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# KGHM Polska Miedź S.A. Strategy for 2017 – 2021

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With an outlook to 2040





# Introduction

## Determining factors for updating the Strategy of KGHM Polska Miedź S.A. adopted in 2015

Given the changes in the Company's macroeconomic environment in 2015-2016, the decision was taken to update the main premises determining the objectives of the currently binding Strategy.



### The main goal of the 2015 strategy

It was no longer possible to achieve the main goal set out in the Strategy of 2015, which assumed a "mine production of over 1 million tonnes of copper equivalent and improvements in efficiency."



### Write-offs

Tests carried out at the end of 2015 on the impairment of assets resulted in write-offs amounting to PLN 5 220 million at the standalone level of KGHM Polska Miedź S.A., and PLN 5 048 million on production assets in the consolidated report for the Group KGHM Polska Miedź S.A.



### Financial situation

The Company does not have the funds to implement, in a stable and reliable manner, the full scope of the investment portfolio as stipulated in the Strategy of 2015, amounting to PLN 27 billion (in 2015-2020)



### High investment risk

Implementing a significant portion of the project portfolio of KGHM Polska Miedź S.A. would involve a high investment risk. It was necessary to carry out a substantive verification of the Company's projects.



### Liability servicing

It is necessary to ensure the servicing of current liabilities related to debt financing, and to stabilise the debt level of KGHM Polska Miedź S.A.

## Introduction Opening remarks

The main reason for the changes was the inability to achieve the main goal of producing 1 million tonnes of copper equivalent, which resulted from changes in the assumptions concerning production volumes from national and foreign assets. We updated the main goal, expecting the Capital Group EBITDA to reach PLN 7 billion in 2021 and the EBITDA margin for the Capital Group to exceed 20% on average in 2017-2021. The EBITDA margin for the Capital Group KGHM Polska Miedź S.A. will be measured as the ratio of the adjusted EBITDA of the Capital Group to the sales revenue as achieved in a given year (including 55% EBITDA and the sales revenue of Sierra Gorda). Due to changes in the macroeconomic environment resulting in the need to update the project portfolio,

we updated the investment and capital levels for the five-year perspective from PLN 27 billion to PLN 15 billion for both domestic and foreign assets. For domestic assets, the Company has focused in particular on continuing key projects, i.e. providing access to new areas of exploitation, completing the pyrometallurgy modernisation programme, completing the smelting development programme and completing the Żelazny Most tailings pond expansion. Similar measures were applied with regard to foreign assets, with the focus on optimising the portfolio of foreign development projects, including measures to achieve production maturity of Sierra Gorda and focusing on the assets with the highest production potential.

## Where we are heading

Dynamic changes in the mining industry are driven by macroeconomic, technological, social and legislative challenges, which determine the evolution of the Company's strategic assumptions for its activity. The present Strategy focuses closely on securing stable production from the available assets in a long-term perspective. Another challenge concerns measures to be taken with regard to employee safety, as well as eliminating risks to the environment. The Company also intends to maximise its advantages from focusing on its resources and skills, as well as on integration and synergy within the organisation as a whole. The coherent organisation of the Capital Group, integrated, coordinated and cooperating with the environment, is essential in order to achieve these goals.

As opposed to the last year's trends the paradigm of continuous economic growth has been replaced by one of sustainable development. That is why, in the long-term perspective, we have been aiming towards creating a sustainable system with focus

on preserving natural resources through their optimum, efficient and rational use, in order to be able to pass them on to future generations. Our actions are based on tried and tested business practices that will guarantee growth of the Company's value, while also meeting current social needs. We want to achieve this growth through implementing actions in three key areas of significance for sustainable development: technical-economic – employee safety and rational economic efficiency supported by state-of-the-art technologies; ecological – minimising the negative impact on the natural environment, and social-local – cooperating with local communities. In addition, the Company intends to identify, on an ongoing basis, potential areas for investment that, providing financial possibilities arise, will make it possible to diversify.

*The main reason for the changes was the inability to achieve the main goal of producing 1 million tonnes of copper equivalent.*

# Overview of KGHM Polska Miedź S.A.'s Strategy for 2017-2021

## EBITDA at PLN 7 billion in 2021 and the EBITDA margin of the Capital Group at a level exceeding 20% on average in 2017-2021

KGHM Polska Miedź S.A. is the leader in the mining and smelting industry, and has constantly reached a high level of skills in the technology of extracting, processing and smelting of copper. The current Strategy of KGHM Polska Miedź S.A. is the Company's response to the new conditions on the commodities market. Along with the majority of mining companies around the world, which have been struggling with a significant drop in prices on the commodities markets, the Company's activities will be oriented first and foremost towards its core business projects, while

limiting expenditures for the least efficient projects and divesting non-core assets.

The main objective of the Strategy is to achieve Capital Group EBITDA at the level of PLN 7 billion in 2021, with the EBITDA margin of the Capital Group exceeding 20% on average in 2017-2021.

Achieving this main goal will be based on six key pillars – three executive strategies and three support strategies:

### Production and Safety

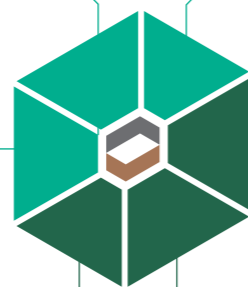
### Development of Domestic and Foreign Assets

### Financial Stability

### Coherent Organisation

### Corporate Social Responsibility

### Innovation



## Executive Strategies

### Development of Domestic and Foreign Assets

The Strategy aims to ensure the efficient management of investment and resource-related projects. The investment and capital expenditure of the Capital Group KGHM Polska Miedź S.A. for 2017-2021 has been estimated at the level of PLN 15 billion, of which over PLN 9.7 billion relates to KGHM Polska Miedź S.A. itself.

### Production and Safety

The Strategy assumes an average annual production volume (of copper in ore) in Poland at the level of approximately 470 thousand tonnes of Cu, and an average annual production volume abroad of approximately 145 thousand tonnes of payable Copper in the years 2017-2021. One of the main priorities is providing widely understood safety in the areas of labour, environment and energy.

### Coherent Organisation

The Strategy aims at implementing systemic solutions oriented towards growth in the value of the KGHM Polska Miedź S.A. Capital Group on the basis of working out tailor-made organisational processes aimed at improving the efficiency and effectiveness of the supply chain.

## Support Strategies

### Corporate Social Responsibility

The Strategy aims to further strengthen the brand of the KGHM Polska Miedź S.A. Capital Group with regard to shaping positive relations with the environment (stakeholders).

### Innovation

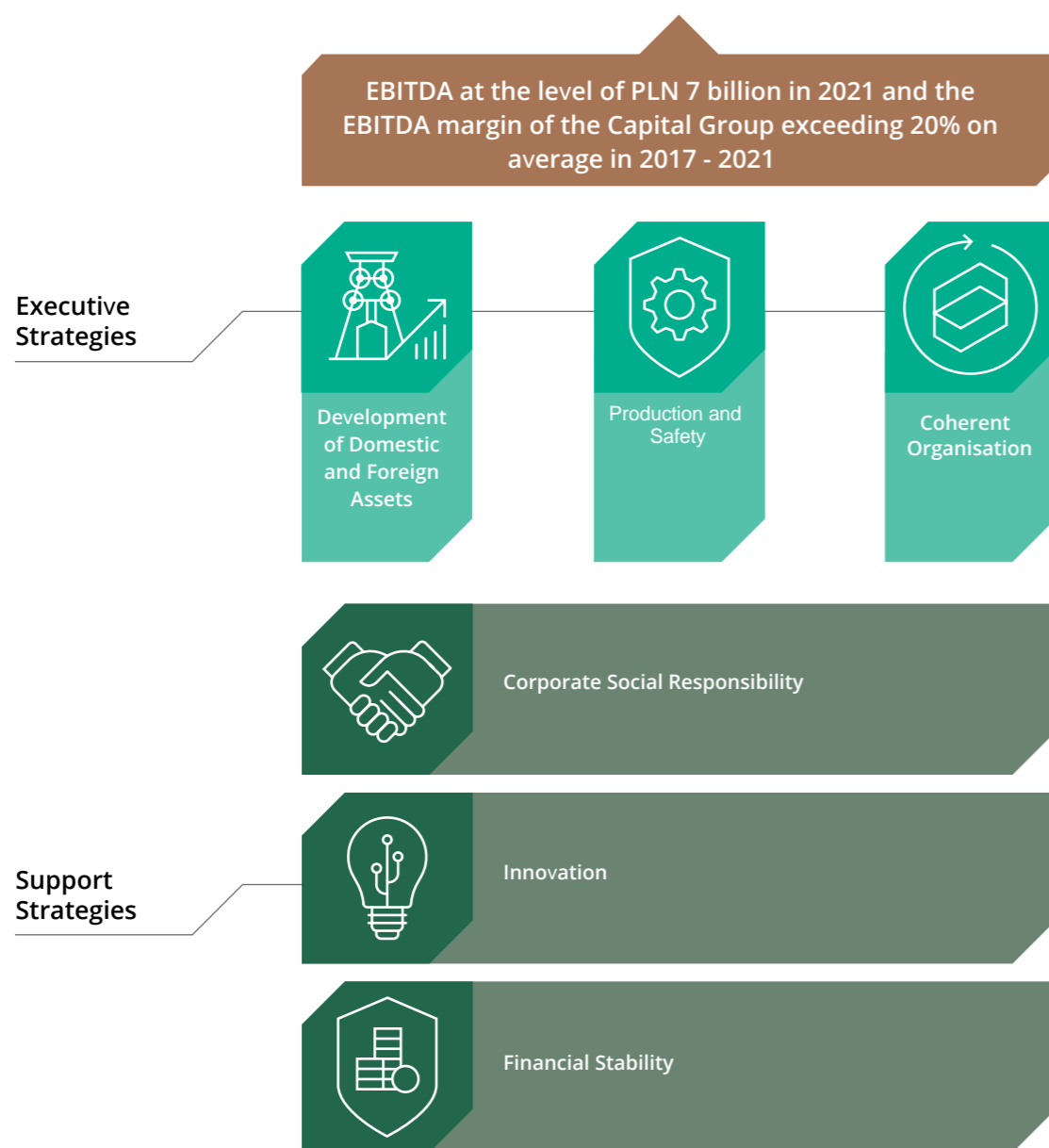
The Strategy is oriented towards improving productivity in the KGHM Polska Miedź S.A. Capital Group. It will enable long-term economic efficiency of the Company's business operations.

### Financial Stability

The Strategy assumes ensuring financial stability, supporting development and efficiency, and providing resilience to difficult market conditions. The Strategy aims to providing financial security to the KGHM Polska Miedź S.A. Capital Group.



## Pillars of the updated Strategy of KGHM Polska Miedź S.A. for 2017-2021



## Strategic Priorities of KGHM Polska Miedź S.A.

- Capital group EBITDA at the level of PLN 7 billion in 2021 and the EBITDA margin of the Capital Group exceeding 20% on average in 2017-2021.
- CAPEX at the level of PLN 15 billion in 2017-2021 – total investment and capital expenditure in the Capital Group locally and abroad.
- Stable average annual production from domestic and foreign assets at a cost guaranteeing financial security.
- Functioning in accordance with sustainable development concepts in order to harmonise the common expectations of stakeholders with regard to economic, social and environmental objectives.
- Focusing on innovative solutions in order to improve productivity.
- Financial stability in order to implement the assumed investment programme on time and within budget.
- Readiness to bring foreign assets to maturity in order to maximise revenue and foreign ROI.
- Using the potential of companies from the KGHM Polska Miedź S.A. Capital Group.

## Introduction

### Overview of KGHM Polska Miedź S.A.'s Strategy for 2017-2021

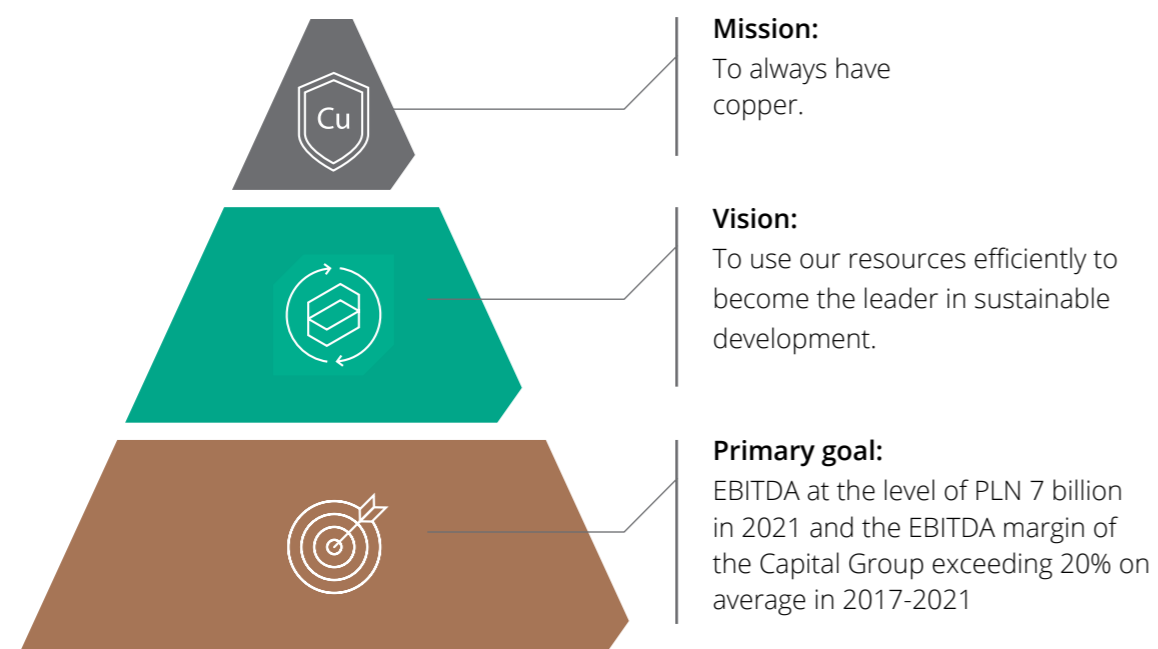
**Our mission – To always have copper.**

**Our vision – To use our resources efficiently to become the leader in sustainable development.**

KGHM Polska Miedź S.A. is driven by a vision of long-term, stable activity based upon the rational use of resources. Having access to commodities and their sustainable use are the values that KGHM Polska Miedź S.A. intends to continue to uphold for its long-term, unthreatened operation.

Since its foundation, KGHM Polska Miedź S.A. has contributed to creating the future for the generations to come. Driving regional development, building an attractive labour market and taking care of the natural environment are all clear signs of the Company's social responsibility.

Today the Company has marked its presence in the minds of several generations, becoming an essential part of their lives. The Company will continue to do its best to make its activity translate into giving future generations a sense of safety, well-being and pride of being a part of the environment shaped by KGHM Polska Miedź S.A. on the part of the next generations.



*KGHM Polska Miedź S.A. contributes to creating the future for the generations to come.*





# Executive Strategy Development of Domestic and Foreign Assets

Efficient management of investment and  
resource projects



## Achieving the main objective



The main  
objective

01

Optimising the investment projects portfolio and its economic effects.

02

Building centrally-managed processes/systems/tools and skills aimed at improving the effectiveness and efficiency of investments.

03

Optimising the portfolio of domestic and foreign resource projects.

The budget forecast for 2017-2021 assumes the continued implementation of the key projects:



Programme of giving access to ore (Deep Głogów Głęboki - Przemysłowy, and opening-out excavation headings and preparatory headings).



The Smelting Development Programme (SDP) and the Project to Increase Production Capacity to 160 thousand Mg of cathode copper per year in the Legnica Copper Smelter.



Expansion of the Żelazny Most tailings pond.



The Pyrometallurgy Modernisation Programme (PMP).



## Exploration in Poland

### Cu Projects

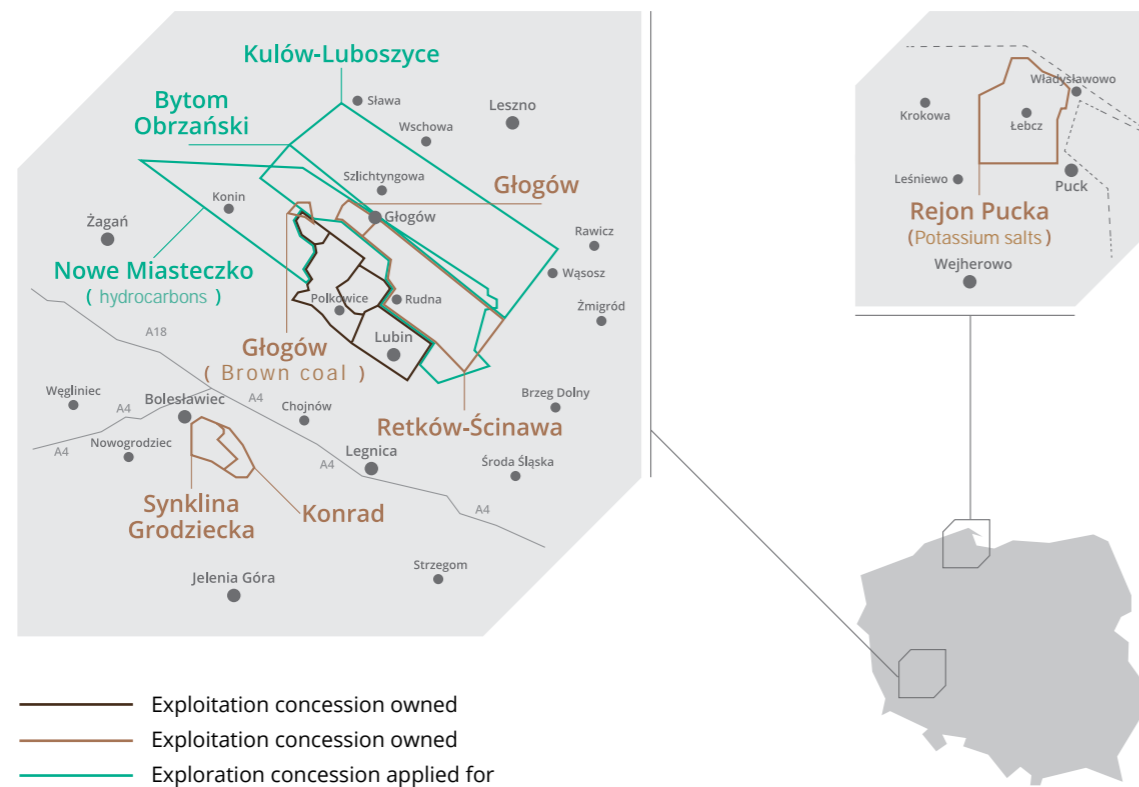
As part of the basic mining activity, i.e. exploration aimed at increasing the resource assets, geological works are currently being carried out under owned concessions for the search and measurement of copper ores in the following areas:

Synklina Grodziecka and Konrad, Retków-Ścinawa and Głogów. Work is also underway to obtain concessions for searching for and/or recognising copper ores in the areas of: Bytom Odrzański and Kulów-Luboszyce.

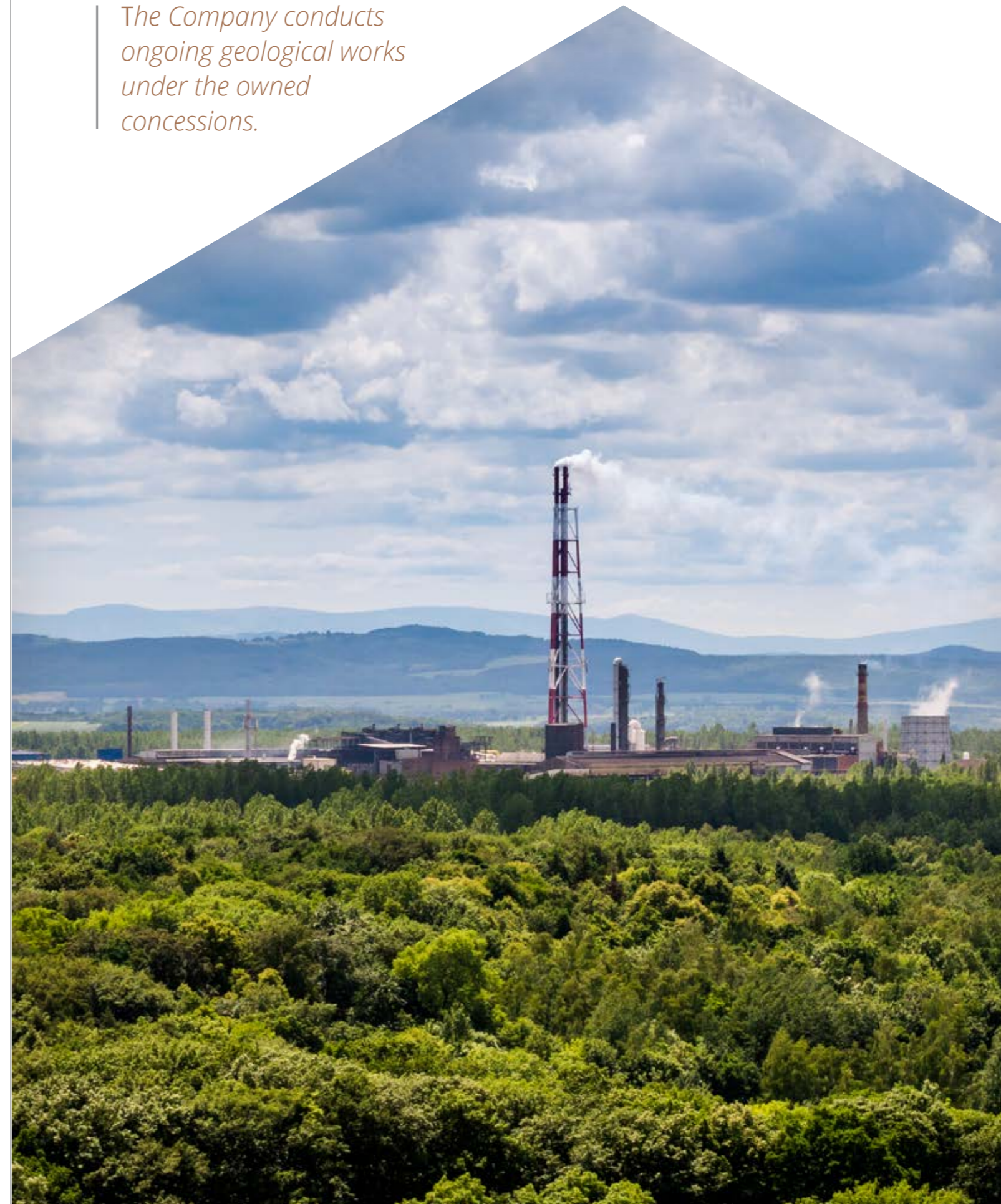
### Non-Cu Projects

Geological works under a concession for the search and measurement of potassium-magnesium salts in the Puck region, with accompanying commodities for: copper and silver ores as well as rock salt.

### Location of concession areas



*The Company conducts ongoing geological works under the owned concessions.*







## Foreign resource projects



### Sierra Gorda Oxide Project

The Sierra Gorda Oxide (SGOx) Project assumes the extraction of 133.6 million tonnes of Run of Mine oxide ore on the stationary mound, and building an SX-EW installation with auxiliary infrastructure. Currently, the design phase of the project has been implemented, which consists in the choice of the most economically viable variant for the project. The development phase of the project will be implemented when the Company secures the financial surpluses allowing the execution of the subsequent project phases. Preliminary talks have been held concerning cooperation on processing oxide ore using the existing infrastructure of nearby mines (third parties).



### Victoria Project

The Victoria Project is currently at the pre-production phase. The project involves the construction of an underground polymetallic mine, located near Sudbury in Canada. Due to the present macroeconomic situation, the management board of KGHM Polska Miedź S.A. has decided to modify the project schedule which was adopted earlier. The project will be continued when the Company secures financial surpluses.



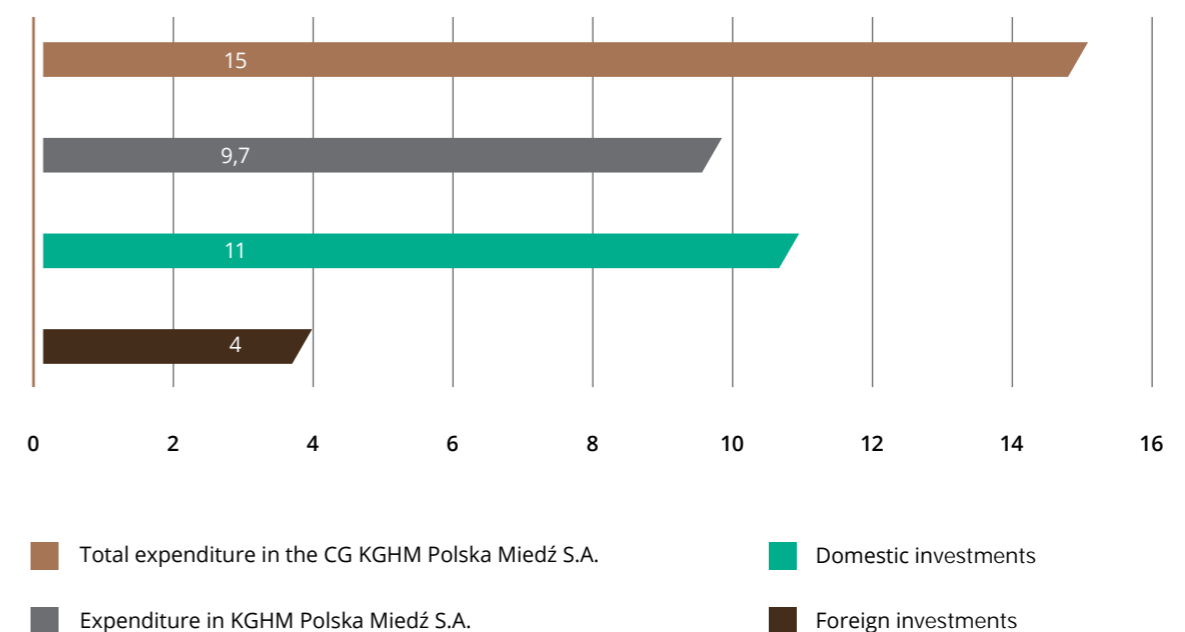
### Ajax Project

KGHM Polska Miedź S.A. holds 80% shares in the Project, with the remaining 20% held by Abacus Mining & Exploration. Average annual production is estimated at around 58 thousand tonnes of Cu and 125 thousand ounces of gold in concentrate. The key issue in the project is obtaining an environmental permit from the British Columbia province and the federal government of Canada to be issued in 2017. The project team is continuing negotiations with the indigenous population to sign the Project Agreement. Further steps, if the permit is issued, will involve analysing the possibilities for project development and choosing the optimum scenario for KGHM Polska Miedź S.A. The Project will be continued if the Company secures financial surpluses.

## Efficient management of investments and resource projects

Total investment and capital expenditure in the Capital Group, indicated in the Strategy for KGHM Polska Miedź S.A. for the years 2017-2021, will amount to PLN 15 billion, of which in the Company itself will account for over PLN 9.7 billion.

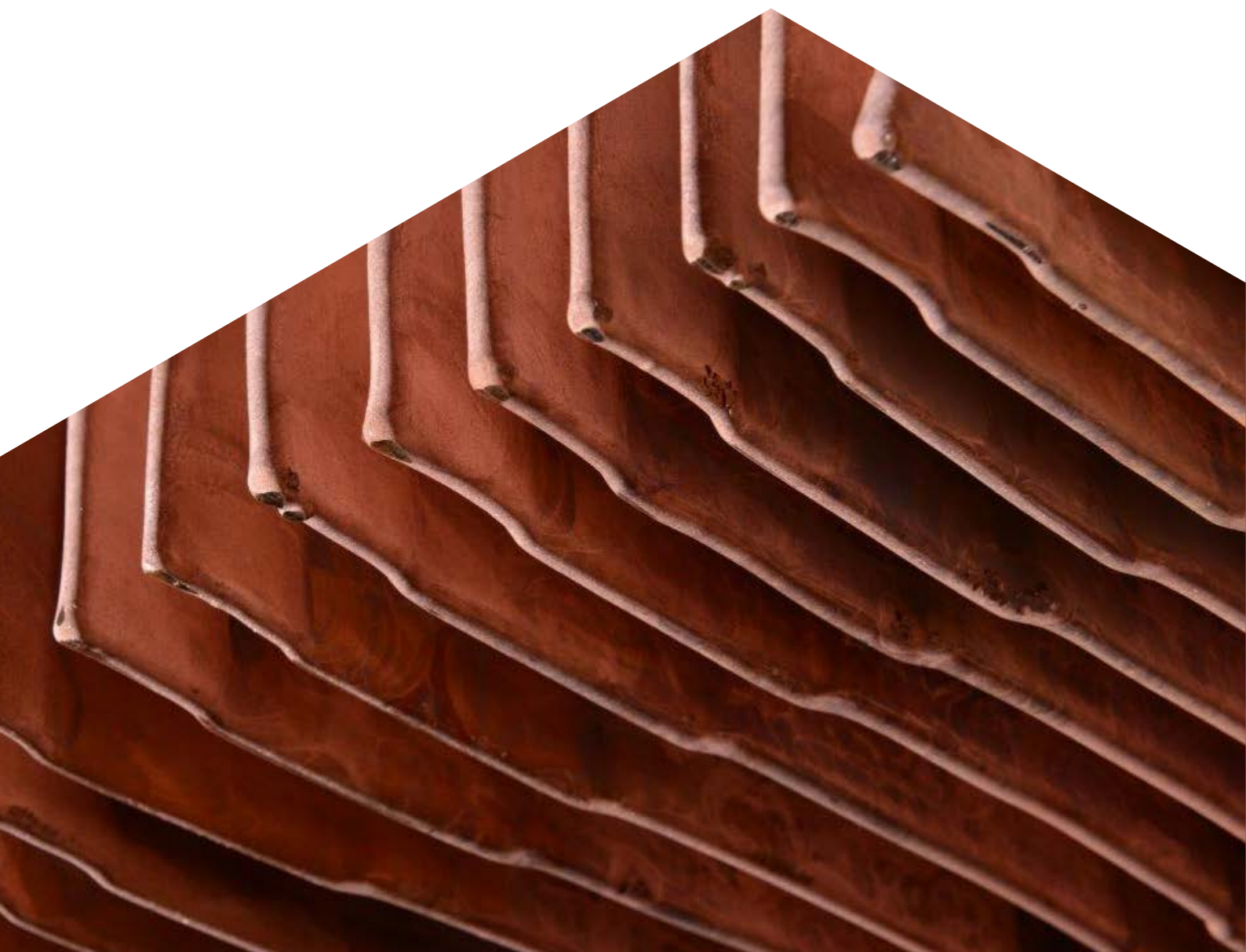
Investment and capital expenditure in the years 2017-2021 (in PLN billion)





# Executive Strategy Production and Safety

Achieving an annual production volume (copper in ore) in Poland at a level of approx. 470 thousand tonnes of copper, with C1 cost at the level of approx. USD 3800 /tonne and achieving an annual production volume abroad at the level of approx. 145 thousand tonnes of payable copper with C1 cost below USD 4000 /tonne in the years 2017-2021.



## Achieving the main objective

The main objective of the Executive Strategy Production and Safety is to be achieved through the effective implementation of eight operative goals, as follows:

- 1 Mining production at an annual level of approx. 470 thousand tonnes of copper in ore, with C1 cost at a level of approx. USD 3800/tonne.
- 2 Maintaining smelting production at the level of approximately 570 thousand tonnes/year.
- 3 Average annual production of mined copper from Sierra Gorda in 2017-2021 at approx. 70 thousand tonnes of payable copper (55% of shares) at an average annual C1 cost of USD 3622 /tonne in that period.
- 4 Production of mined copper from the Robinson mine at the average annual level of 47 thousand tonnes of copper, with C1 cost at approx. USD 4200 /tonne in 2017-2021.
- 5 Production of copper from the Carlota, Franke and Morrison mines.
- 6 Increasing safety at work.
- 7 Observing emission standards for their environmental impact.
- 8 Ensuring energy security and perfecting energy efficiency.



## Domestic Production

In the global structure of KGHM Polska Miedź S.A.'s copper mining production, the production from domestic assets accounts for the largest volume. Therefore, in order to maintain the production from its own assets in Poland, there are plans, among other things, to launch production from section G-51 O/ZG Polkowice-Sieroszowice, to open further exploration areas as part of the OG "GłógówGłęboki-Przemysłowy" and to make available the Radwanice-Gaworzyce deposit. To achieve the expected cost parameters associated with mining production, several actions aimed at improving operational and cost effectiveness need to be implemented. The most important are the efficient management of mining machinery and the improvement and automation of mining operations.

Smelting development programmes implemented in recent years at KGHM Polska Miedź S.A. lead us to expect the annual smelting production of copper to be maintained at the level of 570 thousand tonnes. To maintain the smelting production at the planned level, it will be necessary to maintain ore processing capacity at the

Ore Processing Plant at the level of 34 million Mg/year, and to achieve the project parameters for the Pyrometallurgy Modernisation Programme. Maintaining the assumed cost index will depend, among other things, on the tasks carried out as part of improving the operational and cost effectiveness in processing and metallurgy. Actions to mitigate threats to maintaining viable production, such as the sale of slag, the management of sulphuric acid produced in the process of copper production, and the removal of arsenic from the technological cycle, will be of key importance when implementing these strategic plans.

*Maintaining a stable volume of copper production both in Poland and abroad is crucial for achieving the main objective of the entire Strategy of KGHM Polska Miedź S.A.*

## Production abroad



### Sierra Gorda

Average production of copper mining from the Sierra Gorda mine in 2017-2021 at an annual level of about 70 thousand tonnes (a 55% share) will be achieved through the implementation of a project based on Phase I of the investment, together with activities aimed at optimising the technological progress, which will result in an increased production capacity with the investment expenditure planned. It is assumed that Sierra Gorda's financial independence will be achieved from 2021, which means no more need for ownership funding to the Company after 2020. These objectives will be achieved, in particular, by improving the operational and cost effectiveness of the mine.



### Robinson

There are plans to end the production activity of this mine in 2022. This is the best scenario for KGHM Polska Miedź S.A., mainly from the point of view of capital expenditures. In addition, work has begun on analysing the optimal process for closing the Robinson mine and reclaiming the land.





### Carlota / Franke / Morrison

The Carlota mine is in the late phase of its life cycle, with 2014 being the last year of active mining. In further years, the leaching of the previously excavated copper ore will be carried out, along with the production of copper cathodes in the SX/EW plant. At the same time, efforts are underway to increase the efficiency of the mine, mainly to reduce its operating costs and to analyse the possibility of continuing operations using the mining potential in the vicinity of the mine (the Eder deposit).

The Franke mine is also in the late phase of its life cycle. The ore stored in the heap is expected to be processed by 2021. It is assumed that the mining activity will be continued, using the advantageous location (deposits in the vicinity of the mine) and the owned assets – processing plant – to process foreign ore and obtain additional revenues. Applications have been filed to obtain environmental permits for the San Guillermo deposit, which will enhance production in the second half of 2017. Additionally, exploratory works are being conducted in adjacent areas to document further resources. As part of increasing the revenue from the processing of foreign ore, discussions have been initiated with representatives of nearby plants.

The Morrison mine has completed a drilling programme to increase mineral reserves for 2018-2019. In addition, drilling is planned on the Levack deposit (near to the Morrison mine) to identify and increase mineral reserves. Documentation of resources in the above areas will decide on the future scenarios for the Morrison mine's operations.



## Increasing safety at work

KGHM Polska Miedź S.A. places a strong emphasis on issues concerning safety at work. The Company applies high standards of safety and hygiene at work, both as concerns its employees and contractors that provide services within KGHM Polska Miedź S.A. Each of the Company's Subsidiaries has implemented a system of work safety management in line with the applicable norms and standards. The working environment is continuously monitored, along with periodic reviews and assessments of possible hazards, machinery and equipment inspections. In addition, all required technical studies are carried out and all approvals obtained. Employees undergo systematic training, periodic surveys and are constantly improving their qualifications. The aim of further improvement in the area of occupational

health and safety in 2014 was to implement a uniform health and safety policy and to launch a long-term "Work Safety Improvement Programme at KGHM Polska Miedź S.A. until 2020". It is planned to implement activities aimed at integrating security improvement areas both in Poland and abroad. For this purpose, work will commence on implementing uniform standards through policies, programmes and regulations.

Just like KGHM Polska Miedź S.A., KGHM International Ltd. also cares about occupational safety issues. It has implemented and is constantly improving its "Zero Harm" policy, which is one of the key values of the entire Capital Group. This policy is broadly understood as the constant prevention of threats in the areas of health and safety at work, as well as environmental aspects, in particular





## Executive Strategy Production and safety

by implementing and improving the 5x5S order, Standardise and Sustain) security programme, or the TRIR (Total Recordable Injury Rate) analysis. At KGHM International, Health, Safety and Environment management is integrated with the broadly

understood subject of Corporate Social Responsibility (CSR), and initiatives are launched based on the CSR-HSE Strategy of KGHMI, which cover all employees.

## Environmental protection

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Every facility operated by KGHM Polska Miedź S.A. holds valid administrative decisions allowing it to use the environment, which means that environmental protection authorities have confirmed their compliance with the emissions parameters set for each of them. Acting in harmony with nature and environmental care constitute areas of the Company's specific focus. To minimise the impact of the Company's activities on elements of the environment, it is planned to reduce the facilities' impact on the environment by, for example, monitoring CO<sub>2</sub> emissions, reducing odours from exhaust shafts, and adjusting existing integrated permits to the new Best Available Technique (BAT) requirements.

KGHM International is also striving to spread its "Zero Impact" undertaking as a basic value in the area of environmental protection. The environmental strategy sets out a proactive approach, co-operation with employees, clients, stakeholders, government agencies and communities in the areas where we operate, to maintain and improve the quality of the environment. Workshops for employees and subcontractors are organised to ensure transparent communication with stakeholders, representatives of government agencies and local communities.

## Energy security

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Ensuring energy security for KGHM Polska Miedź S.A. will be primarily achieved by reducing the costs of key energy utilities by centralising the purchasing process, securing the supply and quality of electricity

from external suppliers, generating electricity from high-efficiency cogeneration from own generation sources and by improving the overall energy effectiveness.



*The Company is strongly focused on operating in harmony with nature and caring for the environment.*



# Executive Strategy Coherent Organisation

Implementing systemic solutions focused on increasing the value of the KGHM Polska Miedź S.A. Capital Group



## Achieving the main objective

The executive strategy's main objective in the area of "Coherent Organisation" is to improve, regroup and implement new processes in the face of the need to constantly adapt to the changing business environment. This will enable a rapid response in the face of change.

A coherent organisation requires taking a global look at the Company and the key processes within.

Furthermore, the Strategies of companies from the Capital Group often set out two types of challenges to the mother company. One concerns the diversity of internal strategies in subsidiaries, with their various differences and similarities. The other refers to the issue of strategic cohesion of the

entire Group, and strategic relations between the mother company and its subsidiaries.

The implementation of initiatives proposed as part of the main objective is to ensure the achievement of fundamental, long-term goals in the face of the adopted course of action.

*A constant need to adapt to the changing business environment generates continuous growth and improvement of processes.*



The main objective

01

Integrating the organisation by improving the processes and standards of management.

02

Optimising the organisation and cost of the chain of values.

03

Co-operating within a sustainable supply chain.



## Integrating the organisation by improving the processes and standards of management

The implementation of the Strategy involves the integration of managerial functions and introducing the principles of process management and the subsequent reorganisation of business processes and their further optimisation to gradually reach

the desired economic results, as well as to adapt the organisation to the changing business environment. This operational goal identifies processes that influence the efficiency of the organisation and processes that require improvement.

## Optimising the organisation and cost of the chain of values.

A systemic approach to changes brought about by the digitalisation and transformation of the Company in accordance with the Industry 4.0 concept will enable it to maintain the pace of development and to respond appropriately to changes in the business environment – both by avoiding threats and seizing opportunities. The new industrial opportunities will help maintain market competitiveness focused in particular on the two following areas:

- 1 An effort to increase efficiency and reduce costs in the existing value chains;
- 2 New “intelligent” technologies and production management systems based on online communications between production process elements and on advanced data analyses.

## Cooperating within a sustainable supply chain

Key elements of actions taken as part of this objective include:

- 1 Co-operating to create a sustainable supply chain based on the circular economy model, life cycle assessment and sharing economy.
- 2 Developing co-operation with the main stakeholders of the Company, including, in particular, suppliers and customers.





# Support Strategy Corporate Social Responsibility

Strengthening the image of the  
KGHM Polska Miedź S.A. Capital  
Group



## Achieving the main objective

The strategy is focused on the positive reinforcement of the positive image and reputation of the mother company and its subsidiaries, by using the effects of synergy

of KGHM Polska Miedź S.A. Capital Group, which will allow it to establish proper relations with others – the stakeholders.



The main objective

01

Establishing co-operation with local communities and internal stakeholders.

02

Strengthening the position as a trusted and stable business partner.

03

Maintaining the position as a responsible employer.

04

Building the image of the KGHM Polska Miedź S.A. Capital Group as one that cares about health and the environment.

05

Improving the efficiency of internal and external communications of the KGHM Polska Miedź S.A. Capital Group.





## Establishing co-operation with local communities and internal stakeholders.

It is planned to continue co-operation with local and regional communities for the purpose of establishing social dialogue on a partnership basis to develop a common position on issues that are of key importance to the operation of KGHM Polska Miedź S.A. Capital Group and its external stakeholders. Social dialogue will be

expanded to include discussions with organisations active in entities within the KGHM Polska Miedź S.A. Capital Group (trade unions), as well as with social organisations in which employees from the KGHM Polska Miedź S.A. Capital Group play an active role.



## Strengthening the position as a trusted and stable business partner.

KGHM Polska Miedź S.A. has a long-standing reputation as a trusted business partner. It has developed and implemented standards for co-operation with the business environment. The actions planned in this

area will focus on strengthening the established position of the Company, and on extending the standards to the KGHM Polska Miedź S.A. Capital Group.

## Maintaining the position as a responsible employer

KGHM Polska Miedź S.A. comes high in the rankings for the most attractive and desirable employer. Maintaining this status remains one of the most important elements of the CSR Strategy. A positive internal image

of the Company among its employees promotes the integration of teams around common goals and values, and motivates them to act and co-operate.

## Building the image of KGHM Polska Miedź S.A. Capital Group as one that cares about health and the environment.

The KGHM Polska Miedź S.A. Capital Group holds, uses and processes its assets while always reducing to the minimum its impact on the natural environment, on the health and safety of its employees and on the others with which it cooperates. The principles of

sustainable growth and S.A. preserving natural reserves for future generations, while observing the interests of its stakeholders, including local communities, serve as the foundations for undertaking development activities within the KGHM Polska Miedź S.A. Capital Group.

## Improving the efficiency of internal and external communications of the KGHM Polska Miedź S.A. Capital Group.

In view of information requirements imposed on listed companies, and the strict nature of legal provisions in this area, priority has been given to increasing the efficiency of internal

and external communication of KGHM Polska Miedź S.A. Capital Group in order to eliminate any information gaps and any incoherent management of information flow.



# Support Strategy Innovation

## Productivity growth within the KGHM Polska Miedź S.A. Capital Group



## Achieving the main objective

For the KGHM Polska Miedź S.A. Capital Group, innovative operations are of key priority. They help maintain the economic efficiency of the business activities

conducted and supervised by the Company. The key issues that contribute to achieving the main objective of innovation have been described in the following operational goals:



The main objective

01

Increasing the role of intellectual capital within the KGHM Polska Miedź S.A. Capital Group.

02

Ensuring effective management of innovation within the KGHM Polska Miedź S.A. Capital Group.

03

Protecting intellectual property within the KGHM Polska Miedź S.A. Capital Group.

## Increasing the role of intellectual capital within the KGHM Polska Miedź S.A. Capital Group.

In the process of creating innovations, the Company draws on both the experience of the scientific world and on its own resources. In many areas, KGHM Polska Miedź S.A. is a pioneer in lines of technology and must develop questions unknown to other businesses, both in industry and

science. It is therefore very important to foster mutual co-operation between internal experts with extensive practical knowledge, not only in the area of ore mining and processing technologies, but also in the fields of engineering, statistics, numerical techniques, etc.



*KGHM Polska Miedź S.A. is a global pioneer in many areas of technology.*



## Ensuring effective management of innovation within the KGHM Polska Miedź S.A. Capital Group.

To improve innovative activity, assumptions for the target model for R&D and innovation operations in the KGHM Polska Miedź S.A. Capital Group will be developed, including the consolidation of skills of entities from

the KGHM Polska Miedź S.A. Capital Group, the elimination of duplicating services, the optimisation of the use of research infrastructure, and regulations concerning intellectual property.

## Protecting intellectual property in the KGHM Polska Miedź S.A. Capital Group.

For an innovative company such as KGHM Polska Miedź S.A., it is essential to strengthen the protection of intellectual property. An important role is played in this

context by creating an effective procedure for choosing and protecting the existing innovative solutions, and gathering the necessary information to take this decision.



# Support Strategy Financial Stability

Securing financial stability, supporting development and efficiency, and providing resilience to a difficult market situation.



## Achieving the main objective

The goal of implementing the "Financial Stability" Strategy is achieving financial stability of the KGHM Polska Miedź S.A. Capital Group through having the optimum financing structure and conditions. The further centralisation of processes in particular areas and the continued implementation of best practices in the financial management in the KGHM Polska Miedź S.A. Capital Group will make it possible to improve the efficiency of these processes and achieve effects of synergy. The implemented strategies include measures to be taken in all areas of the financial division.



The main objective

01

Optimising external financing.

02

Supporting comprehensive business management on the basis of the financial information available.

03

Improving the risk management process in the KGHM Polska Miedź S.A. Capital Group.



## Optimising external financing

Optimising external financing by diversifying its sources for the KGHM Polska Miedź S.A. Capital Group, including the financing of development projects.

- 1** Debt management and monitoring the debt level. The objective of this process is monitoring the Company's financial security through analysing debt indicators. The debt assessment is based, among other things, on the net debt indicator analysis/EBITDA. To maintain financial liquidity and a safe level of risk, the Company assumes the optimum level for this indicator at: net debt/ EBITDA < 1.0 and the admissible level of shaping this indicator at the net debt/EBITDA level of < 2.0.
- 2** Consolidating external financing as a basic assumption of the financing strategy for the KGHM Polska Miedź S.A. Capital Group, makes it possible

to reduce the costs of servicing external debt and improves the transparency of the financial structure.

- 3** A basic element of supporting the investment process of the KGHM Polska Miedź S.A. Capital Group is the assessment of economic efficiency of key projects to support the high level management in adopting informed decisions. The scope of support in this area also includes determining the impact of the planned development projects on the current and future financial situation of the Company and the Capital Group.

## Supporting complex business management on the basis of the financial information available

Supporting complex business management on the basis of the financial information available and coordinating the resolution of financial problems in the entire chain of improving business value.

- 1** Improving tools for the analysis of factors with an impact on costs and enabling cost-cutting in the whole KGHM Polska Miedź S.A. Capital Group.
- 2** Optimising investment processes to bridge the ex ante and ex post financial efficiency of investments.
- 3** Implementing, throughout the KGHM Polska Miedź S.A. Capital Group, established and tested management practices for credit risk, which will help improve the predictability of financial results and limit the risk of adverse credit incidents.

## Improving the risk management process in the KGHM Polska Miedź S.A. Capital Group.

The Company will continue to improve its risk management process through continuing measures aimed at maintaining the high level of securing liabilities and using appropriate credit risk management instruments.

- 1** Ensuring the ongoing improvement of the reporting processes for financial management information, as the basis for quick and efficient business decisions.
- 2** Monitoring changes in the regulatory environment in the area of financing, in order to prepare the KGHM Polska Miedź S.A. Capital Group for new challenges and to eliminate risk to shareholders.
- 3** Simplifying and adapting the global structure of the KGHM Polska Miedź S.A. Capital Group to the constantly and dynamically changing legal and tax environment, as well as eliminating tax risks and optimising the efficiency of financial flows, will help prepare the KGHM Polska Miedź S.A. Capital Group for the current and potential challenges and maximise value for stakeholders.





## Support Strategy Financial Stability

The Company operates in a market environment characterised by high price volatility of commodities, as well as currency fluctuations and dynamic regulatory changes that significantly increase the uncertainty of conducting economic activity.

Centralising the risk management process at a global level will make it possible to increase the predictability of financial results of the KGHM Polska Miedź S.A. Capital Group and to optimise the use of financial instruments, thereby mitigating the risks related to significant fluctuations of market risk factors. The process of managing market risk in the Company is focused on achieving the following goals:

- 1 Limiting the volatility of the gross financial result.
- 2 Increasing the probability of implementing budget assumptions.
- 3 Limiting the likelihood of the KGHM Polska Miedź S.A. Capital Group losing financial liquidity.
- 4 Maintaining the good financial standing of the KGHM Polska Miedź S.A. Capital Group, in particular with respect to the expected credit ratings and the requirements of debt financing suppliers (covenants).
- 5 Supporting the process of implementing the strategy of the KGHM Polska Miedź S.A. Capital Group and implementing decisions in the area of investment activity, taking into consideration sources of investment financing.

Price risk management objectives should be considered jointly, and the possibility of achieving them is determined first and foremost by the internal situation of particular members of the Capital Group of KGHM Polska Miedź S.A. and by market conditions.

A strategic financial objective makes it possible to achieve the Main Strategy and to build value for shareholders and stakeholders of the KGHM Polska Miedź S.A. Capital Group through the ongoing improvement of the efficiency of the used capital.

*Centralising the market risk management process will make it possible to improve the predictability of financial results of the KGHM Polska Miedź S.A. Capital Group*

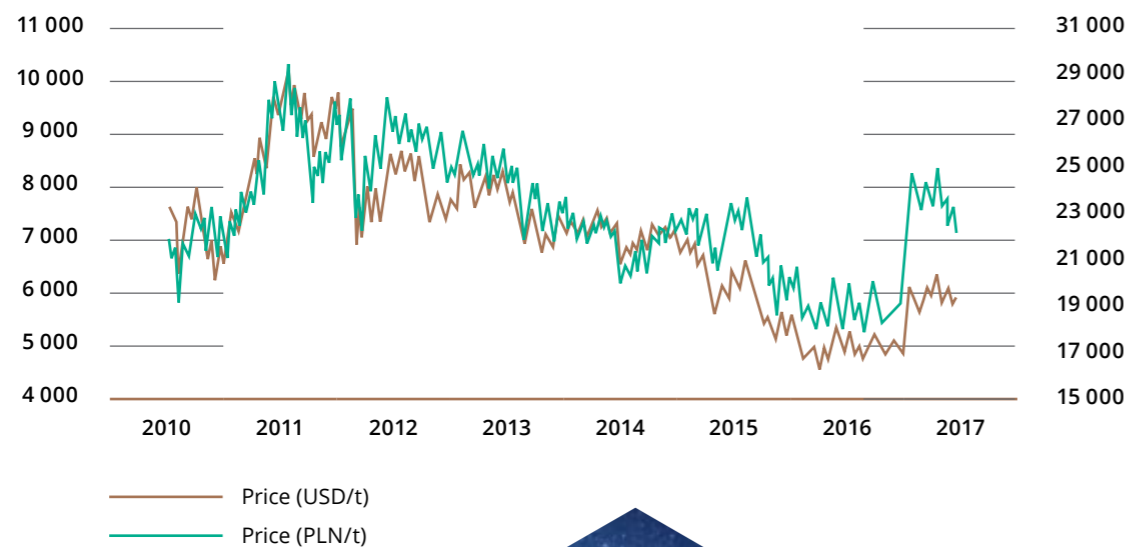


# The macroeconomic background for KGHM Polska Miedź S.A. in 2010-2016

## The macroeconomic situation in the mining sector

In the last period, we witnessed significant price drops on the commodities markets. The prices of key commodities were at their lowest since the financial crisis of 2009.

Price per tonne Cu in USD (left axis) and PLN (right axis)

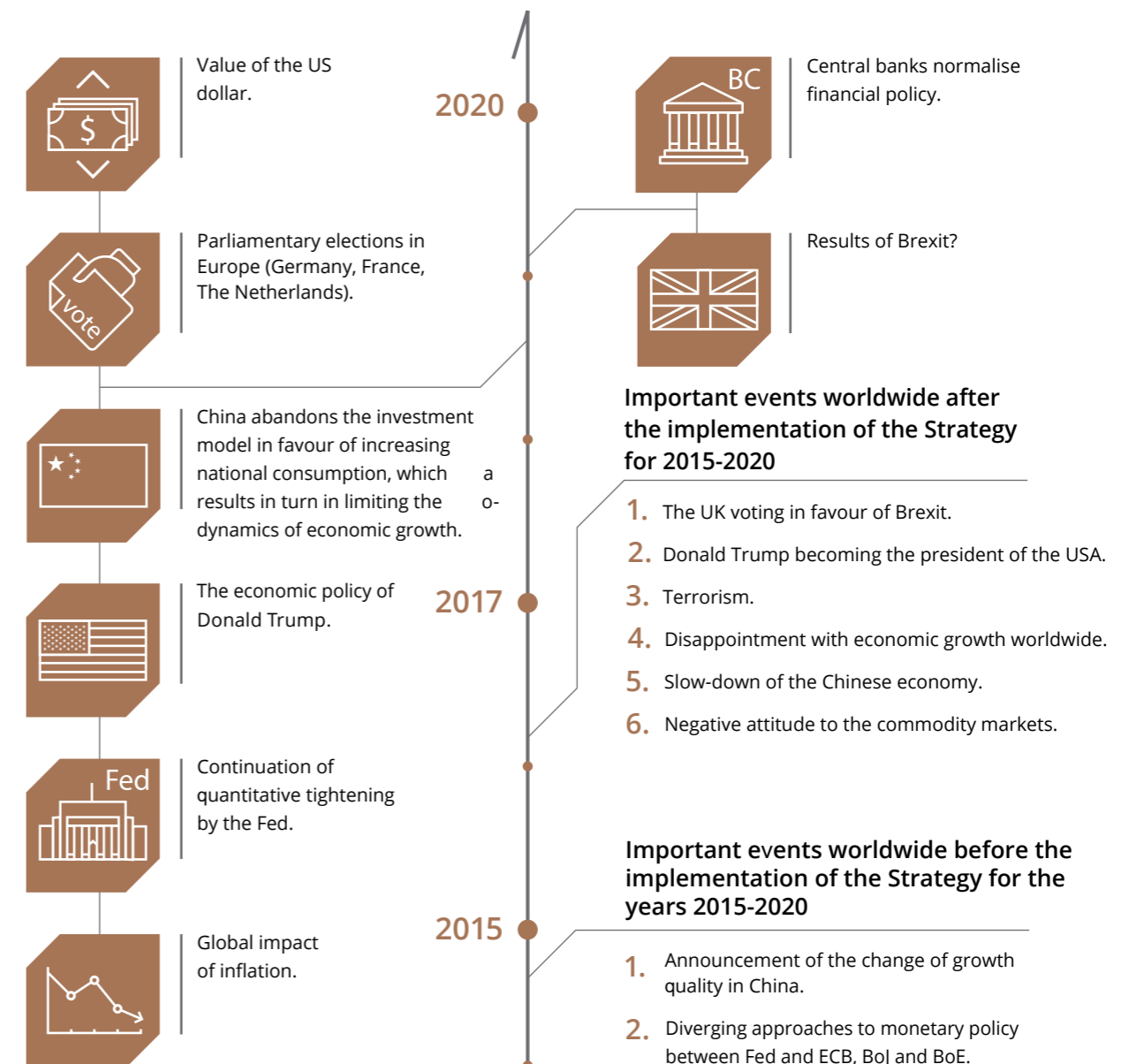


## Decreasing productivity of the mining industry

In the last 10 years, mining productivity decreased by 28%. The trend for decreasing productivity will continue in the long term, as less and less attractive resources are noted at shallow depths. In addition, the 2001-2012 weighted average

value of Cu in ore plummeted by almost 30%. New technologies that do not respond to the mining challenges will not have impact on the quality and quantity of the copper deposits available.

## Significant events that may occur in 2017-2020





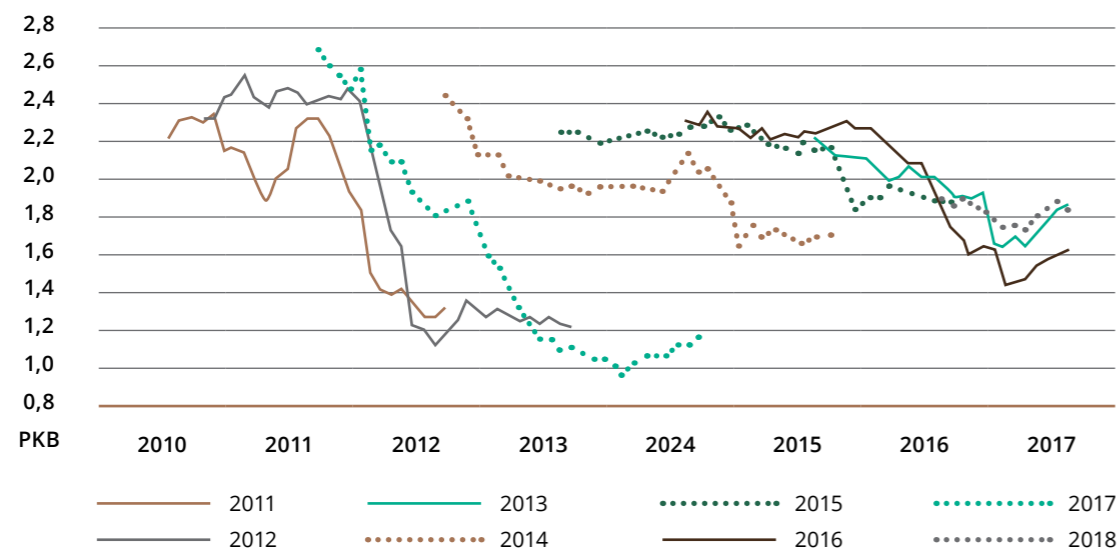
# Positive perspective for the commodities market

## Improving economic perspectives worldwide

In the last couple of years, the global economic growth has been below the forecasted level. Real economic data more often than not brought negative surprises, which resulted in the forecasted values falling, as the period they concerned

approached. The most recent data from the G10 countries show that this tendency has reversed, which gives grounds for expecting improvements in economic growth in the G10 countries in the next two years.

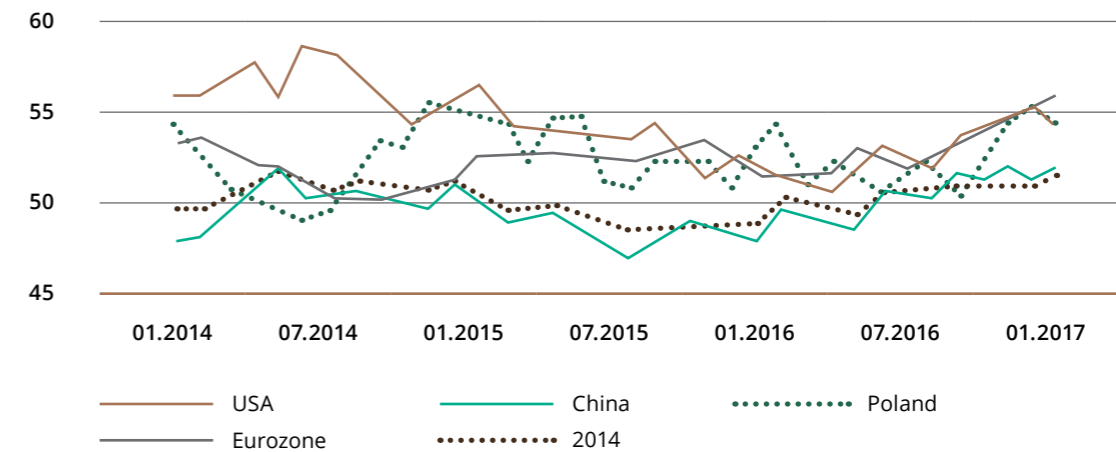
The era of negative forecast revisions in the G10 countries is coming to an end.



The PMI indicators, showing industry trends, have shown a clear decreasing tendency, signalling declining dynamics of growth, or continued at a level below 50

points, which is a negative signal for the economy of a given country. Improvements in the indicators worldwide have been observed in recent quarters.

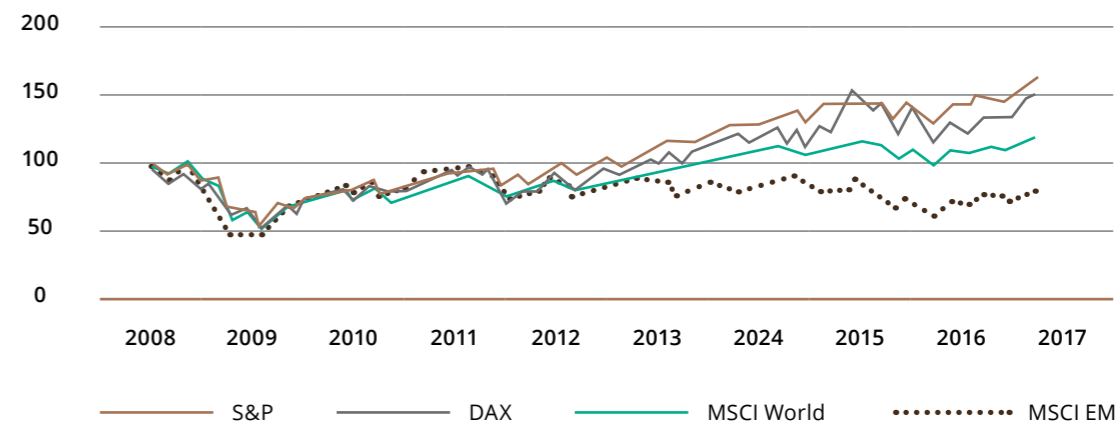
Data in the industry indicates economic expansion in the near future.



The markets for shares, which are often considered to be a barometer of the economy, have been growing for a while. On the one hand, this may be regarded as a positive sign of the improving economic conditions expected by investors. On the other hand, high prices of shares may make

some investors look for alternative investment opportunities, to such areas that have, in the recent years, been on a decrease, and should improve if the global trend improves. This includes the commodity markets.

Following stagnation on the market or shares, investors are now showing signs of optimism for growth perspectives.





Conclusions

Positive perspective for the commodities market

Stable growth of consumption – the copper market until 2021

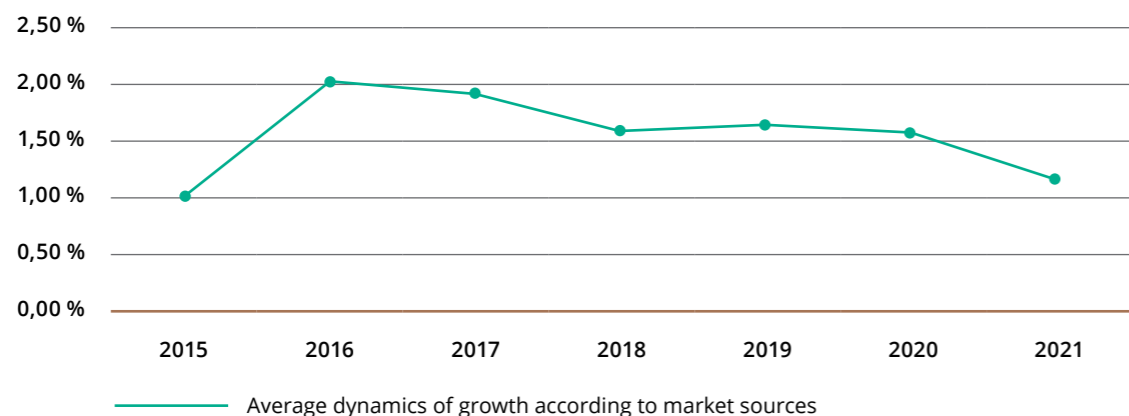
The small number of new mining projects to be launched in the upcoming years will result in supply not meeting the steady growth of demand.

The growth in demand for copper will be slower than in the period of the dynamic development of the Chinese economy, but it will be stable. Demand for copper will be

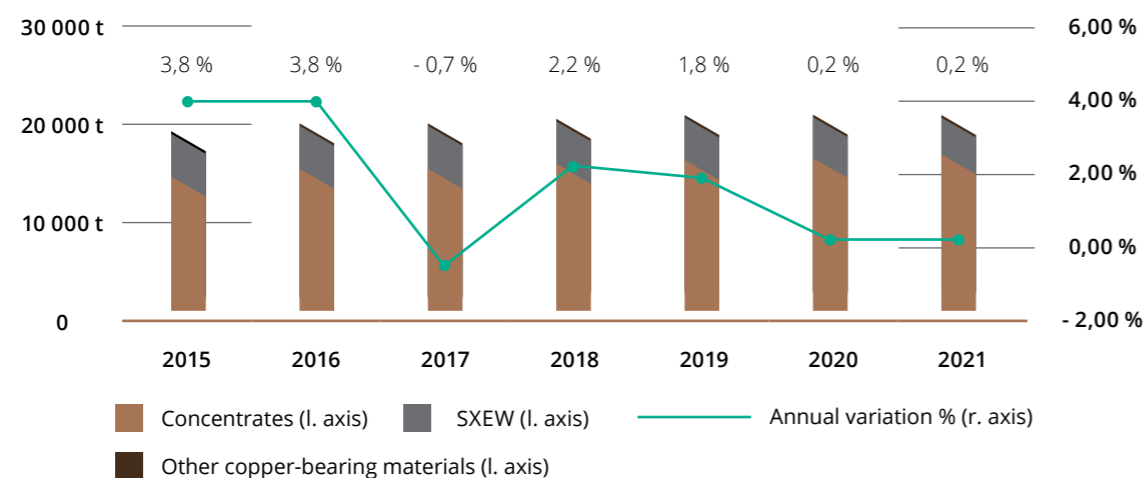
supported, apart from infrastructural investments and the growing electrification of the world, also through the development of new technologies, investments in RES and innovations in the transport sector.

Stable growth of consumption will be supported through investments in RES and the automobile sector.

Stable growth of demand for copper is forecast by market consensus.



Dynamics of growth of supply will slow down in the coming years



Current balance of the copper market

The last few years have seen a downward trend on the commodities market, a slow-down in the growth of the largest consumer of metals – China, a drop in interest from investors on the commodity market, and less eagerness from banks to finance mining projects, which have all resulted in no new investment projects in the area of copper extraction.

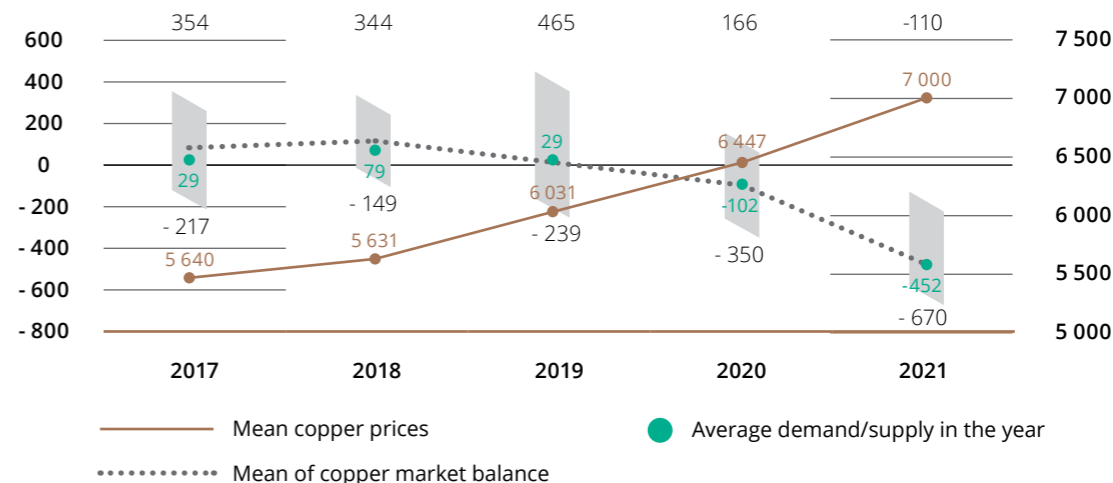
worldwide are not scarce, but the conditions of extraction are deteriorating year by year.

According to the current analyses, even implementing all the highly-probable and fairly-probable mining projects will not satisfy the growing need for the metal.

Implementing such projects takes from several years to several decades, which is the main factor shaping the expectations of a deficit on the copper market in the next few years. Resources of the metal

*Nearing the end of the decade, there may be significant shortage of metal production.*

Balance of the copper market



## Contact

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