of tailings. Enhancement of backup infrastructure (generators, stand-by pumps, etc.).
Long-term	Frequency of surge precipitation will further increase (particularly for assets located in the Khabarovsk Region and Northern Kazakhstan). In the Business-as-usual scenario, extreme weather events will become regular, significantly limiting production processes and affecting supply chains.	▲▲▲▲▲ Minor   Relevant risk	▲▲▲▲▲ Minor   Relevant risk	▲▲▲▲▲ Major    Relevant risk	<ul style="list-style-type: none"> Design and construction of new facilities, taking into account additional safety requirements and new climatic conditions. Rigorous control over integrity of hazardous facilities. Close cooperation with national meteorology and environmental services (Roshydromet, Kazhydromet) to prevent and minimise potential damage.

Risk type:



Thermokarst processes in permafrost areas



Hurricanes



Shifts in rainfall/snowfall patterns

Risks and opportunities continued

Chronic physical risks

	Climate change impact	Exposure to chronic physical risks			Adaptations
		1.5°C scenario	2°C scenario	Business-as-usual scenario	
Short-term	We do not anticipate any significant deviations from normal climatic conditions over the short term. Long-term tendency of permafrost degradation will continue.	▲▲▲▲▲ Insignificant  Relevant risk	▲▲▲▲▲ Insignificant  Relevant risk	▲▲▲▲▲ Insignificant  Relevant risk	<ul style="list-style-type: none"> Development of preventative measures including enhanced reliability of facilities located in the permafrost areas and improved monitoring system for those facilities (compilation of a single register of all facilities, updating of operating rules).
Mid-term	In the Business-as-usual scenario, we anticipate accelerated development of existing trends, such as progressive permafrost degradation, regular floods and inundations, and a significant increase in average annual temperatures. This could lead to a lack of water resources in arid regions (Kazakhstan), increased operating costs due to extremely hot and cold temperatures, and disruption of logistics routes. In the +1.5°C and +2°C scenarios, these trends will be less prominent.	▲▲▲▲▲ Minor  Relevant risk	▲▲▲▲▲ Minor   Relevant risk	▲▲▲▲▲ Moderate    Relevant risk	<ul style="list-style-type: none"> Reduction of fresh water consumption for processing, optimisation of logistics routes, preparedness for reduced operational time of winter roads and readiness for disruption of water transportation. New project designs considering permafrost thawing.
Long-term	In the Business-as-usual scenario, we expect that negative climatic trends will continue to scale up. In the +1.5°C and +2°C scenarios, we expect that climatic changes will gradually slow down and the climate will stabilise.	▲▲▲▲▲ Minor  Relevant risk	▲▲▲▲▲ Minor   Relevant risk	▲▲▲▲▲ Major    Relevant risk	<ul style="list-style-type: none"> Reduction of fresh water consumption for process needs, optimisation of logistics routes, preparedness for reduced operational time of winter roads and readiness for disruption of water transportation. Construction of new facilities adjusted to permafrost thawing. No construction in areas exposed to potential flooding or with unstable soils.

Risk type:



Thawing of permafrost



Average temperature rises



Floods and longer flooding seasons (change in hydrological cycles)

Resilience to climate change

Building our resilience

Transitional risks ▲▲▲▲▲¹

Climate change calls for global action to minimise the human impact on the climate and to speed up the transition to a low-carbon economy. We support the initiatives from countries that joined the Paris Climate Agreement to reduce greenhouse gas (GHG) emissions and building a roadmap to carbon neutrality.

By gradually reducing our carbon footprint and introducing cutting-edge technologies, we both mitigate our impact on the environment and contribute to achieving the goals set by the Paris Agreement. This strategy also allows us to enhance our resilience to the transitional risks, such as the carbon cross-border tax and national quotas for GHG emissions. Our decarbonisation plan is designed to lower the mid-term risks by 10–15% and the long-term risks by 25–30%. In addition, the POX-2 project opens the way to processing larger volumes of refractory ore and reducing concentrate exports, which in turn would mitigate the potential effect of transboundary pollution regulations.

Apart from carbon regulation, the transition to a low-carbon economy will increase the costs and reduce the accessibility of fossil fuels (above all, coal). By strengthening our power supply system, we shift our focus to renewable energy and to connections with green energy suppliers where feasible. We continuously cooperate with our power suppliers to achieve the highest possible share of renewables in our power supply structure (mostly, hydropower). We carefully monitor the development of the national energy certification systems in Russia and Kazakhstan and expect this trend to surge in the near future.

To mitigate potential social and reputational risks, we ensure that information on our corporate goals and environmental safety indicators is available to all stakeholders. Our Environmental and Climate Management Systems provide the required resources to reach those goals and shape our corporate responsibilities for climate and environmental changes.

¹ Risk impact level is indicated for long-term horizon and Paris Agreement scenario.

Physical risks

Shifts in precipitation patterns ▲▲▲▲▲¹

Abnormal weather conditions and precipitation patterns may lead to events such as floods, soil erosion, droughts and wildfires. Climate change will make these manifestations increasingly noticeable and they are likely to become irreversible if the global average temperature continues to rise.

As many of our assets are in remote regions, we pay special attention to strengthening our critical infrastructure against possible impact from climate change.

The transport infrastructure (i.e. roads, crossroads, bridges, winter roads and ice crossings) is most vulnerable to risks associated with a changing profile of precipitation. In addition, the external high-voltage transmission lines supplying power to some of our assets are also at risk. To ensure resilience to these risks, each asset has a reserve stock of critical materials and components, as well as backup power sources. This means we can operate autonomously in case of transport inaccessibility or external power supply disruptions. We also have rapid response teams dedicated to restoring damaged infrastructure.

Tailing storage facilities (TSF) and dams are also impacted by this risk. All our TSFs undergo regular audits for compliance with requirements, as well as safety examinations. TSFs are regularly monitored by our on-site environmental and engineering teams, with pipelines, pump stations, water levels and dams inspected daily. We ensure emergency preparedness and response procedures at all stages of TSF life, from design to operation to closure.

We welcome the new Global Industry Standard on Tailings Management and have committed to achieving compliance in all operations by 2023. We use a corporate TSF management system to ensure control and increase the rigour of assessment and management of TSFs, including emergency response plans.

Our goal is to eliminate the causes of potential dam failure, such as poor management and inadequate planning for heavy precipitation, which often increase the probability of accidents. We now operate eight tailings dams (we closed one TSF in 2020). Increasingly, we are moving towards safer methods of waste storage, such as the dry stack (filtered cake) tailings. Dry tailing storage significantly reduces the possibility of dam failure, drastically lowers the potential damage from such accidents, and eliminates tailings run-off. We aim to achieve 15% dry-stack tailings storage by 2024 (2020: 11%). More information about our TSF management system can be found in our TSF Report.



Resilience to climate change continued

Building our resilience continued

Thawing of permafrost ▲▲▲▲▲¹

The thawing of permafrost is considered one of the most critical risks due to its potential impact on our physical infrastructure. For example, destabilised building foundations could result in bearing capacity failure and damaged building structures, unacceptable operating conditions or the complete collapse of buildings and structures, leading to economic and environmental damage and potential injury or loss of life. Other risks to our operations associated with permafrost thawing include reduced operational time of winter roads and ice crossings, and increased water levels during floods or longer flooding seasons.

We mitigate these risks by regular monitoring and compliance with design, construction and operational regulations. Monitoring includes field observations of the condition of foundation soils, the temperature regime inside buildings and building structure movements. Upon detecting any signs of thawing of permafrost ground and hazardous defects in building structures, we inform all involved parties and take appropriate remedial measures.

We place a special focus on the safety of fuel storage facilities and to this end:

- All storage facilities are designed considering permafrost conditions
- We conduct regular external and internal monitoring of facilities
- We apply a strict zero-tolerance approach to any regulatory deviations at potentially environmentally hazardous facilities
- The logistics of fuel and lubricants supply are carefully planned to determine optimal minimum storage volumes
- Emergency drills are carried out for fuel spill scenarios

In 2021, we plan to compile a unified register of all buildings and structures located in the permafrost areas to improve our monitoring system and to comprehensively track all soil changes.

¹ Risk impact level is indicated for long-term horizon and Paris Agreement scenario.

Temperature rises ▲▲▲▲▲¹

A systematic increase in average temperatures is observed in almost all our operating regions. If existing trends continue, several of these regions, primarily in Western and Central Siberia and Kazakhstan, may become regions of water stress.

Although we do not currently operate in regions of water stress, we are focused on minimising our fresh water withdrawal by recycling water at the plants, extracting waste water that has naturally seeped into our mines or drainage systems, and capturing rainwater in ponds. Our current target is to reduce fresh water use by 11% per tonne of ore processed by 2023 (baseline 2018). We never withdraw water from surface sources in environmentally sensitive areas, or where water eco- and bio-services are of great importance to local or indigenous communities. Water usage is monitored via meters and flowmeters and by indirect estimation when using meters is not possible.

Hurricanes, floods and other weather extremes

▲▲▲▲▲¹

According to the IPCC models, climate change may cause more frequent weather extremes such as hurricanes, floods, rainstorms and snowfalls.

To prevent potential damage, our operations proactively monitor weather conditions in cooperation with local meteorological services. We regularly request weather reports and forecasts to be prepared and respond to emergencies in time.

The safety of our employees and the environment is our top priority. So, in the case of a weather alert, we take actions, up to and including stopping production and using additional back-up equipment, such as generators and pumps.

Due to the possible increase in the frequency and severity of weather extremes, we are accurately planning risk mitigation measures (purchasing additional pumps and generators, increasing reservation rates), continuously monitoring weather parameters and updating emergency response plans.

Metrics and targets

GHG emissions

We strive to increase the transparency of climate-related data and to enhance our carbon footprint accounting, monitoring and planning.

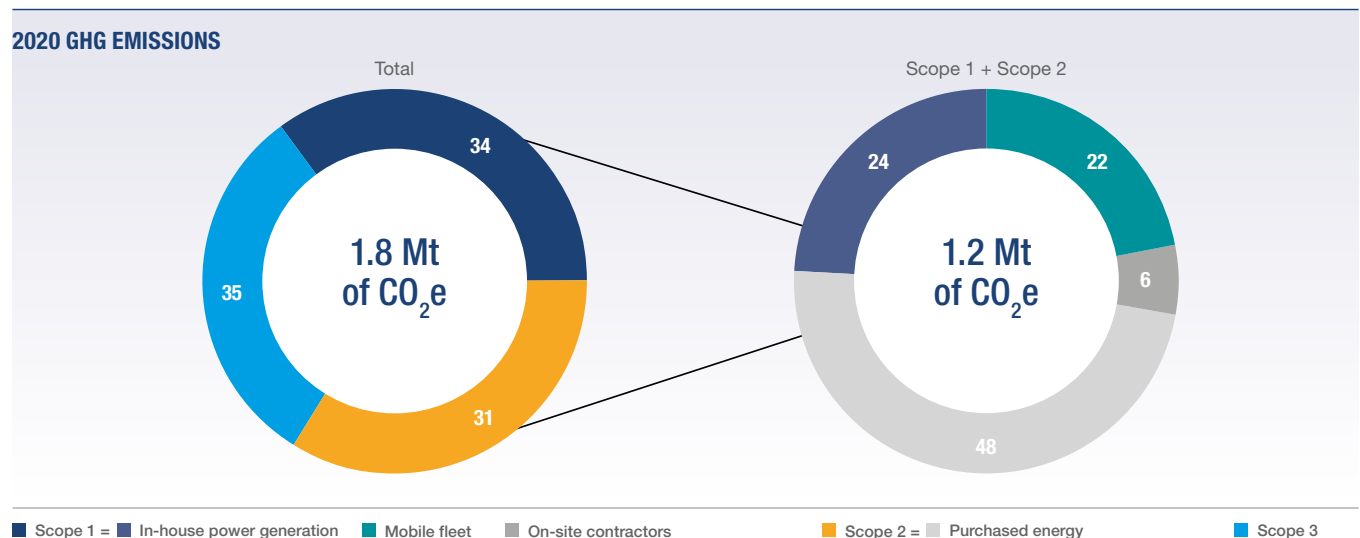
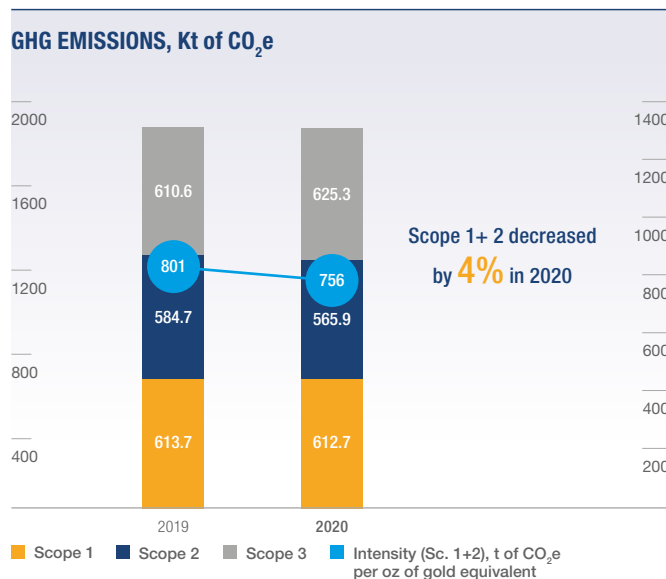
Having adopted climate-related metrics back in 2013, we are continually widening the scope of our GHG emissions data capture. We have been setting reduction targets for Scope 1 and 2 since 2018 and continue to improve the scope and accuracy of disclosure. For example, in 2020 we refined Scope 3 emissions and included emissions generated by contractors working at our mine sites in our Scope 1 data.

We also engaged with energy suppliers to improve the accuracy of Scope 2 data and we now report market-based Scope 2 emissions at Kyzyl and location-based Scope 2 emissions for other mines.

Finally, we have requested that key consumables suppliers provide carbon data so that we can refine Scope 3 emissions reporting across the most material supply chain categories.

In 2020, our Scope 1 and Scope 2 GHG emissions intensity decreased by 4%. Scope 1 emissions remained stable compared with 2019, while Scope 2 emissions decreased as we accounted for the fact that our Kyzyl mine sources 25% of its energy from a hydropower plant.

In 2021, we have updated our GHG accounting policy, which establishes operational boundaries and assumptions with regard to the Company Standard SP-01 GHG Control within our Climate Management System. We have also developed a carbon footprint prediction model, aligned with our production, technical and economic planning models. This has enabled us to forecast future GHG emissions generated by our assets and to target reduction activities.



Metrics and targets continued

Setting ambitious targets

The rate of climate change and potential climate-related risks have already posed a serious challenge for humankind. Accepting the need to take urgent actions to mitigate anthropogenic impacts on the climate, we have developed an approach to reduce our carbon footprint and set goals for GHG emission reduction by 2030.

Our approach is based upon the Paris Agreement principles to limit the increase in the average global temperature to less than 2°C above pre-industrial levels, along with IPCC recommendations and industry best practice.

To achieve sustainable deceleration of warming and stabilisation global temperatures, the combined efforts of the global community on anthropogenic GHG emission reduction will be required throughout 21st century. In this context, we continue to improve our approach to carbon footprint reduction and are committed to developing long-term goals for 2050 and ways to succeed in achieving carbon neutrality.

15%

reduction of GHG emissions intensity per oz of GE by 2025

30%

reduction of GHG emissions intensity per oz of GE by 2030

35%

reduction of absolute GHG emissions by 2030 (for operating mines as of 2019)

Develop long-term goals until 2050

and path to net zero by the end of 2022

Set Scope 3 targets

by the end of 2022

Metrics and targets continued

Setting ambitious targets continued

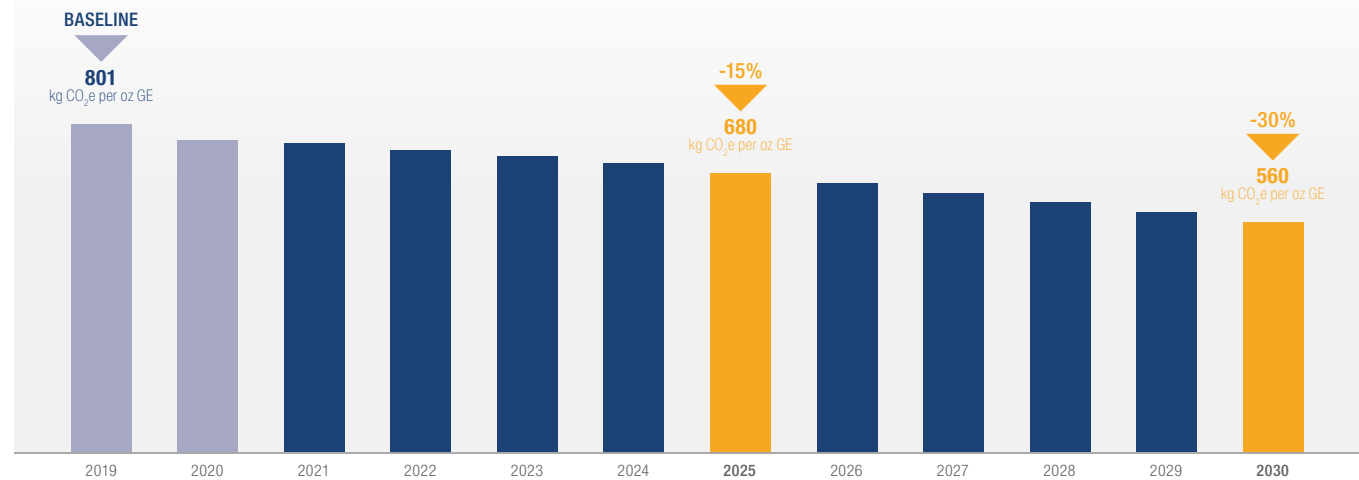
Emissions intensity target

When setting our GHG reduction targets, we take into account best practice approaches. While absolute targets are important in the wider context, they do not reflect efficiency improvements. On the other hand, intensity targets help to drive pragmatic reductions but do not necessarily lead to reductions in absolute emissions. Therefore, we set both intensity and absolute targets, with the intensity target being the most important since it reflects operational expansion and contraction, which is significant in our sector as our projects run through a lifecycle.

Our target is to reduce GHG emission intensity per ounce of gold equivalent **by 30% by 2030** (2019 baseline, covering Scopes 1 and 2). Since the contractors working at our sites are under our operational control, their emissions are aggregated within our Scope 1 data and thus fall within the perimeter of the established targets. Our targets are aligned with the Paris Agreement to limit global temperature rises to significantly less than 2°C above pre-industrial levels (in accordance with IPCC models and the Absolute Contraction Approach by Science Based Targets initiative).

GHG INTENSITY REDUCTION TARGET

Scope 1 + Scope 2 emissions intensity per oz of GE, share of baseline 2019



30%

reduction of GHG intensity
by 2030
(baseline 2019)



Metrics and targets continued

Setting ambitious targets continued

Absolute emissions target

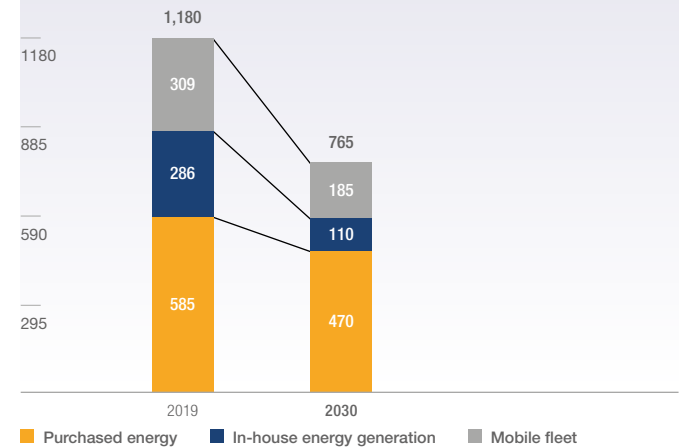
Our absolute GHG emission target to reduce gross GHG emissions generated by our producing operations **by 35% by 2030** (2019 baseline, covering Scopes 1 and 2) applies to mines operating in 2019, namely Kyzyl, Varvara, Voro, Mayskoye, Omolon, Dukat, Svetloye, Albazino, Amursk POX-1 and 2, and Nezhda. It does not cover future development projects and potential new assets. As stated, we will apply this target only in combination with our intensity target, which more accurately conveys our progress and it therefore our main reporting metric.

A phased transition to grid electricity (from diesel generators), engaging with power grid owners and developing our own renewable energy sources alongside efficiency enhancements, will help us meet our absolute target.

Upstream and downstream GHG emissions (Scope 3) are not included in current targets. However, as part of our efforts to achieve carbon neutrality, we have requested that key consumables suppliers provide carbon data so that we can further widen Scope 3 reporting across the most material supply chain categories. We are also engaging with contractors and will set a Scope 3 target by the end of 2022.

GHG ABSOLUTE EMISSIONS REDUCTION TARGET

Scope 1 + Scope 2 emissions, Kt CO₂e¹



1 We have adopted 2019 as a baseline year to benchmark the reduction of GHG gross emissions under Scope 1 and Scope 2. This 2030 goal applies to existing assets as of 2019, namely: Kyzyl, Varvara, Voro, Mayskoye, Omolon, Dukat, Svetloye, Albazino, Amursk POX-1 and 2 and Nezhda.

35%

reduction of absolute GHG emissions by 2030¹ (baseline 2019)



Metrics and targets continued

How we will meet our targets

To achieve our goals, we have developed a plan that includes a wide range of projects, including:

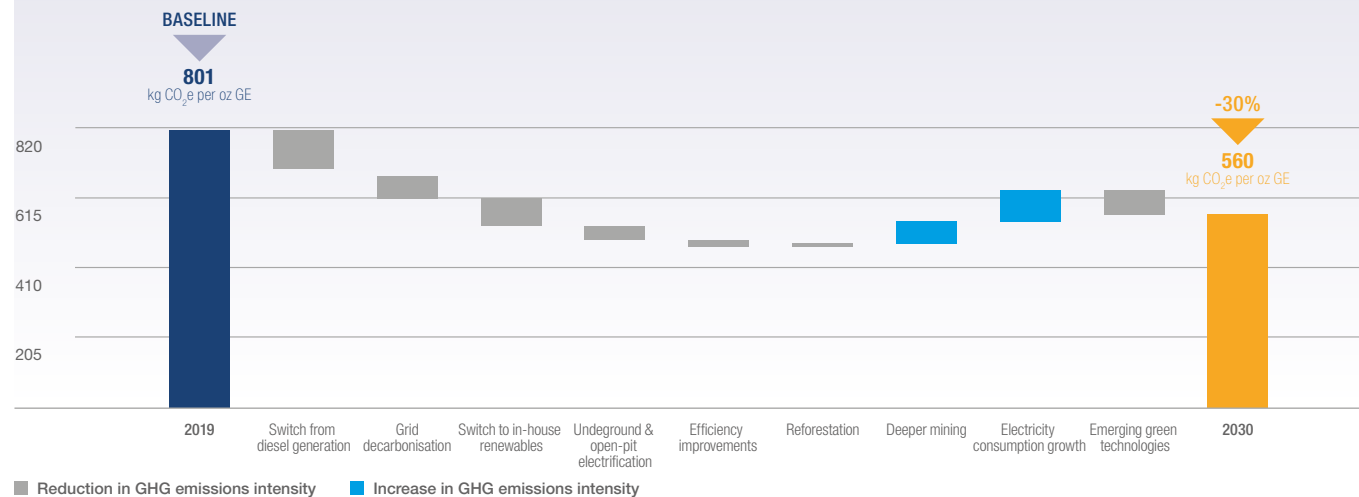
- transition to low-carbon technologies
- developing our own solar and wind power plants in the regions where we are present (where possible) and ensuring the efficient generation of electricity
- switching to electricity supplies with the lowest available carbon footprint
- electrification of our mobile fleet
- continuous work to improve the energy efficiency of all our processes.

We are closely following the development of promising low-carbon technologies such as hydrogen energy and fuel cells.

We are also looking at ways to reduce our carbon footprint by sustaining the natural carbon cycle (reforestation), direct carbon capture, and carbon offsetting.

WAYS TO ACHIEVE THE GOAL

Scope 1 + Scope 2 emissions intensity per oz of GE, %



30%

reduction of GHG intensity
by 2030
(baseline 2019)



Metrics and targets continued

Carbon reduction projects

Nezhda: Q4 2022

Albazino: 2023

Lunnoe (Dukat hub): 2023



Dukat: 17 underground loaders and trucks (2021-2026)

Mayskoye: 2 underground loaders (2022-2028)

Mayskoye: electric-driven conveyor ore transportation system (2022)

Albazino: 26 underground loaders and trucks (2021-2026)

Varvara, Komar and Kyzyl: 13 electro-hydraulic excavators (2021-2028)

Veduga: 23 underground drilling rigs, loaders and trucks (2021-2026)



Towards grid energy

Electricity is our key consumed energy resource, but only a small number of our remote mines are connected to the power grid. At remote sites, we still rely on diesel generation, which contributes significantly to Scope 1 GHG emissions. A key priority is therefore to reduce our reliance on diesel by connecting to grid electricity sources and building our own renewable energy projects.

We are currently implementing projects to connect Albazino, Nezhda and Lunnoe to grid electricity. These sites alone could enable us to reduce Scope 1 emissions by 60% and total Scope 1 and 2 emissions by 6%. As we switch from diesel to grid energy at many remote operations, we are working with energy suppliers to increase the share of renewables in the purchased energy mix. In 2020, our Kyzyl mine sourced 25% of its energy from a hydropower plant and we are currently evaluating the share of low-carbon grid-energy sources at Dukat and Mayskoe.

Electrifying our mining fleet

Recognising that our mining fleet contributes significantly to our GHG emissions, we are gradually replacing diesel-based vehicles with electric ones. With the electrification of the mobile fleet, as well as the use of electric-driven ore transportation systems wherever possible, we aim not only to reduce our carbon footprint, but also to improve air quality and reduce noise levels for those working underground or in pits.

Our mining fleet electrification programme runs until 2030 and now includes more than 90 units of smart equipment for surface and underground mining. We continue to look for new and innovative technologies that reduce carbon. For example, at Mayskoe, we are piloting an underground electric-driven conveyor ore transportation system, which will reduce emissions from underground mining equipment by 58%.

Metrics and targets continued

Carbon reduction projects continued

Omolon: solar power 2,5 MWt (2021)

Kutyn: solar power 1 MWt (2022)

Varvara: solar thermal collector (2022)

Varvara: wind power 10 MWt (2023)

Kyzyl: solar power 10 MWt (2024)

Prognoz: solar power 10 MWt (2024)



500 hectare of new forests (2021-2022): Dukat, Omolon, Albazino, Voro, Svetloye, Veduga, Nezhda



Renewables

Renewable energy sources such as solar and wind farms are one of the most promising ways to reduce greenhouse gas emissions at remote sites. The development of these technologies is gradually enabling their use in the regions of the Far North, which experience extreme temperature changes and snowfalls.

We already have successful experience in the use of solar and wind energy. In 2018, we launched the first 1 MW solar power plant and a 100 kW wind turbine at Svetloye. Now, our programme for the development of electricity generation from renewable energy sources includes the construction by 2025 of six renewable facilities at five sites – at Omolon, Varvara, Kyzyl, Prognoz and Kutyn – with a total capacity of more than 33 MW.

We plan to achieve 7% of total electricity generation from renewable sources by 2025 and 10% by 2030. This will reduce total Scope 1 and 2 emissions by 6% by 2025 and 10% by 2030.

Reforestation

Forests are a vital asset in the fight against climate change, as well as being a habitat for wildlife and a source of sustainable livelihoods for many communities. At Polymetal, responsible land-use protocols mean that we only fell trees where absolutely critical and within local laws. We are currently improving our Carbon Management Policy to consider both the loss of absorption after deforestation and the compensatory measures for reforestation, together with the assessment of their absorbing capacity in our carbon footprint.

Adhering to the principles of responsible land use and in full compliance with national legal norms, we develop, coordinate and implement compensatory reforestation. The reforestation plans are updated and expanded annually, and restoration of lost forest areas is carried out in the year following felling. For 2021–2022, we plan to plant 500 hectares of forest.

Metrics and targets continued

Carbon reduction projects continued

All assets: low-carbon and renewable energy solutions

Kutyn: heat recovery from the power plant (2021)

Amursk POX: heat recovery from the pressure oxidation process (phase 4, 2023)



Energy efficiency

By optimising the energy efficiency of our operations, we decrease emissions, while also embracing a low-carbon economy. Our Climate and Energy Management Systems, alongside our Energy Management Policy, include regular energy audits and site-level projects. Each year, we update our Energy Efficiency Programme, which involves monitoring, metering and reduction initiatives, in line with ISO 50001 international standard for energy management.

Our key areas of focus are:

- complying with all applicable regulatory requirements
- actively reducing our carbon footprint or improving energy efficiency through innovation, including low-carbon and renewable energy solutions
- embedding energy efficiency into new project design, technology updates and in equipment procurement processes
- engaging employees through the establishment and nurturing of an energy efficiency culture
- extending our energy-conscious approach to our suppliers, investors and wider stakeholders.

We deploy heat recovery technology to convert wasted heat from diesel generation and processing plants into electricity and heat for other premises. In 2020, **29%** of our total heat needs were met by heat recovery systems. We also look at digital and AI solutions that can help increase resource efficiency and decrease GHG emissions.

Amursk POX: using rainwater from collecting ponds (2021)

Omolon: using mine drainage in ore processing (2021)



Water management

Although water shortage is not identified as a significant risk at our sites, we strive to minimise fresh water withdrawal to reduce our impact on local ecosystems. We are committed to gradually increasing the share of water reused in our processing and have set a goal to reduce fresh water use for processing by at least 11% per tonne of ore by 2023 (2018 baseline). For the last three years, we have had in place a comprehensive Company-wide water programme including water balance scheme updates, infrastructure renovation and improved water accounting. As a result, in 2020, we outperformed our goal by achieving a fresh water consumption intensity reduction of 43% compared with 2018, with 171 cubic metres of fresh water per thousand tonnes of ore processed (2018: 299 cubic metres).

We proactively plan water consumption and reuse, investing in technologies that will enable us to withdraw less fresh water. For example, in 2020, at Omolon we installed a filtering system that prepares water for further reuse in technological processes. This has helped us decrease fresh water consumption at the operation by 64% compared with 2019.

At a Group level, our total fresh water use decreased by 29% in 2020, compared with the previous year. Furthermore, 89% of total water that we consumed was recycled and reused. We will continue our efforts to decrease fresh water withdrawal in 2021 through projects that include pumping storm water from collecting ponds at Amursk POX and using mine drainage in ore processing at a heap leaching plant at Omolon.

Metrics and targets continued

Capital expenditure

Polymetal will finance projects that support low-carbon and climate change-resilient growth, as well as waste efficiency and improved water management. The primary targets are climate impact mitigation, such as increased energy efficiency and use of renewable energy, as well as environmental impact reduction such as reduced waste and emissions.

Our major green initiatives relate to reducing our carbon footprint and fresh water usage, electrification of our fleet at certain mines and renewable energy at remote operations. Our overall capital expenditure estimate for green projects for 2021–2030 is **\$1,100 million**.

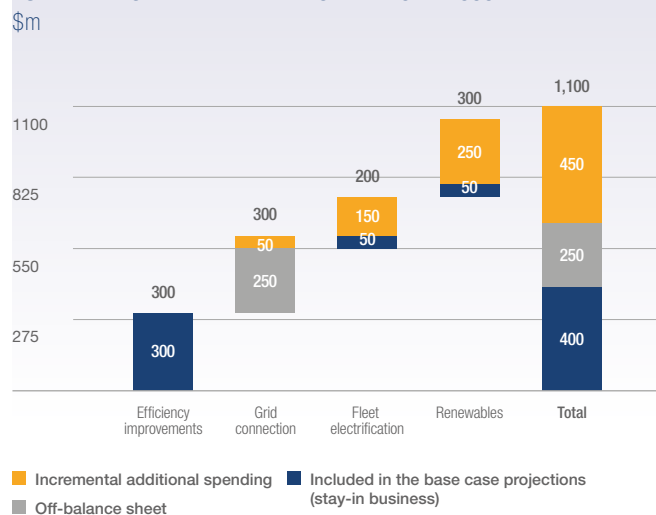
We see **green financing** as an ideal tool to finance the transition to a low-carbon economy and safer environment. It also ensures responsible financing that aligns capital with the Company's stronger ESG performance, as well as contributing to sustainable development by earmarking the proceeds for green projects and expenditures. Green financing is a natural extension of the sustainability efforts that are conducted throughout the organisation. More importantly, it is a tool to align the Company's interests and those of society at large by financing further transition to responsible mining. It gives us trusting relationships with our lenders and stakeholders, and pride and commitment among our employees.

To create a standard for green financing that can be used with a number of Polymetal's sources of funding, we have developed a Green Financing Framework. The Framework establishes the terms and conditions for the management of funds and for follow-up and reporting to lenders and investors. Polymetal hopes to continue to broaden its lenders base by attracting like-minded creditors who seek to target their funds towards environmentally friendly projects.

Polymetal has set up a dedicated cross-departmental Green Financing Committee to identify and select eligible projects for green financing. These are projects that are aligned with national environmental and technical legal requirements. The Committee includes representatives from corporate finance, sustainability, operational, energy and environmental, procurement, design, and construction departments, as well as, on a case-by-case basis, the Group's business units.

All information about Polymetal's focus on green financing with links to the Framework, second opinions and reporting is available on our website.

ESTIMATED CLIMATE-RELATED CAPEX 2021–2030



Metrics and targets continued

Key figures

GHG EMISSIONS: trailing three-year data ¹		Units	2020	2019	GHG emissions in 2020 (Scope 1 and Scope 2): site level				Location-based/ market-based
					Units	Scope 1	Scope 2	Total	
Scope 1									
(direct emissions), including:²	t of CO ₂ e	612,670	613,718						
Combustion of fuels in stationary sources, including:	t of CO ₂ e	283,912	287,144		Kyzyl	117,416	75,355	192,771	market-based
Organisation-owned stationary sources	t of CO ₂ e	283,415	286,799		Varvara	13,978	143,003	156,981	location-based
Controlled contractor stationary sources	t of CO ₂ e	497	345		Komar mine (part of Varvara hub)			62,040	location-based
Combustion of fuels in mobile combustion sources, including:	t of CO ₂ e	327,785	325,719		Voro	55,353	6,687	48,105	location-based
Organisation-owned mobile combustion sources	t of CO ₂ e	254,679	248,718		Mayskoye	9,122	38,983	120,376	location-based
Controlled contractor mobile combustion sources	t of CO ₂ e	73,106	77,001		Omolon	37,211	83,165	87,526	–
Emissions resulting from the waste processing	t of CO ₂ e	972	854		Dukat	87,526	0	193,795	location-based
Scope 2					Svetloye	68,981	124,814	36,850	location-based
(energy indirect emissions), including:	t of CO ₂ e	565,924	584,706		Albazino	36,581	269	115,515	location-based
Location based	t of CO ₂ e	490,569	584,706		Albazino	115,268	247	3,128	–
Market based	t of CO ₂ e	75,355	0		Kutyn (part of Albazino hub)	3,128	0	96,106	location-based
Scope 3					Amursk POX	2,704	93,402	43,057	–
(other indirect emissions), including:	t of CO ₂ e	625,265	610,635		Nezhda	43,057	0	1,385	–
Fuel and energy-related activities (not included in Scopes 1 or 2)	t of CO ₂ e	192,419	192,517		Prognoz	1,385	0	20,959	market-based
Purchased goods	t of CO ₂ e	222,498	204,701		Veduga	20,959	0		
Capital goods	t of CO ₂ e	108	64						
Upstream transportation and distribution	t of CO ₂ e	146,358	133,243						
Business travel	t of CO ₂ e	2,668	4,135						
Downstream transportation and distribution	t of CO ₂ e	8,284	7,004						
Processing of sold products	t of CO ₂ e	44,318	58,427						
Employee commuting	t of CO ₂ e	8,612	10,544						
GHG intensity (Scope 1 + Scope 2)									
t of CO ₂ e per Kt of processed ore		76.3	79.8						
t of CO ₂ e per Koz of gold equivalent		756	801						

1 A new methodology has been applied since 2020 for more precise disclosure of emissions; data for 2019 has been restated accordingly for comparative purposes.

Data for 2018 calculated using the old methodology is considered to be unrepresentative.

2 Emissions categories aligned with Greenhouse Gas Protocol definitions.

Metrics and targets continued

Key figures continued

AIR QUALITY: trailing three-year data	Units	2020	2019
Sulphur dioxide (SO ₂)	t	847	954
Oxides of nitrogen (NO _x)	t	2,789	2,532
Carbon monoxide	t	2,798	2,818
Solid particles ¹	t	2,946	4,773
Ozone depleting (CFC-11 equivalents) substances emitted	t	0	0
VOCs	t	1,004	1,081
Mercury (Hg)	t	0	0
Lead (Pb)	t	0.17	0,27

Principal consumables: trailing three-year data	Units	2020	2019
Diesel ²	t	140,681	137,240
Quicklime	t	109,229	100,116
Grinding body	t	17,016	17,036
Sodium cyanide	t	8,132	8,202
Concrete	t	8,764	7,371
Perhydrol	t	6,227	5,496
Flotation reagents	t	5,119	3,979
Soda	t	5,844	8,723
Caustic soda	t	2,137	700
Flocculant	t	264	214

Energy consumption: trailing three-year data	Units	2020	2019
Electricity generated			
Diesel	GJ	916,123	900,962
Solar/wind	GJ	3,586	3,824
Electricity purchased	GJ	2,236,462	2,161,367
Transport and mobile machinery by sources:			
Diesel	GJ	2,313,476	2,232,071
Petrol	GJ	198,432	204,646
Heat generated by sources:			
Diesel ³	GJ	1,023,629	1,115,426
Coal	GJ	143,367	165,265
Natural gas	GJ	12,228	17,996
Waste oils	GJ	4,414	4,563
Total energy	GJ	6,880,749	6,826,281

Waste generation: trailing three-year data	Units	2020	2019
Municipal solid waste	t	1567	3113

1 Since 2019 solid particles have included other types of particles besides inorganic dust.

2 Diesel used to dry concentrate was not included in 2018.

3 Including concentrate drying since 2019.



Metrics and targets continued

Task Force on Climate-related Financial Disclosures

We transparently publish our approach to managing climate-related risks and opportunities, not only in this report but also in our Annual Report, Sustainability Report, CDP Climate Response and on our website. Below is a guide on where to find disclosures aligned to the Financial Stability Board's TCFD recommendations.

Governance: Disclose the organisation's governance around climate-related risks and opportunities.	
a) Describe the Board's oversight of climate-related risks and opportunities.	Climate change report: pages 9–10; Sustainability Report 2020, pages 12–14 and 40. Annual Report 2020: <ul style="list-style-type: none"> Corporate governance section, page 126. Climate change section, page 58. Strategic report section, page 86.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	Climate change report: pages 9–10; Sustainability Report 2020, pages 13 and 26. Annual Report 2020, pages 58, 86, 97 and 127.
Strategy: Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning, where such information is material.	
a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.	Climate change report: pages 19–22; Sustainability Report 2020, pages 2, 16–17, 40–42. Annual Report 2020, pages 58–59, 89 and 92.
b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.	Climate change report: pages 20–22; Sustainability Report 2020, pages 40–42. Annual Report 2020, pages 58–59.
c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Climate change report: pages 20–25; Sustainability Report 2020, pages 40–44. Annual Report 2020, pages 58–60.
Risk management: Disclose how the organisation identifies, assesses, and manages climate-related risks.	
a) Describe the organisation's processes for identifying and assessing climate-related risks.	Climate change report: pages 13–19; Sustainability Report 2020, pages 16–17 and 40–41. Annual Report 2020: <ul style="list-style-type: none"> Risks and risk management section, page 97. Climate change section, page 58.
b) Describe the organisation's processes for managing climate-related risks.	Climate change report: pages 18, 23–24; Sustainability Report 2020, pages 17 and 42–44. Annual Report 2020: <ul style="list-style-type: none"> Risks and risk management section, page 92. Climate change section, pages 58–60.
c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	Climate change report: pages 17–19; Sustainability Report 2020, pages 16 and 40–42. Annual Report 2020: <ul style="list-style-type: none"> Risks and risk management section, page 89 and 92. Climate change section, page 58.
Metrics and targets: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	
a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	Climate change report: pages 17–22; Sustainability Report 2020, pages 42–44. Annual Report 2020, pages 59–60.
b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3, greenhouse gas (GHG) emissions, and the related risks.	Climate change report: pages 25–29; Sustainability Report 2020, pages 5–7, 44 and Key Sustainability Figures tables, page 75. Annual Report 2020, page 60.
c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.	Climate change report: pages 26–33; Sustainability Report 2020, pages 24–25. Annual Report 2020, pages 56–57.

Metrics and targets continued

GHG calculations

Scope 1

Category 1 Emissions from fuel combustion in stationary sources: The calculation is based on data on fuel consumption for diesel power plants, boiler houses, lighting units and stationary equipment running on fuel. **Outsourced services at a mine or processing site are taken into account**, including mining, which is carried out using stationary equipment, running on fuel. The calculation is based on the contractor's scope of services – the Report on Purchased Services.

Category 2 Emissions from fuel combustion in mobile sources: The calculation is based on data for the load, haul, dump machines (LHDs), shovels, dozers, underground and open-pit haul trucks, loaders, truck-mounted cranes and other non-stationary sources. **Outsourced services at a mine site are taken into account**, including mining, where mobile equipment is used. The calculation is based on the contractor's accomplished scope of services – the Report on Purchased Services.

Category 3 Emissions associated with waste disposal and incineration: Waste accounting data from 1C-ERP (Enterprise Resource Planning) are used in the calculation for assets in the Russian Federation. Report form 2 TP covering hazardous/non-hazardous waste is used for assets in the Republic of Kazakhstan.

Category 4 Uncontrolled emissions is not characteristic for the Company's activities.

Category 5 Emissions and their removal during land use and land use change, also in forestry is non-material for the Company. However, at the moment, we are improving the methodology for this category, including considering both the loss of absorption after deforestation, and the compensatory measures for reforestation together with the assessment of their absorbing capacity.

Scope 2

Category 6 Emissions from purchased electricity: The calculation is based on data on electricity and heat generation, and energy consumption.

Category 7 Emissions from heat energy, supplied via a physical network is a non-material emission source, characteristic mainly of the corporate segment.

Scope 3

Category 8 Activities, related to energy use, but not accounted in direct and indirect energy-induced emissions: The calculation is based on fuel consumption from Category 1, Category 2, Category 6, fuel consumption for blasting operations, and fuel consumption by contractors.

Category 9 Purchased products: The calculation is carried out for the whole Company, taking account of total consumption for material items of ore mining and processing at all sites located within the operational boundaries. The materiality criterion for carrying out the calculation is consumption of materials exceeding 10Kt.

Category 10 Main Equipment: The calculation is based on the purchased mining equipment in the reporting period.

Category 11 Waste, transferred to specialised companies: Non-material sources, emissions amounting to less than 1% of Scope 3.

Category 12 Transportation and distribution in the upstream segment: The calculation takes account of emissions from the transportation of sold products, feedstocks and materials.

Category 13 Business Trips: The GHG emissions calculation is carried out for all business trips based on a set of the model routes. The calculation uses GHG emissions factors from an airborne vehicle per person, based on the distance covered.

Categories 14 Property, leased in the upstream segment, 15 Investments and 16 Transportation of clients and visitors are non-material emissions amounting to less than 1% of Scope 3.

Category 17 Transportation and distribution in the downstream segment: The calculation takes account of emissions from the transportation of exported products.

Category 18 Product usage stage: The calculation takes account of GHG emissions from the processing of sold products, concentrate, ingots, alloys and slags.

Categories 19 End of product service life, 20 Franchise and 21 Property rented in the downstream segment are not characteristic of the Company's activities.

Category 22 Employees' trips to work: The GHG emissions calculation covers only rotation shift trips for fly-in-fly-out operations. The factors of GHG emissions from a vehicle per person, based on the distance covered are used in the calculation.

