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## Introduction



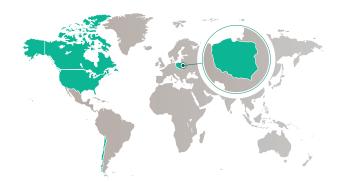
## 1.1 KGHM Group in 2016

The KGHM Group is one of the world's leading producers of copper and silver, with more than 55 years of experience in the extractive industry and non-ferrous metal processing. In Poland, we operate one of the world's largest copper ore deposits, thereby guaranteeing continuous production for many decades to come. The KGHM Group also produces gold, molybdenum, lead and rock salt, among other things, and is one of the leading exporters and one of the largest companies in Poland.

#### 1.1.1 Who are we?

We are a global, innovative organization involved in technologically advanced exploration, mining and smelting operations.

We have a geographically diversified portfolio of mining projects. Our assets are located on three continents – Europe, North America and South America. The Company operates in compliance with the highest environmental standards and legal regulations. The



achievements of KGHM Polska Miedź S.A. in the area of corporate social responsibility are widely recognized everywhere where the Company's operations are located. The employees are KGHM's most valuable asset.

The KGHM Group comprises over 70 entities located on three continents: in Europe, North America and South America, employing more than 33,000 people.

Some of our subsidiaries form their own groups, the largest of which, both in terms of the number of entities and level of capital, is Capital Group KGHM INTERNATIONAL LTD. (KGHMI) with its main assets located in Canada, the USA and Chile. It comprises 25 subsidiaries (including KGHM INTERNATIONAL LTD.).

In 2016, the KGHM Group also had interests in three joint ventures: Sierra Gorda S.C.M., Elektrownia Blachownia Nowa Sp. z o.o. w likwidacji and NANO CARBON Sp. z o.o.

KGHM Polska Miedź S.A. shares are listed on the Warsaw Stock Exchange.

KGHM Polska Miedź S.A. is a multi-plant enterprise comprising the Head Office and ten plants: three mining plants (ZG Lubin, ZG Polkowice-Sieroszowice, ZG Rudna), three copper smelters (HM Głogów, HM Legnica, HM Cedynia), an Ore Processing Plant (ZWR), a Hydro-Engineering Plant, a Mine-Smelter Emergency Rescue Unit and a Central Information Processing Center.

#### Scope KGHM Polska Miedź S.A.'s operations



Mining of copper and non-ferrous metal ores



Production of copper, noble metals and non-ferrous metals

#### Our organizational structure

#### DIVISIONS OF KGHM POLSKA MIEDŹ S.A. **MINING METALLURGY** OTHER Głogów Smelter/refinery Head Office · Lubin Mine Division Concentrators Division Division Polkowice-Sieroszowice Tailings Division Mine-Smelter Emergency Mine Division Legnica Smelter/refinery Rescue Division Division · Rudna Mine Division · Data Center Division · Cedynia Wire Rod Division

#### KGHM Polska Miedź S.A.

Type of activities

Mined and metallurgical metals production





#### Cu, Ag, Au

	Cu, Ag, Au
Main production assets	Main development projects
Underground mines: - Lubin - Polkowice-Sieroszowice - Rudna Copper smelters and refineries: - Legnica - Głogów I and Głogów II - Copper wire rod plant Cedynia	- Deep Głogów - Pre-production and exploration projects in south-west Poland

#### KGHM INTERNATIONAL LTD.

#### Type of activities

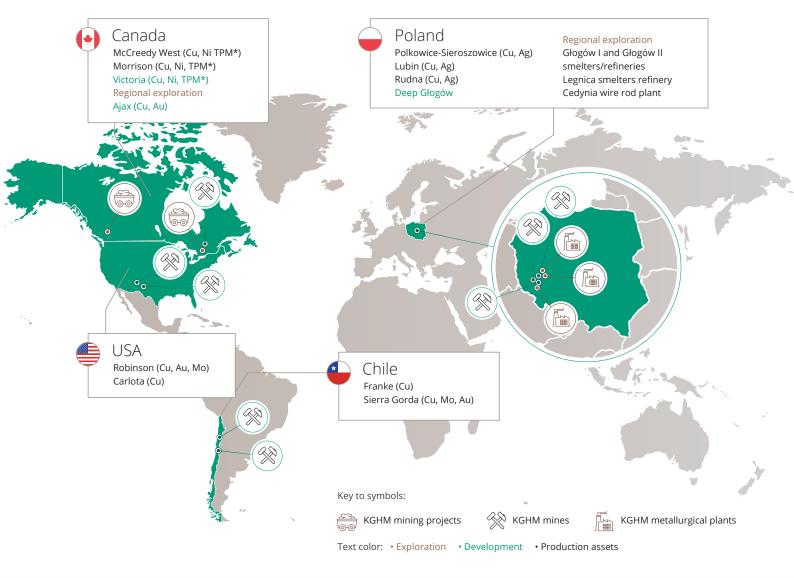
Mined metals production:



	Cu, Ni, Au, Pt, Pd
Main production assets	Main development projects
<ul> <li>Robinson mine in the USA (surface)</li> <li>Morrison mine in the Sudbury Basin in Canada (underground)</li> <li>Franke mine in Chile (surface)</li> </ul>	<ul> <li>Victoria project in the Sudbury Basin in Canada – construction of an underground copper and nickel mine</li> <li>Ajax project in Canada – construction of a surface copper and gold mine, processing plant and associated infrastructure</li> </ul>
Sierra Gorda S.C.M.	Type of activities  Mined metals production:  Cu, Mo, Au, Ag
Main production assets	Main development projects
Sierra Gorda mine in Chile (surface)	Sierra Gorda Oxide

The KGHM Polska Miedź Group's operations relating to prospecting and the exploration of copper, nickel and precious metal ore deposits are based on concessions to explore deposits in Poland held by KGHM Polska Miedź and on legal titles to prospect and mine these raw materials in the USA, Canada and Chile held by KGHM INTERNATIONAL LTD. and KGHM AJAX MINING INC.





#### 1.1.2 Our values

All our activities are guided by values we believe are important. KGHM's values shape the decisions we make at every level of the organization and justify the choice of changes and improvements implemented. In addition, they ensure consistency and a clear vision of the future.

#### **ZERO HARM**

#### We are all jointly responsible for our safety.

We protect the lives and health of our employees. We respect the natural environment and the local communities in which we operate. Our Company's stability and long-standing sustainable development includes the safety of our employees, the local communities and other stakeholders of KGHM.



#### **TEAMWORK**

#### Cooperation is the keystone of our success.

Our Company's stable growth over many years is largely the result of teamwork. The work of teams of people, their experience and, most importantly, their ability to share knowledge make it possible for us to meet our goals, develop the Company and optimistically anticipate all that the future brings. Teamwork also creates opportunities to learn more about ourselves, build close relationships within the Company and open ourselves to diverse opinions and cultures.

#### **ACCOUNTABILITY**

## We are jointly responsible for the actions taken for the benefit of our stakeholders.

We build trust in the environment in which we operate by acting in a responsible manner. We take full responsibility for our actions. We follow a good neighbor policy. In this way, we set a good example, keep our promises and establish long-term relationships, built on trust, with our social partners.

#### **RESULTS DRIVEN**

## We achieve results while focusing on KGHM's long-term success.

We set ourselves ambitious targets and meeting them requires our continuous development. This is possible thanks to the capacity and tools available in the Company, as well as making use of our accumulated knowledge. Our ability to adapt to changes and the continuous investment in people and resources are the keys to our Company's success.

#### **COURAGE**

### We face new challenges in a well thought-out manner.

We are determined, creative and open to the world and ourselves. We are not afraid of being criticized or having internal discussions, because this is the only way we can develop. Therefore, we take up courageous and well thought-out challenges. We are successful.

KGHM is a global company open to new directions of development, with rich traditions in mining and metallurgy. Today, as a company of considerable size, KGHM can have an impact on the well-being of communities, regions and even countries – our values help us do so in a wise and responsible way.



### 1.1.3 Key financial and non-financial data

Important data - KGHM Polska Miedź S.A.

PRODUCTION CAPITAL			
	2016	2015	Total direct
C1 cost	1.30 M PLN	<b>1.47</b> M PLN	and indirect greenhouse gas emission by weight (in
Payable copper	535.6 kt	<b>574.3</b> kt	tonnes CO2 equivalents)
Copper wire and rod Cu OFE and CU Ag	<b>267.4</b> kt	<b>263.7</b> kt	Total water withdrawal from externa sources
Round copper billets	<b>13</b> kt	<b>12.7</b> kt	Total weight of waste
Metallic silver	<b>1,191</b>	<b>1,283</b>	Recovered
Gold	3,540	<b>2,703</b> kg	Landfilled

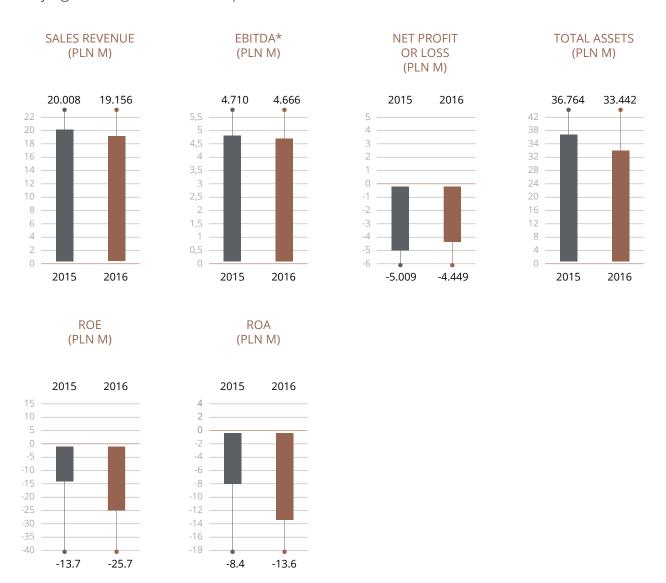
NAT	TURAL CAPIT	AL
Total direct and indirect greenhouse gas emissions by weight (in tonnes CO2 equivalents)	2016 <b>3,425,024</b> tCO <sub>2</sub>	2015 <b>3,889,891</b> tCO <sub>2</sub>
Total water withdrawal from external sources	<b>22,425,024</b>	<b>24,084,614</b>
Total weight of waste	<b>31.2</b> M t/year	<b>31.3</b> M t/year
Recovered	<b>20.4</b> M t/year	<b>20.3</b> M t/year
Landfilled	<b>10.8</b> M t/year	<b>11.1</b> M t/year

SO SO	CIAL CAPITAL	-
Donations of the KGHM Polska Miedź Founda- tion to organiza- tions and institutions	2016 13.2 M PLN	2015 21.2 M PLN
Sponsoring expenditure (sports, culture, science)	<b>26.6</b> M PLN	33.6 M PLN
Corporate income tax	<b>735.5</b> M PLN	<b>779.7</b> M PLN
Minerals extraction tax	1,337.8	1,438.8 M PLN

	LECTUAL CA	
Total number of employees	<sup>2016</sup> <b>18,266</b>	18,155
Number of employees who participated in a single train- ing event	31,133	31,730
Number of accidents	370	298
Fatal	13	3
Severe	2	2
LTIFR*	12.7	10.2

 $<sup>\</sup>hbox{$^*$ LTIFR-Loss Time Injury Frequency Rates, total number of accidents / total number of worked hours} \ x\ 1M$ 

#### Key figures – the KGHM Group



<sup>\*</sup> The Group defines adjusted EBITDA as profit/loss for the period pursuant to IFRS, excluding inocme tax (current and deferred), finance costs, other operating income and costs, the share of losses of joint ventures accounted for using the equity method, impairment losses on interest in a joint venture, depreciation/amortisation, impairment losses on property, plant and equipment included in the cost of sales, selling costs and administrative expenses.

Key figures - KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M.

		PRODUCTIO	N CAPITAL		
KGHM INTERNA	ATIONAL LTD.		Sierra Gorda S.	C.M.*	
	2016	2015		2016	2015
Payable copper	89,828	<b>97,608</b>	Payable copper	<b>51,542</b>	46,329
Payable molybdenum	362	<b>440</b>	Payable molybdenum	<b>5,513</b>	3,765
ТРМ	2,612.2	2,963.9	TPM	<b>713.3</b> kg	<b>709.8</b> kg
Nickel	<b>2.1</b>	<b>2.2</b>			

<sup>\*</sup> The production data for the Sierra Gorda S.C.M. presents 55% of actual production due to the percentage of shares in the Company held by the KGHM International Ltd. The social, human and natural capitals present 100% data for the Sierra Gorda S.C.M.

#### KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M.



<sup>\*\*</sup> Converted according to average NBP exchange rate as of 30/12/2016: USD 1/PLN 4.18

<sup>\*\*\*</sup> Data from KGHM INTERNATIONAL LTD. only

#### 1.1.4 Calendar 2016



#### January 2016

KGHM Group, Sumitomo Metal Mining and Sumitomo Corporation representative confirmed their intention to work together to develop the Sierra Gorda mine.

#### May 2016

Fifty-fifth anniversary of KGHM Polska Miedź S.A.

Signing an annex to an unsecured loan agreement concluded on Friday, August 1, 2014 with the European Investment Bank for PLN 2B, extending the period of availability of the loan for another 12 months. The other terms and conditions of the agreement did not undergo any material changes.

#### October 2016

The KGHM Group received a prestigious Golden Card Leader of Workplace Safety.

Fiftieth anniversary of KGHM Zanam's operations.

Twentieth anniversary of the merger between the Polkowice Mine and Sieroszowice Mine.

Resuming the production of raw copper in the Głogów I Copper Smelter and Refinery using modern technology.

#### December 2016 -

Publication of a report on changes in the parameters for the key foreign mining assets of the KGHM Polska Miedź Group.

#### March 2016

Signing an annex to a contract dated April 28, 2014 for the sale of copper wire rod between the Company and NKT Cables Group GmbH. The value of the contract amounted to PLN 3,371M in the period 2014–2016. In accordance with an option included in the contract, the contract was extended until 2017.

#### June 2016

Decision of the Ordinary General meeting of KGHM Polska Miedź to pay dividend for 2015 of PLN 300M.

Concluding a framework contract between KGHM Polska Miedź S.A. and China Minmetals Corporation for the sales of copper cathodes in 2017–2021. Depending on the utilization of the quantitative option, the value of the contract is estimated within a range of USD 1,178M (i.e. PLN 4,562M) and USD 2,828M (i.e. PLN 10,949M) (at the USD/PLN exchange rate applicable on June 20, 2016 according to the National Bank of Poland).

#### November 2016

Death of eight miners following a spontaneous rock mass tremor in the Rudna mine.

Cooperation of the KGHM Group and MIT Enterprise Forum Poland – a support program for startups in the area of commodities and the mining industry.



## 1.2 Letter from the President of the Management Board & CEO

Ladies and Gentlemen,

On behalf of the Management Board, I would like to present the 2016 Integrated Report for the KGHM Polska Miedź S.A. Group. We have proved once again that our knowledge and experience are the foundation for the Company's stable functioning in difficult macroeconomic conditions.

The situation on the metals market was difficult in the first three quarters of 2016, giving us reason to believe that the Company's results would be adversely affected. Ultimately, our revenues dropped by only 4%, while copper prices decreased by more than 11%. Thus was due to higher sales of molybdenum and precious metals. The prices of copper did not increase significantly until the last quarter of the past year. Better moods on the market associated with the perceived demand in China and development plans for the American economy allowed us to believe that the positive trend would be maintained.

Despite difficult market conditions, domestic assets remain the main growth driver for Polish Copper and they contribute to building the value of the KGHM Group. In 2016, the biggest fluidized bed furnace installation in the world was launched at the Głogów Copper Smelter thereby securing KGHM's production for several decades. The Legnica Copper Smelter also entered a new stage of development. We are just about to modernize the electro-refining technology, which will make it possible to increase the electrolytic copper output by 40%, thereby creating excellent perspectives for the Smelter and KGHM as a whole. Work

#### Introduction

on the Deep Głogów mining project was continued. In the past year, we made a further 36 km of excavations, increasing the share of this area in KGHM Polska Miedź S.A.'s total output to 5%.

In 2016, the Management Board of KGHM commenced intensive work on revising the Group's development strategy. The outcome of the analyses performed is the Strategy for the years 2017–2021, with an outlook until 2040, which was published in the first half of 2017. It sets ambitious, but realistic development objectives for the KGHM Group, whose achievement will enable us to maintain a stable position among global leaders in the copper and silver mining industry. We will continue our actions aimed at increasing the Company's value in areas that are important for sustainable development, such as increasing the employees' safety, ensuring stable production and using state-of-theart technology, while at the same time respecting the environment and local communities.

Being a global leader, the KGHM Group is obliged to seek innovations that will strengthen our competitive advantage. Therefore, we work closely with the academic world, focusing on research and development activities whose implementation will help us improve the efficiency of our operations. KGHM is one of the initiators of the CuBR program, which is aimed at supporting scientific research and development for the non-ferrous metals industry. This program, which we carry out in collaboration with the National Center for Research and Development, sets forth the directions for enhancing the competitiveness of Polish industry.

Ensuring constructive social dialogue and involvement in the socio-economic development of the Lower Silesia region, which is the center of our operations, are an important part of the KGHM Group's activities. Thanks to the work of our KGHM Polska Miedź Foundation, future generations will have a chance to become acquainted with all aspects of their cultural heritage – historical, artistic and scientific. We save historic buildings and support culture. We are present in the world of cinema and fine arts. We are involved in cultural and leisure activities. Through the Revimine Foundation, we support projects aimed at the rehabilitation of post-industrial sites in a broad sense.

This year, we will celebrate the 60th anniversary of the discovery of copper ore deposits in Lower Silesia, which marked the beginning of the development of our mod-

ern, global Company and the entire region. Thanks to its visionary decision to explore the deposits, KGHM is now one of the largest Polish listed companies and a global mining leader. This year we will also celebrate the 20th anniversary of the Company's first listing on the Polish Stock Exchange. Twenty years of our presence on the WSE confirmed our stable position among global leaders. We are proud of our achievements, and also of the fact that we are responsible for the further ambitious and sustainable development of the Polish corporation – the KGHM Polska Miedź S.A. Group.

I would like to thank all our Employees and the Supervisory Board for their work on building the value of the KGHM Group over the past year.

I cordially invite you all to read the Integrated Report of the KGHM Polska Miedź S.A. Group.

Yours faithfully,

Radosław Domagalski-Łabędzki

President of the Management Board & CEO



# 1.3 Letter from the Chairman of the Supervisory Board

Ladies and Gentlemen,

The authorities of KGHM Polska Miedź S.A. hereby present the Report for 2016. It shows the condition of the Company in 2016, which was not an easy year and the Supervisory Board was therefore obliged to take certain actions, some of which were rather unusual. However, I can safely confirm that the Company's authorities successfully met all the challenges, both internal and external, which is really good news given the complex macroeconomic problems faced by the Company.

It should be noted that due to close supervision over the process of optimizing operations, cost discipline and experience in responding to changes in the market, the Company was able to mitigate the adverse effects of unfavorable developments, which occurred in particular on the metals and currency markets. Over a major part of the year, we had reason to believe that the falling prices of metals would have an adverse effect on the Company's performance. Ultimately, our revenues dropped by only 4%, while metal prices decreased by more than 11%.

The Supervisory Board of KGHM Polska Miedź S.A. worked very hard in the past year. Members of the Supervisory Board were particularly interested in issues relating to the Company's international projects. I strongly believe that by using the legal instruments available to it, the Supervisory Board achieved the expected results and the Company's shareholders can already enjoy an improvement in the performance of our operations, in particular Sierra Gorda. However, having evaluated the technical and business assumptions of its key international mining assets, the Compa-

#### Introduction

ny had to recognize impairment of non-current assets, which had a significant effect on the final net financial result. It should be noted that in the absence of impairment write-downs, the financial result would be similar to the result for 2015 (i.e. PLN 1.22 bn), which also affected the Supervisory Board's decision to recommend the payment of dividend in the amount of PLN 200M.

The Supervisory Board paid a lot of attention to carrying out projects relating to the functioning of the process line in Poland. The completion and launch of the fluidized bed furnace at the Głogów Copper Smelter (a project that took many years to complete) was an important event not only from the perspective of 2016, but also from the perspective of the Company's entire history, as it gave the Company access to state-of-the art technology. Now the Legnica Copper Smelter also has a goal to pursue - by 2020, a modern furnace will be installed there which will increase the Branch's production capacity to 160k tonnes of electrolytic copper a year. The extension of the Żelazny Most Tailings Storage Facility is of strategic importance for the functioning of the Company's process line. In 2016, the Company obtained a permit for the extension of the main facility. The Supervisory Board is particularly interested in this project and supports the Management Board's actions aimed at its successful completion.

I would like to emphasize the enormous effort made by the employees and collaborators of KGHM Polska Miedź S.A. in achieving the best possible results in 2016. At the same time, the forces of nature reminded us - in a most severe way - how dangerous the work of miners and metallurgists is. The past year was the most tragic in the history of Polish copper. The Company's authorities will always remember it and, apart from paying tribute to the memory of the victims and taking care of their families, they will work hard on improving safety at our mines and smelters. The Supervisory Board considers all safety-related issues a priority and will work on them particularly hard in 2017. This approach is also reflected in the Company's updated Development Strategy for the years 2017-2021 with the outlook until 2040. In addition to economic goals, such as achieving EBITDA at the level of PLN 7 bn in 2021 and maintaining a competitive cost position, the Strategy mentions the safety of production as one of the Company's three main pillars, along with the Development of Domestic and International Assets and Consistent Organization.

Let me also remind that in the current year we are celebrating two important anniversaries: the 60th anniversary of the discovery of copper deposits and the 20th anniversary of the first listing of KGHM Polska Miedź S.A. on the stock exchange. The discovery of one of the world's largest copper ore deposits marked the beginning of the long-term development of the Copper Basin and our Company, which is now a national champion. The Company built up its position consistently and on July 10, 1997 it had its first listing on the Warsaw Stock Exchange. Since then, the value of KGHM Polska Miedź S.A. has doubled. Today, KGHM is one of the most liquid companies on the WSE.

A summary of the past year is a good opportunity to thank the Shareholders for placing their trust in the Company despite the difficult macroeconomic situation. It is also an opportunity to thank our Clients for their cooperation over the past year and their many years of loyalty towards KGHM Polska Miedź S.A.

Finally, I would like to wish the Company's Management Board success in fulfilling its ambitious goals and making good business decisions. I believe that by making good use of the Company's potential, the Management Board will be able to achieve satisfactory results for the Shareholders.

Dominik Hunek

Chairman of the Supervisory Board

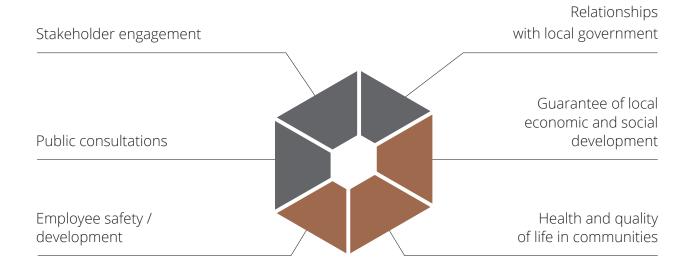
# Our strategy



## 2.1 How do we create value?

The KGHM Group's broad business model enables us to consistently and effectively integrate all the stages of value creation for our clients. Our experience and competencies bring together the specific links in the value chain of our mining organization.

Selected social components in the value chain which define our responsible business model:





## 2.1.1 Trends and market environment

- Economic recovery in developed countries; recovery of the Chinese economy is most important for our operations.
- The transformation of the Chinese economy and attempts at its modernization. The year 2016 brought a slight deceleration in the GDP growth to 6.7% (compared with 6.9% in the previous year).
- A rebound in commodity prices in 2016. At the start of the year, this applied mainly to oil and precious metals, but in subsequent months other commodities were also favored.
- The general Bloomberg Commodity Index (BCOM) increased by 11%, mainly due to increases in quotations of fuels (+16%) and industrial commodities (+20%).
- At the end of 2016, the price of copper in USD was 22% higher than at the beginning of the year.
- In 2016, silver recorded the highest increase in average annual prices (+9%) among precious metals, and the Gold/Silver ratio remained at a relatively high average level of 73.
- Interest rate increases in the USA.
- Investor optimism and confidence in the stock markets improved.
- Development of a low-emission economy, renewable energy sources, focus on energy efficiency.



## KGHM Business Model

#### Deposit development

**Exploration and assessment** – geological works aimed at discovering new deposits or assessing the existing ones. This stage ends with documenting the deposits which are then assessed for the feasibility of their extraction.

**Ore extraction** – extraction of ore using either surface, underground or borehole mining methods, using a relevant mining technology.

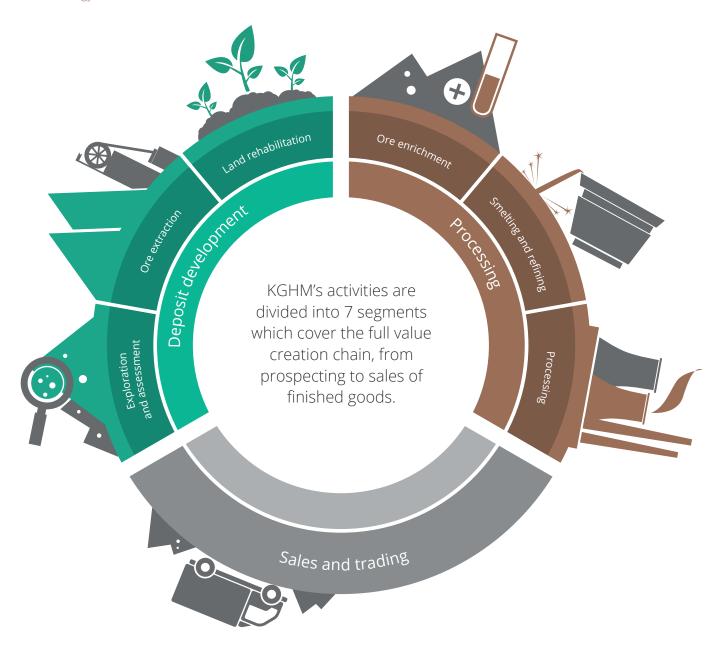
**Land rehabilitation** – we apply standards which ensure the correct closure of our mine facilities, in terms of safety and environmental protection. Land rehabilitation plans are prepared years in advance and are included in deposit development plans.

#### Processing

**Ore enrichment** – Ore enrichment is a process consisting of mechanical treatment to obtain a copper concentrate with enough copper content to enable its smelting.

**Smelting and refining** – The production in KGHM Polska Miedź S.A.'s smelters and refineries is based mainly on copper concentrates produced in house however purchased raw materials are also used. At this stage, silver and gold bars are produced, among other things.

Processing – Copper cathodes produced by KGHM in smelters and refineries are converted into copper wire, oxygen-free copper rod, low-alloy copper rod and copper billets. Our smelters and refineries specialize in manufacturing various types of products: the rolled and smelted products are manufactured in the Cedynia Copper Smelter and Refinery, and copper billets in the Legnica Copper Smelter and Refinery.



### Sales and trading

Sales are achieved while maintaining security of trading by taking into account the principles contained in the sales policy, credit risk management policy and market risk management policy, as well as in our Code of Ethics. One of the solutions employed to ensure

security of trading is the appropriate diversification of sales – both by product and by geography – and the diversification of clients.



## Deposit development

Deposit development comprises three segments of KGHM's value chain: Exploration and Assessment, Ore Extraction and Land Rehabilitation

Exploration and assessment and, at a later stage, extraction, enables the Company to produce and sell the key products in its product portfolio. The availability of quality deposits and continuous exploration efforts are the building blocks for developing KGHM's competitive advantage. Furthermore, the Company's involvement in exploration progressively extends the time of its operation.

Why are these segments important to KGHM:

- · Ensuring the prospects of the continuous mining exploration of documented ore deposits is one of the foundations of KGHM's development and value creation.
- · Ore extraction is the key element of KGHM's activities which enables metal production and sales on the market.
- The processes of rehabilitating post-mining sites to bring them back to people and nature are part of KGHM's environmental policy. This practice builds trust amongst stakeholders, helps to ensure a positive reputation and assists in the reliability of the acceptance of new mining projects.



#### Areas of value creation

Area of value creation

Pro-actively building our competitive advantage

#### Our contribution

Diversification of assets located in countries with stable economies and experienced management. The KGHM

of mining and smelting, operating in Europe and in the Americas.

#### Our results

The sixth largest copper producer in the world

The second largest silver producer in the world



Capital affected





Group has experienced teams of experts in all areas







Exploration projects allowing the development of resource base and extension of the time of the Company's operations

In 2016, KGHM Polska Miedź S.A. incurred PLN 47M on exploration projects in Poland.



Continuation and execution of exploration projects which enable the development of KGHM Polska Miedź S.A.'s resource base in the following locations: Radwanice-Gaworzyce, Retków-Ścinawa and Głogów, Zatoka Pucka, Bytom Odrzański, Kulów-Luboszyce, Synklina Grodziecka, Nowe Miasteczko.













#### Securing the key raw material for the Company to enable further production and sales

In 2016, KGHM Polska Miedź S.A. incurred capital expenditure on fixed assets and intangible assets relating to mining of PLN 1,164M.



In 2016, KGHM Polska Miedź S.A. extracted ore of 33.6M t (wet weight) or 32M t (dry weight). Further processing of the ore enabled the production of goods which can be used in the following sectors: power engineering, electronics, healthcare, architecture and construction materials.

Capital affected











Sales revenue and profits enabling the Company's growth and cash flows generation

Cost of products, merchandise and materials sold by the KGHM Group amounted to PLN 15,242M.



Sales revenue of the KGHM Group amounted to PLN 19,156M.



Capital affected



Stakeholders





Taxable income and the stimulation of economic activity in the region

Mineral extraction tax of PLN 1,338M. Other taxes and charges of PLN 499M.



Tax-funded expenditure to improve living conditions through local and central investment projects.



Capital affected





Stakeholders









Our activities create jobs and stimulate economic activity in the region

The present value of liabilities in respect of employee benefits amounts to PLN 2,007M. Costs of the current employment amount to PLN 69M.



In 2016, our records showed that 920 employees left the Company (mainly due to retirement) and 961 new employees were hired. The employment growth ratio was 0.2% compared to the prior year.



Capital affected





Stakeholders









Compliance with the strict environmental standards imposed by the law, e.g. by modernizing environmental protection installations

In 2016, KGHM Polska Miedź S.A. incurred PLN 631M on projects aimed at the protection of the environment, including PLN 616M on the Pyrometallurgy Modernization Program in the Głogów I Smelter and Refinery.



The Company managed to reduce emission and waste: The sum of direct emission in 2016: 1,507,784 t CO₂e (a decrease compared with 2015) The sum of indirect emissions in 2016: 1,918,068 t CO<sub>2</sub>e (a decrease compared with 2015) The sum of non-hazardous waste weight in 2016: 31,111,364 Mg (a decrease compared with 2015)

The sum of hazardous waste weight in 2016: 112,064 Mg (a decrease of nearly one half compared with 2015)

Capital affected











Stakeholders





#### Ensuring social acceptance for the development of mining operations

In 2016, the KGHM Polska Miedź S.A. Foundation made donations amounting to:



- PLN 13,244,158 to organizations and institutions
- PLN 891,762 to private individuals.

The number of beneficiaries of the KGHM Polska Miedź S.A. Foundation: 374 (legal persons) and 143 (private individuals). In 2016, KGHM Polska Miedź S.A. organized 54 volunteering events.

Capital affected

















#### Land rehabilitation activities restoring the natural environment to a desired state

Total fees for the utilization of the environment incurred by KGHM Polska Miedź S.A. Divisions in 2016 amounted to PLN 24M.



The fees paid were over PLN 7M lower than in 2015. Letters of credit amounting to PLN 348M (PLN 324M as at December 31, 2015) were issued by KGHM Polska Miedź S.A. to secure liabilities in respect of mine decommissioning and the rehabilitation of mining areas.

Funds transferred by KGHM Polska Miedź S.A. to the rural commune of Głogów allowed the liming of soil used for agricultural purposes on an area of more than 780 hectares.



Capital affected















## Processing

Processing comprises three segments of KGHM's value chain: Ore Enrichment, Smelting and Mining, and Processing.

Activities undertaken in this area begin by converting the extracted ore into a semi-finished product which is then ready for further processing. These steps are one of the key moments when production capital is converted into finished products which are ready to be traded and sold.

Why these segments are important for KGHM:

- Due to the production capability of Polish smelters and refineries, the KGHM Polska Miedź S.A. Group is one of the global leaders in metallurgy.
- The processed products, which are of a consistently high quality respond to market needs and are purchased by clients worldwide.



#### Areas of value creation

Area of value creation

Optimum utilization of the Company's production capability and optimization of the Cu content in the concentrate

#### Our contribution

In 2016, the Group produced 742 kt of equivalent copper and 667 kt of payable copper.



#### Our results

The cost of production of copper in concentrate C1 in the Group amounted to 1.41USD/pound.



Capital affected











#### Available products of expected quality

Raw materials which meet the specific quality criteria, mainly copper cathodes with a copper content of 99.99%.



In 2016, the quantity of copper in the concentrate amounted to 424.3 kt.



Capital affected















Maximizing the production efficiency of the Company and investments in projects allowing innovation in processes where this is feasible

Investment loan from the European Investment Bank of PLN 2.0bn with a financing period of twelve years.



Electrolytic copper:

- production from own raw materials: 376.0 kt

- production from external raw materials: 159.6 kt Copper wire and rod Cu OFE and CU Ag: 267.4 kt

Round copper billets: 13.0 kt Metallic silver: 1,191 t Metallic gold: 113.8 koz t Refined lead: 30.1 kt



Capital affected







Stakeholders



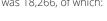






#### Building human capital

In 2016, the number of employees in KGHM Polska Miedź S.A. was 18,266, of which:



mines: 12,470 smelters and refineries: 3,530 other Divisions: 2,266.



The number of employees participating in a single training event was 31,133, of which 21,485 were training sessions for hourly workers, and 9,648 for staff workers. In 2016, 681 employees participated in industry-related conferences and symposia in Poland and abroad. In 2016, 112 people took advantage of subsidies for tertiary education. In 2016, 686 of the Company's employees took advantage of foreign language courses.









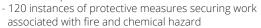






#### Taking care of the employees' safety, including safety in the surroundings of the production plants, supports efficiency and minimizes the risk of impact

Continuous preventive measures:



- 125 training sessions of KGHM employees in which 2,087 people participated
- 633 preventive inspections in which over 1,562 of KGHM's facilities were inspected
- 379 inspections of 14,740 fire extinguishers
- 185 inspections of 1,255 hydrants
- more than 180,000 readouts of hazardous gas concentration.

In 2016, 42 accidents were recorded in KGHM's smelters and refineries. The frequency rate in KGHM's smelters and refineries was 11.9 in 2016, i.e. 2.5 points lower than in 2015 (14.4).



Capital affected













#### Indirect impact on the development of new technologies facilitated by the products offered by KGHM

In 2016, more than 170 research and development projects and scientific expert opinions were completed, totaling more than PLN 44M.



Launching of the new flash furnace production line in the Głogów I Copper Smelter and Refinery in 2016. The new production line ensures maintaining a high processing capacity for at least several decades, and at the same time reduction of copper losses in the new production process will bring nearly PLN 9M of savings.

The Prime Minister's Award for Excellent Scientific and Technical Achievements was presented to the team of experts from KGHM Polska Miedź and the Wrocław Technical University in November 2016. As part of their research, the scientists awarded developed an innovative method for designing magnetic circuit and electrical engine construction.

The MillVis system, which is an innovative solution enabling the improvement of the energy and technology efficiency of the processes executed in the Concentrators Division, won the Lower Silesia Champion in Technology 2016 title.

Distinction for implementing a smart industrial automation system which enables reducing the use of grinding beads and electricity in the Ore Processing Plants.

Capital affected







Stakeholders







### Manufacturing products for other sectors/users

Smelting and refining production of KGHM Polska Miedź S.A. in 2016: Electrolytic copper: 536.6 kt

Copper wire and rod Cu OFE and CU Ag: 267.4 kt

Round copper billets: 13.0 kt Metallic silver: 1,911 t Metallic gold: 113.8 koz t Refined lead: 30.1 kt



Growth in other sectors of the economy, including: production of electronic equipment and high technologies, power engineering, construction, healthcare which use KGHM's products.

















## Sales and trading

At this stage, our production is monetized and profits are generated this is the Company's main source of income. Moreover, this segment is a source of social capital by building trust and long-term relations.

Why is it important for KGHM Polska Miedź S.A.?

· Ensuring sales of the manufactured products guarantees sustainable and stable revenues.



#### Area of value creation

#### Area of value creation

Sales revenue, profits for the Company and investors enabling the Company's growth and cash flow generation

#### Our contribution





Cost of products, merchandise and materials sold of PLN 15,242M.

Sales revenue amounted to PLN 19,156M.



Capital affected













#### Products sold

Cathodes and cathode parts: 246.4 kt Copper wire and OFE rod: 265.1 kt Other copper products: 13.1 kt Total copper products: 524.6 kt Metallic silver: 1,189 kt

Metallic gold: 112.5 koz t Refined lead: 29.7 kt Copper payable: 35.2 kt Silver payable: 90.6 t



Cathodes and cathode parts: PLN 4,937M Copper wire and OFE rod: PLN 5,293M Other copper products: PLN 260M Total copper products: PLN 10,490M Metallic silver: PLN 2,596M Metallic gold: PLN 556M Refined lead: PLN 230M

Other products and services: PLN 316M Merchandise and materials: PLN 148M



Capital affected













#### Reliable client, supplier and business partner

In 2016, KGHM Polska Miedź S.A. cooperated with 3,100 suppliers. Thanks to a systematically developed base of key business partners, we concluded 76 new partnership agreements in 2016.



In 2016, KGHM Polska Miedź S.A. concluded contracts for the sale of its core products with 206 clients.









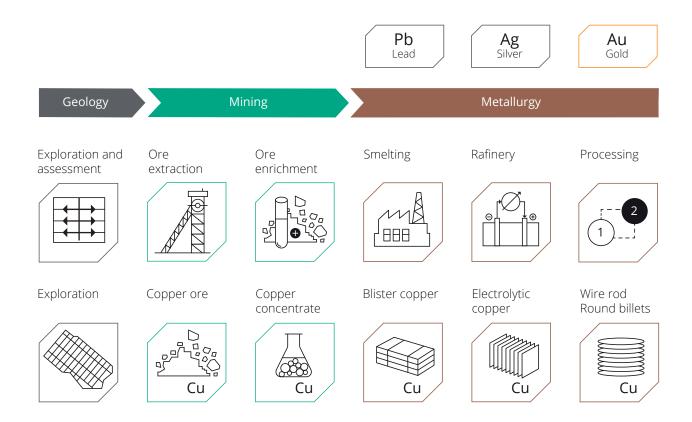




## 2.1.2 Underground and surface mines, various forms of copper processing (ore, enrichment, leaching)

Our core business involves the mined production of metals, mainly copper, molybdenum, nickel, gold, and silver, from both surface mines (USA and Chile) as well as underground mines (Poland and Canada). We have a fully integrated production process in which the output of one technological phase constitutes the input for the next technological phase.

Integrated mining, processing, smelting and refining processes in KGHM Polska Miedź S.A.



Due to the low concentration of useful substances, the copper ores extracted in KGHM mines require a number of physical and chemical processes. Selecting an appropriate technology and the effectiveness of the enrichment process (concentration of the useful substance) depends largely on the nature of the resources, legal regulations and other indicators, e.g. economic indicators.

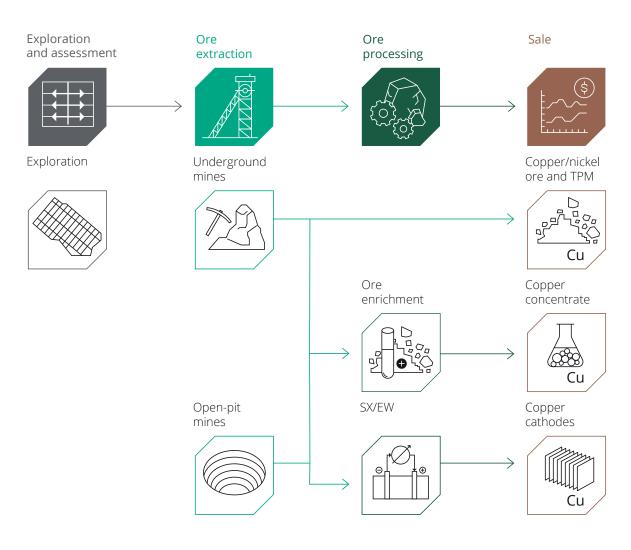
The enrichment process carried out in Polish ore enrichment plants is based on flotation. As a result of the enrichment, we obtain a copper concentrate and flotation tailings which are sent to the Żelazny Most Tailings Storage Facility. The copper concentrate with an aver-

age content of approx. 22 percent of Cu is subjected to further metallurgical processing in copper smelters and refineries where electrolytic copper is obtained as a result of fire refining and electrorefining.

Copper ore leaching technology is used in two of KGH-Ml's mines (Franke and Carlota). As a result of leaching, i.e. dissolving useful substances using a leaching agent, a very weakly concentrated solution is obtained. It is further concentrated in solvent extraction (SX) and electrowinning (EW) operations. Electrolytic copper is obtained in these processes.

#### Our strategy

Simplified flowchart of the core business of the KGHM INTERNATIONAL LTD. Group





#### Main assets



#### 1. POLKOWICE-SIEROSZOWICE MINE

The Polkowice-Sieroszowice mine is located in Lower Silesia, to the west of the town of Polkowice. Currently, it conducts mining works in four mining areas: "Polkowice", "Radwanice Wschodnie", "Sieroszowice" and in a part of the "Głogów Głęboki - Przemysłowy" (Deep Głogów) deposit. Within the "Sieroszowice" deposit, there are also rich deposits of rock salt above the copper-bearing horizon. Mining is conducted using blasting technology together with various room-and-pillar methods with natural room settlement. The Polkowice Sieroszowice mine's current production capacity is around 12M t of ore per year.

Location:	Lower Silesia, Poland
Ownership:	KGHM Polska Miedź S.A. Division
Type of mine:	Underground
Main ore type:	Copper ore
Associated metals:	Silver, lead, rock salt, gold
Type of orebody:	Stratiform
End product:	Copper ore
Copper in extracted o	re: 207.5 kt





#### 2. RUDNA MINE

The Rudna mine is located in Lower Silesia, to the north of the town of Polkowice. Primarily it mines the "Rudna" deposit, but it also develops and operates in the "Sieroszowice" and "Głogów Głęboki-Przemysłowy" (Deep Głogów) deposits. The copper orebody in the Rudna deposit ranges from 844 meters to 1,250 meters, and in the Deep Głogów deposit is up to 1,385 meters. The current average production capacity is approx. 12M t of ore per year.

Location:	Lower Silesia, Poland
Ownership:	KGHM Polska Miedź S.A. Division
Type of mine:	Underground
Main ore type:	Copper ore
Associated metals:	Silver, lead, gold
Type of orebody:	Stratiform
End product:	Copper ore
Copper in extracted of	ore: 203.5 kt



#### 3. LUBIN MINE

The Lubin mine is located in Lower Silesia, Poland, to the north of the town of Lubin. The Lubin-Małomice copper orebody lies at a depth ranging from 368 meters to 1,006 meters. The deposit is mined by blasting technology using the room-and-pillar method with natural roof settlement and with hydraulic backfill in the vicinity of the support pillar of the town of Lubin. The mine's current production capacity is around 8M t of ore per year.

Location:	Lower Silesia, Poland
Ownership:	KGHM Polska Miedź S.A. Division
Type of mine:	Underground
Main ore type:	Copper ore
Associated metals:	Silver, lead, gold
Type of orebody:	Stratiform
End product:	Copper ore
Copper in extracted o	re: 69.1 kt

#### 4. GŁOGÓW COPPER SMELTER AND REFINERY

This complex of metallurgical plants located in Głogów comprises two copper concentrate smelting lines based on the single-stage smelting of concentrate in a flash furnace directly into blister copper. Apart from electrolytic copper, the Głogów Copper Smelter and Refinery produces crude lead (around 30 kt annually), silver (around 1,200 t), Pt-Pd slime (around 80 kg), gold (around 2.7 t) and sulfuric acid (over 570 kt). The most recent investments underway at the Głogów Copper Smelter and Refinery complex are a steam drier at Głogów II Copper Smelter and Refinery and a concentrate fluidized bed roaster at Głogów I Copper Smelter and Refinery.

Location:	Lower Silesia, Poland
Ownership:	KGHM Polska Miedź S.A. Division
Type of metallurgical	plant: Smelter/refinery
End product:	Electrolytic copper
Electrolytic copper production in 2016:	424.5 kt



#### 5. LEGNICA COPPER SMELTER AND REFINERY

The copper smelter and refinery located in Legnica has a current production capacity of 110 kt of electrolytic copper. It has been in operation since the 1950s using shaft furnace technology. In addition to electrolytic copper, the plant also produces round billets, 30 kt annually of refined lead and 122 kt of sulfuric acid, as well as copper sulfate and nickel sulfate. Plans to increase production at the Legnica Copper Smelter and Refinery to 160 kt of electrolytic copper annually include construction on the grounds of the Legnica Copper Smelter and Refinery of a scrap smelting installation and modification of the copper electrorefining process (to a single-stage process).

Location:	Lower Silesia, Poland
Ownership:	KGHM Polska Miedź S.A. Division
Type of metallurgical	plant: Smelter/refinery
End product:	Electrolytic copper
Electrolytic copper production in 2016:	111.1 kt



#### 6. CEDYNIA WIRE ROD PLANT

Production at the Cedynia Wire Rod Plant located in the vicinity of Orsk is based on the use of copper cathodes, 75% of which come from the Głogów Copper Smelter and Refinery and 25% from the Legnica Copper Smelter and Refinery. The basic product of the Cedynia Wire Rod Plant is copper wire rod produced in a Contirod line amounting to over 250 kt annually and more than 16 kt annually of oxygen-free copper wire rod (OFE) produced in a UPCAST line, including oxygen-free, silver-bearing copper wire rod.

Ownership: KGHM Polska Miedź S.A. Division  Type of metallurgical plant: Processing  End product: Copper wire rod and OFE rod  Production in 2016: 251.0 kt of copper wire rod and 16.4 kt of OFE rod	Location:	Lower Silesia, Poland	
End product:  Copper wire rod and OFE rod  Production in 2016:  251.0 kt of copper wire rod	Ownership:	KGHM Polska Miedź S.A. Division	
and OFE rod  Production in 2016: 251.0 kt of copper wire rod	Type of metallurgical p	plant: Processing	
Production in 2016: 251.0 kt of copper wire rod and 16.4 kt of OFE rod	End product:	Copper wire rod and OFE rod	
	Production in 2016:	251.0 kt of copper wire rod and 16.4 kt of OFE rod	

#### 1. ROBINSON MINE

The mine is located in White Pine county, Nevada, USA, approx. 11 km west of Ely (approx. 400 km north of Las Vegas), in the Egan range, at an average altitude of 2,130 meters a.s.l., near highway no. 50. The mine comprises 3 large pits: Liberty, Tripp-Veteran and Ruth. Currently, Ruth is in operation. The ore is extracted using conventional surface methods, and is then processed into a copper and gold concentrate, and separately into molybdenum concentrate in a concentrating plant.

Location:		Nevada, USA
Ownership:	100% KGHM INTERNA	TIONAL LTD.
Type of mine:		Surface
Main ore type:		Copper ore
Associated metals:	Gold and r	molybdenum
Type of orebody:	Ро	rphyry/skarn
End product:	Copper and gold molybdenum	
Payable copper pro	oduction in 2016:	53.7 kt







#### 1. MORRISON MINE

The mine is located on the edge of the town of Sudbury (Ontario Province, Canada). The ore is accessed and mined with the aid of leased infrastructure of the Craig mine owned by Glencore. Mineralization in the Morrison deposit most commonly occurs in the form of ore veins. Mining is carried out at a level of approx. 1,300 meters using mining techniques adapted to the deposit's geometry - this is mainly a mechanized method of selective extraction using undercutting of successive levels from bottom to top. All of the ore extracted from the mine is processed in the Clarabelle plant in Sudbury, owned by Vale.

Location:	Sudbury Basin, Ontario, Canada
Ownership:	100% KGHM INTERNATIONAL LTD.
Type of mine:	underground
Main ore type:	Copper and nickel ore
Associated metals:	gold, platinum, palladium, silver, and cobalt
Type of orebody:	footwall/contact Ni
End product: Cop	pper, nickel, and precisous metalore
Payable copper production in 2016	14.4 kt



#### 👼 2. VICTORIA PROJECT

This project is located in the Canadian province of Ontario, approx. 35 km west of the town of Sudbury. In 2002 rights were acquired to the Victoria mineral deposit and a campaign of exploration in this terrain commenced. All of the ore extracted from the mine will be processed in the Clarabelle plant in Sudbury, owned by Vale. The current development scenario for the project calls for the sinking of 2 shafts to access the deposit (a production shaft and a ventilation shaft). Exploration work performed so far confirmed the continuity and characteristics of the mineralization to a level of approximately 2,200 meters below the surface. As part of the work conducted, basic infrastructure was developed in order to access utilities (electricity, gas).

Location:	Sudbury Basin, Ontario, Canada
Ownership:	100% KGHM INTERNATIONAL LTD.
Type of mine:	Underground
Main ore type:	Copper-nickel ore
Associated metals:	Gold, platinum, palladium, silver, and cobalt
Mine life:	14 years
End product: Cop	per, nickel and precious metals ore
Forecasted annual production:	16 kt of Ni, 18 kt of Cu

In 2016, a decision was made to review the project's technical and economic assumptions by independent consultants. Due to the current macroeconomic environment, the Management Board of KGHM Polska Miedź S.A. decided to modify the adopted schedule for the project.



#### 🗂 3. AJAX PROJECT

The Ajax project is located in British Columbia, Canada, 255 km north-east of Vancouver near the City of Kamloops. The project assumes the construction and operation of an surface copper and gold mine and an ore processing plant with associated infrastructure. In January 2012, Abacus Mining and Exploration Inc. prepared a feasibility study, based on which the preliminary economic parameters of this project were described. Due to a substantial risk of not receiving an environmental permit based on the assumed technological parameters of the project, including the siting of basic mine plant infrastructure, the assumptions of the feasibility study for 2012 were reviewed in terms of identifying the risk factors and potential for increasing the project's value. On 13 January 2016, an Updated Feasibility Study was published, replacing the earlier version dated 6 January 2012.

Location:	Kamloops, British Columbia, Cana	ada
Ownership:	KGHM Polska Miedz S.A. 80 Abacus Mining and Exploration Inc. 2	,
Type of mine:	Surfa	асе
Main ore type	Copper	ore
Associated me	tals: Precious met (gold and silv	
Mine life:	18 ye	ars
End product:	Copper concentr	ate
Forecasted ar production:	nual 58 kt of 125 k oz of	/

The Updated Feasibility Study reflects changes to the project, under which the mine's infrastructure was moved farther away from the nearest buildings in the City of Kamloops, technological improvements were incorporated and the processing facility's throughput capacity was increased from 60 to 65 kt of ore per day.

Currently, KGHM AJAX MINING INC. is focused on obtaining the necessary environmental permit and oncontinuing to build good relationships with First Nations as well as with the citizens of the City of Kamloops.

In 2016, a decision was made to review the technical and economic assumptions of the feasibility study by independent consultants. Simultaneously, under the current optimizing activities, the employment structure was adjusted to the scope and schedule of the work on the Ajax project.

On 4 March 2017, Stk'emlúpsemc te Secwépemc Nation announced that they do not give free, prior and informed consent for the publicly-reviewed development plan by KGHM AJAX MINING INC. to build amine. In the opinion of the Company's Management Board, despite this announcement, it is possible, at the current stage of the project, to continue the process of obtaining relevant permits aimed at developing the surface mine. The projected cash flows, which were taken into account in the impairment testing of the Ajax project as of 31 December 2016, are realistic and are the best reflection of the achievable plans.

#### **%**

#### 1. FRANKE MINE

The mine is located in a desert area of northern Chile, in Taltal commune, Antofagasta region. Mining is conducted by conventional surface methods from two orebodies: China and Franke. Due to the nature of the ore, it is processed using the heap leach, solvent-extraction and electrowinning method. The end product is electrolytic copper in the form of cathodes. Franke Operational Continuity Project Environmental Impact Assessment was submitted to the Environmental Assessment Authority in December 2016, extending use of the Plant by 4.5 years, maintaining the level of production. Approval is expected during H2 2017.

Location:	Antofagasta Region, Ch	ile
Ownership:	100% KGHM INTERNATIONAL LT	D.
Type of mine:	Surfa	ce
Type of orebody:	IOCG (iron oxide, copper, go	ld)
End product:	Copper cathod	es
Payable copper pr	oduction in 2016: 17.8	kt





#### 2. SIERRA GORDA MINE AND PROJECT

The Sierra Gorda mine is located in the Atacama desert, in the Sierra Gorda commune in the Antofagasta region, in northern Chile, approx. 60 km south-west of the city of Calama. The mine is situated at an altitude of 1,700 meters a.s.l. and 4 km from the town of Sierra Gorda. The ore extracted from the Sierra Gorda mine is processed into copper and molybdenum concentrates. In April 2015 the molybdenum installation commenced production, and from July 1, 2015 the Sierra Gorda mine has commenced commercial production (since then it has prepared operational statements of profit or loss). In 2016 Sierra Gorda, with the support of teams of specialists employed by the partners and the support of external companies, has taken actions aimed at improving the stability of the installation as well as improving its quality and efficiency parameters. Moreover, the long-term mine operating plan has been reviewed.

Location: Region II , Chile

Ownership:

55% KGHM INTERNATIONAL LTD, 45% Sumitomo group companies: Sumitomo Metal Mining Co., Ltd. (31.5%) -Sumitomo Corporation (13.5%) -

Type of mine:

Main ore type:

Copper ore

Associated metals:

Molybdenum, gold, silver

Mine life:

24 years for the current deposit based on phase I of the investment, including actions to remove bottlenecks. Moreover, there is a possibility to extend the mine's life using new deposits

End product:

Copper concentrate, molybdenum concentrate

Payable production in 2016

93.7 kt of copper, 22.1M pounds of molybdenum in concentrate

"The Sierra Gorda Oxide project aims to process the oxide ore. Under consideration is the recovery of metal in an installation using SX/EW technology. The oxide ore is currently stored separately for later heap leaching. In 2016 works were oriented on the relocation of the Lixiviation Plant, SX and EW according with the actual limit of the TSF (tailing storage facility) of the Concentrator Plant.

#### Other assets

To ensure the sustainability of our technological chain, we also have investments in other domestic companies. The most important of these include:

#### • PEBEKA S.A.

mining services contractor,

#### KGHM ZANAM S.A.

a supplier of mining machinery and provider of maintenance services, which also provides traffic maintenance services in selected areas and participates in carrying out construction projects,

#### KGHM METRACO S.A.

a supplier of scrap copper,

#### • "ENERGETYKA" SP. Z O.O.

a power engineering company securing part of KGHM Polska Miedź S.A.'s demand for power.

Furthermore, among foreign companies, a group of companies operating under the DMC Mining Services brand, which includes FNX Mining Company Inc., Raise Boring Mining Services S.A. de C.V. and DMC Mining Services Corporation, provides shaft sinking services, development work, construction of above-ground and underground mine facilities, mine drilling, tunnel drilling for general construction purposes and engineering services.

#### Our strategy

In terms of the amount of committed capital, the shares of TAURON Polska Energia S.A., a company listed on the Warsaw Stock Exchange, are also an important equity investment.

Investments in closed-ended investment funds are a tool used to diversify the investment risk for KGHM Polska Miedź S.A. Following the Group's strategy, they play a role in the management of selected non-core assets and are a tool for undertaking projects aimed at adding value. The funds focus on investments broadly in the fields of healthcare, real estate and new technology.

#### 2.1.3 KGHM's comprehensive competencies

Our 55 years of successful mineral development and exploration activities are the best proof of our experience and competencies.

Our global operations make us the sixth largest global producer of copper and the third largest global producer of silver, with more than 33,000 employees.

## Why are we valuable in the sector?



## We have diversified assets

Our facilities are located in economically and politically stable countries which support the development of mining



# We have high quality resources at our disposal

The production assets in Poland (accounting for more than one half of the Group's production) are located on one of the world's largest copper ore deposits with the prospect of many more years of operation (30–40 years)



# We undertake projects with a dynamic profile

Intensive exploration in regions neighboring the production assets lead to an increase in the level of documented resources. We are creating a portfolio of assets which guarantee continuous value building for shareholders



#### We rely on trained employees and competent management

We have significant experience and proven competencies in carrying out projects, and an in-depth understanding of the mining and smelting industry.

We also have experienced teams of experts in all areas of mining and smelting – wherever we conduct our operations – to provide us with the necessary support in building the Company's value



#### We are innovative

In 2016, we carried out more than 170 research and development projects and prepared expert scientific opinions amounting to more than PLN 44M.

In 2016, a newly-constructed flash furnace production line was launched in the Głogów I Copper Smelter and Refinery as a component of the comprehensive Pyrometallurgy Modernization Program. The main modifications and improvements under this project involved a change in concentrate casting technology in the shaft furnaces into modern flash furnace technology with a concentrate smelting capacity of 1,050 kt per year.

This is the largest flash and electrical furnace installation in the world, comprising a state-of-the-art copper smelting production line. This unique technology is currently only used in three places worldwide. With machinery designed specifically for this technology, this is the largest project in Poland in decades at this level of innovation and complexity.



#### 2.1.4 How we generate profits, including characteristics of the industryspecific cost structure

#### RESULT-ORIENTED – The results achieved are aimed at the long-term success of KGHM

The KGHM Group manages capital so that it is able to generate returns for the shareholders and derive benefits for other stakeholders. Being able to adapt to the changes, continuous investment in people and resources is the key to the success of our company.

In the long-term, we strive to maintain our capital ratio at a level above 0.5 and a net debt/EBITDA ratio of below 1.0.

#### Nearly 80% of the Group's sales revenue is generated by the KGHM Polska Miedź S.A. segment

The Company's cost of sales, selling costs and administrative expenses (cost of products, merchandise and materials sold plus selling costs and administrative expenses) in 2016 amounted to PLN 12,517 million and were 1% lower as compared to 2015, mainly due to the lower costs of the minerals extraction tax.

#### Expenses by nature of KGHM Polska Miedź S.A. (PLN M)

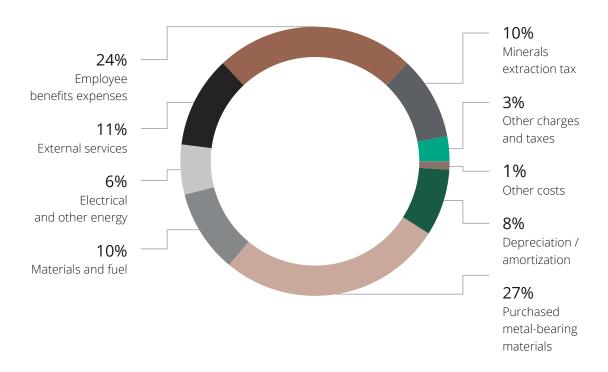
	2016	2015	Change (%)	4Q'16	3Q'16	2Q'16	1Q′16
Depreciation/ amortization of property, plant and equipment and intangible assets	993	910	+9.1%	257	246	247	243
Employee benefits expenses	3,023	2,992	+1.0%	805	760	760	698
Materials and energy, including:	5,482	5,481	+0.2%	1,487	1,178	1,416	1,400
<ul> <li>purchased metal- bearing materials</li> </ul>	3,469	3,352	+3.5%	975	706	903	885
electrical and other energy	745	735	+1.4%	186	172	190	198
External services	1,392	1,420	-2.0%	390	324	349	329
Taxes and charges, including:	1,725	1,824	-5.4%	486	429	420	390
minerals     extraction tax	1,338	1,439	-7.0%	396	335	314	293
Other costs	161	155	+3.9%	54	62	25	19
Total expenses by type	12,776	12,782	-0.05%	3,479	2,999	3,219	3,079

Source: KGHM

#### Our strategy

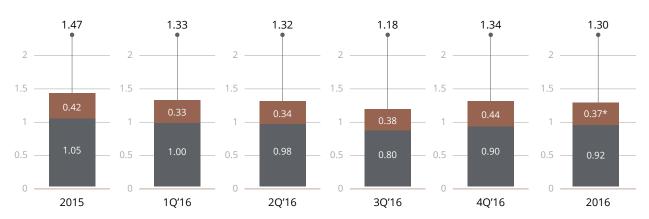
The structure of expenses by type in 2016 is presented below. Compared to the prior year, they were at a very similar level

#### Structure of expenses by type in 2016



The Company's operating costs are decisively impacted by the costs of electrolytic copper production (prior to decrease by the value of by-products), whose share is about 88%.

#### Cost of producing copper in concentrate – C1 (USD/lb)

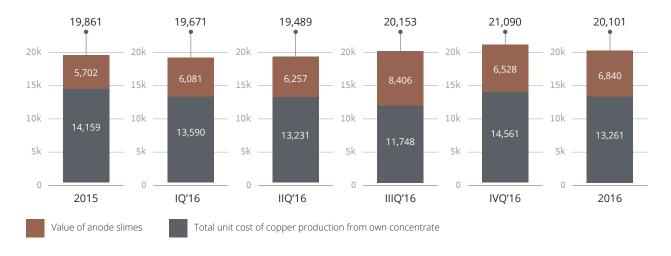


<sup>\*</sup> Including the minerals extraction tax

Cost of producing copper in concentrate – C1 (unit cash cost of producing payable copper in concentrate, reflecting costs of ore extraction and processing, transport costs, minerals extraction tax, administrative costs during the mining stage, and smelter treatment and refining charges (TC/RC), less the value of by-products) was as follows: 1.47 USD/lb in 2015 and 1.30 USD/lb in 2016. The C1 cost was impacted by a weakening in the PLN against the USD (the C1 cost achieved in 2016, using the USD/PLN exchange rate and metals prices for 2015, would have amounted to 1.50 USD/lb) and higher content of silver in own concentrate of 4.6 percent.

#### Our strategy

Pre-precious metals credit unit cost of electrolytic copper production – from own concentrate (PLN/ton)



The pre-precious metals credit unit cost of copper production from own concentrate (unit cost prior to decrease by the value of anode slimes containing silver and gold among other things) was 240 PLN/ton (1.2%) higher than that recorded in 2015, alongside a lower minerals extraction tax (-410 PLN/ton). The higher cost was due to the lower production of electrolytic copper from own concentrate of 44.5 kt of copper (-11%) due to the shutdown at the Głogów I Copper Smelter and Refinery in the third quarter of 2016.



## 2.2 Our strategy

The development of our resource base and production capability combined with cost optimization and reduction of environmental impacts are the KGHM Group's strategic business objectives.

#### 2.2.1 Key assumptions of the Strategy

In 2016, the Management Board of KGHM Polska Miedź S.A. decided to undertake work on the fundamental revision of the Company's 2015 Strategy (for the years 2015–2020 with an outlook to 2040). This revision is focused on adapting the Company's goals to its anticipated financial capabilities, taking into con-

sideration market conditions and the need to optimize costs. The changes in the macroeconomic environment were the main factor justifying the need to revise the 2015 Strategy. These changes made it impossible to achieve the main objective of reaching an output of 1M ton of copper equivalent.

#### Copper prices in 2010–2016



Source: KGHM

#### Other factors which made it necessary to revise the 2015 Strategy included:

- the Company's financial position which made it impossible to pursue investments specified in the 2015 Strategy in a responsible and sustainable manner;
- a high investment risk associated with the execution of certain projects which forced us to verify the KGHM Group's project portfolio;
- impairment tests conducted in 2015 which resulted in impairment losses of PLN 5,220M, net, at the non-consolidated level of KGHM Polska Miedź and PLN 5,048M on production assets in the consolidated financial statements of the KGHM Polska Miedź Group.
- the need to ensure that current liabilities resulting from debt financing will be paid and stabilization of the level of debt of KGHM Polska Miedź S.A.

As a result of the work undertaken in 2016, an updated version of "KGHM Polska Miedź S.A.'s strategy for the years 2017–2021 with an outlook to 2040" was developed and approved by the Company's Supervisory Board on May 11, 2017.

The main goal of the Strategy was revised: it now assumes reaching EBIDTA of PLN 7bn in 2021 and the EBITDA margin of the Group exceeding 20% in the years 2017–2021. The EBITDA margin of the KGHM

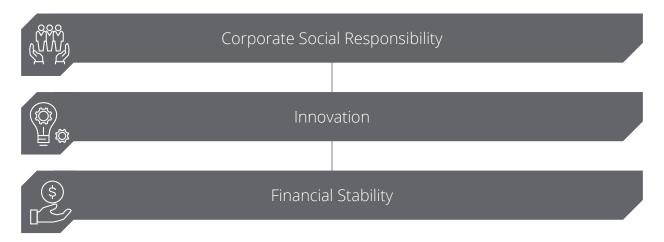
Polska Miedź Group will be measured as the ratio of the Group's adjusted EBITDA to sales revenue for a given year (taking into account 55% of Sierra Gorda's EBITDA and sales revenue). We also revised the level of investment and capital expenditure, which is planned to reach PLN 15bn for the entire Group in the period 2017–2021.

KGHM Polska Miedź's strategy is based on three main pillars which represent Executive Strategies:

#### **EXECUTIVE STRATEGIES:**



#### SUPPORTING STRATEGIES:



#### Production

Achieving the output (Cu in ore) in Poland of approx. 470 kt Cu per year with C1 cost at a level of approx. 3,800 USD/ton and in international assets of approx. 145 kt of payable copper with C1 cost below 4,000 USD/ton per year in the period 2017–2021

# Development of domestic and international assets

Effective management of investments and resource-related projects

#### **Financial Stability**

Ensuring financial stability, supporting development and efficiency and improving resistance to market difficulties

#### **Coherent Organization**

Implementing systemic solutions aimed at increasing the value of the KGHM Group

#### Corporate Social Responsibility

Strengthening KGHM Polska Miedź S.A. Group's reputation in social responsibility

#### Innovation

Increased productivity in the KGHM Polska Miedź S.A. Group



#### 2.2.2 Strategy for international assets

In 2016, we conducted an audit of our international projects and updated KGHM's strategy in relation to the assets held.

Assumptions of "KGHM Polska Miedź S.A.'s strategy for the years 2017–2021 with an outlook to 2040" with regard to our international assets

#### Morrison

We have completed the drilling program in the Morrison mine aimed at increasing mineral reserves in 2018–2019. Furthermore, we plan to conduct exploratoration drilling in the Levack deposit (in the vicinity of the Morrison mine) which could result in an increase in mineral reserves.

#### Franke

The Franke mine is also in the final stages of its life – the processing of the extracted ore is planned for 2021. We assume that the mine will continue operating by leveraging its favorable location (copper deposits in the vicinity of the mine) and the assets held (the processing plant) to process ore obtained from external sources and obtain additional income. We submitted an Environmental Impact Study in December 2016, which aims to extend use of the processing plant by 4.5 years. In addition, we are carrying out exploratoration work on areas adjacent to the mine so as to document further resources.

#### Carlota

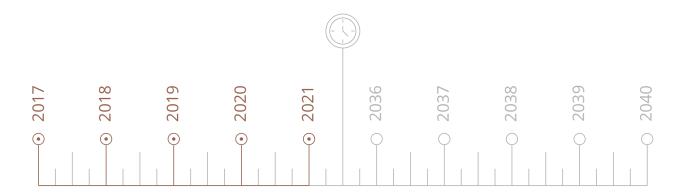
The Carlota mine is in the final stages of its life. We will continue leaching the copper ore that remain in the heap leach facility and the production of copper cathodes in the SX/EW plant. We are also analyzing the possibility of continuing operations based on the potential of the Eder deposit located near the Carlota mine.

#### Sierra Gorda

We assume that in the period 2017–2021, the average production of copper mining in the Sierra Gorda mine will reach a level of 70 kt (calculated for 55% ownership). The improvements in the operational performance and cost efficiency should result in Sierra Gorda achieving financial independence in 2021.

#### Robinson

We are assuming discontinued production at this mine in 2022, given the investment expenditure being incurred. We have begun developing the optimum closure and land rehabilitation path for the Robinson mine.



# International mining projects in "KGHM Polska Miedź S.A.'s strategy for the years 2017–2021 with an outlook to 2040"

#### Victoria Project

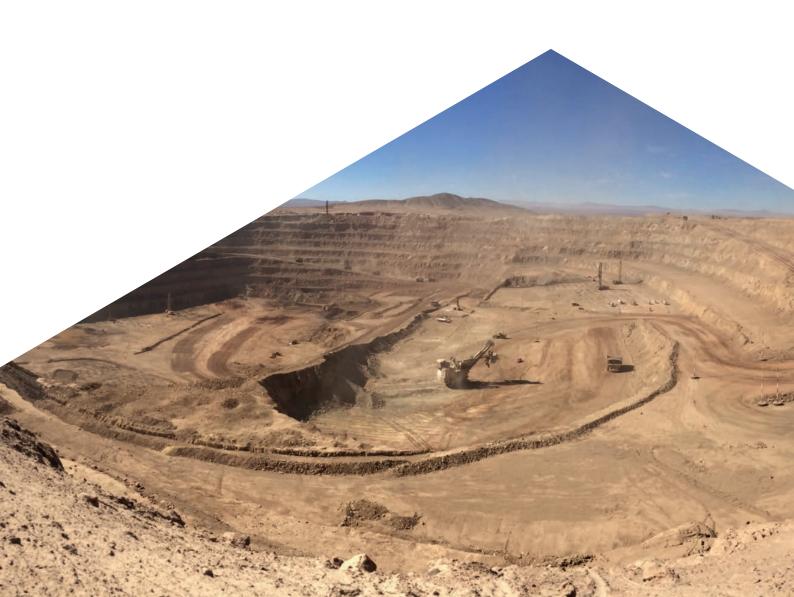
The Victoria project assumes the construction of an underground copper and nickel mine in the Sudbury region in Ontario, Canada. The project will be continued if surplus funds are secured by the Company. The planned annual average output is 18 kt of copper and 16 kt of nickel per year over a period of 14 years.

#### Ajax Project

We anticipate an annual average output of approx. 53 kt of copper and circa 114 koz of gold over the 18 years of the planned period of the mine's operation. Obtaining the necessary environmental permit issued by the province of British Columbia and by the federal government of Canada in 2017 is of key importance for the project. The project will continue if the Company ensures surplus funds.

#### Sierra Gorda Oxide Project

The Sierra Gorda Oxide (SGOx) project involves leaching 133.6M t of oxide ore and the construction of the SX-EW installation together with the accompanying infrastructure. The development phase of the project will be undertaken if the Company secures funds allowing the implementation of subsequent steps of the project.



#### 2.2.3 Supporting Strategies

Financial Stability, Innovation and Corporate Social Responsibility are three supporting strategies which complement KGHM Polska Miedź S.A.'s Strategy.

Financial Stability should ensure funds for the KGHM Group, to support its growth and efficiency, and make it independent of challenging market conditions. Innovation is another of our priorities aimed at increasing productivity by increasing the role of intellectual capital through effective management and strengthening the protection of intellectual property. With regards

to Corporate Social Responsibility, the KGHM Group's activities will be focused mainly on developing cooperation with priority stakeholders, strengthening our position as a reliable and stable business partner and responsible employer. In addition we are focused on initiatives aimed at protecting human health and well-beeing and the natural environment.

# 2.2.4 Stable production, the importance of health, safety and environmental issues

Dynamic changes in the mining industry resulting from macroeconomic, technological, social and legislative challenges drive the evolution of the KGHM Group's strategic assumptions. Our Strategy emphasizes the need to secure stable production from the assets held in the long-term perspective. Measures associated with improving the safety of our employees and eliminating environmental risks are of equal importance.

#### 2.2.5 Outlook for the future / long-term objective

In the long-term perspective, we are striving to create a sustainable system which will ensure the conservation of natural resources through efficient and rational utilization. Our activities are based on business practices developed to ensure the Company's value growth and to meet existing social needs.

We believe the value growth will result from activities undertaken in the following three key areas which are important for sustainable development:



**Technical and economic** – employee safety and economic effectiveness supported by the use of cutting edge technologies,



Environmental - minimizing negative impacts on the natural environment,



Social and local – cooperation and partnership with local communities.

Furthermore, we will continue to identify potential areas of investment which will allow us to diversify our financial capabilities as much as possible.

# 2.3 Risks and opportunities

Risk is an integral part of our operations. According to our definition, risk represents the impact of uncertainties on the achievement of our business objectives which can result in both opportunities and threats. The risk-generating areas of the KGHM Group are monitored continuously and managed effectively.

# 2.3.1 Presentation of risks and uncertainties associated with the execution of the new strategy

Risks in various areas of the KGHM Group's operations are identified and evaluated on an on-going basis. Each time we seek methods to mitigate or take advantage of these risks. We regularly prepare a Risk Response Plan and Mitigating Measures for the key risks. Other risks are monitored continuously by the Corporate Risk Management and Supervisory Standards Department, and financial risks are monitored by by the Executive Director, Director for Finance and Risk Management.

Our comprehensive approach also covers identification of the risks associated with achieving the adopted strategic objectives. In 2016, we commenced the process of revising the risks included in the main Strategy and the Executive and Supporting Strategies.

The majority of the risks associated with the pursuit of our Strategy stem from the macroeconomic situation. The changes in the mining industry and non-ferrous metal industry generate risks which the Company is unable to influence. It can, however, protect against these risks and minimize their potential negative impact.

Being aware of the potential risks, we are better prepared and able to respond quickly should they materialize.

#### 2.3.2 Corporate risk management

In 2016, we were exposed mainly to the risks of changes in the prices of copper and silver. The risk of changes in exchange rates was also important for KGHM Polska Miedź S.A. As part of managing these risks, we concluded hedging transactions on the copper market with a total notional amount of 171.5 kt and on the silver market with a total notional amount of 4.05M oz. Moreover, in 2016 we concluded transactions hedging against a change in the USD/PLN exchange rate for a total notional amount of USD 900M (including USD 360M hedged sales revenues in 2016).

As part of managing currency risk, we apply natural hedging by borrowing in the currencies in which our revenues are expressed.

The risk of interest rate changes was minimized in 2016 by hedging transactions against an increase in the (LIBOR USD) interest rate.

In response to the technology-related risks associated with possible changes in the geological and mining conditions in our mines and the growing calorific value of copper concentrates produced by the Concentrates Division, we began the construction of a concentrate roasting installation at the Głogów I smelter, aimed at reducing the calorific value of smelted concentrates by eliminating excess organic elements in the concentrate produced.

#### 2.3.3 Key risks

The Risk Model in a key tool used to identify risks in the KGHM Group. The structure of the model is based on risk sources and is divided into five categories: Technological, Value Chain, Market, External and Internal. In addition, we distinguished and identified a number of categories which correspond to specific areas of our operations or management.

Risk factors

#### External Market Administrative Prices of metal • proceedings and exchange rates · Natural hazards Credit risk · Impact on the Liquidity risk . natural environment Impairment of assets · · Changes Return on capital • in the law investments Unfavorable changes in tax regulations Internal Value Chain · Safety at work Macroeconomic • and production assumptions Information security Deposit assessment • Creating a global organization Availability of utilities • Social consent Continuity of deliveries • for activities conducted of commodities and materials

Technology

· Deposit exploration technologies

Waste management ·

Cost effectiveness ·

Diagram Risks in KGHM Polska Miedź S.A.

Effectiveness of human

capital management

· Ensuring IT security

Operational project management

#### 2.3.4 Organizational structure of the risk management function

The organizational structure of risk management in KGHM Polska Miedź S.A. follows the good practices of corporate governance and the widely-known "three lines of defense" model.

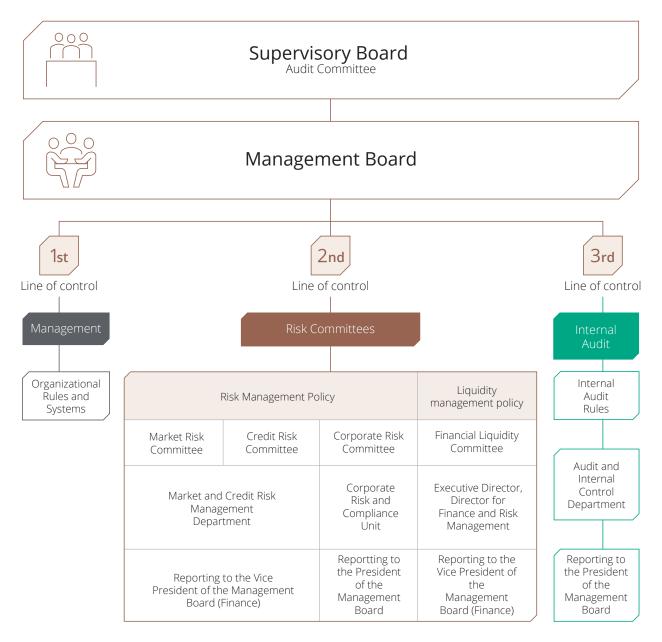


Diagram Organizational structure of the risk management in the KGHM Group

In December 2016, the corporate risk management system of the KGHM Group was audited by an external consultant, Deloitte Advisory. The audit was conducted in accordance with the Best Practice of GPW Listed Companies 2016. The outcome of the audit confirmed the effectiveness of the solutions applied.

#### 2.3.5 Human capital and risk on the international market

The global nature of the KGHM Group also translates into a risk associated with human capital. We want to attract and retain the best employees needed to carry out our activities.

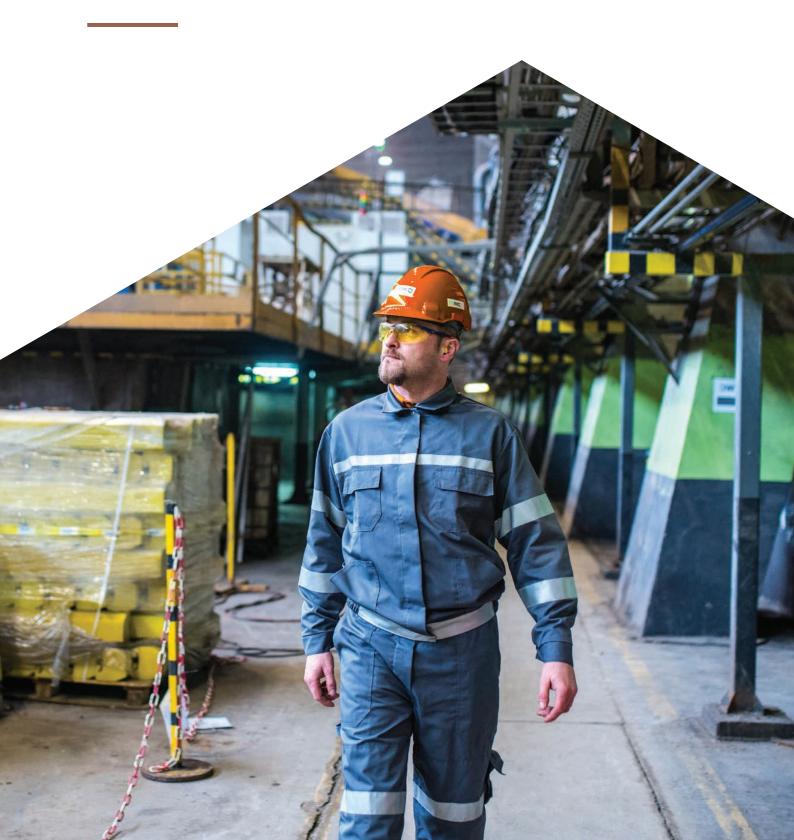
We are constantly improving the effectiveness of our recruitment processes. Since 2015, we have also been executing a staff mobility program. The program ensures the compliance of our human resources management policy with the best market practices and the continuity of risk management (including legal, tax, immigration risks) in the process of sending employees to international secondments. In the international mobility of

our employees, we also see an opportunity for sharing the knowledge, experience and best practices among KGHM Group companies. In 2016, an interdisciplinary team revised the Mobility Policy to increase the effectiveness and transparency of the process. The solutions developed will be implemented in 2017.

In 2016, the international mobility process covered more than a dozen of the KGHM Group's employees.



# Safety is our value



# 3.1 Safety ensuring effective operation

Risk management, including the precautionary approach, is an important element of our responsibility. The KGHM Group strives to minimize exposure to hazards for employees, local communities and the natural environment (a 'Zero Harm' policy). We believe that the best mines are the safest mines.

Employees of the copper mines operated by KGHM Polska Miedź S.A. work in a difficult environment and are exposed to many hazards. One of the most hazardous and life-threatening events faced by employees working in the mines of KGHM Polska Miedź S.A. are the natural hazards associated with the underground mining of copper ore. In particular, hazards related to mining tremors and their potential effects in the form of rock bursts and mine roof collapse are considered critical from a safety point of view, since their occurrence can lead to serious or even fatal injuries. Our employees' safety is our priority, and we take a number of preventive and protective measures to ensure they are protected. We conduct regular seismic observations in our mines based on a well-developed network of underground and surface-based seismic monitoring stations, encompassing all the Company's active mining areas. We evaluate the condition of the rock mass on an on-going basis, marking off areas which are particularly susceptible to rock burst. We carefully select the extraction systems, direction of the advancing mine work and the optimum order of ore extraction. We apply pro-active methods to reduce the hazard of rock burst using rock blasting techniques. We systematically implement state-of-the-art organizational and technical solutions aimed at improving the occupational safety of the crews employed.

The KGHM Group applies an integrated model of occupational health and safety management which involves the following KGHM Group entities: Occupational Health and Safety Service, a world-class Mine-Smelter Emergency Rescue Division; Miedziowe Centrum Zdrowia S.A. – a company providing advanced medical services; KGHM Cuprum Sp. z o.o. CBR – a research and development unit, and an accredited laboratory, Centrum Badań Jakości Sp. z o. o. as an entity specialized in rescue services with its own medical facilities.

Our employees' safety takes first place among the values pursued by the KGHM Polska Miedź S.A. It is also one of the pillars of our Corporate Responsibility Strategy. Our main research and development initiatives are also focused on improving occupational safety. We comply with all the applicable standards and legal regulations relating to occupational health and safety. But more importantly, we apply our own, more rigorous rules, in selected areas. The profile of our activities, our intervention in the natural environment and care for our employees necessitate setting challenging goals, the achievement of which translates into measurable effects associated with improvements in working conditions and safety. Our manifestation of respect for human health and wellbeing further enhances our effectiveness and efficiency, and ensures the continuity of production. Furthermore, the highest occupational health and safety standards not only apply to our employees, but also to all the service providers cooperating with our Company.

#### **GOOD PRACTICES**

The KGHM Group uses new technologies and cutting edge solutions to improve employee safety. The research which has been conducted for many years is aimed at reducing our employees' exposure to the hazardous conditions. For example, we have developed a remote controlled system for crushing larger rocks. The system which was developed now enables the operator to remotely control three ore crushing machines at the same time. The new URB/ZS-3 automatic system presented in 2016 and developed by the research and project team of KGHM Zanam, AGH University of Science and Technology in Kraków and KGHM Cuprum Sp. z o.o. CB-R makes it possible to eliminate, almost entirely, an employee's exposure to the associated hazards and now have chiefly monitoring and controlling roles in the process. Employees have also been removed from particularly dangerous places where other hazards are often present (the risk of rock burst and mine roof collapse, unfavorable microclimate and other hazards) to a control room which is free of these hazards.

### **OUR VISION**

People who are safe among the elements – a Zero Harm value: zero accidents resulting from human and technical errors, zero occupational diseases among our employees and suppliers/service providers.



# **OUR MISSION**

People are the most important asset in the pursuit of our business goals. We jointly care for our common safety, health and wellbeing.



Safety is one of the key values for the KGHM Group, always emphasized and appreciated by the Polish Copper employees. Our employees' life and health is a priority for all of us. Therefore, all the actions taken by the Company's Management Board are aimed at mitigating risks in the work environment. Strict rules of safety are binding both for the Company's employees, irrespective of their place of work, as well and for third parties providing services to the whole Group. We have implemented a work safety management system, which supports our daily efforts, at all KGHM's branches. We are continuously applying the latest solutions developed by scientists, therefore minimizing the risk of potential hazards.

As the manager of a global company with well-established values, I would like to emphasize that we never forget about the safety of the environment in which we operate and plan our development. We pay particular attention to local communities. We take care of the natural environment, and therefore we use Polish Copper resources rationally, ensuring the sustainable development of our Company and the surrounding areas where we build the KGHM brand value together."

Radosław Domagalski-Łabędzki President of the Management Board & CEO



#### 3.1.1 Safety rules

2016 was another year of hard work focused on improving occupational safety within the Group. Each of the Company's Divisions has implemented an occupational safety management system which complies with the applicable standards.

#### Safety management systems implemented in KGHM Polska Miedź S.A.'s plants

Lubin Mine	Management System Certificate "Occupational Health and Safety" No. CS/10/V/15 valid until June 2018
Polkowice-	Sieroszowice – Management System Certificate "Occupational Health and Safety"
Sieroszowice Mine	No. CS/35/IV/2015 valid until June 2018
Rudna Mine	Management System Certificate "Occupational Health and Safety" No. Ac090/146/2996/2008 valid until June 2017
Legnica Smelter and Refinery	Management System Certificate "Occupational Health and Safety" No. B-63/1/2016 valid until June 2019
Głogów Smelter	Management System Certificate "Occupational Health and Safety"
and Refinery	No. 252921 valid until May 2018
Cedynia Smelter	Certificate of an Integrated Management System "Quality, occupational health and safety"
and Refinery	No. JBS-2/8/2014 valid until April 2017
Concentrators	Management System Certificate "Occupational Health and Safety"
Division	valid until April 2017
Tailings Division	Certificate of an Integrated Management System "Environment, occupational health and safety" valid until April 2017

Hazards were identified, professional risks were evaluated and measures increasing occupational safety were implemented for all work positions. The working environment is monitored on an ongoing basis, and periodical reviews and evaluations of potential threats are conducted, as well as reviews of machinery and equipment and the necessary technical reviews and approvals. Employees undergo regular training and continuously improve their qualifications.

In 2016, work on implementing the "Program to improve occupational health and safety at KGHM Polska Miedź S.A. by 2020" focused in particular on developing a desired safety culture among employees. We also updated the timetable and scope of the remaining components of the program, taking into account current operating conditions.

The key areas of the "Program to improve occupational health and safety at KGHM Polska Miedź S.A. by 2020" are as follows:



Safety culture (behaviors)



Education (skills)



Working environment



Employees' health

#### Safety is our value

The objectives of the "Program to improve occupational health and safety at KGHM Polska Miedź S.A. by 2020" are as follows:



Reducing the Lost Time Injury Frequency Rate (number of accident per 1 million hours worked)



Implementing a comprehensive program for preventive healthcare



Strengthening the occupational safety culture



Further improvement of the working environment



Broadening employees' skills



Optimizing occupational health and safety



Greater employee engagement in caring for safety at work

We strictly follow the legal requirements for organizing periodical training on occupational health and safety, training courses and exams which qualify for work on specialist position with high responsibility.

#### Occupational safety standards of the KGHM Group

#### Polish assets

- · Safety standards are the effect of experience accumulated for more than fifty years of continuous mining operations.
- · All plants comply with the very strict occupational health and safety regulations applicable in the Polish mining sector.
- The newest organizational and technical solutions aimed at improving occupational health and safety are being gradually implemented.
- KGHM follows an integrated model for occupational health and safety management which comprises the following Units: Occupational Health and Safety Service, the world-class Mine-Smelter Emergency Rescue Division and Miedziowe Centrum Zdrowia S.A. a company providing advanced medical services, an accredited laboratory, Centrum Badań Jakości Sp. z o.o. and KGHM Cuprum Sp. z o.o. CBR a research and development unit.

#### International assets

- · Strictly following local laws and standards concerning occupational health and safety.
- The "Zero Harm" vision is effectively implemented based on the ongoing identification and mitigation of risks in the area of occupational health and safety.
- Given the dispersion of the operations, the concept of operational leadership in implementing and complying with occupational health and safety standards in accordance with local cultural conditions is of key importance.
- The development of an integrated Health Seafety and Environmental Management System by a team of internal subject matter experts based on critical risks identified by the group of International Assets.

The prevention of accidents at work and occupational diseases are treated as a priority at every level of our organization.

Employees are required to report any situations which could have an impact on the safety and health of others. Participation in regular training sessions on the rules of occupational health and safety is mandatory.

Occupational health and safety is constantly monitored and evaluated and the conclusions are immediately acted upon. In order to eliminate or reduce hazards, we apply the best available technologies and develop new solutions. We impose strict safety standards both on ourselves and our suppliers and contractors.

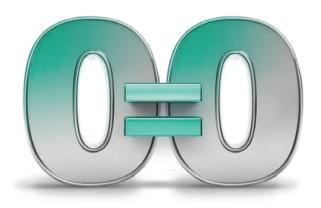
# YOU HAVE THE RIGHT TO BE SAFE

Each person employed has the right to work in a safe environment and the right to return home from work.



#### 01. First, health and safety

In everything we do, we put health and safety first. Preventing accidents and occupational diseases is our value.



#### 02. Zero tolerance

We do not tolerate behaviors which do not comply with the law and pose a threat to safety and health.



#### 03. We all share responsibility

We are responsible for our own and our colleagues' health and safety.



# 04. We are continuously searching for new solutions

We eliminate or reduce threats to employee life or health by applying the best available technologies, techniques, methods and measures in our workplace. We do not spare any effort in seeking continuous improvements.



#### 05. We are not indifferent

We encourage all employees to report any circumstances or behaviors which pose a threat to life or health.



#### 06. We all participate in training

All of us, without exception, participate in training on occupational health and safety.



#### 07. We rely on high qualifications

We require high qualifications and professional skills from all our employees. Every employee is encouraged to increase his/her qualifications and skills.



# 08. The management regularly evaluates occupational health and safety

Our top management evaluates the state of occupational health and safety in KGHM Polska Miedź S.A. to implement continuous improvements.



#### 09. Everybody is assessed

We regularly assess our managerial staff for occupational health and we oblige them to assess their teams.



#### 10. We take care of our health

We work continuously on improving our healthcare services and wellness programs. At the same time, we expect each employee to take care of their health to safely and efficiently perform their duties.



# 11. We require that everybody comply with our health and safety standards

We require our suppliers and subcontractors to comply with the health and safety standards.

#### Safety is our value

Employees of the KGHM Group are fully represented on the Occupational Safety Board which works based on principles of mutual trust and cooperation. It has forty members, including representatives of employers and trade unions operating in KGHM Polska Miedź S.A. as well as Labor Inspectors elected by the employees of each Division of KGHM Polska Miedź S.A.

The duties of the Occupational Safety Board include, among other things, conducting periodical evaluations of occupational health and safety, assessing preventive measures and presenting conclusions concerning improvements in working conditions.

In each of the KGHM Polska Miedź S.A. plants, Occupational Health and Safety Committees—which consist of employer, employee and occupational healthcare service representatives—perform periodical reviews of the working conditions and level of occupational health and safety, and present conclusions concerning improvements in the working conditions. Since 2016, the current state of occupational safety in the Com-

pany has been discussed at every meeting of KGHM Polska Miedź S.A.'s Supervisory Board.

Dedicated occupational safety teams are also present in the KGHM Group's international facilities. For example, there is a six-member Occupational Health and Safety Committee in the Franke Mine. The Committee identifies and evaluates the hazards associated with accidents and occupational diseases, and carries out relevant inspections. Since mid-2016, a similar team has been operating in the Sierra Gorda mine.

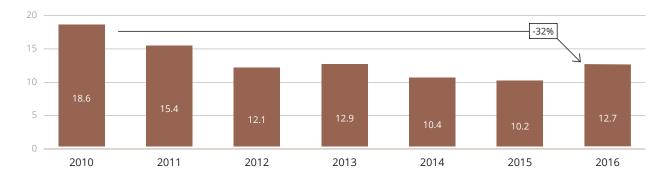
#### 3.1.2 Measuring the level of occupational safety

Over the past six years, we recorded a more than onethird decrease in the number of accidents at work in KGHM Polska Miedź S.A. (from 556 to 370 incidents). The accident rate was reduced by 32.4 percent compared with 2010.

In 2016, the accident rate in KGHM Polska Miedź S.A.'s plants, standardized in relation to employee exposure

to working environment factors, amounted to 12.65. This was 2.42 higher than in 2015 and reached a similar level to that recorded in 2013

#### LTIFR in KGHM Polska Miedź S.A.



KGHM Polska Miedź S.A. calculated the LTIFR (Lost Time Injury Frequency Rate) as follows:

$$LTIFR_{KGHM} = \frac{1,000,000}{1,000,000}$$



Total number of accidents at work in KGHM in accordance with the definition of an accident in the Polish Act of October 30, 2002 on social security with regard to accidents at work and occupational diseases



Number of hours worked in KGHM in a calendar year

In 2016 we recorded a worsening in health and safety results compared with the prior year, including an increase in the total number of accidents at work from 298 to 370 (+24.2 percent) and an increase in LTIFR from 10.23 to 12.65. This was due to a large number of extraordinary collective accidents resulting in many people being injured at the same time.

Irrespective of the above, we will continue to pursue our challenging goal of reducing the number of accidents at KGHM Polska Miedź S.A. in the next four years to a LTIFR level of less than 5.36.

#### Accident rate in KGHM Polska Miedź S.A.\*

Year	2014	2015	2016
Accident rate	16.6	16.4	20.4

<sup>\*</sup> Calculated according to the formula: number of accidents/1,000 employees

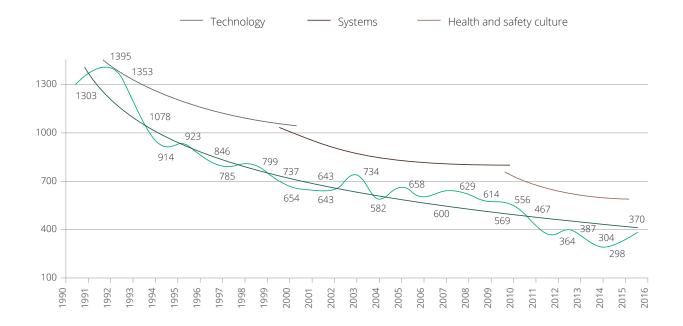
#### Number of accidents at work (incidents) in KGHM Polska Miedź S.A. in 2016

	20	16	2015		
Gender	Women	Men	Women	Men	
Total number of accidents at work	3	367	6	292	
Number of fatal injuries	0	13	0	3	
Number of serious incidents	0	2	0	2	
Number of minor accidents	3	352	6	287	
Total number of injuries in accidents	37	70	298		

Source: KGHM

#### Safety is our value

# The number of accidents at KGHM is declining systematically, but not always from year to year

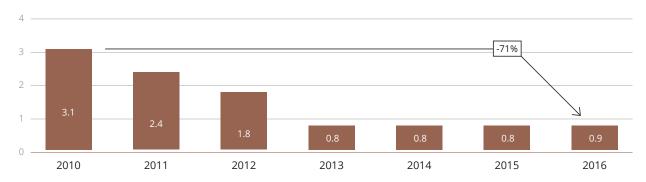


The management of occupational safety in the KGHM INTERNATIONAL LTD Group is based on the same principles as those applied by KGHM Polska Miedź S.A., i.e. identifying, evaluating, eliminating and/or monitoring hazards and risks as part of following and continuously improving our "Zero Harm" organizational culture which is also one of our corporate values. The "Zero Harm" occupational safety policy applies equally to employees and contractors/suppliers and it is under-

stood as the continuous prevention of hazards in the HSE area (health, safety and the environment).

The results of these activities are reflected in a low TRIR indicator (Total Recordable Incident Rate according to the ICMM definitions and calculated per 200,000 hours) being maintained over the past few years. Since 2010, the TRIR has decreased by 70 percent to 0.9 in 2016.

#### TRIR in KGHM INTERNATIONAL LTD.\*



<sup>\*</sup> Compared with the data on occupational safety in the Company and the Group provided in the prior year, the TRIR value for 2011 was amended due to a change in the reporting standard applied by KGHM INTERNATIONAL LTD. to the ICMM (International Council on Mining & Metals) standard in 2012. Compared with the data on occupational safety for the prior year, the TRIR value for 2012 was also amended due to changes in the presentation of roundings.

In the Carlota mine in the USA, no accidents were recorded in 2016, and in the Robinson mine, the TRIR improved by 38 percent.





#### The most tragic accidents in 2016

Date:	September 14, 2016
Localization:	Rudna Mine
Description:	there was a rock mass tremo injuring ten miners. One miner died and nine sustained non-life-threatening injuries
Date:	November 3, 2016
Localization:	Lubin Mine
Description:	there was a spontaneous rock mass tremor as a result of which one person lost his life and another sustained a light head injury
Date:	September 23, 2016
Localization:	Polkowice-Sieroszowice Mine
Description:	two miners died and one sustained heavy injuries due to the loosening of the ceiling
Date:	November 29, 2016
Localization:	Rudna Mine
Description:	eight miners died and twenty-one sustained injuries in a collective accident resulting in a roof collapse as a result of a rock burst

#### 3.1.3 Exposure to harmful and arduous factors at work

The number of work-related diseases recorded in KGHM Polska Miedź S.A.'s mines is not more than six cases per year, and we recorded zero cases of work-related diseases in our smelters and refineries in 2015 and 2016. The average ratio of occupational diseases per 100,000 employees of KGHM Polska Miedź S.A.'s mines amounted to 48.86 and was significantly lower than the same ratio for the whole underground mining sector in Poland which amounted to 281.01.

KGHM Polska Miedź S.A. systematically implements cutting-edge solutions in preventive employee protection. New personal protective equipment is introduced, including miners hats, disposable dust masks, reusable dust masks, thermo-breathable underwear, protective gloves, full face masks. Preventive programs relating to the main hazards in the working environ-

ment are implemented, including, among other things:

- in mines: a program of centralized air-conditioning in the mines, air-conditioning of mine face machinery, air-conditioning of specific workplaces and personal air-conditioning, a program for preventing exposure to hydrogen sulfide;
- in copper smelters and refineries: a program for preventing exposure to lead and arsenic.

We also searched for new solutions relating to: cooling vests for miners, footwear which minimizes injuries resulting from tripping over or slipping, and more comfortable and lighter full face gas masks as well as new solutions for filtering systems in the mining machinery cabs.



#### KGHM Polska Miedź S.A.'s work-related diseases and preventative measures

Identified hazard from factors harmful or dangerous to health	Groups of employees exposed to a higher risk of incidence of specific diseases due to their	Number of employees working in hazardous/risky conditions		Preventive measures taken	
dungerous to freditif	professional activities	2016	2015		
Industrial fibrogenic dusts	Miners	1,514	2,299	Personal protective equipment	
Carcinogenic chemicals	Metallurgists	642	1,103	Modernization of technology Personal protective equipment Biological monitoring Job rotation Educational activities	
Noise	Miners Metallurgists Employees of ore processing plants	4,809	6,787	Technical and organizational measures, including personal protective equipment	
Vibration	ation Miners		727	Technical and organizational measures, including new, innovative machinery and equipment	
Heat	Heat Miners Smelters		3,650	Centralized, mine face, and workplace air-conditioning, ventilation, organization of work	
Excessive physical burden	we physical burden  we physical burden  Employees of ore  processing plants		2,121	Mechanization of tasks, modernization of processes and organization of work	

Source: KGHM

The commitment to protecting the life and health of our foreign asset's employees is reflected in the HSEMS (Health, Safety and Environmental Management System) introduced in 2016. Under the HSEMS, each facility is required, among other things, to develop appropriate procedures based on a set of critical

stadards. The critical standards are based on an assessment of risks. The international assests observed an improvement in the "zero days" indicator (number of days in which no accidents were recorded among employees and other people present at the site), compared with the prior year.

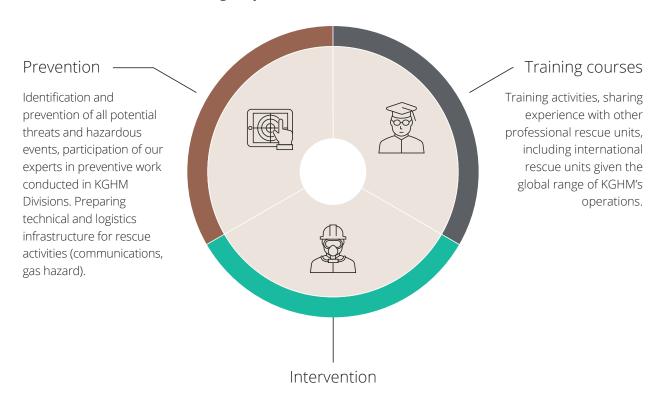
A number of health and safety-related issues in the KGHM Group are governed by Collective Labor Agreements, including, among other things, protective equipment to which employees are entitled, training and education in safety, a grievance mechanism, the right to refuse the performance of hazardous work and regular health and safety inspections and audits.

A dedicated Mine-Smelter Emergency Rescue Division operating within the structure of KGHM Polska Miedź S.A. is the best example of our commitment to protecting the life and health of our employees. Its tasks include, among other things, mining, technical, fire, chemical, and environmental rescue operations.

The team representing KGHM's Mine-Smelter Emergency Rescue Division was ranked third and the Sudbury basin team was ranked seventh, out of a total of 28 teams competing in the 10th International Mining Rescue Competition in Canada in August 2016.

In 2016, KGHM's Mine-Smelter Emergency Rescue Division participated in thirteen rescue operations in KGHM Polska Miedź S.A. mines. The majority of these operations related to rock bursts and roof collapse in the Rudna and Polkowice-Sieroszowice mines.

#### The tasks of the Mine Emergency Rescue Division



Effective mining, fire-fighting, chemical, technical and environmental rescue operations to save human life or health, to remedy the effects and secure assets.

#### Safety is our value

There is also a Firefighting Unit within the structure of the Mine-Smelter Emergency Rescue Division, with firefighting teams in all major facilities of KGHM Polska Miedź S.A. The Firefighting Unit protects both our plants and their surroundings. The Firefighting Unit is also engaged in a wide range of prevention activities, from inspections of fire-protection systems to taking measurements of the concentration of hazardous substances associated with technological processes, inspections of tanks containing toxic substances, unloading of hazardous substances, etc.

2016, as part of the preventive measures, fire- fighting operations conducted:

- 120 operations securing work performed in the conditions of fire and chemical hazard;
- 125 training courses for KGHM employees in which 2,087 people received training;
- 633 preventive inspections in which 1,562 KGHM facilities were checked;
- 379 inspections of 14,740 fire extinguishers;
- 185 inspections of 1,255 hydrants.

#### 3.1.4 Recognition for safety management

Our commitment to the protection of employee life and health is recognized by industrial institutions. For our results in occupational health and safety, we have been obtaining a prestigious Golden Card for a Leader in Workplace Safety from the Central Institute for Labor Protection – National Research Institute every year since 2008. We first obtained this prestigious award in 2002.

The Golden Card is awarded to enterprises that do not exceed the national averages of accident rates and occupational disease rates in a given industry and which have developed and implemented an occupational health and safety management system. Every two years, KGHM Polska Miedź S.A. is subjected to a procedure confirming compliance with these requirements. Therefore, we can confirm that we belong to a prestigious milieu of twenty-nine enterprises in Poland where the rates of accident and occupational diseases are below the respective industry averages, and our commitment is an example of a safe work culture.



KGHM Polska Miedź S.A. receives Golden Card for a Leader in Workplace Safety 2017-2018

In addition, the occupational health and safety solutions we implemented were awarded in the 44th National Competition of Improvements in Working Conditions. Our team from the Głogów Smelter and Refinery received 3rd prize in the "Organizational and educational projects" category for its program for reducing lead absorption implemented since 2011. Work on a "System for Continuous Monitoring of Hydrogen Sulfide Hazards in the Polkowice-Sieroszowice Mine" and "Corporate Vortal of Occupational Safety at KGHM Polska Miedź S.A." received honorable mentions.

Employee safety is also regularly monitored by the State Labor Inspection, State Mining Authority, and the Regional Mining Authority. Every year, we receive an award for our achievements in safety at work in a competition organized by the State Mining Authority and the Professor Wacław Cybulski's Safe Mining Foundation.

# Market environment in 2016



# 4.1 Key trends on the commodity market of the global economy

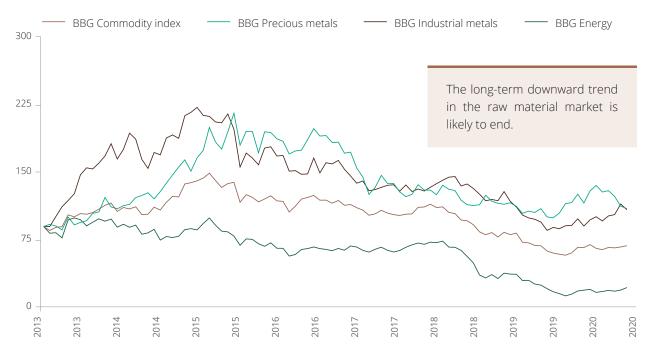
After years of a downward trend, 2016 saw a price recovery in the commodity market. There is much to indicate that investors may be looking more favorably at commodity markets in the coming years. The optimistic consensus of market analysts is based on a favorable fundamental situation for the commodity sector and anticipated acceleration of the global economic growth.

2015–2016 were extremely difficult years for the mining industry. Dramatic declines of commodity prices resulted in liquidity problems for many companies, forced them to restructure and to revise or suspend their investments and development plans. Measures undertaken by the mining companies positively affected unit production costs, but insufficient capital expenditure may limit the existing and future supply. The related changes in the fundamentals of the specific commodity markets and a general improvement in expectations as regards the global economy contributed

to a more favorable perception of the entire commodity market by investors.

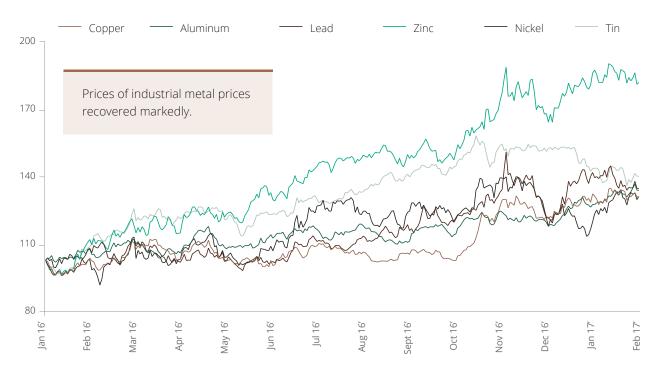
The changing market sentiment resulted in a recovery of commodity prices in 2016. The last quarter brought about a marked improvement in sentiments. Over the course of the year, the Bloomberg Commodity Index (BCOM) increased by 11%, mainly due to the prices of energy commodities (+16%) and industrial commodities (+20%).

#### The main Bloomberg commodity indexes in 2009–2016



Source: Bloomberg, KGHM

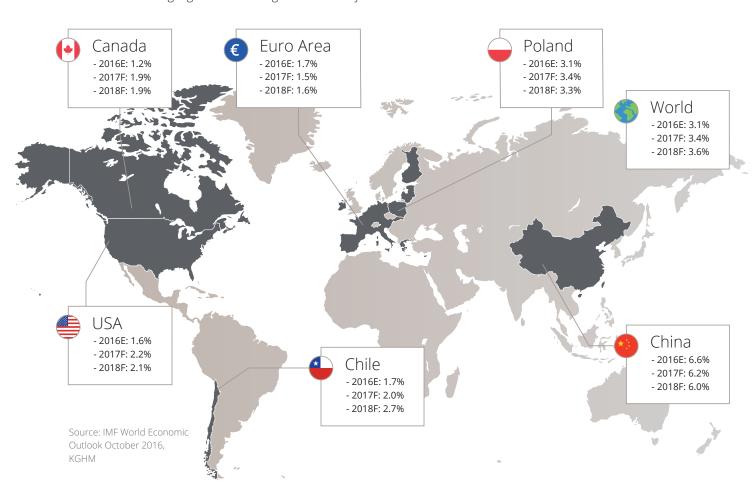
#### Prices of industrial metal prices in 2016



Source: Bloomberg, KGHM

The stronger global economic growth outlook was one of the main factors which contributed to changes in the segment of investors in commodity markets in 2016. The annual average growth of the global economy

amounted to 3.1 percent YoY in 2016, and forecasts for the coming years are 3.4 percent in 2017 and 3.6 percent in 2018.

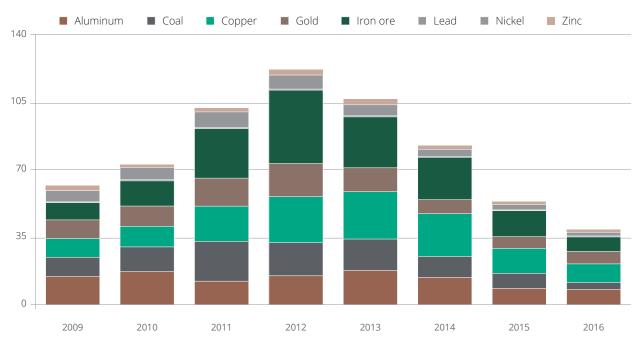


#### Market environment in 2016

The fundamental situation on specific markets significantly affected investors' perception of commodity markets. Market analysts anticipate a limited rate of growth of supply due to insufficient capital expenditure on development projects incurred by producers in prior years when low prices of metals and the difficult financial position of the mining sector resulted in reductions in capital expenditure on development

projects. The effects of insufficient investments will be felt in the next few years irrespective of producers' decisions to resume their investment programs – the permitting and construction of a mine is a multi-year. Limited supply combined with a stable consumption growth in metals should lead to changes in the balances of particular commodity markets towards deficits.

#### Capital expenditure on new projects and expansion\* for specific metals [USD bn]



<sup>\*</sup> Excluding expenditure on maintenance, repairs and pre-stripping

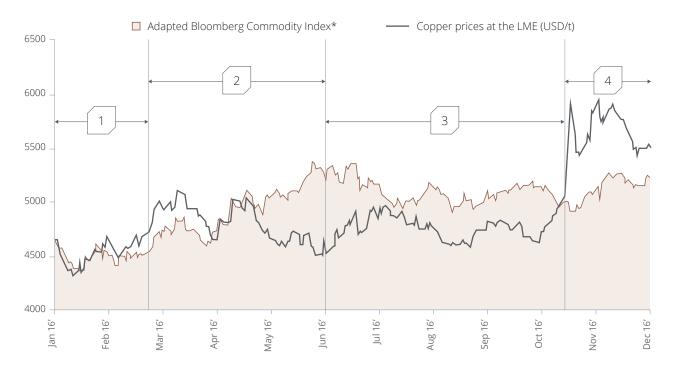
Source: Wood Mackenzie, KGHM Polska Miedź S.A.

#### 4.2 The market in 2016

The downward trend on the copper market observed in recent years stopped in 2016. The price of copper in USD at the end of 2016 was 22 percent higher than at the beginning of the year. However, average annual prices on the London Metal Exchange (LME) in 2016 were at a level of 4,863 USD/t, i.e. 12 percent below the average price in 2015 (5,495 USD/t).



# Copper prices at the LME and key events affecting prices against the background of BBG Commodity



<sup>\*</sup> Initial value of the index at par with the price of copper

- 1 Copper prices reaching an annual low
- Beginning of a dynamic rebound of commodity prices due to positive data from the Chinese economy and expected reflation
- 3 Cooper price increases lower than other metals
- Copper price boom due to a significant increase in demand in China and expected changes in market fundamentals

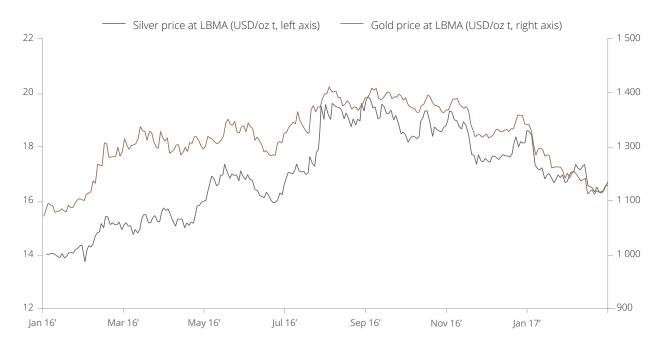
Source: Bloomberg, KGHM

Increases in copper prices were accompanied by growing levels of exchange inventories of copper which amounted to 549 kt at the end of 2016 (compared with 482 kt at the beginning of the year). The quantity of materials in Chinese duty free warehouses increased from 460 kt to 520 kt. The consensus of estimates of key market analysts assumes a surplus of copper at a level of approximately 160 kt in 2016. However, the situation of the physical copper market did not affect investors' decisions strongly enough to counterbalance their enthusiasm resulting from a positive change in perceiving the outlook of the copper market in future years.

Precious metals recorded very strong growth rates in the first half of 2016. The gold/silver ratio showing the relation of gold prices to silver prices remained at a relatively high level of 73 on average.

The average price of silver according to the London Bullion Market Association (LBMA) increased in 2016 by 9 percent and averaged on 17.14 USD/oz as compared to 15.68 USD/oz. in 2015. The average price of gold increased by 8 percent year over year and reached the average level of 1,250.32 USD/oz.

#### Prices of silver and gold in 2016 according to LBMA

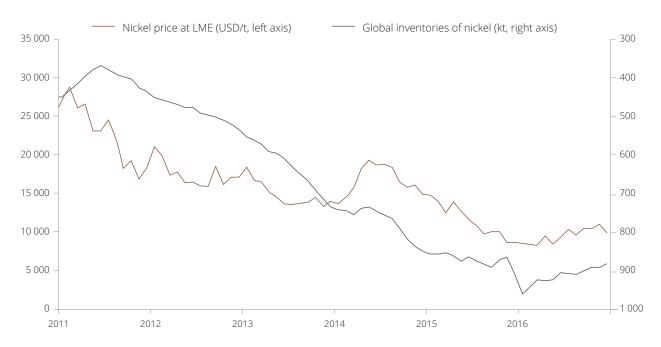


Source: Bloomberg, KGHM Polska Miedź S.A.

The annual average price of nickel on the LME amounted to 9,609 USD/t in 2016 and was almost 19% lower than the average price recorded in 2015 (11,807 USD/t). The market consensus among analysts is that a nickel deficit will persist in the following years, but the expected increase in price may be dampened by the histori-

cally high level of nickel inventories. Moreover, there is significant uncertainty regarding the supply side with regards to the quantities of nickel to be mined in Indonesia and the Philippines, which depend largely on political decisions and the requirements imposed by the market regulators in these countries.

#### Nickel prices and inventories in 2011–2016



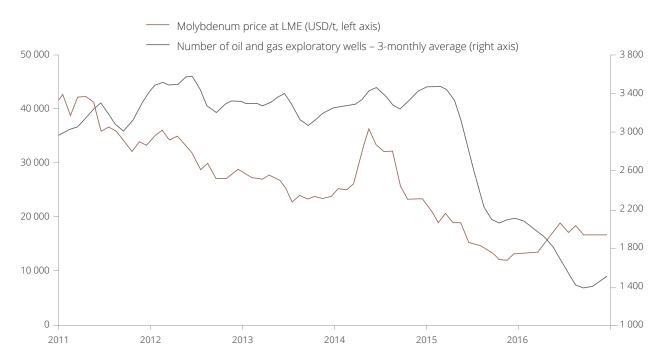
Source: Bloomberg, KGHM

#### Market environment in 2016

In the first half of 2016, molybdenum prices showed a consistently upward trend. was due As a result of the changes in the demand and supply balance, the market recorded a deficit of 12.2 kt in 2016 (according to CRU). However, the increase in prices was dampened by the high level of global inventories.

As a result, the average price of molybdenum in 2016 was 14,453 USD/ton and was approx. 3 percent lower than the average in 2015 (14,837 USD/t).

# Molybdenum prices at LME and the number of oil and gas exploratory wells in 2011–2016

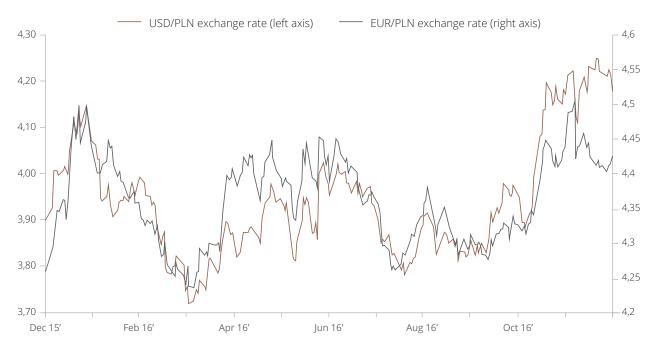


Source: Bloomberg, KGHM Polska Miedź S.A.

In 2016, US dollar stabilized at a relatively high level in relation to other global currencies – the value of USD in relation to the currency basket (dollar index) – increased by nearly one percent. In the same period, the Polish zloty depreciated slightly against the euro and USD dollar.

In 2016, the average USD/PLN exchange rate (according to the National Bank of Poland) was 3.94 USD/PLN which was 4.5 percent higher than in 2015. In 2016, the average EUR/PLN exchange rate (according to the National Bank of Poland) was 4.36 EUR/PLN which was 4.5 percent higher than in 2015.

#### USD/PLN and EUR/PLN exchange rates in 2016 according to the NBP

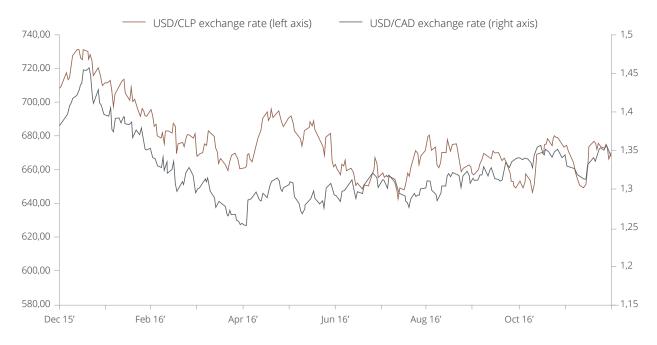


Source: Bloomberg, KGHM

After months of depreciation against the US dollar, both the Canadian dollar and Chilean peso experienced a dynamic reversal of this trend in the first quarter

of 2016. The increase in prices on the commodities market was one of the major reasons. In subsequent months, these exchange rates stabilized.

# The USD/CLP exchange rate (according to the Bank of Chile) and USD/CAD (according to the Bank of Canada)



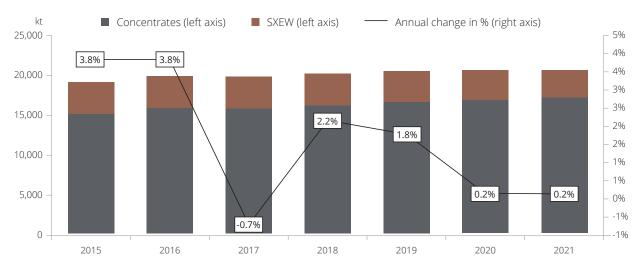
Source: Bloomberg, KGHM

## 4.3 Copper market forecasts

The consensus among analysts of key institutions and banks is that the copper market will be moving towards a deficit in the coming years due to the limited rate of growth in mining production combined with a stable growth of global copper consumption. Several years of a downward trend in the commodity market, deceleration in the growth of the largest metal consumer (China), decreased interest among investors in commodity markets and the lower propensity of banks to finance mining projects have resulted in no major new capital expenditure projects being initiated in the cop-

per mining sector. The implementation of mining projects takes from a number of to several dozen years, so even if capital expenditure in the mining sector increases in the immediate future, the number of new mines opened in the next five years will still be limited. As a result, the anticipated growth of the global copper supply will decelerate and fall behind the consistent growth in copper consumption.

#### Forecast of the growth rate of copper mining production in 2016–2021 (in kt)

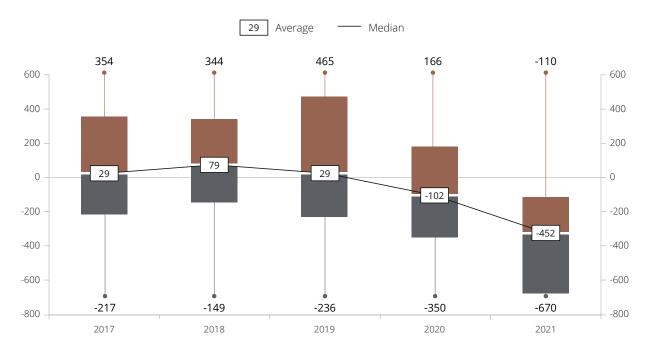


Source: reports of banks and institutions, own data

The rate of growth in the demand for copper will be lower than in a period of intensive growth of the Chinese economy, but it will be stable. In addition to infrastructural projects and progressive electrification of the world, the demand for copper will be supported by the development of new technologies, investments in energy from renewable sources and innovations in the transport sector. The International Copper Association estimates that the manufacture of products based on renewable energy sources requires from four to twelve times more copper compared with traditional applications based on conventional fuels.



# Forecasts of the copper market balance (kt)



Source: Reports of banks and institutions, own data





# 5.1 Mining and smelting production

Utilization of the Company's resource base and production capacity and optimization of the copper content in the extracted ore and concentrates are the main goals for 2016 in the area of mining and smelting production.

# 5.1.1 Production and efficiency

In 2016, we have improved our management effectiveness and efficiency. This has contributed to process improvement and therefore, improved production results.

We implement the Lean Management concept consistently in all Divisions of our Group to eliminate wastefulness from the processes defined, to improve them and increase productivity. In 2016, the Lean Management coordinators held regular meetings with employees to train them and convince them of their roles and the value contributed to the changes and improvements implemented.

Lean Management assumes an increase in process efficiency by identifying and eliminating waste. It contributes to optimizing the resources held while maintaining the highest standards and mutual respect in a workplace. One of the advantages of implementing Lean Management is to eliminate activities which do not add value to processes. Therefore, we not only save money, but also our employees' energy and the time they dedicate to performing specific tasks.

The 5S tool is the key tool of the Lean Management. It is a starting point for further steps of continuous improvement. 5S is a tool/activity aimed at maintaining order rather than cleaning all the time. It is aimed at creating and maintaining an orderly, well organized and safe workplace.

The year 2016 was one of applying solutions which improved the availability of machinery and equipment. In the case of the Concentrators Division, for example, this translated into the highest ore extraction in the history of our mines (33.6M ton on a dry weight basis). Innovative solutions combined with the teamwork of our engineering staff enabled us to launch a new flash furnace production line in the Głogów I Copper Smelter and Refinery.

#### 5.1.2 Production results

In 2016, we extracted 32M ton of ore, on a dry weight basis. This is approximately 400 kt more than in 2015. The quantity of copper obtained from the copper ore extracted increased to 480 kt (1.3 kt more than in 2015). The volume of silver in the ore extracted also increased by 74 tonnes to 1,482 tonnes.

In 2016, we processed 31.7M ton (dry weight) of the ore extracted, which is 243.6 kt more than in the prior year. This is the highest result in the history of the operation of our Concentrators Division. The lower content of copper in the ore processes affected the

quantity of copper in the concentrate which amounted to 424.3 kt in 2016. The production of concentrate (dry weight) increased by 0.4 percent compared to 2015 and reached 1,866 kt.

KGHM Polska Miedź S.A.'s production re	Compared with 20	)15	
Ore extracted	<b>33.6</b> M ton	An increase of	<b>433</b> kt
Copper in ore	480 kt	An increase of	<b>1.3</b> kt
Ag Silver in ore	<b>1,482</b> ton	An increase of	<b>74</b> ton

The detailed results of the mining production in Poland are presented in the table **Mining production of KGHM Polska Miedź S.A.** 

# Mining production

Specification	m.u.	2016	2015	2015 = 100%
		MINING		
Copper ore extraction (wet weight)	kt	33,620	33,187	101.3
Copper ore extraction (dry weight)	kt	31,984	31,571	101.3
<ul> <li>including copper ore (dry weight)</li> </ul>	kt	24,379	24,356	100.1
Cu content in ore	%	1.50	1.52	99.0
Cu quantity in ore	t	480,038	478,727	100.3
Ag content in ore	g/t	46.32	44.57	103.9
Ag quantity in ore	kg	1,481,590	1,407,167	105.3
Cu recovery	%	89.11	89.18	99.9
Cu quantity in concentrate	t	424,276	425,870	99.6
AG quantity in concentrate	kg	1,264,659	1,209,094	104.6
Cu content in concentrate	%	22.74	22.91	99.3
Production of concentrate (dry weight)	t	1,865,846	1,858,857	100.4

# Smelting and refining production

Specification	m.u.	2016	2015	2015 = 100%	
		METALLURGY			
		PRODUCTS			
Electrolytic copper, including:	t	535,597	574,310	93.9	
· production from own ore	t	375,961	420,491	89.4	
· production from third party ore	t	159,635	153,819	103.8	
Copper rod CONTIROD	t	251,039	246,642	101.8	
CU OFE (UPCAST) wire	t	13,018	14,629	89.0	
Cu Ag wire	t	3,387	2,390	141.7	
OC round billets	t	12,978	12,666	102.5	
Granulated copper	t	2,141 2,016		106.2	
		OTHER METALS			
Silver in sludge	kg	1,151,230	1,276,975	90.2	
Metallic silver	kg	1,191,127	1,283,209	92.8	
Metallic gold	kg	3,540.2	2,702.7	131.0	
Pt-Pd concentrate	kg	174.4	136.5	127.8	
Raw lead	t	26,059	29,001	89.9	
Refine lead	t	30,130	29,253	103.0	
	(	OTHER PRODUCTION			
Sulphuric acid	t	619,027	669,080	92.5	
Copper sulfate	t	5,864	5,914	99.2	
Nickel sulfate	t	2,743	2,967	99.4	
Technical selenium	t	81.7	87.0	93.9	

Source: KGHM

Total surface are of the land managed by the Company with a view to production and extraction activities, held by KGHM Polska Miedź S.A.\*

	Surface area of		
	Perpetual usufruct/ joint perpetual usufruct (ha)	Ownership/ joint ownership (ha)	Total surface area (ha)
As at December 31, 2016	5,698.88	1,016.20	6,715.09

<sup>\*</sup> This list does not cover the property of COPI, JRGH and Headquarters

Amount of land (owned or leased, and managed for production activities or extractive use) disturbed or rehabilitated

	Quantity (ha) 2016
Amount of land disturbed and not yet rehabilitated	6,697.97
Amount of land disturbed during the reporting period	17.12
Amount of land rehabilitated to the agreed end use during the reporting period	0
Sum of land disturbed and not yet rehabilitated	6,715.09

# Detailed production results of KGHM INTERNATIONAL LTD. are presented in the table below

	m.u.	2016	2015	Change (%)
Payable copper, including:	kt	89.8	97.6	-8.0%
· Robinson Mine (USA)	kt	53.7	56.8	-5.5%
Sudbury region mines (CANADA)*	ADA)* kt 14.4		14.1	+2.1%
Payable nickel	kt	2.1	2,2	-4.5%
TPM - precious metals, including:	koz t	92.1	95.3	-3.4%
· Robinson Mine (USA)	koz t	46.2	56.8	-18.7%
Sudbury region mines (CANADA)*	koz t	46.0	38.5	+19.5%
Production of cooper equivalent	kt	114.8	121.5	-5.5%

<sup>\*</sup> Morrison and McCreedy West mines in the Sudbury region

#### Sierra Gorda

In 2016, our Sierra Gorda Mine in Chile recorded an increase in efficiency. The production of copper in concentrate amounted to approx. 94 kt (approx. 87 kt in 2015) and the production of molybdenum in concentrate was over 10 kt (compared with 6.5 kt in 2015). Comparing the data for Q4 2016 with Q3 2015, Sierra

Gorda S.C.M improved its production results by 21 percent for copper and 16 percent for molybdenum.

Production\* of copper, molybdenum and precious metals (2015 – amounts for the full year) in Sierra Gorda S.C.M.

	J.m.	2015	2016	Change (%)
Copper production	kt	84,2	93,7	+11,3%
Copper production – segment (55%)	kt	46,3	51,5	+11,3%
Molybdenum production	mn lbs	14,6	22,1	+51,4%
Molybdenum production – segment (55%)	mn lbs	8,1	12,2	+51,4%
TPM production – gold	koz t	41,5	41,7	+0,5%
TPM production – gold – segment (55%)	koz t	22,8	22,9	+0,5%
Production of copper equivalent**	kt	109,7	136,5	+24,4%
Production of copper equivalent – segment (55%)	kt	60,3	75,1	+24,4%

<sup>\*</sup> Payable metal in concentrate

<sup>\*\*</sup> Value of the production of all metals translated into copper based on market quotations, from own resources



# 5.1.3 Presentation of production plants

We are one of the world's leaders in the metallurgic industry, and the production capacity of our copper smelters in the Lower Silesia region is 570 kt of electrolytic copper and 1,300 tonnes of silver per year.

#### Copper smelters of KGHM:



Głogów Copper Smelter and Refinery



Legnica Copper Smelter and Refinery



Cedynia Copper Smelter and Refinery – Rolling Mill

We use various technological solutions in our smelters:

In the Głogów smelter, copper is smelted based on modern one-stage flash furnace technology-the first on its kind in the world. The organizational structure of the copper smelter also includes fhs Precious Metals Plant which produces silver and gold.

The Legnica smelter produces copper cathodes using traditional shaft furnace technology and through the electro-refining process.

The Cedynia smelter is a copper rolling mill that processes electrolytic copper produced in the other two smelters.

The process is conducted using modern installation for the production of wire rod using the Contirod method without the use of billets, and for the production of Upcast copper wire.

# KGHM additionally produces:

- · Refined lead
- Sulfuric acid
- Nickel sulfate
- Platinum-palladium concentrate

## 5.1.4 Innovations in production

Innovative solutions support the development of our resource and asset bases, as well as our production function. More and more innovative technologies as well as cooperation with scientific milieus help us increase employee safety.

We are on a constant lookout for solutions and technologies which will, on the one hand, contribute to reducing manufacturing costs, and, on the other, will enable higher recovery of copper and accompanying metals. An example of these activities is the launch of a new flash furnace technological line in 2016 in the Głogów I Copper Smelter and Refinery. The new plant ensures the maintenance of high processing capacity for at least a few decades. We estimate that reducing copper losses in the new production process will ensure at least PLN 9M savings a year.

Our commitment to innovative production technologies is confirmed by the receipt of a first degree award by the Prime Minister for Outstanding Scientific and Technical Achievements which was awarded in November 2016 to a team of specialists from KGHM Polska Miedź S.A. and the Technical University in Wrocław. The scientific research led to developing a method

for designing magnetic circuits and constructing electrical engines which are innovative on a global scale. High-power engines manufactured using this method are already being used by KGHM to power ventilators, pumps and the drum mill, ensuring large savings.

Our foreign assets also show an innovative approach to production processes. The processing division in the Robinson mine worked on improving its processes with the use of innovative solutions in effect of which lime consumption was reduced, concentrate grade was improved and scaling-related problems were eliminated.

In the Carlota mine we implemented a subsurface leaching program which enables the recovery of copper from the remaining deposits. We also conducted actions aimed at reducing the use of power and oil.

#### **GOOD PRACTICES**

The MillVis system – an innovative solution which improves the energy-effectiveness and technological performance of the process in the Concentrators Division was awarded the title of "Lower Silesian Technology Vice-Champion 2016" (Dolnośląski Wicemistrz Techniki) 2016. MillVis controls and analyses all factors which have an impact on the correctness of milling the excavated material. The system provides information on the current condition of the milling unit and the parameters of the ground materials. It also allows selecting the appropriate operating settings.

## 5.1.5 Market position in 2016

We systematically build our position as a global company and as one of the leading silver and copper producers worldwide.

We are the sole producer of rhenium and ammonium perrhenate from our own resources. We would like to join the group of largest multiple raw materials producers in the world. Globally, KGHM ranks eighth in terms of usable copper resources, which, in total, con-

tain 22.7M tonnes of metal in the deposit. Our Group's Polish deposits are estimated at approx. 17.5M tonnes of metal in usable resources of copper and will enable maintaining the exploitation of copper ore at the current level for the next 40–50 years.

According to assessments, the largest global copper resources are in:



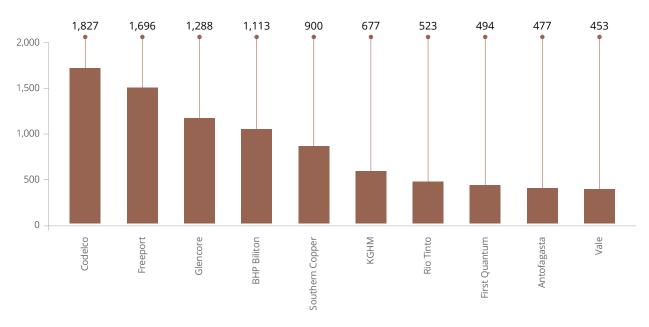
## The largest amounts of ore are excavated in:

- 1. Chile
- · 2. Peru
- 3. China
- 4. USA
- 5. Australia

- 6. Mexico
- 7. Canada
- · 8. Switzerland
- 9. Poland

According to the IntelligenceMine ranking, in 2016 we ranked sixth among the largest global copper producers. In 2016, the ten largest producers provided almost 9.5M tonnes of copper, i.e. 4 percent more than in 2015. Those companies, which included the KGHM Group, ensured 49 percent of global copper produc-

tion which in 2016 – according to the calculations of the industry portal mining.com – amounted to 19.4M tonnes. According to this data, our share in global production amounted to approx. 3.5 percent.



Source: IntelligenceMine | mining.com

Top 10 corporate equity shares of mine production ('000 tonnes contained copper in concentrates and recoverable EW cathode)

Rank	2013		2014		2015		2016	
1	Codelco	1792	Codelco	1829	Codelco	1889	Codelco	2016
2	Freeport-McMoRa	an1537	Freeport-McMoRa	an1476	Freeport-McMoR	an1543	Freeport-McMoR	an1827
3	Glencore	1330	Glencore	1344	Glencore	1331	Glencore	1747
4	BHP Billiton	1270	BHP Billiton	1206	BHP Billiton	1199	BHP Billiton	1282
5	Grupo Mexico	672	Grupo Mexico	723	Grupo Mexico	770	Grupo Mexico	1134
6	Rio Tinto	665	Rio Tinto	608	KGHM	572	KGHM	578
7	Anglo American	548	Anglo American	530	Anglo American	526	Rio Tinto	557
8	KGHM	528	KGHM	513	Rio Tinto	506	Antofagasta	489
9	Antofagasta	476	Antofagasta	469	Antofagasta	416	First Quantum	465
10	First Quantum	398	First Quantum	378	Vale	398	Vale	433

Source: CRU International

Top 10 corporate equity shares of refined production ('000 tonnes recoverable copper)

Rank	2013		2014		2015		2016	
1	Codelco	1423	Codelco	1431	Codelco	1411	Codelco	1403
2	Glencore	1224	Glencore	1257	Freeport-McMoR	an1224	Freeport-McMoRa	n 1225
3	Aurubis	1133	Jiangxi Copper	1175	Glencore	1223	Tongling	1150
4	Jiangxi Copper	1122	Freeport-McMoR	an1149	Jiangxi Copper	1166	Jiangxi Copper	1101
5	Freeport-McMoR	lan1066	Aurubis	Aurubis 1142		1133	Aurubis	1081
6	Tongling	855	Tongling	958	Tongling	1015	Glencore	1017
7	Grupo Mexico	671	Grupo Mexico	701	Grupo Mexico	754	Grupo Mexico	759
8	KGHM	595	BHP Billiton	616	KGHM	600	Sumitomo Metal M	linin 634
9	BHP Billiton	578	KGHM	607	Sumitomo Metal Minin 588		Jinchuan Nonferro	us M 630
10	Sumitomo Metal   556	Minin	Sumitomo Metal 1 599	Minin	Jinchuan Nonferrous M 581		BHP Billiton	602

Source: CRU, Company reports

Top 20 silver producing countries

2016	2015	Country	2016	2015
Rank		Country	Output (Moz)	
1	1	Mexico	186.2	192.0
2	2	Peru	147.7	138.0
3	3	China	112.4	110.0
4	4	Chile	48.1	48.6
5	5	Russia	46.6	50.8
6	6	Australia	43.6	49.0
7	7	Bolivia	43.5	42.0
8	8	Poland	38.5	41.5
9	9	United States	35.4	35.0
10	10	Argentina	30.0	34.7
11	11	Guatemala	26.9	27.5
12	12	Kazakhstan	17.8	17.3
13	13	Sweden	16.4	15.9

14	14	India	14.0	12.0
15	15	Canada	13.0	12.2
16	16	Indonesia	11.2	10.0
17	17	Marocco	10.1	9.6
18	18	Turkey	5.6	5.5
19	19	Armenia	4.6	4.0
20	20	Iran	3.6	3.3
		Rest of the world	30.5	31.9
		World Total	885.8	890.8

Source: GFMS, Thomson Reuters

Top 20 silver producing companies

2016	2015	Company		2015
Ra	nk			t (Moz)
1	1	Fresnillo plc.	45.7	43.0
2	2	Glencore plc.	39.1	36.6
3	3	KGHM Polska Miedź S.A. Group	38.8	41.6
4	4	Polymetal International plc.	29.2	32.1
5	5	Goldcorp Inc.	28.1	40.4
6	6	Pan American Silver Corp.	25.4	26.1
7	7	Cia. De Minas Buenaventura S.A.A.	24.7	22.1
8	8	Volcan Cia. Minera S.A.A.	22.0	24.8
9	9	Tahoes Resources Inc.	21.3	20.4
10	10	Corp. Nacional del Cobre de Chile	20.9	21.3
11	11	South 32 Ltd.	18.2	13.9
12	12	Sumitomo Corp.	18.1	15.8
13	13	Hochschild Mining plc.	17.3	14.8
14	14	Hecla Mining Company	17.2	11.6
15	15	Southern Copper Corp.	16.2	13.3
16	16	Coeur Mining, Inc.	14.8	15.9
17	17	Boliden A.B.	14.4	13.5
18	18	Hindustan Zinc Ltd.	14.0	12.0
19	19	Industrias Peñoles, S.A.B. de C.V.	12.4	11.5
20	20	First Majestic Silver Corp.	11.9	11.1

Source: GFMS, Thomson Reuters

# 5.2 Development of assets

We understand the development of assets as an economically justified Investment Policy of our Company, focused on optimum development and use of the resource base in our possession. We achieve those goals through multi-year programs and the use of projects for the regeneration, maintenance and development of the excavation and production infrastructure. In 2016 we concentrated on investments which improve operational effectiveness to enable increased production in consecutive years.

# 5.2.1 Key investment projects in Poland

#### Program for Providing Access to Deposit (PUZ)

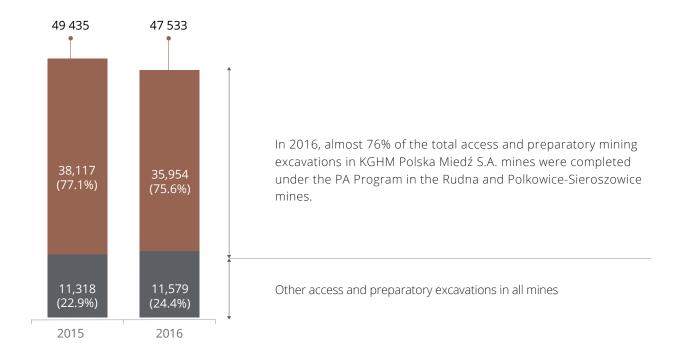
The program for providing access to the deposit comprises a group of capital expenditure projects aimed at making the Głogów Głęboki-Przemysłowy (GGP) deposit available and preparing it for exploitation. Developing the GGP area is one of the largest mining projects in Europe. Providing access to the deposit will maintain the level of production of Polish KGHM copper mines at the planned level for many decades to come.

In 2016 we continued work related to providing access to the GGP deposit:

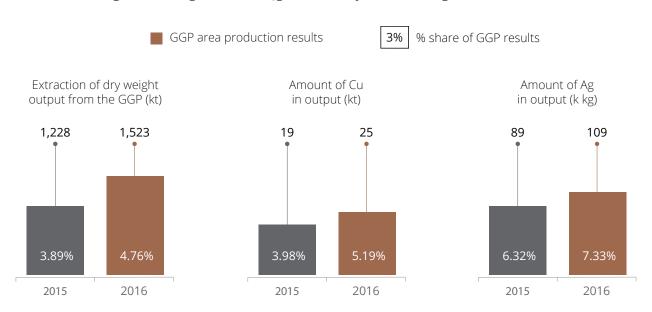
- As at the end of 2016, the GG-1 shaft which is being dug (mine cage and skip compartments with air intake function) was already over 846 meters (m) deep in the rock (of the target 1,340 m). In the 4th quarter, the process of sealing the shaft tubing lining was conducted.
- We completed work relating to Stage II of the construction of the Surface Air-Conditioning Station at shaft R-XI with respect to expanding the central air-conditioning system. As a result of the work, the amount of cooling energy provided to the 1,200 m level excavations increased from the former 15 to 25 MW.
- We balanced the needs for cooling capacity, which enabled us to begin preparations for designing and constructing a central air-conditioning system at Shaft GG-1. The system will provide chilled water to mining excavations at a level of 1,300 m in the target amount of 30 MW.
- We began preparatory works for the construction of Shaft GG-2 ("Odra") related to obtaining a permit for constructing facilities needed to start sinking the shaft.

Since 2006 under the Program for Providing Access to the Deposit we have completed 127,812 linear meters of mining excavations, constructing the necessary technical infrastructure (water pipelines, power cables, power distribution rooms, conveyor belts, retention tanks, pipelines and air conditioning equipment, teletechnology). In 2016 we completed nearly 47.5 km of mining excavations in the Rudna and Polkowice-Sieroszowice Mining Zones, which is nearly 76 percent of the total number of opening-out headings and preparatory excavations carried out by KGHM.

Scope of opening-out headings and preparatory excavations [mb]



Production results from the Głogów Głęboki-Przemysłowy area vis-à-vis the KGHM/Legnicko-Głogowski Okręg Miedziowy (LGOM) region



We anticipate a gradual increase in extraction from the GGP area to approx. 8 percent of the total mining production in LGOM in 2020.

By the end of 2016 our capital expenditure on the Program for Providing Access to the Deposit amounted to PLN 2,285.7M.

#### Pyrometallurgy Modernization Program (PMP)

At the end of 2016 the PMP project was at the final stage of completion – the technological go-live of the flash furnace.

#### Basic benefits of the Pyrometallurgy Modernization Program:

- approx. 80 percent of copper will be produced according to best and optimally cost-effective available technologies;
- cost and environmental risks will be eliminated in respect of approx. 40 percent of HMG's pyrometallurgical production:
  - reduction in dust emissions by approx. 55%;
  - reduction in gas emissions by approx. 58%;
  - reduction in the amount of stored waste;
- · increase in the revenues of the KGHM Group on sales of additional amounts of silver, rhenium, refined lead;
- · ability to intensify the melting of imported chalcopyrite concentrates;
- · reducing expenditure on replacement investments and costs of repairs and labor;
- · meeting the BAT requirements;
- · improving safety at work thanks to eliminating onerous positions in the flash furnace technology;
- · increasing energy efficiency of processes;
- · improving the competitiveness of KGHM's smelting.

#### Smelting Development Program

In 2016, we continued completing the following projects under the Metallurgy Development Program:

- · construction of the steam drier at the Głogów II Copper Smelter and Refinery;
- modernization of the Tank and Electrolite Decopperization Hall at the Legnica Copper Smelter and Refinery;
- · construction of the concentrate roasting installation at the Głogów I Copper Smelter and Refinery;
- adaptation of the technical infrastructure to the change in the smelting technology at the Głogów I Copper Smelter and Refinery.

#### Development of the mechanical mining technology

To ensure that safety at work requirements are met during the excavation of deposits in increasingly difficult conditions in KGHM Polska Miedź S.A. (the increasingly deeper location of the deposits, the original rock temperature leading to deterioration in working conditions, and the increasing threat of rock bursts) we undertake research to develop alternative technologies for the excavation of hard rock compared to the current technology based on blasting. The research is aimed primarily at mechanical excavation both in

terms of using sets of heading machines in preparatory and extraction mining works.

In 2016, trial mechanical excavation works were completed in the Polkowice-Sieroszowice mine using sets of three roadheaders for excavating preparatory drifts in the area of the Głogów-Głęboki Przemysłowy deposit. Experience gained during research into this technology confirmed the possibility of excavating hard rock at a pace which enables faster excavation of the face

compared to traditional technologies. Initially, the potential of the researched technology was determined in respect of reducing the amount of equipment and operators required, and increasing the safety of the mining work conducted in the most difficult geological and mining conditions.

The project "Development of the Żelazny Most Tailings Storage Facility to ensure the possibility of storing flotation tailings after 2016"

Żelazny Most is the largest Tailings Decontamination Facility in Europe, where tailings from the enrichment of copper ore are stored. Annually, the Żelazny Most Tailings Decontamination Facility stores approx. 18M m³ of talings material. The extension of the mines' lifespan and maintaining employment in the region

requires constant expansion of the Żelazny Most Facility. A concept for expanding the Facility was developed in cooperation with an international team of experts, which consisted of constructing the Southern Site with an area of approx. 609 ha.

In 2016 an application for the decision on the environmental conditions for the project was filed. We also signed agreements for the construction design of the Southern Site and the lease of real estate where the future site is to be located with the Lubin Forest District Office.

Completion of the project will enable storing tailings, and therefore uninterrupted long-term business for KGHM.

# 5.2.2. Development projects in respect of foreign assets

#### Sierra Gorda Project (Chile)

Under the Sierra Gorda Oxide Project, the management of oxide ore is planned. Metal is to be recovered through a plant using SX/EW technology. The oxide ore is currently being stored for later leaching. In 2016

analyses were conducted using alternative scenarios for the development of the project.

#### Victoria Project (Ontario, Canada)

The project work conducted consisted of developing the basic infrastructure to ensure access to utilities (power and gas). In 2016 the decision was made to verify the technical and business assumptions of the project by independent consultants. Due to current

macroeconomic conditions, the Management Board of KGHM Polska Miedź S.A. decided to modify the previously adopted time schedule for the project.

## Ajax Project (British Columbia, Canada)

In 2016 we published an Updated Feasibility Study which replaced the 2012 version.

The Updated Feasibility Study reflects changes to the project, under which the mine's infrastructure was moved farther away from the nearest buildings in the City of Kamloops, technological improvements were incorporated and the processing facility's throughput capacity was increased from 60 to 65 kt of ore per day.

Currently, KGHM AJAX MINING INC. is focused on obtaining the necessary environmental permits and on continuing to build good relationships with First Nations as well as with the citizens of the City of Kamloops.

# 5.2.3 Innovation strategy and expenditure on research and development in development projects

In 2016 we put emphasis on innovations. We completed over 170 works worth more than PLN 44M.

In the prior year, the main research and development projects concentrated on innovative solutions for the purpose of the Main Technological Line of KGHM Polska Miedź S.A.

Eighty KGHM employees were engaged in research and development work, pursuing both local and inter-

national projects. The project topics were strictly related to production strategy, launching new projects, planning technological changes and environmental aspects.

#### Selected key actions in 2016:

- developing new regulations relating to research and development, together with contract templates, including:
  - entering representations of co-authors transferring rights to R&D results to properly secure the intellectual property rights of KGHM Polska Miedź S.A.;
  - work on contractual provisions which properly secure intellectual property rights in contracts for performing R&D works;
  - work on amendments to the "Regulations for performing research and development work in KGHM Polska Miedź S.A.";
- entering contract templates and representations relating to research and development work in KGHM Polska Miedź S.A. – launching the acceleration program together with KGHM Cuprum

- implementing the CRPBR II Repository an IT tool

   the digital archives of research and development
  works and expert opinions on scientific and technological issues. The resources of the CRPBR II
  Repository comprise all existing archives of works
  developed both at the Head Office and in Branches
  of KGHM Polska Miedź S.A.
- KGHM Polska Miedź S.A. filing two competition applications for participation in projects co-financed from domestic sources and 10 competition applications as part of the KGHM Polska Miedź S.A. Group
- continuing projects under the Horyzont 2020 program: BioMOre, DISIRE and IntMet
- completion of the 3rd CuBR competition

#### **GOOD PRACTICES**

In 2016 we continued 12 research and development projects as part of the I and II CuBR competition together with our industry partners and academic entities. In the third competition we positively assessed 11 projects. In factual terms, the projects related to such issues as communication systems in underground excavations, technologies for assessing the condition of shaft hoists, reducing odors from exhaust shafts, and methods of securing and utilizing process gases.

#### 5.2.4 Effective use of resources

Another challenge we had to face in 2016 was the optimum use of our resource base. Initiatives for improving the effectiveness of resource management in mining and smelting facilities translated into real savings.

We were able to increase the effectiveness of resource use thanks to using 3D technology to model deposits, optimizing management of underground machines and pursuing the energy saving program.

With regards to mining, we also improved the effectiveness of extraction, among other things, by adapting the geometry of the exploitation systems to local geological and mining conditions, improving the effectiveness of technological and active methods for reducing the threat of rock bursts and similar natural threats, also by optimizing the management of gangue rock in the areas of exploitation. We also adapted our production capacity in particular regions of the Ore Enrichment Plant to the amounts and quality of the excavated materials supplied.

We increased the effectiveness of using smelting resources by increasing the copper yields on the core flash furnace production line (as a result of implementing new technological solutions, such as an improved process for the decopperization of convertor slag), increasing the availability of revolving–reverbaratory furnaces at the Lead Section (high lead recovery accompanying lower lead content in charge materials), launching rhenium sales in the production area of the Legnica Copper Smelter and improving the energy-effectiveness of the machine park.



# 5.3 Development of the resource base

Access to geological resources is an element of securing the exploitation possibilities of KGHM Polska Miedź S.A., mainly in areas adjacent to those where excavations are in progress. We conduct geological works on documented copper ore deposits and actions related to obtaining concessions for exploring and evaluating new deposits. Apart from the copper-related projects we are also looking for possibilities of producing other minerals, including potassium and magnesium salts in the region of Puck, and hydrocarbons in the vicinity of the Sudety monocline.

# 5.3.1 Level of copper and silver resources

Copper and silver are raw materials necessary for the development of the global economy. During more than fifty years in operation, KGHM has extracted over a billion tonnes of mining materials and produced 19.1M ton of copper. Current resources provide for further extraction over the next 40-50 years.

The deposit exploited by KGHM in the vicinity of the Sudety monocline is one of the largest copper ore deposits in the world.

# Our copper ore deposits in Poland:





Average contain of copper 1.84 %

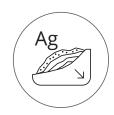


Average contain of silver 52.5 g/Mg

The amount of metals in the geological resources exceeds:



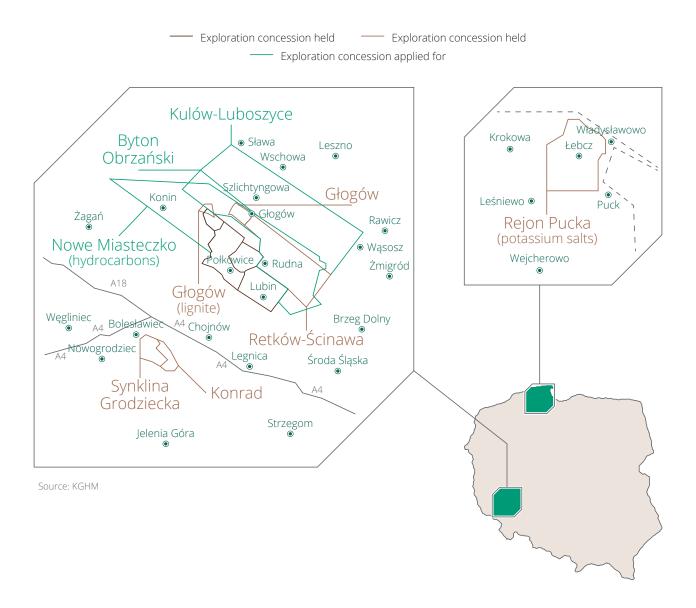
copper 31 M Mg



90 k Mg

## 5.3.2 Exploitation areas

#### Location of concession areas



# 5.3.3 Results of exploration projects

In respect of part of the exploration projects conducted, the quality of documented deposits was found to be so promising that we applied for concessions to prepare for excavation. In 2016 we also conducted preparatory works related to exploring new areas where promising ore deposits may be found.

#### 2016 AREAS OF EXPLORATION

#### Radwanice-Gaworzyce

In 2016 in the area of the Radwanice-Gaworzyce deposit we conducted geological work under the concession for exploring the copper ore deposit using the underground method in the vicinity of Dankowice. In August 2016 an application was filed to obtain a concession for mining copper ore from the Radwanice-Gaworzyce deposit in the vicinity of Gaworzyce.

# Synklina Grodziecka and Konrad

In 2016 we conducted drilling works aimed at a detailed examination of the hydro-geological conditions in the area, and we conducted surface seismic tests. We also prepared additional expert opinions and worked on geological documentation to assess the copper ore resources.

## Retków-Ścinawa oraz Głogów

In 2016, under the Retków-Ścinawa concession we drilled further geological holes and began work on developing the concept for the development and utilization of the ore in this area. In July 2016 our application for an amendment to the concession for exploring and evaluating copper ore deposits in the vicinity of Retków-Ścinawa was filed with the Ministry of the Environment.

The Bytom Odrzański and Kulów-Luboszyce projects are in the preparatory stages. In 2016 court and administrative proceedings were in progress in respect of concessions which would enable exploration in those areas. We also applied for a concession for exploration and evaluation of the oil and gas deposit in the vicinity

Under the concession for exploration and evaluation of deposits of potassium and magnesium salts with

of "Nowe Miasteczko".

In the area covered by the Głogów concession, we finished boring holes under Stage I of the exploration and evaluation work. In September 2016 we filed an application to amend the concession for exploration and evaluation of copper ore deposits In the application we presented, among other things, a modified scope of geological work for consecutive stages of the project.

the accompanying minerals: copper and silver ores, and rock salt in the region of Puck, we analysed archival data and conducted surface geophysical tests, and in 2016 we started boring works. Based on the information collected, we reviewed the geological structure of the region and started to assess the possibilities of mining the examined deposits in consideration of the model for the mine and the processing technologies.

# Exploration by KGHM INTERNATIONAL LTD.

The exploration work relating to the Victoria Project (Sudbury region, Canada) which confirmed the continuity and mineralization characteristics of the deposit, ended in 2016. We also engaged independent specialists who began verifying the technical and business assumptions of the Victoria Project.

The exploration goals of KGHM International Ltd. planned for 2017 provide for the continuation of works in the regions of Sudbury (Canada), Franke and Sierra Gorda (Chile) and Carlota (USA). We wish to evaluate the deposits in more detail, check for potential new deposits, and in effect, lead to extending the estimated time for conducting the mining works in these areas.

# 5.4 Financial results

## 5.4.1 Financial stability

In 2016 the KGHM Polska Miedź S.A. Group maintained its financial stability and gearing ratios at a safe level. Market conditions resulted in the need of a balanced approach to the Group's cash flow management. The ultimate purpose of the cash flow management policy was to ensure financing both in the short, medium and

long term, so as to secure operating continuity and pursue the Group's adopted strategy, in particular to continue capital expenditure projects which had been started.

#### 5.4.2 Sales results

In total, the Group's sales revenues amounted to PLN 19,156M in 2016 and were 4.3 per cent lower than in 2015 (PLN 852M). The drop in sales related mainly to KGHM Polska Miedź S.A. and KGHM INTERNATIONAL LTD., where a decrease of PLN 827M and PLN 42M respectively was noted.

Total sales revenues of KGHM Polska Miedź S.A. amounted to PLN 15,112M in 2016 and were 5 percent lower than the revenues earned in 2015, mainly as a result of the drop in copper prices denominated in Polish zlotys and a lower volume of copper sales. The business stoppage in the Głogów I Copper Smelter in 2016 led to a decrease in the production of electrolytic cathodes and, as a result, in a 16 percent drop in revenues from sales of copper and copper goods compared with 2015. This drop was only partly offset with sales of copper concentrate with a value of approx. PLN 776M. Revenues from sales of silver were 8 percent higher than in 2015, and revenues from sales of gold were approx. 49 percent higher. The increase in revenues from sales of gold were caused both by the increase in quotations of gold on the exchange (denominated in Polish zlotys) and the increase in the volume of production and sales compared with 2015. Sales revenues in 2016 account for the gain on settlement of hedging instruments of PLN 3M (PLN 482M in the previous year).

In 2016 revenues of the KGHM INTERNATIONAL LTD. segment were USD 639M, which is a decrease of USD 40M (-6 percent) compared with the previous year. This was the result of lower volumes of sales of base metals and unfavorable macroeconomic conditions as reflected in the lower sales prices realized on copper and nickel. Sales revenues on copper decreased by USD 51M (-10 percent) mainly as a result of a decrease in the volume of sales of the metal of 8.7 kt (-9 percent). Lower realized copper sales prices which in 2016 amounted to USD 5,004 per tonne compared with USD 5,071 per tonne in 2015 also had a negative impact on the level of revenues. The increase in sales of precious metals of USD 10M (+11 percent) was derived from higher realized sales prices of gold (+14 percent), palladium (+13 percent) and platinum (+8 percent).

## 5.4.3 C1 cost position

In 2016, C1 costs, i.e. the cash costs of production of payable copper, which include extraction and processing costs of the mined materials, tax on minerals, transport costs, administrative expenses relating to the mining stage, and processing premium of the smelting

and refining (TC/RC), net of the value of by-products of the Group compared to the amount of payable Cu sold, were 11 percent lower than in 2015.

#### C1 cost of the Group's copper concentrate production

USD/pound	2016	2015	Change	Percentage change	
Group	1.41	1.59	(0.18)	(11)	
· KGHM Polska Miedź S.A.	1.30	1.47	(0.17)	(12)	
KGHM INTERNATIONAL LTD.	1.63	1.87	(0.24)	(13)	
· Sierra Gorda S.C.M.	1.96	2.58	(0.62)	(24)	

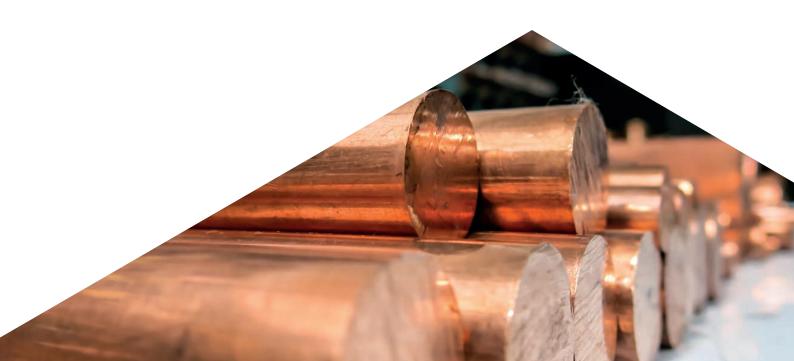
Source: KGHM

The C1 cost of KGHM Polska Miedź S.A.'s copper concentrate production was USD 1.47 per pound in 2015 and USD 1.30 per pound in 2016. The deterioration of the PLN exchange rate against the US dollar (C1 costs in 2016 translated according to the USD/PLN exchange rate and according to metal quotations from 2015 would amount to USD 1.50 per pound) and the 4.6 percent higher content of silver in own concentrates had an impact on the cost levels.

However, in the KGHM INTERNATIONAL LTD. segment, the weighted average cash cost of copper production for all transactions in 2016 amounted to USD 1.63 per pound, which is a decrease of 13 percent compared

with 2015. The decrease in C1 costs results from the savings initiatives undertaken, which translated into a reduction in production costs, which was partly offset by the decrease in the copper sales volume.

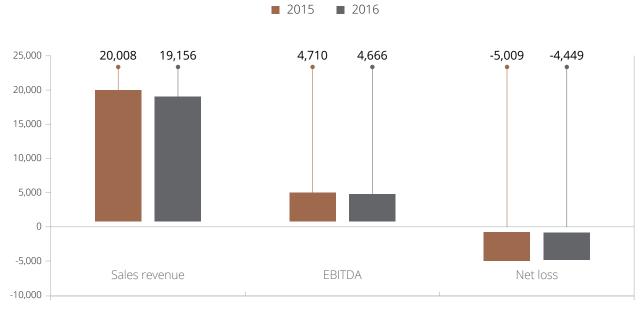
In the Sierra Gorda S.C.M. segment, the unit cash cost of copper production (C1) decreased from USD 2.58 per pound in 2015 to USD 1.96 per pound in 2016. The significant drop in the C1 costs in Sierra Gorda compared to 2015 is the effect of incomparability between the periods (C1 costs in 2015 are presented for the period from the start of production at a commercial level in July).



#### 5.4.4 EBITDA and net loss

Adjusted EBITDA amounted to PLN 4,666M and was PLN 44M (1 percent) lower than in 2015. Net loss amounted to PLN 4,449 M in 2016 and was PLN 560M lower than in 2015.

The Group's sales revenue, EBITDA and net profit in 2015 and 2016



Source: KGHM Polska Miedź S.A.

Adjusted EBITDA of the KGHM Polska Miedź S.A. segment amounted to PLN 3,551M in 2016, which is a 15 percent drop compared with the level recorded in the previous year (EBITDA of PLN 4,163M). The deterioration of the operating profit is the result of lower copper price quotations which were partly offset with the USD/ PLN foreign exchange rate which was more favorable for the Parent Company. Launching the flash furnace in place of the previous shaft furnace in the Głogów I Copper smelter was also a significant event which led to a temporary reduction in production, causing the production volume, and therefore also the revenue from sales of copper and silver to drop. This drop was offset to some extent by sales of copper concentrate (169 kt of dry weight). Additionally, in 2016 the adjustment for settlements of hedging transactions which increase revenues was PLN 479M lower than that recorded in 2015, which was mainly the result of a lower volume of hedging transactions settled during the period. The result of the above factors was a drop in sales revenues of PLN 827M compared with 2015. Costs of the Company's core operations did not change significantly and amounted to PLN 12,517M. In 2016 write downs of assets of PLN 6,197M had a decisive impact on the results of the Parent Company. They included write-downs of shares in subsidiaries of PLN 4,856M and write-downs of loans granted of PLN 1,130M. In effect, net loss of the segment amounted to PLN 4,085M, which is a drop in the result of PLN 1,297M compared with 2015.

In 2016 adjusted EBITDA of the KGHM INTERNATIONAL LTD. segment amounted to PLN 614M, and increased by PLN 245M compared with the previous year. The reduction in the costs of core operations, including those resulting from savings initiatives, had an impact on the improvement in the segment's operating results. In 2016 the segment's net loss of PLN 6,828M was partly the effect of recognizing the loss on measurement of assets, impairment write-down of the value of Sierra Gorda S.C.M. and an impairment write-down of the loan granted to Sierra Gorda S.C.M.

In 2016 adjusted EBITDA of Sierra Gorda amounted to USD 87M, i.e. PLN 344M, of which PLN 189M can be ascribed to the KGHM Group, in proportion to the shares held in the Company (55%). However, we have to emphasize that the results for 2015 only relate to the second half of the year, i.e. to the period when commercial production started. Additionally, in 2016 the Company continued operations aimed at stabilizing the technological parameters for processing the ore and producing concentrate, including in particular molybdenum, the extraction volume of which was below expectations. The segment noted a net loss of

PLN 6,015M (constituting 55 percent of the total loss of Sierra Gorda S.C.M.). The main factor which had an impact on the Company incurring a net loss was the impairment write-down of non-current assets. In proportion to the interests held in the Company, the write-

down amounted to PLN 6,728M before tax and PLN 4,874M net respectively. Another factor was interest accrued on the loans granted by the owner as part of the funds for the construction of the mine

## 5.4.5 Gearing

In 2016 the Group had open credit lines which fully secured its liquidity requirements, up to a total available amount of PLN 15.78bn, of which PLN 8.102bn was used as at December 31, 2016.

In the long term, financing was secured with a syndicated loan of USD 2.5bn, i.e. PLN 10.448bn and an investment loan granted by the European Investment Bank of PLN 2.0bn. In the short and medium term, current liquidity and effective working capital management are supported by bilateral bank loans up to the amount of PLN 3.330bn, of which the Group used PLN 1.609bn as at December 31, 2016.

In 2016 the KGHM Polska Miedź S.A. Group has been actively managing working capital in the area of receivables, inventories and liabilities, using non-recourse factoring services and gradually extending payment terms for deliveries or services, in accordance with the trend observed in the mining industry.

One of the more important events in 2016 was extending the availability of the unsecured renewable syndi-

cated loan for another year. The unsecured renewable syndicated loan agreement for USD 2.5bn was concluded in 2014 with a banking syndicate for five years, with the option to renew it for a further two years, one year and two years after its conclusion. In 2016 KGHM Polska Miedź S.A. obtained the consent of the banks which participated in the syndicate to extend the repayment of the loan by another year, in the full amount. The consent granted by the Banks for extending the availability of funding attests to the positive opinion on the creditworthiness of the KGHM Group. Currently, the loan matures on 9 July 2021.

The Group's total debt following from its loans and borrowings amounted to PLN 8.075bn as at December 31, 2016 and increased by PLN 1.095bn compared with 2015 (a 16 percent increase). Simultaneously, the structure of long-term liabilities to short-term liabilities improved, as a result of the increase of the share of long-term liabilities in total debt from 69 percent to 81 percent.

# Group debt arising from credit loans and other sources of financing as at December 31, 2016

PLN M	2016	2015	Change	Percentage change
Long-term liabilities	6,531	4,850	1,681	35
· bank loans	4,889	3,674	1,215	33
· borrowings	1,642	1,176	466	40
Short-term liabilities	1,544	2,130	(586)	(28)
· bank loans	1,502	2,124	(622)	(29)
· borrowings	42	6	36	x7
Total	8,075	6,980	1,095	16

Source: KGHM Polska Miedź S.A

To maintain its financial liquidity and creditworthiness in the long term the Group strives to maintain own capital ratio at a level no lower than 0.5, and the net debt to EBITDA ratio at a level of up to 2.0.

As at December 31, 2016 the Group's net debt to EBITDA ratio was 1.6. This level attests to the Group maintaining its gearing at a safe level and singles it out from the rest of the mining industry.

The financial results for 2016 confirm the Group's full capability of meeting its payment liabilities on loan agreements.

As at December 31, 2016 the Group identified premises for conducting asset impairment tests. The tests confirmed the reasonableness of the write-downs of the loan granted to Sierra Gorda S.C.M. and the impairment of foreign assets. The write-downs are of a non-cash nature and have no impact on the liquidity position of the KGHM Polska Miedź S.A. Group.

## 5.4.6 Capital expenditure

# KGHM Polska Miedź S.A. segment

In 2016 KGHM Polska Miedź S.A.'s expenditure on non-current assets amounted to PLN 2,624M and was 1 percent lower than in the previous year. This expenditure plus the expenses on development works in progress amounted to PLN 2,630M.

# Structure of expenditures on property, plant and equipment and intangible assets of KGHM Polska Miedź S.A. (in PLN million)

PLN M	2016	2015	Change	Percentage change
Mining	1,164	1,479	(315)	(21)
Metallurgy	1,435	1,115	320	29
Other operations	25	61	(36)	(59)
Development work in progress	6	18	(12)	(67)
Total	2,630	2,673	(43)	(2)
· including borrowing costs	90	57	33	58

Source: KGHM Polska Miedź S.A.

Capital expenditure activities consisted of replacement projects aimed at maintaining the production assets in a non-deteriorated condition (18 percent of total expenditure incurred), maintenance projects aimed at maintaining the mining production at a level predetermined in the approved production plan (12 percent of total expenditure incurred) and development projects aimed at increasing the volume of the technological line

production, implementing technical and technological actions to optimize the use of the existing infrastructure, maintain production costs at the required level and adapt the Company's operations to the changing standards, legal norms and regulations (70 percent of total expenditure incurred).

## KGHM INTERNATIONAL LTD. segment

In 2016, capital expenditure of the KGHM INTERNATIONAL LTD. segment amounted to PLN 108M, i.e. they decreased by USD 182M (-63%) compared with the previous year.

Approx. 50% of all expenditure was incurred in the Robinson mine and related mainly to pre-stripping work, developing the tailings storage facility, maintaining

infrastructure and environmental projects.

In 2016 the KGHM INTERNATIONAL LTD. segment expended USD 37M on projects, of which USD 21M was related to the Victoria project, USD 8M related to the Ajax project and USD 8M was incurred on the Sierra Gorda Oxide project. Analyses necessary to decide on the continuation of the projects are in progress.

#### Capital expenditure of KGHM INTERNATIONAL LTD. (US M)

	2016	2015	Change (%)	Q4′16	Q3′16	Q2′16	Q1′16
Victoria Project	21	62	-66.1%	1	2	2	16
Sierra Gorda Oxide Project	8	17	-52.9%	1	0	2	5
Pre-stripping and other	72	167	-56.9%	12	14	25	21
Ajax Project	8	44	-81.8%	1	1	3	3
Total	108	290	-62.8%	14	16	33	45

Source: KGHM

## Sierra Gorda S.C.M. segment

In 2016 expenditure on property, plant and equipment and on intangible assets in Sierra Gorda S.C.M. amounted to USD 268M of which 70% comprised expenditure related to making consecutive segments of the deposit available for mining. The significant drop

compared to a similar period of the previous year results from the fact that in the first half of 2015 the mine was still under construction. Also, in 2015 the scope of works related to making the deposit available for mining was larger.

## Capital expenditure (2015 – amounts per full year) Sierra Gorda S.C.M.

	2016	2015	Change (%)	Q4′16	Q3′16	Q2′16	Q1′16
Expenditure on property, plant and equipment (USDM)	268	527	-49,1%	57	49	49	113
Expenditure on property, plant and equipment (PLNM)	1,065	2,034	-47,6%	234	193	191	447
Expenditure on property, plant and equipment – segment (55% stake) (PLNM)	586	1,119	-47,6%	129	106	105	246

Source: KGHM

## 5.4.7 Anticipated position in 2017

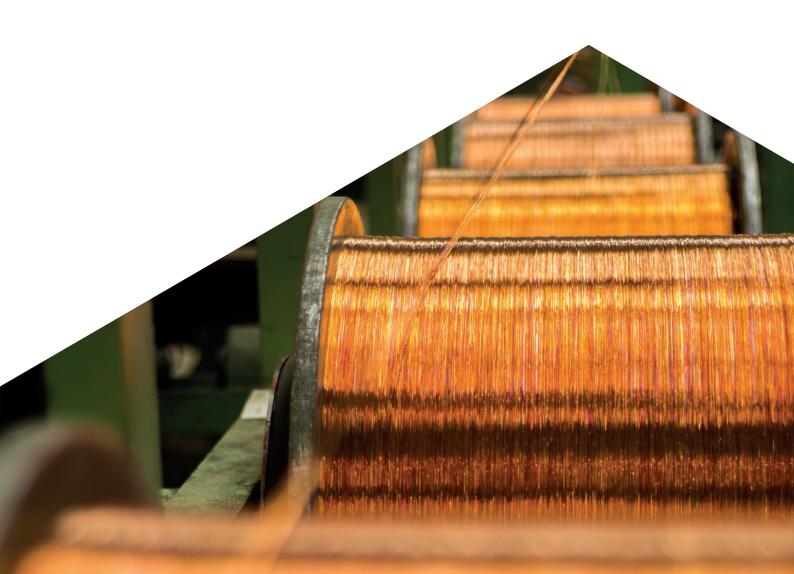
In 2017 the Company assumes that copper mining production will be similar to the previous year and that the silver concentrate mining production will be 4 percent lower. The smelting production is planned to increase by 3 percent in respect of electrolytic copper and silver by 1 percent, which is the result of the relatively low level of production in 2016 caused by the change in production technology in the Głogów Copper Smelter.

The planned sales volume of copper and silver is 4 percent and 10 percent lower, respectively, than that achieved in 2016 due to the need to transfer to customers 15 kt of cathodes produced from third party copper concentrate under a processing service and 47 t of silver.

Lower commercial production is partly offset by the planned reduction in inventories of finished goods at the end of 2017 – copper goods to 15 kt of Cu, i.e. by 7 kt compared with the end of 2016.

The cost of manufacturing electrolytic copper increased mainly due to the higher tax on mining some minerals and higher labor, depreciation, technological materials and external services costs.

The Company plans to reduce expenditure on property, plant and equipment by 20 percent in 2017 as a result of reducing expenditure on development (mainly related to the Pyrometallurgy Modernization Program). Capital expenditure planned in 2017 is related mainly to continuing financial support for foreign companies (KGHMI INTERNATIONAL LTD. and Sierra Gorda S.C.M.).



# 5.5 Our products and customers

During our fifty-five years of operation we have mastered the complex process of ore excavation and enrichment. We are one of the leading silver and copper producers worldwide. We are also the sole producer of rhenium and ammonium perrhenate from our own resources in Europe. We have a geographically diversified portfolio of mining projects and our production facilities are located on three continents: in Europe, and in North and South America.

# 5.5.1 Key sales markets

A quarter of KGHM Polska Miedź S.A.'s 2016 sales revenue was earned on the Polish market. Germany, China, the United Kingdom and the Czech Republic were among the largest customers purchasing our finished goods, goods for resale and services.

Revenues from KGHM Polska Miedź S.A. sales by market (PLN M)



# 5.5.2 Industries with which we cooperate

Uses for the copper delivered by KGHM







Automotive



Electronics





Medicine

#### Our business results

The copper cathodes we produce are sold to manufacturers of such semi-finished copper goods as wire rod, wire, round billets, sheet and tape, and copper alloys. The cable industry, including energy, power machines, electro-technical, electronics and automotive manufacturers, is a large customer for our OFE copper wire. Copper grain produced by KGHM is used for galvanization and for manufacturing catalytic converters. Our copper is also used in the construction industry, mainly in the production of pipes, rods, sections, flat profiles and tapes, and in broadly understood architecture.

Copper and its alloys are the only antimicrobial touch surfaces registered by the United States Environmental Protection Agency as a material which reduces 99.9 percent of all bacteria during two hours of mutual contact.

Therefore, the medical industry is also a significant customer of our copper. In 2016 we prepared equipment for the operating rooms of the Miedziowe Centrum Zdrowia healthcare center in Lubin consisting of antimicrobial copper touch elements. The operating ward was modernized to minimize the risk of infection and was commissioned for use in January 2017.

#### Other metals

#### Silver

The main customers for the silver excavated by the KGHM Group are financial institutions. The silver we produce, apart from its investment value is also used in such industries as the jewelry, electronic, electro-technical, photovoltaic, numismatics, photographic and medical industries.

#### Rhenium

Rhenium, a by-product in copper manufacturing, is a very valuable and rare metal; it is a strategic metal used for purposes which require extremely high temperature resistance. The rhenium we sell is used mainly to manufacture so-called super-alloys for the purpose of the aeronautical industry and as a catalyst in the production of high octane fuels in the petrochemical industry. It is also used to produce heating components, electric contacts, electrodes, electromagnets, vacuum tubes, flashbulbs, metallic coatings or rocket engine components. KGHM Polska Miedź S.A. is the only European producer of this metal from its own resources.

#### Gold

The gold offered by KGHM in the form of bars is sold to the jewelry industry and to banks, it is also used in the electrical and medical industries.

## Molybdenum

This metal which is excavated from the Sierra Gorda mine in Chile and from the Robinson mine in the USA is used in the construction, aeronautic, munitions, oil, nuclear and electronic industries.

90 percent of our customers are long-standing partners of KGHM Customer satisfaction surveys concerning the quality of products and services are conducted permanently, at each stage of cooperation, among other things, during telephone conversations and meetings with our counterparties. To maintain good relationships with counterparties and the business environment, each year we organize meetings with domestic and foreign customers. We also build and reinforce our relations with customers by participating

in industry meetings, fairs, conferences and seminars. We enable our Business Partners to visit our facilities. We also cooperate in organizing audits to confirm the quality of our offer and qualify our Group as a reliable ISO-certified supplier.

Customers who evaluate the KGHM Group appreciate the high quality of our goods, our flexibility and understanding of the diverse needs of the entities which order goods. 2016 was the last year of the term of the framework agreement with China Minmetals Corporation concluded for the years 2012–2016. In 2016 the KGHM Group concluded contracts with China Minmetals Corporation amounting to 10 percent of the value of our equity. In June 2016 we concluded a new framework agreement with our Chinese partner for the sale of copper cathodes in the years 2017–2021. The estimated value of the contract exceeds PLN 10bn.

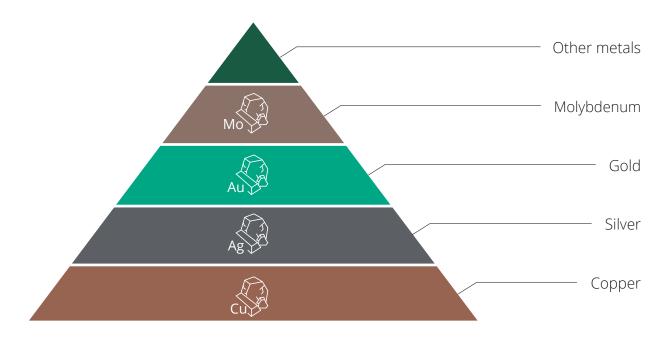
Our business partners include Japanese companies Sumitomo Metal Mining and Sumitomo Corporation. Together we operate a joint venture, Sierra Gorda S.C.M., in which KGHM holds a 55 percent interest, and the Sumitomo Group holds 45 percent. In February 2016 we confirmed the intention to act jointly on behalf of the Sierra Gorda mine.

# 5.5.3 KGHM products

Copper, silver and other metals marked with the KGHM logo have been a synonym of the highest quality for years, and are appreciated and recognized throughout the world. Supplementing our portfolio by new metals

such as molybdenum, palladium or nickel has helped us join the group of global multi raw materials enterprises.

## The spectrum of KGHM Group products



Almost 70% of all sales revenues constitute revenues from sales of copper and copper goods.

70%

#### Our business results

The basis for our commercial offer are copper cathodes from electrolytic copper. They meet all the quality requirements and those produced in Poland are registered as "A" quality on the London Metals Exchange and on the Shanghai Futures Exchange. Copper cathodes are also the key products of the Carlota mine in the USA and of the Franke mine in Chile which are part of the KGHM INTERNATIONAL LTD. Group. Apart from the copper cathodes offered by KGHM, copper wire rods and OFE copper wire are also popular with customers.

We also offer round billets from cathode copper and refined lead in the form of ingots, used in the produc-

tion of batteries and lead oxides. Our portfolio also contains copper concentrate which is produced in the Robinson mine in the USA and in the Chilean Sierra Gorda mine. The offered concentrate contains over 20 percent of copper and a small addition of gold. We sell it for further processing as commercial goods. Another product is the copper, nickel and TPM (precious metals – gold, platinum, palladium, silver and colbalt) ore from the Morrison mine in Canada, which is further processed by the smelter in the Sudbury mining region.

Due to their unique physical and chemical properties and rarity, precious metals have always been the most sought for and valuable raw materials in the history of civilization. In the copper production process KGHM obtains precious metals such as silver, gold, palladium and platinum.

Almost 17 percent of all sales revenues constitute revenues from sales of metallic silver.

17%

We are one of the leading producers of metallic silver (approx. 1200 ton per year).

#### Silver

Silver of 99.99% Ag purity is produced in the form of bars weighing approx. 1000 oz (32.15 kg) and granulate. Silver in the form of bars, registered under the KGHM HG brand, holds Good Delivery certificates issued by the London Bullion Market Association and a certificate of registration on the New York Mercantile Exchange NYMEX.

#### Rhenium

Rhenium is a very valuable and rare metal. It melts at a temperature of 3,186°C, which is the third highest melting temperature among all the elements. That and its highest boiling temperature (5,596°C), high density (21.03 g/cm³), and high hardness and resistance to corrosion and deformation, make it an exceptional metal. Our offer includes metallic rhenium, ammonium perrhenate and rhenium powder. The high quality of these products is guaranteed by certificates from globally renowned laboratories, and the reliability of deliveries is guaranteed by our constant sources of the metal – our own copper deposits which contain this valuable element.

#### Gold

We recover gold with a purity of over 99.99% Au from gold-bearing slag which is the product of the process of silver electrorefining. We offer the product in the form of bars weighing from 0.5 to 12 kg. The remains from gold production are used to obtain small amounts of platinum-palladium concentrate.

# Molybdenum

Our position on the molybdenum market – being a raw material needed by the fastest growing and mightiest global economies – is becoming increasingly stronger. Production of the molybdenum concentrate was launched in the Sierra Gorda mine in Chile in 2015. The concentrate, which contains approx. 48 percent of

molybdenum, undergoes refining, and is then sold for further processing in the form of an oxide. Most of the raw material produced is used in alloys resistant to high temperatures and corrosion; therefore, 65 percent of the metal produced is used by the steel industry.

Our offer also includes products such as sulfuric acid, copper sulfate, nickel sulfate and technical selenium. We obtain those products in the processing of copper concentrates.

#### Sales volumes of basic products in the KGHM Group, by segment

	m.u.	2016	2015
Cathodes and cathode elements	kt	246.4	294.4
Copper rods and OFE wire	kt	265.1	264.8
Other copper goods	kt	13.1	12.2
Total copper and copper goods	kt	524.6	571.4
Metallic silver	t	1,189.0	1,245.0
Metallic gold	kg	3,499.0	2,660.0
Refined lead	kt	29.7	30.4

Source: KGHM

# 5.5.4 Outlook for our products

Technological progress allows us to implement KGHM products in cutting-edge applications. The increasing possibilities allow for more refined processing of materials which results in a greater number of possible areas of application. Moreover, constant work is being carried out on increasing the quality, conductivity, robustness and effectiveness of copper products and alloys. Trolleys used in the construction of high-speed railway lines are an excellent example.

Copper is also used in industries which are universally associated with modern solutions and environmental protection. It is used in wind farm components and in other systems which allow the generation of energy from renewable sources. Copper is also widely applied

in the modern automotive industry, starting from new conventional cars, through hybrid vehicles, to autonomous cars.

The contemporary economy also has high expectations with regard to silver. This metal is one of the components of solar panels. Since the photovoltaic sector is developing dynamically and has high potential, we are also expecting an increased demand for silver from this sector.

Advanced technologies will also use rhenium. A particularly promising customer for this chemical element is the energy sector.

# 5.5.5 Cooperation with industry organizations

We are an industry expert which shares its knowledge and experience with other entities on the market. The KGHM Group is active in many organizations, both national and international. We are a reliable and valued partner in the mining and metallurgical sectors.

# The KGHM Group and industry organizations



We are a member of 25 national and international organizations which are of key importance to our industry.

25

# National organizations

Związek Pracodawców Polska Miedź	(Employers' Organization of Polish Copper) monitors and gives opinions on draft legislation important for the economy, protects the rights and represents the interests of employers in the copper industry.
Zachodnia Izba Gospodarcza	(Western Business Chamber), a local government economic organization which associates business entities operating in Lower Silesia. Currently, the Chamber comprises more than 300 enterprises from various industries.
Krajowa Izba Sportu	(National Sports Chamber), a local government economic organization representing enterprises connected with sports.
Stowarzyszenie Księgowych w Polsce Oddział Okręgowy w Legnicy	(Accountants Association in Poland, Local Branch in Legnica) which, among other activities, provides specialist support for financial and accounting structures.
Stowarzyszenie Emitentów Giełdowych	(Association of Stock-Exchange Issuers), as a representative of companies listed on the Warsaw Stock Exchange, provides Stock Exchange issuers with knowledge and advice in respect of stock exchange market regulations, as well as the rights and duties of participating companies.
Polska Izba Ekologii w Katowicach	(Polish Environmental Chamber in Katowice), a local government economic organization representing the economic interests of associated entities, in particular before the state and local government authorities, with regard to broadly understood environmental protection and sustainable development principles.

Stowarzyszenie Inżynierów i Techników Metali Nieżelaznych	(Association of Non-Ferrous Metals Engineers and Technicians), an independent organization of a scientific, technical and managerial nature, which associates engineers and technicians of all specializations and related professions whose activities are connected with the non-ferrous metals industry.
Izba Energetyki Przemysłowej i Odbiorców Energii	(Industrial Energy Sector and Energy Recipients Chamber) associates entities which generate, trade in and consume electricity and heat energy throughout Poland. The Chamber gives its opinions on all planned amendments to the Energy Law and on respective secondary legislation.
Izba Gospodarcza Zaawansowanych Technologii	(Polish Chamber of Commerce for High Technology), an entity which stimulates the development of knowledge-based entrepreneurship and assists in ensuring commercial success in respect of innovative projects in the area of high technology.
Polsko-Kanadyjska Izba Gospodarcza	(Polish-Canadian Chamber of Commerce) is an entity supporting the promotion of economic, commercial and cultural relations between Poland and Canada.
Izba Gospodarcza Metali Nieżelaznych i Recyclingu	(Economic Chamber of Non-Ferrous Metals and Recycling), an autonomous and voluntary organization which supports the development of non-ferrous metals and recycling industries in Poland.

# International organizations

International Copper Association (ICA)	Responsible for staking out directions for further activities, strategy and financing of international undertakings and promotional activities related to copper and its applications.
European Copper Institute	An organization promoting the use of copper.
Eurometaux	Eurometaux constitutes an interlink between the European non- ferrous metals industry and the authorities of the European Union as well as other international and inter-governmental organizations. It mainly focuses on monitoring legal regulations which can affect the situation of the non-ferrous metals industry.
Euromines	Represents and promotes the interests and views of the European metals and minerals mining industry in European Union institutions.
International Copper Study Group	A group which prepares statistics related to production, consumption and trade in copper.
European Precious Metals Federation	Represents the interests of its members before European institutions, in particular with regard to processing safety, waste management, trade, customs administration, taxes and competition.
London Bullion Market Association (LBMA)	A regulator of the silver, gold, platinum and palladium market. Announces reference prices for the market (such as London silver Fix, London AM and PM Gold Fix), sets out quality criteria by introducing and monitoring a list of precious metals producers from the "Good Delivery" list.

International Wrought Copper Council	A promoter of the production of semi-finished goods made of copper and its alloys.
International Precious Metals Institute	An organization which promotes knowledge on the possible applications, re-use and recycling of precious metals from original and secondary sources.
European Technology Platform on Sustainable Mineral Resources	A platform which safeguards the supply and access to European deposits, supports exploration of the mining potential in Europe by assisting in the development of mining technologies and creating added value generated by technological research and development.
Minor Metals Trade Association (MMTA)	An organization promoting the interests of producers of rare-earth elements.
International Lead and Zinc Study Group (ILZSG)	An organization promoting transparency in lead and zinc trading by monitoring and analysing the market, producing publications and providing necessary information and statistics to its member organizations.
European Sulphuric Acid Association(CEFIC-ESA)	An association of European producers from the sulfuric acid sector and of organizations involved in the distribution and recycling of sulfuric acid.

# KGHM INTERNATIONAL LTD. partners with, subscribes to, and is member of various industry organizations, including:

- 1. The Mining Association of Canada (MAC), Canada
- 2. Prospectors and Developers of Canada (PDAC), Canada
- 3. Canadian Institute of Mining, Metallurgy and Petroleum (CIM), Canada
- 4. Mining Association of British Columbia, Canada
- 5. Mineral Exploration Research Centre Laurentian University, Canada
- 6. Geological Association of Canada, Canada
- 7. Canadian Mining Industry Research Organization (CAMIRO), Canada
- 8. Ontario Mining Association, Canada
- 9. Committees appointed by Ministry of Labour, Canada

- 10. Arizona Mining Association, USA
- 11. Society for Mining, Metallurgy & Exploration (SME), USA
- 12. The University of Arizona Center for Environmentally Sustainable Mining (CESM), USA
- 13. Nevada Mining Association, USA
- 14. Society of Economic Geologists (SEG), International organization
- 15. Consejo Minero, Chile
- 16. Institute of Internal Audit, USA / Vancouver
- 17. National Mining Association (SONAMI), Chile

# Compliance

In 2016, as in the previous year, there were no cases of non-compliance with mandatory regulations or voluntary codes governing marketing communication in KGHM Polska Miedź S.A., including with respect to advertising, promotion and sponsoring. In 2016, no legal measures were taken against the Company with regard to cases of violating the principles of free competition or monopolistic practices.

# We act responsibly



# 6.1 Valuable staff

Employees are the KGHM Group's most valuable capital. Our staff is of key importance in developing all areas of our business model; they build the Company's global position and have made us an integrated organization open to future developments.

For many years the KGHM Group has been consistently investing in the labor market and has positively impacted the educational of young people. We attract the best experts and specialists, and avail ourselves of the knowledge and competence of experienced employees. We all create the potential which enables sharing

knowledge, creativity, enthusiasm and integrity, and at the same time complies with the Company's values. Our work results in effectiveness, achievements, our market position, and broadly understood safety.

#### Good cooperation practices in the KGHM Group



Safety for the common good



Courage to combat weaknesses



Teamwork to increase knowledge



Results-driven



Accountability as an intentional commitment

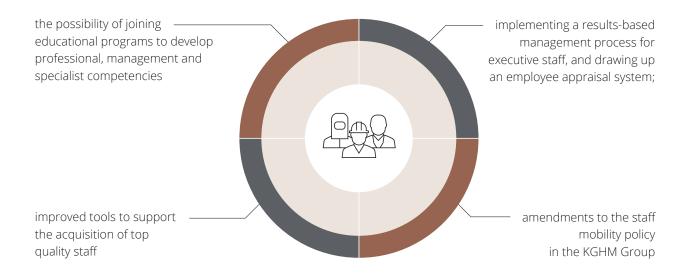
We promote talent, high qualifications and behaviors which are consistent with our corporate values. We appreciate employees who courageously look to the future, are open to changes, seek innovative solutions, and share acquired knowledge and experience.

Constant improvement of skills and organizational effectiveness considerably support the development strategy pursued by the KGHM Group.

# 6.1.1 Development of the staff

We strive to ensure an optimum working environment and invest in the continual professional development of our staff and good atmosphere at work. Under our Human Resources Management activities in 2016 we continued initiatives which allow the enhancement of competencies and result in the increased motivation of our staff. In particular, we focused on amending the mobility policy, as well as more effective recruitment and management-by-results processes.

#### In 2016, we provided our employees with:



Our priority is to enhance qualifications and change our staff's educational structure (the program subsidizing academic and post-graduate studies was continued in 2016), we ensure periodic OHS training, courses and exams which ensure certification for work in specific positions, and we also organize other development-related activities, taking particular account of management and interpersonal skills, and training related to process management and Lean Management. Our employees can also improve their qualifications in the context of the anticipated organizational and technological changes; we provide training courses tailored to our business goals.

In recent years, we have implemented projects enabling the exchange of knowledge and experience among employees, and in 2016 we continued our Trainer Academy. The development-related activities are of an open nature, and provide for the systemic identification of training needs with regard to the work performed and identification of the development requirements of employees and the Company.

In 2016, more than 31,000 employees participated in training courses in the KGHM Group. Statistically, each of these employees spent more than 31 hours participating in various types of courses or professional training (see the table below for details).

Average number of training hours during the year per employee by employment structure and gender

	Total number of training hours					
	2016			2015		
	Women	Women Men Total			Women Men Total	
Total number of training hours by gender	22,891	551,438	574,329	36,584	533,736	570,320
Number of employee	1,300	16,963	18,263	1,325	16,901	18,226
Average number of training hours by gender	17.61	32.51	31.45	27.61	31.58	31.29

Employment structure	Total number of training hours by employee category		Total number of employees by category		Average number of training hours by category	
	2016	2015	2016	2015	2016	2015
Management Board	160	400	5	5	32.00	80.00
Top executives	2,962	5,384	54	50	54.85	107.68
Management	42,723	51,744	998	944	42.81	54.81
White collar workers	97,926	135,448	3,690	3,742	26.54	36.17
Blue collar workers	430,558	377,448	13,516	13,485	31,86	27.99

The differences in the number of training hours in items 1–4 are the result of the organizational changes which took place in 2016. The increase in point 5 is due mainly to the new investment project which is pursued in the HMG Division – the launch of a flash furnace – and the need to train employees in respect of new technological solutions.

In 2016, we subsidized studies for **112** people. The subsidies were granted for academic-level, post-graduate and MBA studies. We continued our cooperation with the largest Polish academic centers to create curricula adapted to KGHM's specific needs.

In 2016 we focused on adapting the development programs to legal requirements with regard to training, courses and exams due to changes in the geological and mining law and other legal regulations connected with the profile of our activities. In 2016, **681** employees participated in industry-related symposia and conferences organized in Poland and abroad, in order to become acquainted with the new technological and organizational solutions, as well as exchange experiences relating to effectiveness, improvement in production efficiency, human capital management and innovation.

In 2016, the unwaveringly popular language courses were attended by **686** of the Company's employees.

- From September 2015 to June 2016, more than 700 employees participated in the program entitled "Leadership study – development of management competencies" which was aimed at aligning management competencies in the Company and making an evolutionary change in the predominating management style as a result of changes in our organizational structure.
- The 3rd edition of our "Talent Mining" program took place and was addressed to the most talented university students and graduates. The people selected were employed in our plants.

We organized English and Spanish general and business language courses. Reinforcement of language skills is an important element of the plan for cooperation and sharing solutions in the Polish and foreign companies which form the KGHM Group.

#### Additional development events in 2016

- 83 people availed themselves of the program implemented in cooperation with the Economic University in Wrocław and completed post-graduate studies in Management Methods in 2016. The purpose of the studies was to provide the students with theoretical and practical knowledge in respect of implementing Lean Management and making changes in the organization.
- 282 employees participated in training preparing them for the roles of auditor and integrated management system representative.
- **50** people participated in training courses concerning employer responsibility.
- 165 people participated in training courses concerning cyber-safety.
- We continued the International Mobility project to prepare our staff for tasks to be performed in our foreign facilities.
- In October 2016, we completed our central project "System of results-based management and talents management" which will enable us to use a consistent, integrated solution for appraising employee competencies.

#### We act responsibly

- Members of the Group received a set of recommendations regarding recruitment principles. Moreover, we provided them with access to a common e-Rekrutacja (e-Recruitment) computer system.
- At the 44th National Competition for Improving Working Conditions, KGHM Polska Miedź S.A. was recognized for solutions implemented in the area of health and safety at work. The jury rewarded a program for limiting the absorption of lead at the Głogów Copper Smelter, and for papers entitled "System ciągłego monitorowania zagrożenia siarkowodorem w kopalni Polkowice–Sieroszowice" ("Continuous hydrogen sulfide risk monitoring system at the Polkowice-Sieroszowice mine") and "Korporacyjny Vortal Bezpieczeństwa Pracy w KGHM Polska Miedź S.A." ("Corporate Work Safety Vortal at KGHM Polska Miedź S.A.").

Plans prepared for 2017 included the launch of the "Leader Academy" development program which prepares people in key positions for implementing our Company strategy, for conducting activities which enhance effectiveness and the increasing access of employees to tools and development programs, creates a culture of openness to new knowledge and skills, as well as providing training courses which increase language competencies and teach employees to understand cultural differences and their impact on the daily business practices.

## In 2016, as in the previous year, there were no strikes or lockouts in the KGHM Group.

KGHM Polska Miedź S.A. is the most attractive employer in Poland—such was the verdict of participants in the Polish edition of the Randstad Award 2016. In the employer image ranking we were distinguished by our stable financial standing, security of employment and attractive wages and salaries, and employee benefits. Strong leadership was also appreciated, as well as an appropriate balance between private and professional life which is promoted in our firm.

We are proud of the mutual development of our longterm relationships with our employees. Employees leave work mainly due to retirement, and only a marginal number voluntarily leave the Company. KGHM Polska Miedź S.A. are often the sole employer throughout our staff's professional career.

#### **GOOD PRACTICES**

Building our employees' competencies is accompanied by care for their safety and an emphasis on preventive healthcare. In 2016, we carried out a Movember campaign – combining two English words: November and moustache – it was addressed to male members of staff to remind them that they must care for their health. Cheaper PSA-level tests were offered during the Copper Health Centre campaign.

# G4-11

# 6.1.2 We support our employees' innovative ideas

Innovation is one of the KGHM Group's competitive advantages. Work on innovative solutions is conducted at various levels of the enterprise, both by cooperating with third parties, and by appreciating the potential

and creativity of our own staff. Employees best know the specific needs and can identify areas and solutions which can result in better effects and greater safety.

# We believe that creating change and innovation should be the daily practice of each employee.

We are aware that KGHM's success today depends on innovation, involvement and the teamwork of many thousands of employees who have varying knowledge and experience.

In this structure, the Innovation Zone, i.e. a tool for creating leaders who will have to cope with the challenges of effective management of the Company on an international arena, is of particular importance. The purpose of the program is to build a culture of innovation at KGHM. We effectively encourage our employees to look for technological solutions. Therefore, they are often the inventors who determine the Company's innovative character.

For many years, we have actively involved our employees in the process of positive change in our firm. We organize campaigns which give them an opportunity to build new organizational models and implement technological innovations, such as "Lean Mining" – a campaign during which groups of employees worked together on making the production process in mines more effective, "Effectiveness Program" – a project which allowed us, thanks to the involvement of the staff, to reduce the costs of copper production.

The inventiveness program is an example of our long-term activities. This form encourages people employed at KGHM to enrich the firm's knowledge, enabling them to submit proposals for facilitating enhancements. If the new concept is implemented, the author receives additional remuneration.

In 2016, the Company began implementing a new operating model for R&D and innovation activities within the KGHM Group. This will enable using the skills of KGHM Group entities operating in the field of research and innovation, optimizing the scopes of operations, using research infrastructure and regulating the issue of intellectual property.

#### 6.1.3 Relations with trade unions

There are 15 trade unions active in KGHM Polska Miedź S.A. which form 48 trade union organizations, and 88.6% of all employees are members of trade unions. The mutual rights and obligations of the employees

and our Group, including primarily the remuneration conditions and other benefits connected with work at KGHM Polska Miedź S.A., are governed by a collective labor agreement.

# Number of employees covered by the collective labor agreement (percentage of the total number of employees) at KGHM Polska Miedź S.A.

Total number of employees by:	Number of employees in 2016	
Total number of employees covered by collective labor agreements	18,202	
Total number of employees	18,263	
Percentage of employees covered by the collective labor agreement	99.70	

Source: KGHM

#### We act responsibly

In January 2016, an additional protocol was signed to the collective labor agreement which introduces changes to the principles for calculating annual bonuses paid out from the profit earned. The Protocol states that starting from 2015, the annual bonus will no longer be calculated based on the net profit, but on the positive financial result. In March 2016, under another protocol to the collective labor agreement, the Company's social fund (ZFŚS) was increased by an additional contribution of 4.5%.

In 2016, the Group's domestic and foreign companies engaged in negotiations with the trade unions regarding remuneration, employment conditions and social matters. In most cases they were conducted amicably and concluded with the signing of additional protocols to the Collective Labor Agreements and other Arrangements

"MCZ" S.A. is party to four collective disputes in progress, announced in 2007, mainly involving the issue of

wage increases. At present these disputes have been suspended, with the Company's Management Board and trade unions basing their relations on annually concluded protocols of settlements or agreements reached.

Since March 2010, PeBeKa S.A. has been party to a collective dispute with the trade union Związek Zawodowy Pracowników Dołowych, which since 12 August 2010 has been suspended for an unspecified period.

In May 2016 a settlement with Union No. 2 trade union was signed at the Franke mine which will remain in force until mid-2019. In the Morrison mine, agreements with the trade union have been in force since 2014, and the cooperation between the trade union and the Company's management is constructive and characterized by mutual understanding.

# 6.1.4 Wages and salaries, and benefits dedicated to employees

In 2016 employee wages and salaries were shaped, among other things, by an increase of PLN 74 in the base remuneration table, promotions and changes in positions held by category (22% of all employees) as well as a reduction in advances paid towards the additional annual bonus from 17.5% to 13.5% of the payroll.

In 2016, the average remuneration, excluding the annual bonus paid out of profit, amounted to PLN 8,456 – a statistical increase of 3.4% compared with 2015. No employees at KGHM Polska Miedź S.A. receive remuneration at the minimum pay level (minimum wage).

Employee remuneration at the lowest level by gender compared to minimum pay on the respective market in the Company's main locations

Location: Poland			
Minimum pay in the location (gross) 2016	1,850 PLN		
Average employee remuneration at the lowest level women	3,887.76 PLN		
Ratio of remuneration at the lowest level to the minimum pay women	2.10		
Average employee remuneration at the lowest level men	3,443.91 PLN		
Ratio of remuneration at the lowest level to the minimum pay men	1.86		

# Total average monthly remuneration (PLN)

	2016	2015	Change (%)
KGHM Polska Miedź S.A.	9,731	9,617	+1.2%

Source: KGHM

According to the Central Statistical Office, the average remuneration in Poland in 2016 amounted to PLN 4,047.21. The level of wages and salaries at KGHM Pol-

ska Miedź S.A., which is more than twice as much, only confirms that we are a Company with immense potential both in terms of development and human capital.

## Additional benefits for employees of the KGHM Group comprise:



Financial benefits from the Company Social Funds



Employee insurance



Contributions to the employee pension plan (PPE)



Co-financing employees' commuting costs



Medical program for employees and their spouses financed by the employer

KGHM Polska Miedź S.A. is also obliged to pay out specific post-employment benefits (one-off retirement benefits, death allowances, coal equivalent) and other long-term benefits (in the form of long-service benefits), in accordance with the Company's Collective Labor Agreement.

In foreign companies which are members of the Group, the level of benefits varies depending on the country, but it always comprises mandatory insurance, including social and health insurance. Moreover, employees in Canada and the USA are, for example, provided with dental care and access to an Employee Family Assistance Program (EFAP) which provides advisory services on a broad range of matters – from psychological and legal assistance, through family matters, to health issues.

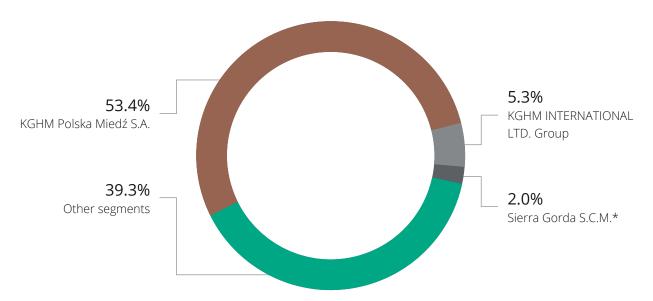
# 6.1.5 Human capital at the KGHM Group

In 2016, Group companies employed 33,370 people which is a 0.7% decrease compared with 2015.

# Average employment in the KGHM Group

	2016	2015	Change (%)
White collar	10,062	10,285	-2.2%
Blue collar	23,308	23,313	-0.02%
Total	33,370	33,598	-0.7%

## Employment structure by segments



<sup>\*</sup> Sierra Gorda S.C.M. - number of employees in proportion to the stake in the Company (55%)

In 2016, the average employment in the domestic companies of the KGHM Polska Miedź S.A. Group increased by 139 FTE (i.e. by 1%) compared with 2015, due to an increase in blue collar positions. In the same period, the KGHM INTERNATIONAL LTD. Group companies recorded a decrease in average employment of 344 FTE (i.e. of 16%) compared with 2015, due to

the implementation of actions aimed at reducing costs and adapting the size and structure of employment to the scope and schedule of work on projects pursued by KGHM INTERNATIONAL LTD.

All people affected by redundancy at KGHM INTERNATIONAL LTD. received full severance payments, higher than required under local legislation, as well as coaching in respect of developing their further career paths. We have not recorded any complaints connected with redundancy.

Achievements in respect of KGHM INTERNATIONAL LTD. human capital policy in 2016:

- Implementing new benefits and retirement plans
- Developing new HR rules and procedures
- Implementing an employee data management and reporting system

## 6.1.6 KGHM Code of Ethics

The Code of Ethics of the KGHM Polska Miedź S.A. Group is the main tool in its corporate culture, which helps define priorities and establish principles that are binding for all employees in their day-to-day work.

The objective of the Code of Ethics is to ensure that the behavior of employees conforms to the highest standards based on the values which guide the KGHM Group's employees: zero harm, teamwork, results-driven, accountability and courage.

Based on best practices in corporate governance, the following policies are in force, introducing global, uniform standards which have been adapted to the laws applicable in all the jurisdictions in which the KGHM Group operates:

# Competition Law Policy in the KGHM Polska Miedź S.A. Group

The goal of the Competition Law Policy is to create a functional framework for a system that will enable the KGHM Group to maintain compliance with the competition laws applicable in all the countries in which the KGHM Group operates.

#### Anticorruption Policy in the KGHM Group

The Anticorruption Policy establishes basic principles and standards aimed at preventing any breaches of the anticorruption laws in the jurisdictions in which the KGHM Polska Miedź S.A. Group operates. The Group applies a zero tolerance policy towards corruption and bribery.

In 2016, all our business units were subject to analysis regarding the risk of corruption. As in previous years, the Audit and Internal Control Department did not find any corruption practices in the Company.

#### Responsible Supply Chain Policy in the KGHM Group

The Responsible Supply Chain Policy is aimed at ensuring that only responsible suppliers are selected, especially in respect of acquiring so-called conflict minerals (gold, tin, wolfram and tantalum) and that the merchandise and services purchased by us are not used to finance terrorism, and are manufactured or provided in accordance with laws respecting basic human rights, working standards, environmental protection and counteracting corruption.

In 2016, the Company fully implemented its internal system for managing a responsible gold supply chain

which comprises the Responsible Supply Chain Policy in the KGHM Group and the Audit Policy for the Responsible Chain of Supplies of Gold in the KGHM Polska Miedź S.A. Group. This system is subject to an independent, external audit to ensure compliance with the guidelines of the LBMA's Responsible Gold Guidance as well as to obtain LBMA (London Bullion Market Association) certification.

# 6.1.7 Diversity Policy in the Group

In our activities, we strive to ensure reasonable diversity both in the selection of personnel for our bodies, and in the process of hiring employees. We recognize there are real benefits from ensuring diversity, in particular with respect to age, experience and gender criteria. Nevertheless, the core criterion in staff selection is always technical competence and social skills. The practical implementation of these premises enables us

to ensure adequacy in the selection of personnel while fully respecting diversity, in particular with respect to the equal opportunity principle. In 2016, we formulated principles of diversity management, which will be officially adopted in 2017.

# Point 5.3 of the KGHM Code of Ethics concerning diversity and tolerance

In KGHM, we create an environment and workplace free of discrimination, which enable employees to utilize their competencies and potential. We operate among various cultures and nationalities, which we take into account when planning shared work. Our diversity contributes to KGHM's success and enables us to build our brand.

We do not tolerate any sign of discrimination.

#### **Our Principles:**

- · We treat each other justly and with respect.
- We treat all our employees equally, irrespective of their race, nationality, religious beliefs, gender, age, sexual orientation, degree of (dis)ability or political views.
- Decisions concerning our employees are taken objectively, guided by our knowledge of their achievements, competence and their attitude.
- We report all cases of discrimination to our management.



# 6.2 Corporate social responsibility

In 2016, we were implementing our global CSR Strategy, which is consistent with our Business Strategy for the years 2015 to 2020. Our actions complied with proven international standards. The results are presented in line with the Global Reporting Initiative Guidelines which are the most frequently used CSR reporting standard in the world.

# 6.2.1 CSR Strategy: establishment and management of our relations with the environment

Corporate Social Responsibility is one of the pillars supporting the global strategy of the KGHM Polska Miedź S.A. Group. We are aware of the scale of our operations and impact on our broadly-defined environment. The purpose of our Corporate Social Responsibility activities is to limit the impact of our operations on the environment, support social development, promote health, arts and culture, and sport, and reinforce our position of a stable, developing, global leader that cares about the common good.

In 2016, the KGHM Polska Miedź S.A. Group advanced the CSR objectives as determined by the Company's business strategy for the years 2015 to 2020, based on recognized international standards. The CSR Strategy pursued encompasses all of the social, ethical and environmental aspects of the Company's operations and full responsibility and transparency in the management of our relations with stakeholders, including employees, customers, shareholders, suppliers and local

communities. Using the best practices and guidelines, we maintain dialogue with local communities in order to better understand their needs and, as a good neighbor, implement projects to improve their quality of life.

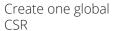
Corporate Social Responsibility of the KGHM Polska Miedź S.A. Group is based on the outcome of our analysis of the social responsibility activities of KGHM, ISO 26000 Guidelines: Social Responsibility, the guidelines of the International Council on Mining and Metals, a strategy developed on the basis of the Ten Principles of the UN Global Compact Initiative, the sustainable development reporting guidelines of the Global Reporting Initiative (G4), consultations with senior management, local communities, employees and key stakeholders, best market practices (benchmarking against global mining companies), and KGHM Corporate Values.



Main objective: To reinforce our position as a stable, developing, global leader that cares about the common good

The Corporate Social Responsibility Strategy. Strategic initiatives.\*







Strengthen community engagement efforts



Strengthen the position of a trusted and reliable business partner



Develop and maintain our position of a responsible employer



Promote responsible environmental stewardship

#### **INITIATIVES:**

- 1. Standardize Global approach to CSR
- 2. Develop formal reporting process with review framework and set organizational boundaries for reportable indicators
- 3. Establish a global KGHM CSR team working on the basis of common strategic objectives

#### **INITIATIVES:**

- 1. Standardize the approach to dialogue with local communities
- 2. Support in contacts with stakeholders on the implementation of strategic projects
- 3. Develop formal systems for tracking, understanding and responding to stakeholder concerns
- 4. Develop a global KGHM volunteering program

#### **INITIATIVES:**

- 1. Strengthen our relations with business partners
- 2. Design a system of verification if corporate actions are in line with codes of conduct of suppliers and customers and with KGHM Code of Ethics
- 3. Communicate expectations for suppliers of KGHM to align their actions with our corporate values and rules of conduct
- 4. Implement approved "Know Your Customer" policy
- 5. Train key sales personnel on Antitrust Policy
- 6. Meet voluntary commitments made to trade organizations

#### **INITIATIVES:**

- 1. Strengthen our position as a responsible employer, internally and externally, and build our leadership position in occupational safety
- 2. Obtain employee feedback on material issues and job satisfaction

#### **INITIATIVES:**

- 1. Transparently communicate with stakeholders about environmental topics and promote KGHM as a company that cares about the environment
- 2. Continuously improve performance in energy consumption and green house gas emissions management, mine closure planning, and tailings management
- 3. Continuously improve our performance in energy consumption and greenhouse gas emissions, design plans for the rehabilitation of mined lands

<sup>\*</sup> In 2017 a new Corporate Social Responsibility Strategy has been adopted. We have changed the main purpose and operational objectives.

#### We act responsibly

The Corporate Social Responsibility Strategy is based on five key pillars. The first concerns the globalization of CSR. As an international corporation, we aim to standardize CSR programs. The standardization of activities also involves the second pillar, i.e. strengthening of local community engagement efforts and continue with the global KGHM volunteering program

The third CSR pillar is the consolidation of our position as a trusted and stable business partner. The adoption of the Know Your Customer policy is a way of improving customer communications and strengthening customer relations. The communication aspect is also of fundamental importance to the fourth pillar – development and maintenance of our position as a responsible employer. We want to obtain feedback

from employees, e.g. concerning their job satisfaction, more effectively. Our building of a leadership position in occupational safety will also be a constant priority.

The fifth and last CSR pillar is to be a Company that promotes responsible environmental stewardship. The key initiative in this respect is to create an energy management system to reduce energy consumption and greenhouse gas emissions. We believe that our Strategy helps the entire KGHM Group take effective CSR measures worldwide.

# Initiatives which support the accomplishment of our Corporate Social Responsibility objectives:

- · Global standardization of our CSR approach
- · Standardization of our approach to dialogue with local communities
- · Support for contacts with stakeholders for the implementation of strategic projects
- Strengthening of relations with our business partners
- Building of a responsible employer image (internally and externally) and a leadership position in occupational safety
- Improved effectiveness of communication activities to promote KGHM as a company that cares about the environment

KGHM INTERNATIONAL LTD. also emphasizes the impact and importance of social responsibility in its activities. The CSR policy, strategy and systems in place facilitate dialogue, strengthen mutual trust among stakeholders, identify opportunities for sharing value, and contribute to improved production results, while minimizing impacts to the environemtn. KGHM INTERNATIONAL LTD. develops its responsibility through broadly-defined teamwork, including, among other things, working together with management, customers and suppliers, local communities, and authorities. The Company takes account of the impact of its decisions on the environment, including the natural environment. It always acts transpar-

ently and ethically, respecting the law and integrity. KGHM INTERNATIONAL LTD. applies procedures governing management methods and taking account of human rights, including health and safety matters. The Company's internal regulations are based on the ISO 26,000 system and recommendations of the Mining Association of Canada.

# 6.2.2 Relations with local authorities in Poland, Chile, the US, and Canada

Wherever we operate or want to operate, we hold meetings with local authorities. The municipality of Jerzmanowa is an example of our commitment. In 2016, we made a financial contribution to the widening and strengthening of a local road. By working together with the local authorities, our employees, local residents and other users may now enjoy comfortable transportation.

In 2016, the KGHM Group was also in talks with the municipality of Żukowice about the location for a tail-

ings pond for the Głogów Copper Smelter. Thanks to our good relations, the local authorities were receptive and we agreed to provide the municipality with funds to cover its current needs and a social package for local residents. The municipality of Żukowice also found its way into our soil testing program and, based on the test results obtained, the KGHM Group provided farmers with lime.

#### **GOOD PRACTICE**

Preparatory work on the expansion of the Żelazny Most tailings pond to include the Southern Quarter:

- Seven monitoring meetings following the execution of the Agreement with the village heads and mayor of the municipality of Polkowice
- 41 people were supported by KGHM employees in returning to the labor market and gaining new qualifications, 18 people were hired
- 187 children were provided free recreation
- Five "white Saturdays" 251 people were medically examined



In 2016, KGHM's Robinson mine, Nevada, US, continued its collaboration with the state and federal agencies, and the municipality of Ely and White Pine

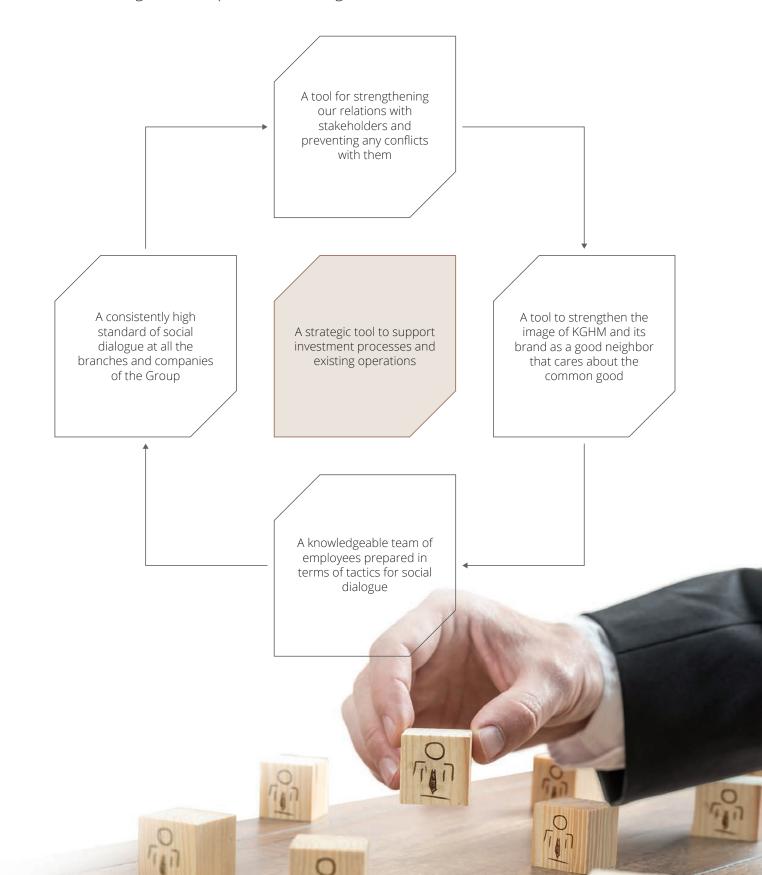
County. At the Sierra Gorda mine in Chile, the first Community Trainee 2016 program involving local community education and training was implemented.

# 6.2.3 Social dialogue

We view social dialogue as a key and strategic operational management tool which supports our investments. As a Group, we are getting ready to structure social dialogue and we intend to establish a team

trained for holding talks with our stakeholders in Poland and abroad.

## Social dialogue as an operational management tool



# 6.2.4 Relations with indigenous peoples

As the KGHM Polska Miedź S.A. Group operates on several continents, it enters into contact with different cultures and interacts with local, indigenous populations. Maintaining correct relations is one of our priorities.

KGHM uses its best efforts for its operations to respect the cultural heritage of indigenous peoples historically residing near the Company's facilities. Any business activity of the Company involves an analysis of the Company's impact on local communities and indigenous peoples.

In 2016, KGHM Polska Miedź S.A. did not have any land disputes with indigenous peoples, and the location of the Company sites in 2016 (as in 2015) did not result in

Over the years KGHM INTERNATIONAL LTD. has developed formal programs to ensure that we maintain dialogue with the communities affected, or perceived to be affected, either directly or indirectly by our activities. This dialogue is important to ensure that we maintain trust, identify opportunities to share value, and to improve our performance. Stakeholder identification, prioritization and subsequent engagement have been carried out at each site and projects. The formalized systems will continue to be enhanced at each location as part of our on-going CSR Strategy. The systems are based on the ISO 26000 and the Mining Association of Canada's Towards Sustainable Mining (TSM) Frameworks.

By actively engaging in honest and transparent dialogue with the communities of interest, we can better understand issues of concerns and identify opportunities to minimize impacts.

the need for resettlements, which protected the indigenous peoples' livelihoods from being affected.

On 4 March 2017, Stk'emlúpsemc te Secwépemc Nation announced that they do not give free, prior and informed consent for the publicly-reviewed development plan by KGHM AJAX MINING INC. to build a mine. The Company is seeking the best possible solution for all the interested parties. In 2016, the location of the KGHM INTERNATIONAL LTD. sites in 2016 (as in 2015) did not result in the need for resettlements for indigenous people.

All sites and project assess environmental and social impacts and risks. These assessments are carried out in accordance to regional and national requirements.

Negotiations between the Company and First Nations concerning KGHM Ajax's project in Kamloops continue but have been on hold with SSN since March 4, 2017 while continuing with Lower Nicola Indian Band. Stk'emlúpsemc te Secwépemc Nation have expressed opposition to the project obtaining an EA Certificate but remain engaged on a number of levels. As requested by the Stk'emlúpsemc te Secwépemc Nation, the Company helped finance an independent project assessment. The Company intends to sign an agreement which envisages benefits for the local community for the entire life of the mine.

In 2016, our facilities in Poland were visited by Pablo Domeyko, a great-grandson of Ignacy Domeyko, after whom the Sierra Gorda mine in Chile is symbolically named. Ignacy Domeyko greatly contributed to Chile's economic growth by discovering rich mineral deposits, developing university education, and mining. Pablo Domeyko's visit contributed to good relations between Poland and Chile.

# 6.2.5 Economic impact

Two-hundred thousand. We estimate that is the number of people who, directly or indirectly, have jobs thanks to our Group.

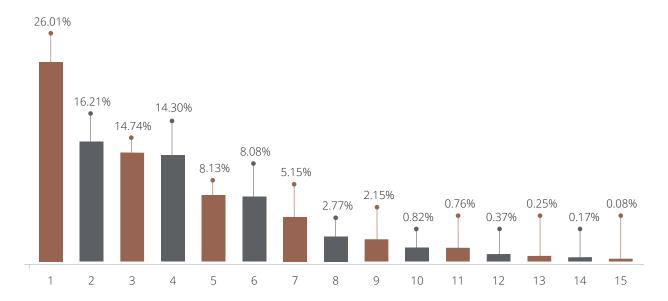
We have been the largest employer in Lower Silesia for decades and one of the largest in Poland. The Copper Basin is the richest area in the province thanks to our operations.

By partnering with local suppliers, customers, intermediaries, wholesalers, we contribute to the economic growth not only of Lower Silesia but also thousands of companies all over Poland. The need to develop inno-

vative mining methods and collaboration with research institutes fosters scientific progress by ensuring funding for research and specialized education.

We are one of the largest taxpayers in Poland. In 2016, we paid about PLN 750M in corporate income tax and nearly PLN 1.5bn in mineral extraction tax. All in all, in 2016, we paid PLN 3.7bn in various taxes and fees. KGHM Polska Miedź S.A.'s socially responsible tax policy also has an effect on the amount of taxes we pay.

# Taxes and fees paid by KGHM Polska Miedź S.A. in 2016



- 1. Mineral extraction tax
- 2. ZUS (social security)
- 3. Corporate income tax (CIT) of the KGHM Group
- 4. Corporate income tax (CIT)
- 5. Contributions funded by the employer
- 6. Contributions funded by the employee
- 7. Advance payments of personal income tax (PIT) due remitted by KGHM as the payer
- 8. Property tax

- 9. Maintenance fees
- 10. Excise duty
- 11. Mining use fees
- 12. Environmental protection fees
- 13. PFRON (State Fund for the Rehabilitation of the Disabled) contributions]
- 14. Fees for public lease (perpetual usufruct) of land
- 15. Waste storage fees

# 6.2.6 Aid and support

The KGHM Group is a good neighbor and a trusted investor. We support local communities, social organizations, scientific, art and culture, and sport institutions. We promote active lifestyles and help those in need.

The KGHM Polska Miedź S.A. Foundation, which carries out philanthropic and charitable activities, is one of the pillars of our social responsibility. It supports socially useful projects and people in need.

In 2016, the KGHM Polska Miedź S.A. Foundation financially supported several valuable initiatives in the following four areas: health and safety, sport and recreation, science and education, and culture and tradition. We financially supported 374 projects with a total amount of more than PLN 13M. The Foundation also made 143 donations amounting to nearly PLN 1M to individuals in need.

#### Activities of the KGHM Polska Miedź S.A. Foundation in 2016



#### Numerous initiatives to save Lower Silesian cultural heritage and tradition

The "We Save Monuments" project intended to give new life to and preserve sacred and secular architecture, including: the Ex-Cistercian Complex in Krzeszów and the Collegiate Church in Głogów. Financial contributions to various art and cultural events, including the International Chopin Competition in Duszniki Zdrój, the Peace Concerts in Jawor, theatrical events and art workshops for children and youngsters.



#### Promotion of health, wellness and safety

Financial support for healthcare institutions all over Poland, in the first instance in the Copper Basin and Lower Silesia, including Miedziowe Centrum Zdrowia and specialized clinics in Wrocław, intended for the purchase of advanced equipment and specialized medical devices.

Projects intended to prevent social disadvantage of the disabled – financial support for away physical therapy treatments, purchases of physical therapy equipment, assistance in the modernization of establishments for the disabled.

Financing of tests for residents and support for blood donation promotion, hemotherapy, volunteering, and financial contributions to medical scientific conferences. Donation of funds for the purchase of advanced rescue

and firefighting equipment and specialized vehicles for local emergency services, including fire brigades and the police.

Support for training and prevention activities, including the six months' long "Your Five Minutes" flagship project completed in 2016 during which we trained more than 400 students from the Copper Basin on how to administer first aid over six months.



#### Promotion of science, education and physical activity among children and youngsters

The "Copper School of Mathematics" project involving additional classes for primary school pupils carried out in 18 schools in the Lubin, Głogów and Polkowice districts. Additional mathematics classes involved 720 class hours attended by 432 students.

Support for educational establishments to enable them to purchase teaching aids, computer and multimedia equipment, and modernize the infrastructure.

Donations for scholarships and financial contributions to scientific conferences, competitions and educational

and integration activities for children and youngsters, and financial support for scientific research and field studies.

Involvement in the organization of "green school" trips to spas and all-year physical therapy and sport activities at swimming pools for children from municipalities located in the vicinity of the Legnica and Głogów Copper Smelters. In 2016, more than a thousand students took part.



Counteracting social disadvantage of individuals and families which have found themselves in need – we made cash donations to various organizations which hold Christmas events for the poor, including the distribution of Christmas gifts

We made 140 donations to individuals: 86 medical treatments and physical therapy 51 purchase of equip-

ment; 3 eliminations of architectural barriers, and 3 on account of natural disasters and acts of god.

#### **GOOD PRACTICE**

In 2016, among other things, we provided financial support for the purchase of a Full HD 3D laparoscopy set for the Digestive Tract and General Surgery Clinic and the General, Gastroenterology and Endocrinology Clinic of the Independent Public Clinical Hospital No. 1 in Wrocław. The Provincial Specialized Hospital in Legnica received a financial contribution from us for the purchase of an advanced ambulance equipped with a cardio-monitor for transporting newborns for the use of the Neonatology Department, including the Intensive Care Unit for Prematurely Born Babies, Newborns and Children, of the Provincial Specialized Hospital in Legnica.

In the fall of 2016, the fall run of the ECO-Health program was launched, involving Nordic walking. The program is financed by KGHM Polska Miedź S.A. Trainers from the Polish Nordic Walking Association from Lubin, Legnica, Głogów, Złotoryja and Chojnów launched free Nordic walking training. It was already the fifth time that KGHM encouraged local residents to care about their health as part of the ECO-Health project.

# Donations made by the KGHM Polska Miedź S.A. Foundation to organizations and institutions in 2016

	Area	Number of projects	Donation amount [in PLN]
1.	Health and safety	65	3,084,610.00
2.	Science and education	57	912,062.27
3.	Sport and recreation	104	2,455,486.00
4.	Culture and tradition	148	6,792,000.00
Total		374	13,244,158.27

#### Donations made by the KGHM Polska Miedź S.A. Foundation to individuals in 2016

	Area	Number of donations	Donation amount [in PLN]
1.	Healthcare	140	849,262.00
2.	Social assistance	3	42,500.00
Total		143	891,762.00

Source: KGHM

## Volunteering

We are particularly proud of our global employee volunteering program. Our program has already been in place for several years and, thanks to the commitment of our employees, we have carried out dozens of major projects and activities as part thereof. We have helped those in need and, at the same time, released huge amounts of positive energy and capabilities.

The benefits of the volunteering program are not only a positive image of the Company but also highly-motivated employees. Moreover, thanks to their participation, volunteers develop their own competencies, including leadership skills, teamwork, communication, and analytical or problem-solving skills. Such development pays off in the workplace. Volunteering strongly integrates us and strengthens our identification with the Company.

The "Copper Heart" employee volunteering program is in place at KGHM Polska Miedź S.A. For years, there have been individual initiatives of employees to



spontaneously help others by sharing skills, competencies, knowledge and professional experience. Such initiatives have now been integrated and enjoy support at Group level. Our "Copper Heart" program proves that combining social activities and an opportunity to pursue one's own interests is an excellent idea. Our program involves active participation in activities supporting local communities and environmental protection projects.

The Copper Heart program is not only a perfect fit with the Corporate Social Responsibility (CSR) Strategy of KGHM but also with our Business Strategy. Employee commitment reinforces our image of an organization which supports local communities and contributes to the development of our employees.



#### **GOOD PRACTICE**

Volunteering events on account of our Earth Day 2016:

- $\boldsymbol{\cdot}$  construction of beehives for bees and planting of nectar source plants
- cleaning of lakes and ponds
- · cleaning of the recreational water complex in Przemków
- cleaning of woods and roads
- tree planting
- · environmental talk to elementary students

Our volunteers worked more than 700 man hours on Earth Day. They planted more than 3,800 trees and collected nearly 200 bags of garbage. They also made financial contributions to local environmental protection initiatives. We also published a set of eco-guidelines titled Don't Be a Greenhorn When It Comes to Environmental Protection on our intranet.

## The Innovation and Cultural Heritage Foundation – Revimine

The Innovation and Cultural Heritage Foundation – Revimine was established in 2014 by KGHM Polska

Miedź S.A. to fulfil the initiatives aimed at protecting the cultural heritage and mining and smelting tradi-

#### We act responsibly

tions in the Copper Basin. The Foundation supports projects and initiatives aimed at the technical, environmental and social rehabilitation of post-industrial areas after their decommissioning, environmental compensation and other activities significant for such processes.

#### Polish National Foundation

In 2016, KGHM Polska Miedź S.A. became one of the founders of the Polish National Foundation, an organization tasked with the promotion of the Polish economy and building a positive image of companies with a State shareholding.

The Foundation will make it possible to carry out projects on a Polish, European or global scale, ensuring the achievement of strong synergies. Ten out of the 17 founders of the Polish National Foundation are included in the Warsaw Stock Exchange index of the twenty

largest companies and a further two are included in the WIG40 stock market index.

The purpose of the foundation will, in the first instance, be to promote and protect the image of the Republic of Poland and the Polish economy and to generate positive publicity for investments of companies with a State shareholding. Other goals of the organization are to partner with local communities and social and business organizations and to organize and finance social initiatives.

## 6.2.7 RESPECT Index

On 14 December 2016, the Warsaw Stock Exchange announced the composition of the RESPECT Index for the tenth time, including 25 companies, one of them being KGHM Polska Miedź S.A. We have been included in the RESPECT Index right from the start, i.e. since 2009. The Index comprises socially responsible, highest liquidity companies, i.e. companies comprised in the WIG20, mWIG40 or sWIG80 stock market indices. Companies which find their way into the RESPECT Index undergo a

three-stage verification process conducted by the WSE and the Polish Association of Listed Companies. Such companies need to communicate flawlessly with the market via current and periodical reports and corporate websites. The third condition consists of socially responsible conduct towards the environment, local communities and employees, which is reviewed based on a questionnaire verified by Deloitte, the project auditor.

Our presence in the RESPECT Index demonstrates that we are a Company which maintains proper dialogue with the market, cares about its employees and managers, all the stakeholders and the natural environment. This is proof that we do business in a socially responsible way.

The presence of KGHM Polska Miedź S.A. in the RESPECT Index translates into our Company's investment attractiveness. The fact that we care about investors is reflected in, among other things: a high quality of reporting, the level of our investor relations and information governance. We want to be a partner for professional investors and it is a matter of great prestige for us to be included in the RESPECT Index.

Investor communications consist in our regular participation in investor conferences, road shows and

meetings with analysts in Poland and abroad. At the same time, we comply with our disclosure obligations by publishing current and periodical reports via the official reporting system (ESPI).

Moreover, in 2016, as part of building a sustainable company image, we maintained our rank in industry production reports, including WSS and Copper Survey.

# 6.2.8 Cultivating mining and smelting traditions

In 2016, KGHM celebrated its fifty-fifth anniversary – in 1961, the enterprise "ZG Lubin w budowie (Lubin

Mine under construction)" was transformed into "Kombinat Górniczo-Hutniczy Miedzi w Lubinie w budowie

#### We act responsibly

(Copper Mining and Smelting Industrial Complex under construction)". Huta Miedzi Głogów (Głogów Copper Smelter), the Hydrotechnical Facility, the combined Polkowice and Sieroszowice mines and the Information Processing Centre also had their anniversaries. The anniversaries prove the many years of experience of the KGHM Group, its extensive knowledge and deep mining and smelting tradition.

Attachment to industry values is an indispensable element of our organizational culture, celebrated by the Company's authorities, employees and their families. We also invite local communities to take part in industry celebrations. We organize open events dedicated to the residents of our mining region and the surrounding areas.

## Metallurgist's Day

In 2016, we held festive celebrations on the Metallurgist's Day, which is the second most important event in the copper mining region after the Miner's Day. It is celebrated on St. Florian's Day (the patron of firemen and

metallurgists). Our outstanding employees received awards during the ceremony organized in Głogów. There was a copper-colored band, food and beer.

## Miner's Day

Due to the tragedy at ZG Rudna, in which eight miners died, mourning was declared at KGHM branches before Miner's Day in 2016. For this reason, the central celebrations were limited to a minimum. Only an official

celebration was held, during which awards and honors were given to our employees, such as the silver Krzyż Zasługi, gold, silver and bronze medals for Long Service, miner's spades and distinctions.

Every day many of you risk their lives and health working for KGHM Polska Miedź S.A. Personally, I am full of admiration and great respect for your commitment and involvement. We are a unique community which combines all elements of socially responsible business. I would like to assure you that the Management Board of KGHM Polska Miedź S.A. will take care of the sustainable and stable development of our organization based on its underlying values. The safety of KGHM employees is our priority, therefore we rely on global solutions and implement the highest work standards. KGHM Polska Miedź S.A. takes part in creating a strong and innovative Polish economy for future generations of our workers and the residents of Lower Silesia. We can be proud of being a part of KGHM – a Company that sets new directions and leads socio-economic development. By sharing our common values: courage, cooperation, focus on performance, safety and responsibility, we create real progress opportunities not only for our region and country, but also for the world..

Radosław Domagalski-Łabędzki President of the Management Board & CEO

It is our Miner's Day tradition that our mines are visited by children. In 2016, the Lubin mine alone was visited by more than 400 school and kindergarten children. In 2016, we commemorated the thirty fifth anniversary of the ZG Rudna pacification. The Reverend Jerzy Gniatczyk Run with the participation of 400 runners was one of the events that accompanied the celebrations.

Distinguished employees of the KGHM Polska Miedź S.A. Group have our special respect. In 2016, 160 employees of the ZG Rudna branch who completed 25 or 35 years of professional and mining career received awards.

The projects executed in 2016 in the area of culture and tradition include the publication "Miedziorysy – Ludzie i tradycje Polskiej Miedzi" (Copper Lives – People and Traditions of Polish Copper) about the lives of long-time workers of the KGHM Group.

# Copper with history

The history of copper mining and smelting in Lower Silesia began in the second half of the 1930s. At that time, German explorers found copper ore deposits in the North-Sudetic Basin area. Extraction works

commenced in November 1938. The copper smelter near Bolesławiec was under construction in the years 1940–1945.

#### **GOOD PRACTICES**

In 2016, representatives of the Robinson mine in the USA provided financial support to many local organizations including "Memories of The Ruth Mining" which preserves the local mining heritage. The funds donated were used for the publication of a book presenting the local mining tradition.

The Carlota mine financially supported and actively participated the annual 'Arizona Mining Day at the Capital' Sudbury employeesparticipated in the annual MineOpportunity Challenge, an initiative promoting mining culture and educating school pupils about geology and engineering. Wealso provided a financial grant to support the Ontario Mining Association, which is involved in the promotion of the mining industry and related education. In 2016, it also hosted the international mine rescue competition, which both tested the rescuers' skills and promoted safety standards for the industry. Eighteen teams from thirteen countries participated in the event.

In 2016 we also took part in the most important mining fair in Chile, EXPOMIN. We presented the KGHM Group's long experience in the industry. The Sierra Gorda mine and KGHM participated in the local CESCO Week, actively promoting mining industry values.

# 6.3 The highest standard of environmental protection

Mining operations impact the environment in different ways, depending on a number of factors, including the nature of extraction works. Since KGHM Polska Miedź S.A. has underground mines, copper smelters and a rolling mill, and KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M. mainly have open pit mines, environmental aspects are described separately for these entities, and environmental indicators are mostly presented in appendix. The idea of sustainable development, and in particular respect for the natural environment, is one of the Company's most important values.

# 6.3.1 Responsible approach to the natural environment

The respect and responsible approach of KGHM Polska Miedź S.A. to the natural environment are the key elements of our business strategy and the Corporate Social Responsibility strategy (CSR). We take actions to

mitigate our environmental impact, and minimizing the adverse effects of our operations on the natural environment is our priority.



# G4-EN31

# Environmental policy

Taking care of the natural environment is part of our business model, in which we apply standards that ensure safeguards which guarantee that the environmental issues will be considered across all segments, from exploration through rehabilitation.

## The main assumptions of the KGHM environmental policy:

- · Maintaining full technical efficiency of the equipment used for environmental protection;
- Tracking technical innovations to reduce the negative impact of the industry on the environment and putting them to use according to needs and opportunities;
- Developing waste management techniques and steady growth in the proportion of waste managed using these techniques;
- · Ongoing collaboration concerning the environment with the community and local authorities;
- $\cdot \ \, \text{Collaboration with the Ministry of the Environment on implementing the national environmental policy;}$
- Collaborating on the development of a Best Available Techniques (BAT) document for the non-ferrous metals industry;
- Collaborating with the European mining industry and non-ferrous metals industry within the framework of professional organizations on preparing documents concerning the protection of the environment at EU level.

Impact on the individual components of the natural environment is inherent to copper ore mining and subsequent processing at all stages of production. In order to comply with strict standards imposed by the

law, we must modernize existing installations regularly and build new ones that will reduce our impact on the environment.

In 2016, we commenced works at our branches, such as Legnica, Głogów and Cedynia Copper Smelters (HM), the Smelting Plant (ZH) and the Ore Processing Plant (ZWR) aimed at adapting the existing systems to the requirements of the new standards, including the ISO 14001:2015 environmental management standard.

In 2016, the Company spent PLN 1,017M on pro-ecological investments. The biggest amount was spent on the Pyrometallurgy Modernization Program at the Głogów I Smelter/Refinery.

#### **GOOD PRACTICES**

In accordance with the sustainable development agreement concluded in 2013 between the Głogów district authorities and the Management Board of KGHM Polska Miedź S.A., a soil liming project was carried out in 2016 in the rural Głogów commune. By resolution of the Management Board, KGHM Polska Miedź S.A. donated funds to the rural Głogów commune for liming soil used for agricultural purposes on an area of 786 ha.

# The KGHM Polska Miedź S.A. Health Promotion and Prevention of Environmental Threats Program

The aim of the program is to provide preventive care to the Copper Basin residents, in particular children and adolescents, by performing tasks such as:

- trips to "green schools" located in mountain or seaside resorts
- swimming classes at the swimming pool throughout the year
- blood testing for lead content
- environmental health education

The decrease in the number of complaints addressed to us is one proof of the effectiveness of our pro-ecological initiatives and the reduced adverse impact of our operations. For more details, please see the table.

## Number of complaints associated with the environmental impact of KGHM Polska Miedź S.A.

Complaints	2016	2015
Total number of complaints associated with environmental impact reported in the reporting period in the formal complaint process	16	53
Number of reported cases that were resolved	16	53
Mining damage reported by residents	8	10
Unpleasant odors caused by emissions from the SG-2 shaft at the Polkowice-Sieroszowice plant	4	11
Noise emissions associated with the operation of the SW-3 shaft at the Polkowice-Sieroszowice plant	1	1

Source: KGHM

# **BAT** regulation

At KGHM Polska Miedź S.A., we operate 10 facilities at which an integrated permit to operate is required in accordance with the Environmental Protection Law. Due to the entry into force of the Commission Implementing Decision 2016/1032 establishing BAT con-

clusions for the non-ferrous metals industries, we reviewed our integrated permits for compliance with the applicable laws.

The KGHM smelting facilities are improved continuously. For example, we must invest in projects aimed at reducing the emissions of harmful substances to the atmosphere. Our consistent investment in systems containing or filtering harmful substances provided outstanding results. In the 1980s, gases from a shaft furnace were directed to an 80-metre chimney through a dry gas cleaning plant, and 14-16 kt of dust a year were emitted to the atmosphere, whereas today the emission is in the range of 5-6 t a year.

In 2016, a newly built process line of the fluidized-bed furnace was put into operation at HM Głogów I as part of the comprehensive Pyrometallurgy Modernization Program. The main modifications and improvements made as part of this project consisted of changing the concentrate smelting technology in the shaft furnaces to modern fluidized-bed furnace technology, which guarantees efficient energy use in primary copper production in accordance with BAT conclusions. The fluidized-bed furnace also reduces dispersed emissions from the Bessemer process.

The Głogów smelter, which is one of the most modern smelters in the European Union, meets both Polish and European environmental protection standards, which is confirmed by the relevant decisions and permits. A forest with an area of approx. 911 ha was planted in the area of the former protection zone. Moreover, an ecological site with an area of approx. 605 ha (Łegi Głogowskie) was created as habitat for a number of rare plant and animal species.

In 2016, KGHM Metraco obtained a patent for a method for recycling waste from Zn-C and Zn-Mn batteries remaining after the separation of ferromagnetic fraction. In addition to useful components, used batteries contain many substances that are harmful to the environment, such as cadmium, lead, mercury, graphite or silicon dioxide polluted with electrolytes, or plastics. To date, no Polish company has had a complete technology in place for the treatment of used batteries.

# Water in the copper production process

Water is an important component of the copper production process. It is used in the process of ore flotation, hydrotransport of waste and in the process line

in smelters. The largest amounts of water are used in the flotation process. Total water consumption by the Polish KGHM companies alone exceeds 20M m<sup>3</sup>.

KGHM makes every effort not to preserve the quality of local water resources by its operations.

### We act responsibly

In Poland, water from mine drainage is used mainly in the flotation process. It circulates in a closed circuit between the Ore Processing Plant and the Żelazny Most Extraction Waste Neutralization Facility. At the same time, we perform technologically advanced waste water treatment at each of our plants. We do not let water from the production process mix with surface waters or pollute the groundwater.

Every minute we pump 60 m<sup>3</sup> of water from our mines to the surface. Due to innovation, we reduced the energy consumption of the industrial water pumping process by 35% over 6 years.

### Total water withdrawal by source

Year	Water inflow from rock mass in m³/year	Total amount of pumped out water in m³/year		
	ZG Rudna branch			
2015	1,052,073	4,299,592		
2016	1,099,932	4,935,074		
	ZG Lubin branch			
2015	7,342,595	8,380,012		
2016	6,762,977	8,120,621		
ZG Polkowice-Sieroszowice branch				
2015	15,689,946	13,674,023		
2016	14,562,115	12,161,714		

Source: KGHM

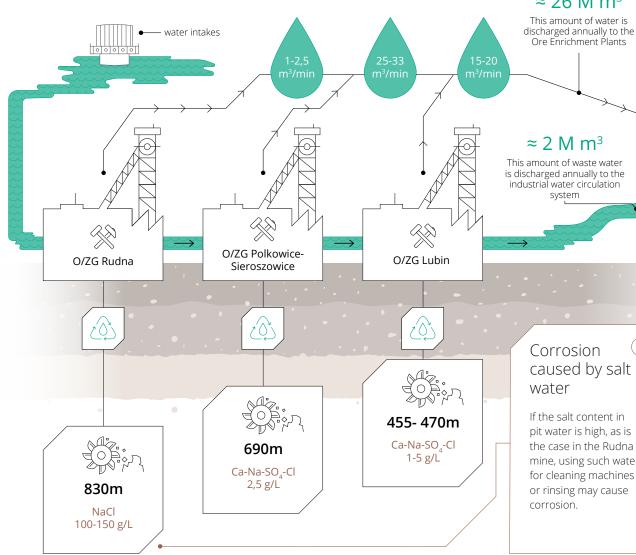
The Żelazny Most Extraction Waste Neutralization Facility (OUOW) is the only place for storing waste from copper ore flotation from all KGHM Polska Miedź S.A.'s mines. It is one of the best-monitored (also with respect to environmental protection) facilities of this type in the world, which is manifested, among other things, by a geodetic observation network consisting of as many as 500 points, which is used to study malformations of the reservoir top and foreground.

Excess water from the Żelazny Most reservoir is discharged from time to time to the Oder using the hydrotechnical method. The process was been developed and implemented in cooperation with scientific institutions and in compliance with Water Law requirements. Research shows that discharge of mine water to the Oder does not affect the proper functioning of the water ecosystems.

# Water in technological processes at KGHM

### 1. We obtain

We use water from mine drainage systems, potable water intakes and rain water for technological purposes



### Corrosion caused by salt water

≈ 26 M m<sup>3</sup> This amount of water is

If the salt content in pit water is high, as is the case in the Rudna mine, using such water for cleaning machines or rinsing may cause corrosion.

### Mines

Water obtained from mine drainage is used in technological process, in particular:

- for hydraulic filling purposes;
- for rinsing drilling equipment;
- in fire protection pipeline systems.

### (4) Energetyka Sp. z o.o.

The company manages water for drinking and other general purposes at KGHM S.A. branches. This includes:

- managing water intakes;
- managing waste water disposal.

### 2. We use

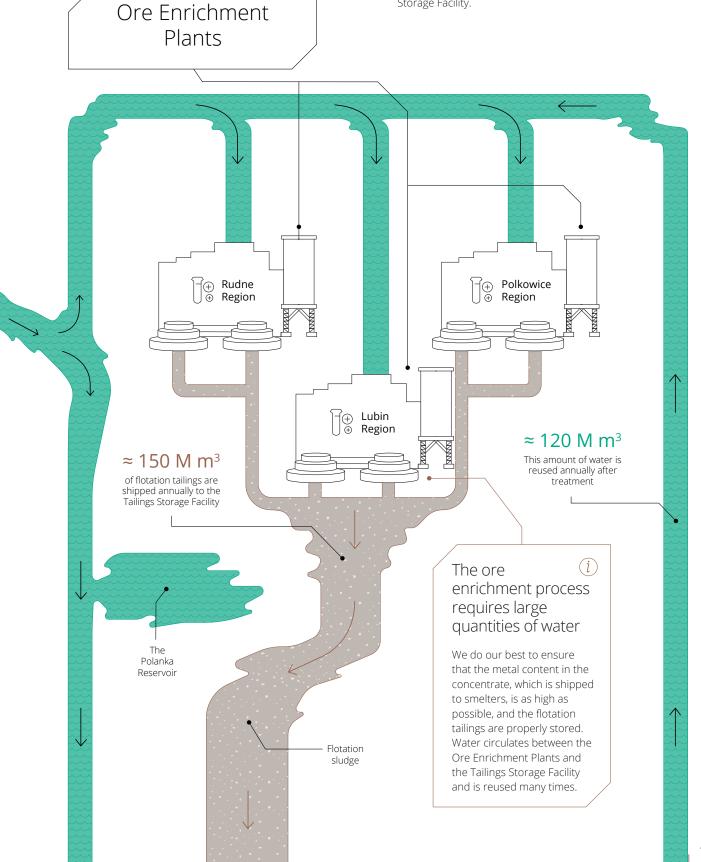
Water is used in many technological processes, the most important of which is ore enrichment.

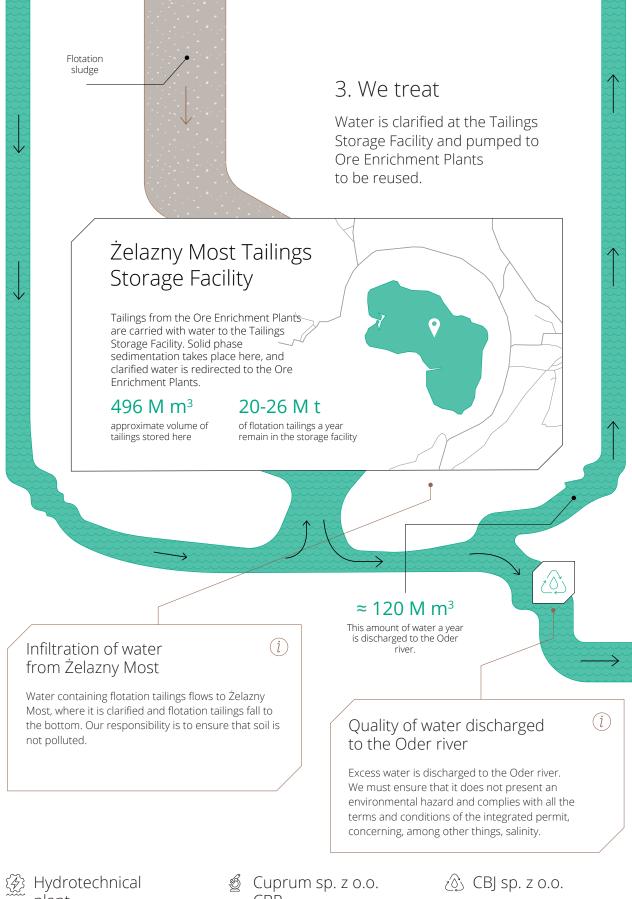
### The Ore enrichment plants

Ore Enrichment Plants use water in the ore enrichment process. This process involves:

- grinding and classifying muck;
- flotation;
- dehydration of concentrate (thickening, filtering and drying)

Subsequently, the concentrate is shipped to smelters, and flotation tailings are stored at the Żelazny Most Tailings Storage Facility.







The Plant is responsible for:

- environmental management;
- technological water management;
- waste water and sludge management;
- discharging excess water to the Oder river.

This company monitors ground water and surface water for KGHM Polska Miedź S.A.

Water quality and content are controlled at all stages of the process. The Quality Assessment Centre (CBJ) is responsible for this.

### Environmental fees

Total fees for the use of the environment paid by KGHM Polska Miedź S.A. in 2016 amounted to PLN 24M. The fees paid were more than PLN 7M lower than in 2015. This was due to the implementation of a system for monitoring the load of chlorides and sulfates at the mines in 2016, which makes it possible to calculate the fee for discharge of surface waters from the Żelazny Most Extraction Waste Neutralization Facility (OUOW) reduced by the chloride and sulfate loads pumped from the mines.

In 2016, the highest fees were paid for pollution loads discharged in surface waters from the Żelazny Most Tailings Storage Facility: PLN 14M. The second largest fee was the fee for emissions into the atmosphere of PLN 6M.

Among the subsidiaries, the operations of "Energetyka" Sp. z o.o. had the greatest impact on the environment. Therefore, in 2016 this Company paid the highest environmental fees, which amounted to nearly PLN 3M and comprised mainly the fees for water intake and waste water disposal (more than PLN 2M) and for emissions into the air (PLN 0.7M). In an effort to ensure sustainable development, in 2016 the Company completed the modernization of the stocker-fired boiler no. 1 in the E1-Lubin heat and power plant in the tight wall technology. As a result, the facility's thermal power and efficiency were improved and, additionally, the efficiency of dust removal systems was increased to 20 mg/m³.

The total amount of environmental penalties imposed on the Polish KGHM Polska Miedź S.A. companies in 2016 was lower than in the previous year. In 2016 they amounted to PLN 202,858 compared to PLN 333,851 in 2015.

A stage of the Environmental Assessment process took place at Ajax in 2016. In January 2016, the process of evaluating Environmental Assessment began. Works will be completed in the second half of 2017.

### Economy in closed circulation

Recycling of copper at KGHM Polska Miedź S.A. improves the efficiency of our operations by reducing energy consumption, emissions and the amount of waste. In addition, due to the scale of our production, we understand the need to minimize waste and use secondary sources of input in our operations.

As a result of the processing of 34M ton of muck a year we produce approx. 2M ton of copper concentrates, and the post-flotation waste (which represents approx. 94% of the muck by weight) is used for building the Żelazny Most Tailings Storage Facility. Thick fraction waste (with high silicon dioxide content) is used to build the reservoir dam. Fine-grained post-flotation waste fractions (containing mainly carbonates) are used inside the facility to seal its bottom. In addition to being used for storage of waste, the Żelazny Most Tailings Storage Facility is also used as a water stor-

age reservoir for the purposes of technological water circulation at KGHM Polska Miedź S.A. Smelting processes produce slag (more than 1M ton a year), a big part of which is used as road-building material. Copper obtained from copper scrap processed in smelting facilities today represents more than 20% of output.

### CO<sub>2</sub> emissions

Since 2013, KGHM Polska Miedź S.A. has participated in the obligatory European Union Emissions Trading System (EU ETS). Accordingly, the Głogów Smelter, the Legnica Smelter and the gas-steam blocks in Polkowice and Głogów have permits to participate in  ${\rm CO_2}$  emissions trading. Supervising the  ${\rm CO_2}$  emissions trading system is one of the most important environmental protection projects planned for the immediate future.

In 2016, the previous year's emissions amounting to 637k tonnes of  $\mathrm{CO_2}$  were settled by rights acquired free of charge (550 kt of  $\mathrm{CO_2}$ ) supplemented with purchases of rights (EUAs or European Emission Allowances and CERs – certified emission reduction). The 2016  $\mathrm{CO_2}$  emissions amounting to 767 kt were settled with rights acquired free of charge for the Głogów and Legnica Smelters, the additional rights obtained for the Polkowice gas-steam block for the years 2015 and

2016 (in total, 597 kt of  $CO_2$ ) and purchased rights (EUA and CER).

Replacement of the shaft furnace at the Głogów I Smelter with a fluidized-bed furnace reduced the total direct emission (including export of gases). Further effects of this replacement should be noticed in 2017.

In the fourth quarter of 2016, we published a document entitled "The Energy Policy of KGHM Polska Miedź S.A." We assume that the implementation of the Energy Management System will bring us measurable financial gains resulting, among other things, from reduced CO<sub>2</sub> emissions.

# Direct emissions		Greenhouse gas emissions [tCO <sub>2</sub> e]	
#	# Direct emissions	2016	2015
1	Emissions associated with generation of electricity	537,411	857,850
2	Emissions associated with heat generation	56,840	39,107
4	Emissions from physical and chemical processing	778,375	649,207
5	Emissions of hydro fluorocarbons (HFC)	34,109	35,002
6	Emissions associated with transport of materials, products and waste	101,049	97,289
7	Biogenic emissions of carbon dioxide in metric tonnes of CO2 equivalent	84,778	125,306
Sum of direct emissions		1,507,784	1,803,761

#	Indirect emissions by origin	Greenhouse gas emissions (tCO₂e)
# Indirect emissions by origin	2016	
1	Emissions that result from the generation of purchased electricity consumed by the organization	1,716,185
Emissions that result from the generation of purchased heating consumed by the organization		201,883
Sum of indirect emissions		1,918,068

#	Greenhouse gas (GHG) emissions intensity	2016
1	(Dividend) Total GHG emissions (in tonnes of CO <sub>2</sub> equivalent)	3,425,853
2	GHG emissions intensity ratio	6.40

Źródło: KGHM

### Analysis of the organization's environmental footprint

Environmental footprint is the overall potential effect or selected potential effects of a product, service or organization on the environment. Environmental footprint is determined for the individual or all product life cycle stages.

The European Commission is implementing the methodology for assessing the environmental footprint into the new strategies and programs, such as "Zero waste for Europe". The program emphasizes that in order to achieve sustainable development it is essential to move towards a more circular economy, which takes into account the effect of the whole life cycle of a prod-

uct on the environment. KGHM Polska Miedź S.A., as a member of the Technical Secretariat, helps formulate detailed guidelines for the copper industry organizations willing to assess their environmental footprint.

Therefore, in 2016 KGHM Polska Miedź S.A. was among the three industry representatives participating in the pilot stage of development of detailed guidelines for the life cycle assessment (LCA) for the copper industry. It also performed its own environmental footprint assessment.

With respect to the environmental footprint, in 2016:

- We completed the 1st stage of the analysis of the environmental footprint of KGHM Polska Miedź S.A. – smelting processes;
- We completed the 2nd stage of the analysis of the environmental footprint of KGHM Polska Miedź S.A. – mining processes and waste storage;
- We received independent remarks and comments on the draft detailed guidelines associated with the analyses performed.

### 6.3.2 Environmental protection in foreign mines of the KGHM Group

### Update of KGHM INTERNATIONAL LTD.'s environmental policy

In 2016, we made changes to the environmental policy of KGHM INTERNATIONAL LTD. to increase our focus on biodiversity conservation and energy use and greenhouse gas emissions management.

In its Environmental Policy adopted in 2016, the Company, in line with its Zero Harm policy, declared that it will use natural resource management tools and practices in order to minimize the risk to the environment at all stages of the mining project, from exploration and identification of deposits through extraction to closing

of the existing mines. KGHM INTERNATIONAL LTD. has guaranteed operations based on accepted industry standards and involvement of employees, contractors, local communities and regulators in pro-environmental activities.

In 2016, as in 2015, no sanctions for non-compliance with environmental laws and regulations were imposed on the foreign KGHM Group companies.



### Water in the KGHM INTERNATIONAL LTD. mines

Some of the KGHM mines are located in areas where water is a particularly valuable resource, such as the Atacama Desert in Chile, which is one of the driest spots on Earth, or a semidesert in Arizona, USA, where the annual rainfall is less than 25 cm.

In such places, our Company's role is not limited to treating the existing natural water resources with utmost care and preventing the risk of their depletion. In the case of the Sierra Gorda S.C.M., we decided to apply an innovative technical solution to protect the environment. In its process line the mine uses sea water from the cooling systems of a power plant, which is located near the town of Mejillones. Previously water was discharged back to the ocean, whereas now it is pumped through an approx. 144 km long pipeline and stored in a salt water storage reservoir, which is located near the Sierra Gorda processing facility.

Water for the other Chilean mine, Franke, is supplied from a third party via an approx. 70 km long pipeline. At the same time, the Company monitors the natural sources of water identified in these areas to check the level is not decreasing and that there is no sign of pollution.

Depending on the plant's location and related possibilities, rainwater is directed to storm drains in the nearby towns and we support the modernization projects of such systems.

The Carlota mine in the USA, and Franke and Sierra Gorda in Chile operate without discharging any water.

At the plants where the resources are particularly limited and wherever possible, we use recycling – we try to use water from our waste water treatment facilities or from mine drainage for the purposes of our technological processes.

In 2016, KGHM INTERNATIONAL LTD. recorded a write-down in respect of the value of the rights to water resources in the amount of PLN 148M due to a limitation of the amount of water that can be drawn from the sources in Chile.

### Total water withdrawal by source (m³)

Total water withdrawal by source (m³)	2016	2015
Surface water	2,414,716	2,325,742
Ground water	24,724,145	20,848,203
Rainwater	1,276,841	1,303,868
Municipal water supplies or other water utilities	166,481	125,657
Sea water	23,158,383	20,174,298
Total	51,740,567	44,777,769

Source: KGHM

### Air protection and emissions to the environment

At the KGHM INTERNATIONAL LTD. surface mines a particularly important environmental issue is dust. The mines have systems in place for controlling dust originating from mine mobile equipement or from ore extraction and processing. The Company continuously implements rigorous measures to avoid dust emissions by utilizing mitigation measures such as road watering, operating procedures, and the use dust suppression systems. Sierra Gorda mine continuously

monitors the air quality. It is the only monitoring station from all the companies operating in the area that is part of the National System of Air Quality Information.

### NOx, SOx, and other significant air emissions

NOx, SOx, and other significant air emissions	The amount of significant air emissions (in tonnes)	
	2016	2015
Dust (PM)	31,989	22,905
PM10	12,542	9,392
NOx	8,562	7,843
СО	5,149	5,166
SO2	65	48

Source: KGHM

### The most important environmental issues in 2016

### Sierra Gorda mine

In March 2016, the Chilean Environmental Protection Agency published a report indicating possible cases of Sierra Gorda's non-compliance with the environmental permit. Seven major and two minor violations were reported.

In April 2016, Sierra Gorda presented a plan for adjusting its operations to the regulator's requirements. In the 2nd half of 2016, the SMA approved the corrective plan presented by Sierra Gorda S.C.M. After its implementation, the claims brought by the Environmental Protection Agency will be withdrawn without any sanctions. By the end of 2016, Sierra Gorda had completed

all the corrective actions proposed in accordance with the schedule.

Furthermore, Sierra Gorda worked on the development of a new environmental impact study and continued work on the verification and optimization of the technical and business assumptions of the Sierra Gorda Oxide project (oxide ore processing).

The funds spent on the financing of the Sierra Gorda Oxide project amounted to USD \$ 4M, which is more than 70% less than in 2015 (US \$ 16.8M).

### The Franke mine

In December 2016, the Franke mine filed a draft environmental impact assessment with the Environmental Assessment Agency. It presents the possibility of extending the period of deposit exploitation by 4.5 years while the production level would remain unchanged.

Moreover, dust control, waste management and en-

vironmental impact monitoring activities were carried out at the Franke mine in Chile. The total expenditure on such purposes amounted to approx. PLN 3M. The expenditure on the other operations amounted to approx. PLN 0.8M.

### The Robinson mine

Environmental protection activities at the Robinson mine in the USA were aimed at monitoring air and water quality, waste management and the restoration of mining areas. The total expenditure on such purposes was approx. PLN 23M, including PLN 2.5M spent in connection with the environmental permits held (of which emission fees amounted to PLN 0.04M).

In connection with the three-year development plan for the Robinson mine for the years 2016–2018 and its planned area of impact which includes public land, the American Bureau of Land Management required the presentation of an environmental impact assessment. With the support of the authorities, the local

community and many of the Company's stakeholders, we obtained a positive opinion on the anticipated environmental impact. In 2016, the plant installed a system as part of a corrective action plan, in coordination with the Nevada Division of Environmental Protection, for the remediation of the sulfates present in the groundwater.

In November 2016, a significant (more than 20 m³) spill from the tailings pipeline occurred at the Robinson mine. The impacted area has since been remediated.

### Number of significant spills at the Robinson mine

	2016	2015
Number of significant spills	3	1
Volume in m <sup>3</sup>	24	19

Source: KGHM

### The Carlota mine

The environmental activities conducted at the Carlota mine, USA, were mainly associated with resloping areas of the mine fro reclamation purposes and monitoring the environment. The total expenditure on such purposes was approx. PLN 11M.

### The Ajax mine

The Ajax Project located in British Columbia (Canada) is aimed at constructing a copper and gold surface mine and an ore processing plant together with the associated infrastructure. In January 2016, an Updated Feasibility Study was published, replacing the previous version. The document reflects changes to the

project, under which the mine's infrastructure was moved farther away from the nearest buildings in the town of Kamloops, and technological improvements to the project. The mine's activities in 2016 were focused, among other things, on obtaining an environmental permits.

### The Morrison mine in Sudbury

In 2016, we developed a biodiversity protection plan for the Morrison mine. It complies with the requirements of the Group's environmental strategy and the framework developed by the Mining Association of Canada. Our plan includes the protection of biodiversity and its management at all stages of a mining

project's life cycle. It defines appropriate practices and procedures for avoiding or mitigating potential impact on or threats to biodiversity.



# Corporate governance



### Corporate governance

Through the commitment of the Company's Management Board to compliance with good corporate governance practices and application of the highest standards of management, the KGHM Polska Miedź S.A. builds value in the long term by taking care of the interests of both the shareholders and the Company. We are a responsible global corporation which complies with the laws of all jurisdictions in which we operate.

We use the most effective corporate governance tools developed over many years. At KGHM Polska Miedź S.A., they are based on Polish legal regulations, the

Company's Articles of Association and the Rules and Regulations of the Warsaw Stock Exchange, on which our shares are listed.

Corporate governance is based on the following pillars:



The General Meeting;



The Supervisory Board and its committees;



The Management Board.

With respect to the best practices for listed companies, in 2016 we tried to comply with the new principles and recommendations of the Warsaw Stock exchange, which came into force on January 1, 2016\*. As a result, we met the greater expectations of our stakeholders, including in particular our customers and financial institutions.

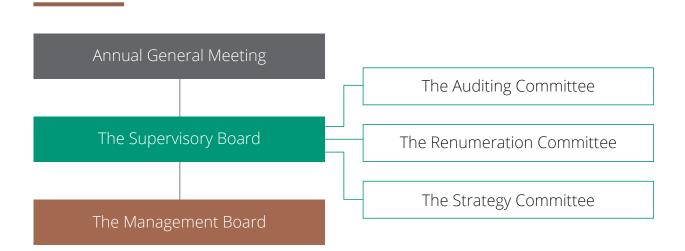
In 2016, KGHM Polska Miedź S.A. did not comply with recommendation IV.R.2 from "Best Practice...", which recommends making it possible for shareholders to participate in general meetings using electronic means of communication and ensuring real-time bilateral communication. In our opinion, the legal and technical risks associated with such a solution could jeopardize the efficient conduct of General Meetings; however, we do not rule out its implementation in the future. In 2016, we provided real-time broadcasts of the General Meetings.

Nor did we apply recommendation VI.R.3 from "Best Practice...", regarding the independence criteria with respect to the Remuneration Committee which operates within the structure of the Supervisory Board. The KGHM Polska Miedź S.A. Remuneration Committee is composed of one Member meeting the independence criteria and three employee representatives, which, in our opinion, guarantees proper, fair and transparent execution of the Committee's tasks.

<sup>\*</sup> The document "Code of Best Practice for WSE Listed Companies 2016" is available on the webpage of the Warsaw Stock Exchange, as well as on the website of KGHM Polska Miedź S.A. in the corporate governance section.

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# 7.1 Organizational structure



# 7.2 Activities of the Supervisory Board

The Supervisory Board is the permanent supervisory authority of KGHM Polska Miedź S.A., in all aspects of the Company's operations. It is composed of nine members appointed by the General Meeting, three of whom are elected by the Company's employees. The powers and operational rules of the Supervisory Board shall be determined by, among other things, the Company Articles of Association and the Rules and Regulations of the Supervisory Board.\*

The Supervisory Board members are appointed for a joint term of three years. In accordance with the Company's Articles of Association and the "Best Practices...", at least two members of the Supervisory Board should meet the independence criteria. We satisfied this requirement in 2016.

The Supervisory Board supervises the activities of KGHM Polska Miedź S.A. on a permanent basis. It executes its powers both at the meetings, which are held

at least once a quarter, and through the participation of its members in the work of the Committees. The Supervisory Board makes decisions in the form of resolutions, which in order to be valid must be passed by an absolute majority of the votes in the presence of at least half of the Supervisory Board members, provided that all members have been invited to the meeting.

<sup>\*</sup> These documents are publicly available at www.kghm.com.

### In 2016, the Supervisory Board consisted of:

### From January 1 to January 18:

- · Marcin Moryń Chairman
- · Tomasz Cyran Deputy Chairman
- · Bogusław Fiedor Member of the Supervisory Board
- · Andrzej Kidyba Member of the Supervisory Board
- · Jacek Poświata Member of the Supervisory Board
- · Barbara Wertelecka-Kwater Member of the Supervisory Board

### and the members elected by the employees:

- Bogusław Szarek Secretary
- · Józef Czyczerski Member of the Supervisory Board
- · Leszek Hajdacki Member of the Supervisory Board

Bogusław Fiedor, Jacek Poświata, Andrzej Kidyba and Tomasz Cyran submitted declarations with regard to meeting the independence criterion as defined in Rule II.Z.4 of "Best Practice for WSE Listed Companies".

### From January 8 to December 7:

- · Dominik Hunek Chairman (from February 3, 2016)
- Radosław Barszcz Deputy Chairman (from February 3, 2016 to September 5, 2016)
- Michał Czarnik Deputy Chairman (from September 5, 2016)
- Cezary Godziuk Member of the Supervisory Board
- · Miłosz Stanisławski Member of the Supervisory Board
- · Jarosław Witkowski Member of the Supervisory Board

### and the members elected by the employees:

- · Bogusław Szarek Secretary
- · Józef Czyczerski Member of the Supervisory Board
- · Leszek Hajdacki Member of the Supervisory Board

Dominik Hunek, Michał Czarnik, Cezary Godziuk and Jarosław Witkowski submitted declarations with regard to meeting the independence criterion as defined in Rule II.Z.4 of the "Best Practice for WSE Listed Companies".

On September 5, 2016, in connection with the resignation of Radosław Barszcz as Deputy Chairman, the Supervisory Board elected Michał Czarnik in his place.

Also on September 5, 2016, the Supervisory Board seconded its member, Dominik Hunek, to perform the function of Management Board member – Vice President responsible for Development, for a limited period from September 6 to December 6, 2016. On October 28, 2016, Dominik Hunek resigned as a Management Board member on a temporary basis.

On December 6, 2016, Miłosz Stanisławski resigned as a Supervisory Board member.

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### From January 7 to December 31:

- · Dominik Hunek Chairman
- Michał Czarnik Deputy Chairman
- · Wojciech Myślecki Deputy Chairman
- Marek Pietrzak Member of the Supervisory Board
- · Agnieszka Winnik-Kalemba Member of the Supervisory Board
- · Jarosław Witkowski Member of the Supervisory Board

### and the members elected by the employees:

- Bogusław Szarek Secretary
- · Józef Czyczerski Member of the Supervisory Board
- · Leszek Hajdacki Member of the Supervisory Board

Agnieszka Winnik-Kalemba, Wojciech Myślecki and Marek Pietrzak submitted declarations with regard to meeting the independence criterion as defined in Rule II.Z.4 of the "Best Practices of WSE Listed Companies".

In 2016, the Supervisory Board held 13 minuted meetings and passed 90 resolutions, including 15 resolutions passed in writing. As part of its permanent supervision over the Company's activities, in 2016 the Supervisory Board monitored the Company's situation on an ongoing basis on the basis of the financial performance of the KGHM Polska Miedź S.A. and the Management Board resolutions. It also supervised the status of the key capital expenditure projects, verified expenditure on research and implementation work, donations, sponsorship, entertainment, marketing and advertising, consulting, advisory and analytical services provided to KGHM Polska Miedź S.A. and the Group by external service providers.

The Supervisory Board approved the KGHM budget for 2016, evaluated the Company's reports for 2015 submitted by the Management Board and the proposed method for offsetting the loss for 2015, and applied to the General Meeting for the approval thereof. In addition, it elected the registered auditor for the financial years 2016, 2017 and 2018, made changes to the composition of the Management Board of KGHM Polska Miedź S.A., determined the remuneration of the Management Board members, seconded Supervisory Board members to perform supervisory activities independently and seconded a Supervisory Board member to act as a Management Board member on a temporary basis.

### The current composition of the Supervisory Board KGHM Polska Miedź S.A.:

- Dominik Hunek Chairman
- · Michał Czarnik Deputy Chairman
- Bogusław Szarek Secretary
- · Józef Czyczerski Member of the Supervisory Board
- Leszek Hajdacki Member of the Supervisory Board
- · Janusz Kowalski Member of the Supervisory Board
- · Wojciech Andrzej Myślecki Member of the Supervisory Board
- · Marek Pietrzak Member of the Supervisory Board
- · Agnieszka Winnik Kalemba Member of the Supervisory Board
- · Jarosław Witkowski Member of the Supervisory Board

On June 21, 2017, the Ordinary General Meeting of KGHM Polska Miedź SA Appointed Janusz Marcin Kowalski to the Supervisory Board of the Company.

### Activities of the Supervisory Board Committees

The Supervisory Board has three committees: the Audit Committee, the Remuneration Committee and the Strategy Committee. They provide support in preparing evaluations, opinions and recommendations

concerning decisions made by the Supervisory Board. Their detailed powers, activities and methods of work are defined in the rules and regulations approved by the Supervisory Board.

**The Audit Committee** is responsible for the supervision of financial reporting, the internal control system, risk management and internal and external audits on behalf of the Supervisory Board.

THE AUDIT COMMITTEE IN 2016:				
Name	1 January – 3 February	3 February – 21 December	21 December – 31 December	
Radosław Barszcz		•		
Tomasz Cyran	•			
Michał Czarnik		• Chairman	• Chairman	
Bogusław Fiedor	• Chairman			
Cezary Godziuk		•		
Leszek Hajdacki	•	•	•	
Dominik Hunek		•	•	
Wojciech Myślecki			•	
Marek Pietrzak			•	
Miłosz Stanisławski		•		
Bogusław Szarek	•	•	•	
Agnieszka Winnik-Kalemba			•	
Jarosław Witkowski		•	•	

In 2016, four minuted meetings of the Audit Committee were held, during which its members performed the following tasks:

- expressed opinions on the audit and control plan for the KGHM Group and considered reports on the performance of previous plans;
- analysed and monitored the risk management process at KGHM Polska Miedź S.A. and KGHM INTER-NATIONAL LTD.;
- reviewed the Company's reports and prepared recommendations for the Supervisory Board with respect to the approval of the following annual reports:
  - report on the evaluation of the Management Board's Report on the activities of KGHM Polska Miedź S.A. in the financial year and evaluation of the financial statements of KGHM Polska Miedź S.A. for the year 2015;
  - report on the evaluation of the Management

### Corporate governance

- Board's Report on the activities of the KGHM Polska Miedź S.A. Group in the financial year and evaluation of the consolidated financial statements of the Group for the year 2015;
- evaluation of the Company's position in the financial year 2015, taking into account the assessment of the internal control system, risk management system, compliance and the internal audit function;

- report on the activities of the Audit Committee in 2015.

The Audit Committee also analysed the Company's draft budget for 2016 and prepared a recommendation for the Supervisory Board on the approval of the budget for 2016. It also completed the procedure of selection of the Company's registered auditor and pre-

pared a recommendation for the Supervisory Board on the selection of the registered audit firm for auditing the Company's financial statements for the years 2016–2018.

**The Remuneration Committee** supervises the issues relating to recruitment and employment of Management Board members and the system of remuneration and benefits in the KGHM Group on behalf of the Supervisory Board.

TI	THE REMUNERATION COMMITTEE IN 2016:			
Name	1 January – 3 February	3 February – 21 December	21 December – 31 December	
Radosław Barszcz		• Chairman		
Tomasz Cyran	• Chairman			
Józef Czyczerski	•	•	•	
Leszek Hajdacki	•	•	•	
Dominik Hunek		•	• Chairman	
Marcin Moryń	•			
Miłosz Stanisławski		•		
Bogusław Szarek			•	
Barbara Wertelecka-Kwater	•			

In 2016, three minuted meetings of the Remuneration Committee were held, during which the Committee members dealt with:

- preparing recommendations for the Supervisory Board with respect to the employment contracts for newly appointed members of the KGHM Polska Miedź S.A. Management Board;
- preparing recommendations for the Supervisory Board with respect to the approval of bonuses for members of KGHM Polska Miedź S.A.'s Management Board for 2016;
- preparing recommendations for the Supervisory Board with respect to determining the amount of variable remuneration payable to members of KGHM Polska Miedź S.A.'s Management Board in 2015;
- passing recommendations for the Supervisory Board with respect to the approval of the report on the Remuneration Committee activities in 2015.

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**The Strategy Committee** supervises the implementation of the Company's Strategy, annual and long-term operating plans, and evaluates the coherence of these documents on behalf of the Supervisory Board. Its tasks also include expressing opinions on draft strategies presented by the Management Board and their amendments and on the Company's annual and long-term operating plans, as well as evaluating the adequacy of the current strategies in view of the changing needs and circumstances.

THE STRATEGY COMMITTEE IN 2016:			
Name	1 January – 3 February	3 February – 21 December	21 December – 31 December
Michał Czarnik		•	•
Józef Czyczerski	•	•	•
Cezary Godziuk		•	
Leszek Hajdacki	•	•	•
Andrzej Kidyba	Deputy Chairman		
Marcin Moryń	•		
Wojciech Myślecki			•
Marek Pietrzak			•
Jacek Poświata	•		
Miłosz Stanisławski		•	
Bogusław Szarek	•	•	•
Barbara Wertelecka-Kwater	• Chairwoman		
Agnieszka Winnik-Kalemba			•
Jarosław Witkowski		• Chairman	• Chairman

Four minuted meetings of the Strategy Committee were held in 2016. They dealt with the following matters:

- monitoring the progress of work on updating the Company's Strategy;
- reviewing the development prospects of the Polish KGHM Polska Miedź S.A. Group companies;
- reviewing the report on the execution of the Company's Strategy in 2015.

# 7.3 Activities of the Management Board of KGHM Polska Miedź S.A.

The Management Board of KGHM Polska Miedź S.A. is responsible for all aspects of the Company's operations which have not been reserved for the General Meeting or the Supervisory Board by the provisions of the Commercial Companies Code or the Articles of Association. A detailed description of the Management Board's scope of duties and the manner in which it functions can be found in the Rules and Regulations of the Management Board.

The Management Board of KGHM Polska Miedź S.A. may be composed of one to seven persons, appointed for a joint term of office of three consecutive years. The number of members of the Management Board is set by the Supervisory Board, which appoints and dismisses the President of the Management Board, and at his request appoints and dismisses the remaining members of the Management Board, including those serving as First Vice President and as the Vice Presidents of the Management Board, with the reservation of the provisions regarding the appointment and dismissal of an employee-elected member of the Management Board.

The Management Board operates based on the generally applicable laws, the Company's Articles of Association and the Rules and Regulations of the Management Board of KGHM Polska Miedź S.A. (the corporate documents are published on the Company's website, www. kghm.com). For resolutions of the Management Board to be valid, at least two-thirds of the members of the Management Board must be present. Resolutions of the Management Board are passed by a simple majority of the votes of those present at the meeting. In the case of a tie vote for or against a resolution, the President of the Management Board has the casting vote. A detailed list of the matters requiring a resolution of the Management Board is presented in the Rules and Regulations of the Management Board of KGHM Polska Miedź S.A. approved by the Supervisory Board

# The current Management Board of KGHM Polska Miedź S.A.:

- Radosław Domagalski-Łabędzki, President of the Board
- Rafał Pawełczak, 1st Vice President (Supply Chain Management)

- Michał Jezioro, Vice President (Development)
- Stefan Świątkowski, Vice President (Finance)
- · Ryszard Jaśkowski, Member of the Board

In 2016, The Management Board of KGHM Polska Miedź S.A. held 67 meetings, during which 188 resolutions were passed.

# The most important actions taken by the Management Board of KGHM Polska Miedź S.A. in 2016:

- a decision on general revision of the Company's strategy, focusing on adjusting the goals to the anticipated financial standing, taking into account the market condition and the need for cost optimization (the works were not completed in 2016 and will be continued next year);
- setting goals for 2017 with respect to production and safety at work;
- ongoing identification an analysis of market risk relating to changes in the prices of metals, foreign exchange rates and interest rates.

Composition of the Management Board as at January 1, 2016:

- · Herbert Wirth, President of the Board
- · Jarosław Romanowski, 1st Vice President (Finance)
- Marcin Chmielewski, Vice President (Corporate Affairs)
- · Jacek Kardela, Vice President (Development)
- Mirosław Laskowski, Vice President (Production)

Changes in the composition and division of responsibilities of the Management Board in 2016:

On February 3, 2016 the Supervisory Board dismissed the President of the Management Board, Herbert Wirth, and the following Vice Presidents: Jarosław Romanowski, Marcin Chmielewski and Jacek Kardela. They were replaced by Krzysztof Skóra (President of the Board) and Jacek Rawecki and Mirosław Biliński (Vice Presidents).

On February 23, 2016 the Supervisory Board appointed Stefan Świątkowski for the position of Vice President of the Management Board.

**On March 15, 2016** the Supervisory Board dismissed Mirosław Laskowski from the position of Vice President of the Management Board and appointed Piotr Walczak in his place.

**On May 17, 2016,** the Supervisory Board appointed Jacek Rawecki for the position of 1st Vice President of the Management Board.

**On September 2, 2016** Mirosław Biliński resigned from the position of Vice President as of September 5, 2016.

**On September 5, 2016** the Supervisory Board seconded its member, Dominik Hunek, to perform the function of Management Board member – Vice President

responsible for Development, for a limited period from September 6 to December 6, 2016.

On October 28, 2016 Dominik Hunek resigned from performing the function of Vice President of the Management Board responsible for Development on a temporary basis. On the same day, the Supervisory Board dismissed the President of the Management Board Krzysztof Skóra and appointed Radosław Domagalski-Łabędzki in his place.

**On November 9, 2016** the Supervisory Board appointed Michał Jezioro for the position of Vice President of the Management Board.

### Additional information

On February 3, 2017, Jacek Rawecki resigned from the position of Vice-President of the Management Board for Supply Chain Management. On the same day, the Supervisory Board appointed Rafał Pawełczak as the Vice President of the Management Board.

**On May 31, 2016,** Piotr Walczak resigned from the position of Vice President of the Management Board of KGHM Polska Miedź S.A. for Manufacturing.

**On July 24, 2017,** the Supervisory Board adopted a resolution to appoint Ryszard Jaśkowski as Member of the Board of KGHM Polska Miedź S.A.



# 7.4 Shareholders and their role

We consider active dialogue with stakeholders, among whom shareholders play a special role, to be an element critical to the effective operation of the KGHM Group. As a global company operating on three continents, we treat equal access of all participants in international capital markets to information as our priority.

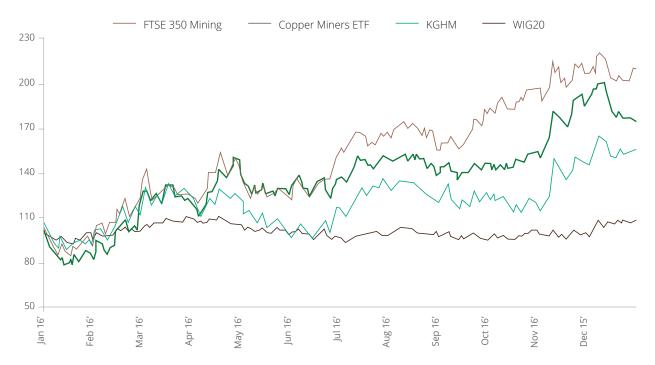
KGHM Polska Miedź S.A. was listed on the Warsaw Stock Exchange (WSE) for the first time in July 1997. The Company's shares are traded on the primary market in the continuous trading system and are a component of the WIG, WIG20 and WIG30 indices. The Company's shares are also included in the WIG-GÓRNICTWO, WIGdiy and WIG-Poland indices.

As at December 31, 2016, the share capital of KGHM Polska Miedź S.A., in accordance with the entry in the National Court Register, amounted to PLN 2bn and

was divided into 200,000,000 series A shares, having a nominal value of PLN 10 each. All shares are bearer shares. Each share carries one vote at the General Meeting. The Company has not issued any preference shares.

In 2016, the shares of KGHM Polska Miedź S.A. were once again amongst the selected group of companies listed on the Warsaw Stock Exchange which comprise the RESPECT Index (for more details, see section 6).

Change in KGHM Polska Miedź S.A.'s share price versus the WIG20, FTSE 350 Mining and Copper Miners ETF indices in 2016



Source: Bloomberg, 03/29/2017; data standardized as at 01/04/2016.

### Corporate governance

In 2016, the price of KGHM Polska Miedź S.A. shares was affected primarily by fast changes in commodity prices and the appreciation of the American dollar against the Polish zloty. In the first ten months of 2016, the price of our shares increased by approx. 12%, which was mainly due to the fast growth of silver prices (more than 28%). In the same period, the prices of copper and the exchange rate of the American dollar changed by approx. 2.5% and slightly more than 1%, respectively. The price of KGHM Polska Miedź S.A. shares increased rapidly in the last two months of 2016 by more than 30% in relation to the price recorded as at the end of October 2016. In that period, the growing prices of copper (an increase of almost 14%) and the exchange rate of the American dollar against the Polish zloty (an increase of almost 6%) had the biggest

effect on the share price. At the same time, there was an adjustment of the market price of silver.

Throughout 2016, the price of KGHM Polska Miedź S.A. shares increased by 45.66% from PLN 63.49 (as at December 30, 2015) to PLN 92.48 as at the end of 2016. In the same period, the WIG index increased by 11.4%, WIG20 – by 4.8%, and WIG30 – by 8.1%.

As at the end of 2016, the Company's capitalization reached a level of PLN 18.5bn, and the average trading volume per session in 2016 amounted to 1,102,494 shares. The price of KGHM Polska Miedź S.A. shares in 2016 varied from PLN 51.22 (January 20) to PLN 97.95 (December 8).

KEY DATA CONCERNING THE COMPANY'S SHARE PRICE AT THE WARSAW STOCK EXCHANGE (WSE)			
Symbol: KGHISIN: PLKGHM000017	unit	2016	2015
Number of shares	millions of shares	200	200
Company's capitalization at the end of the year	PLN bn	18.5	12.7
Average trading volume per session	shares	1,102,494	948,323
Change of share price compared to last price of previous year	%	+45,66	-41.67
Maximum closing price in the year	PLN	97.95	131.00
Minimum closing price in the year	PLN	51.22	59.07
Closing price on last day of trading in the year	PLN	92.48	63.49

Source: KGHM

The KGHM Group follows a policy of continuous and transparent communication with investors and analysts. Our dialogue with investors is based on the following tools: current and periodical reports submitted via the official reporting system (ESPI), our webpage, mobile application, direct meetings and participation of the Company's representatives in conferences of investors, road shows, meetings with analysts and fund managers (see the summary of IR activities below).



### Primary tools for dialogue with the investment market in 2016

### Investors' conferences

- Approx. 30 meetings with investors
- 4 conferences held to discuss the results after the publication of the Company's and the Group's financial statements

### **Analytical recommendations**

- More than 90 analytical reports published in 2016
- 14 Polish and 7 foreign analysts
- 1 financial institution changed the nature of analytical coverage for KGHM from regional to sector

### Information obligations

- · Documents published
  - 47 current reports
  - 5 financial statements
  - Integrated Annual Report
- Documentation aimed at adjusting the Company to the new capital market regulations (MAR) was prepared and approved.
- Secure information disclosure mechanisms were implemented – the Disclosure Committee was set up as part of the Company's organizational structure to provide capital market participants with complete, clear and reliable information in a timely manner.

### Dialogue with investors and stock exchange analysts

- Direct meetings held in the Company's head office and representative office on an as needed basis
- Continuous electronic and telephone communication (responses to questions asked by the market)
- · General Shareholders' Meeting
- · Institutional Investor's Day
- Monitoring of the Company's shareholder structure; study of perception of KGHM among participants in the capital market
- Online questionnaire for investors on the quality of the Company's communication with investors

### Interactive communication tools

- Webpage dedicated to investors from the capital market containing key information, documents and analytical tools
- · KGHM IR mobile application
- Newsletter distributed to subscribers registered on the webpage
- Online broadcasts of conferences held to discuss the results and General Shareholders' Meetings

Publication of the financial results of KGHM Polska Miedź S.A. is accompanied by a conference, which is open to all stakeholders and broadcast live online in Polish and English.\* Conference calls and video conferences organized in response to the stakeholders' needs are another form of communication between the Company and the market.

In 2016, we organized the Institutional Investor's Day in cooperation with DM PKO BP. The event attracted great interest from fund managers. Investors had an opportunity to visit the KGHM Polska Miedź S.A. Branches and take part in meetings with management.

 $<sup>\</sup>hbox{$^*$ Video recordings of the conference are available on the Company's website (www.kghm.com) under 'Investors'.}$ 

In the past year, we launched a free mobile application "KGHM IR"\* dedicated to the investors in KGHM Polska Miedź S.A. It is an interactive tool designed to help the user better understand the changes in the Company's prices on the Warsaw Stock Exchange. The application provides all the most important information for investors – both online and offline – through a download option. The application guarantees access to newly-published press releases, current reports, financial statements and presentations of results. It also contains statistics of KGHM share listings at the WSE. There is also an option of notifying the users about newly-published content. The KGHM IR application is currently available in English only. It can be downloaded free to mobile devices through Google Play or App Store.

In 2016, the analytical reports about KGHM Polska Miedź S.A. were developed by fourteen sell-side analysts from Poland and seven from other countries.

The list of financial institutions that issue recommendations and publish reports about the shares of KGHM Polska Miedź S.A.

Based in Poland				
Deutsche Bank	Erste Group	PKO DOm Maklerski		
DM mBank	Pekao Investment Banking	DM BZ WBK		
JP Morgan	Vestor Dom Maklerski	OPOPEMA Securities		
Trigon Dom Maklerski	DM BOŚ	Société Générale		
DM Banku Handlowego	Haitong Bank			

Based abroad			
Bank of America Merrill Lynch	UBS	Morgan Stanley	
Raiffeisen	Goldman Sachs	VTB Capital	
ВМО	WOOD & Company	Eva Dimensions	

Source: KGHM

In accordance with resolution no. 6/2016 of the Annual General Meeting of KGHM Polska Miedź S.A. of June 28, 2016 on the distribution of the profit of KGHM Polska Miedź S.A. for the financial year 2015, the amount of PLN 300M was appropriated for the payment of div-

idend (PLN 1.50 per share). The date of gaining dividend rights was determined to be July 15, 2016, and payment of dividend was planned in two instalments of PLN 0.75 per share on August 18 and November 17, 2016.

<sup>\*</sup> The KGHM IR application is currently available in English only. It can be downloaded free to mobile devices through Google Play or App Store.

### Corporate governance

Symbol: KGH ISIN: PLKGHM000017	unit	2016	2015	2014
	PLN M	300	800	1 000
Dividend paid in the financial year from prior year profit Dividend rate*	PLN/share	1.5	4.00	5.00
	%	1.6	6.3	4.6

<sup>\*</sup> Dividend per share paid in a given financial year divided by the last share price in the financial year Source: KGHM

The recommendation to pay the dividend was based on the KGHM Polska Miedź S.A. Dividend Policy, which was adopted by the Company's Management Board on January 26, 2015. The Dividend Policy is one of the tools aimed at ensuring the balance between the amount of dividends paid and the opportunities for effective investment of the funds generated by the Company.

The Dividend Policy assumes that the Management Board will recommend allocation of up to one-third of the net profit of KGHM Polska Miedź S.A. for the pre-

vious financial year as a dividend, taking into account the current and anticipated financial situation of the Company and the Group. In particular, in making its recommendation the Management Board will take into account the Company's anticipated capital requirements for implementing its development program and a safe debt level for the Group.

The final decision regarding the amount of dividends to be paid is made by the General Meeting of KGHM Polska Miedź S.A.

### Information about the Company's ownership structure and issued shares

The shareholders which as at December 31, 2016 held shares carrying 5% or more of the total number of votes at the General Meeting of KGHM Polska Miedź S.A.

were the State Treasury and Nationale Nederlanden Open-Ended Pension Fund (OFE).

Shareholder	Number of shares/votes	% of the share capital/ total number of votes
The State Treasury*	63,589,900	31.79%
Nationale Nederlanden OFE**	10,104,354	5.05%
Other shareholders	126,305,746	63.16%
Total	200,000,000	100.00%

<sup>\*</sup> Based on the notification of January 12, 2010 received by the Company

Other shareholders, whose total ownership of the share capital and share in the total number of votes amounts to 63.16%, are mainly institutional investors,

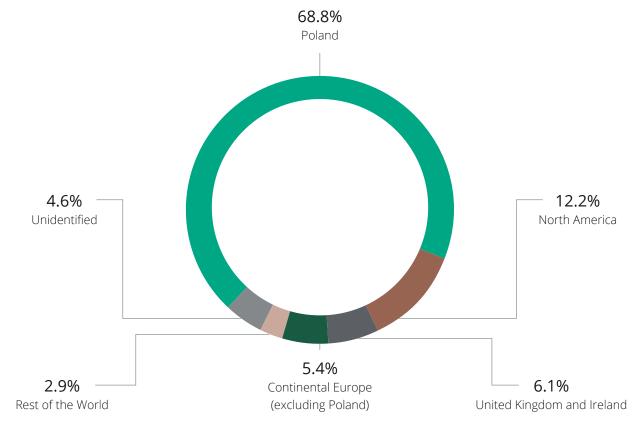
both domestic and international.

The geographic distribution of the Company's share-holder structure is presented below. The data is based on research into the Company's shareholder structure performed in 2016.

Source: KGHM

<sup>\*\*</sup> Based on the notification of August 18, 2016 received by the Company

### Geographic structure of KGHM Polska Miedź S.A. shareholders



Source: KGHM

The Company does not hold any treasury shares.

The Company's Management Board does not know of any agreements which could result in future changes in the proportion of shares held by the existing shareholders. In accordance with the knowledge of KGHM Polska Miedź S.A., as at December 31, 2016 none of the Management Board members held any shares of KGHM Polska Miedź S.A. or any share options.

# KGHM Polska Miedź S.A. shares owned by Supervisory Board Members of KGHM Polska Miedź S.A. as at December 31, 2016

Name	Position/function	Number of shares as at December 31, 2016	nominal value of shares (PLN)
Józef Czyczerski	Supervisory Board Member	10	100
Leszek Hajdacki	Supervisory Board Member	1	10

Source: KGHM

In accordance with the knowledge of KGHM Polska Miedź S.A., the other Supervisory Board members did not hold any shares of KGHM Polska Miedź S.A. or any share options as at that date.

According to the Company's knowledge, as at Decem-

ber 31, 2016 the Management Board and the Supervisory Board members did not hold any shares in the related entities of KGHM Polska Miedź S.A.

The Company did not have an employee share program in place in 2016.



# Amount of key issues

This Integrated Report for 2016 contains data and indicators relating to the following companies: KGHM Polska Miedź S.A., KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M.

The Report for 2016 has been prepared in accordance with the guidelines of the Global Reporting Initiative (GRI), version GRI4, core option. The KGHM Group reporting process is performed on an annual basis. In 2016, there were no significant changes in the structure, form of ownership, or value chain of the Company. The document has not been subjected to external evaluation.

In accordance with the reporting duties of KGHM Polska Miedź S.A. and the good market practices of mining companies, corporate governance is presented for the Parent Company only.

### Reporting methodology

In accordance with the guidelines of the International Integrated Reporting Council (IIRC) and the Global Reporting Initiative (GRI G4), the work on drafting the Report was divided into three stages:

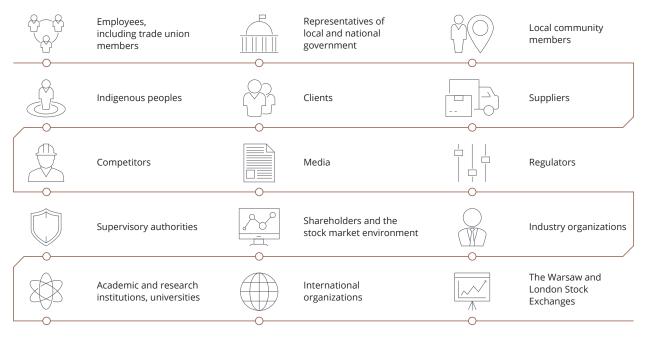
**Stage 1.** Identification of business and sustainable development issues relevant for the Company.

**Stage 2.** Prioritization of identified issues in terms of their importance.

**Stage 3.** Validation workshop attended by management members.

During the first two stages, documents, publications and press releases concerning the KGHM Group companies and the mining industry were analysed, including competitors' reports. A chart of KGHM Polska Miedź S.A. and KGHM INTERNATIONAL LTD. stakeholders was created and the expected scope of the Report was determined. Interviews were conducted with management and senior management of the Group.

### KGHM Group Stakeholders



Source: KGHM

### Materiality of key issues



### Issues:

- Copper and silver resource levels, the outlook for mining operations
- 2. Resource base development
- 3. Net Debt/EBITDA compared with competitors
- 4. Value creation model
- 5. KGHM vs competitors
- 6. Production efficiency improvement
- 7. Capital expenditure projects
- 8. Securing funds for capital expenditure projects
- Attempts at reducing operating expenses (C1 cost)
- 10. Indirect economic impact
- 11. Ensuring the Company's financial stability
- 12. Implementing new technologies
- 13. Research and development activities
- 14. Management of corporate social responsibility/ Sustainable development
- 15. KGHM's impact on the environment
- 16. Relationships with local communities
- Reputational risks associated with KGHM operations
- 18. Building customer relations
- 19. Improvements in procurement and selling practices

- 20. Values and transparency of operations
- 21. Risk management
- 22. Corporate governance
- 23. KGHM priorities in respect of dividend policy
- 24. Anti-corruption activities
- 25. Observing human rights
- 26. Key stakeholders and relationships with them
- 27. Health and safety at work
- 28. Management efficiency improvement
- 29. Human capital quality
- 30. Training and education
- 31. Diversity and equal opportunities
- 32. Trade union relations
- 33. Environmental protection activities
- 34. Approach to reducing energy consumption
- 35. Approach to reducing water consumption
- 36. Emissions, liquid and solid waste
- 37. Compliance with regulations
- 38. Management of materials and their quality
- 39. Readiness for accidents and environmental hazards
- 40. Supplier relations management, evaluation of suppliers

# The measures taken led to the identification of the key issues for KGHM Polska Miedź S.A. Group, which include:

- the Company's strategy and business model, taking into account the creation of value and building trust among stakeholders (section 2);
- treating the employees' safety as a priority (section 3);
- stable financial results and production performance in 2016 (section 5);
- · creating value human capital, intellectual capital, social capital and environmental capital (section 6);
- · creating corporate culture with a particular focus on high management standards (section 7).

In addition, in our report we emphasized actions aimed at improving cost efficiency, the highest occupational health and safety and environmental protection standards, as well as our involvement in innovation in the broad sense, concerning both our employees and the technological solutions applied. We identified any significant changes that occurred in the reported period with respect to the size, structure, form of ownership or value chain. We included in the Report entities

covered by the consolidated financial statements and we identified significant aspects of the KGHM Group's social impact.

The final identification of issues relevant to the KGHM Group was performed during the workshop attended by management members, when the final scope of reporting in areas that are important from the point of view of the KGHM Group's business objectives and sustainable development were determined.

### Additional information about approach to data consolidation and aspect boundaries

### Approach to data consolidation

### G4-EN8 i G4-EN22

KGHM INTERNATIONAL LTD. and KGHM Polska Miedź S.A.: To compare the total volume of water consumed between the companies, data on the volumes of water withdrawn and discharged to the environment by KGHM INTERNATIONAL LTD. and KGHM Polska Miedź S.A. is reported. For KGHM, water consumption includes the total volume of water used from various

sources, i.e. surface water, ground water, rainwater, municipal water supplies and sea water, and the total volume of treated and untreated water discharges. It includes the discharges of clean water pumped from a limestone aquifer by the Robinson mine (this water is used by the local municipality). All water used by KGHM Polska Miedź S.A. is drawn from the rock mass.

### Aspect boundaries

KGHM INTERNATIONAL LTD.: All plants that were at the production stage in 2016 were included in the calculation of the total volume of water consumed, i.e. the mines: Robinson, Morrison, McCreedy, Podolsky, S.C.M. Franke and Sierra Gorda S.C.M. KGHM Polska Miedź S.A.: All plants that were at the

production stage in 2016 were included in the calculation of the total volume of water consumed, i.e. the underground mines: ZG Lubin, ZG Polkowice-Sieroszowice, ZG Rudna; the copper smelters: HM Legnica, HM Głogów I and HM Głogów II; and the wire rod plant: HM Cedynia.

### Approach to data consolidation

### G4-EN3, G4-EN5, G4-EN15, G4-EN18, G4-EN21

KGHM INTERNATIONAL LTD.: In 2016 the financial consolidation approach was selected. The reported values are therefore consistent with our interest in the assets (KGHM INTERNATIONAL LTD. owns 55% of the shares in the Sierra Gorda mine and the remaining 45% are owned by Sumitomo Metal Mining Co. Ltd. and Sumitomo Corporation). The report presents 100% energy consumption and emissions for all assets over which the Company had operational control.

The emissions were calculated based on actual fuel and material usage in the reporting year and the appropriate emission factor or carbon content mass balance. The emission factors used were provided by Environment Canada. The energy consumption values were developed using fuel usage information and the energy conversion factors\*. KGHM INTERNATIONAL LTD. does not currently have a policy in place for contractor energy usage on site. A small percentage of the total emissions may have been associated with contractor work performed on our properties.

KGHM Polska Miedź S.A.: to determine the emissions related to the consumption of electricity purchased centrally by the Company from suppliers other than ENERGETYKA, the weighted average  $\mathrm{CO}_2$  emission indicator for the purchased energy basket was used. The indicator was determined based on the shares of the individual suppliers in the total amount of energy purchased and  $\mathrm{CO}_2$  emission indicators published by these suppliers. To determine the emission volumes for energy of unknown origin, the reference emis-

sion indicator for the Polish power sector designated by KOBiZE based on the 2008-2011 data was used. Direct emissions of carbon dioxide were established in accordance with Commission Regulation (EU) no 601/2013 of June 21, 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council (OI.EU.L.2012.181.30). To determine the process emissions, the mass balance approach was used. Annual emissions of CO2 were determined based on the annual consumption of individual raw materials and the content of carbon in the raw materials consumed. In the case of copper smelters in Poland: Legnica, Głogów I, Głogów II and Legnica, participating in the trading scheme for greenhouse gas emissions, CO<sub>2</sub> emissions were determined in accordance with the methodologies set out in the approved emission monitoring plans, based on data collected in the emission monitoring systems. Emissions of other greenhouse gases from technological processes and the combustion of motor fuels were determined in a manner consistent with the requirements of the methodology for determining releases for reporting to the National Pollutant Release and Transfer Register (KRUiTZ), generally in line with the methodology and on the basis of indicators published by the IPCC. For the purpose of annual reporting to the Polish Central Statistical Office (GUS) for 2015 (G-02b, G-03) data obtained from KGHM branches was used.

### Aspect boundaries

KGHM INTERNATIONAL LTD.: All plants that were at the production stage in 2016 were included in the calculation of energy consumption, greenhouse gas emissions and other significant emissions. These include the following mines: Carlota, Robinson, Morrison, McCreedy, S.C.M. Franke and Sierra Gorda S.C.M. Although the Ajax project in Canada is not operational, the wind erosion affecting its historical waste storage reservoir was also taken into account in the calculation

of the EN21 indicator (NOx, SOx, and other significant air emissions). KGHM Polska Miedź S.A.: All plants that were in the production stage in 2016 were included in the calculations of energy consumption, greenhouse gas emissions and other significant emissions. These include the underground mines: ZG Lubin, ZG Polkowice-Sieroszowice, ZG Rudna; the copper smelters: Legnica, Głogów I and Głogów II; and the wire rod plant: Cedynia.

<sup>\*</sup> Taken from the Energy Statistics Handbook, Appendix A: Conversion Factors, Statistics, Canada, August 2012 http://www.statcan.gc.ca/pub/57-601-x/2012001/appendix-%20appendice1-eng.html

# GRI Content Index





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### Specific Standard Disclosures

Aspect	Indicator code	Indicator name	KGHM Polska Miedź S.A. on page	KGHM INTERNATIONAL LTD. on page
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Biodiversity	G4-EN12	Description of significant impact of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	209	209
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Occupational health and safety	G4-LA6	Rates of injury, work-place related illnesses, lost days, and absenteeism, as well as number of work-related fatalities by region and gender	63	-
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	Social indicators: Community					
Local community	G4-SO1	Percentage of operations, with regard to social engagement, impact assessments and development programs	132	132		
Local community	G4-MM6	Number and description of material disputes over land use, customary rights of local communities and indigenous population	132	132		
Local community	G4-MM9	Places of business, in which there was displacement, the number of displaced households and how this process has affected living situations	132	132		
Anti-corruption	G4-SO3	Percentage and total number of business units analyzed for corruption-related risks and the risks identified	125	-		
Anti-corruption	G4-SO5	Confirmed incidents of corruption and actions taken in response	125	-		
Anti-corruption	G4-SO6	Total monetary value of financial and in-kind political contributions made directly and indirectly by the organization by country	-	204		
Violations of competition rules	G4-S07	Total number of legal actions taken against the organization relating to anti-competitive behavior, antitrust violations and their outcomes	115	-		
Compliance with regulations	G4-SO8	Monetary value of fines and total number of nonmonetary sanctions for non-compliance with laws and regulations	115	204		
Product liability						
Product and service labelling	G4-PR5	Client satisfaction survey results	109	109		
Marketing communications	G4-PR7	Total incidents of non-compliance with regulations and voluntary codes relating to marketing communications, including advertising, promotion and sponsorship	115	-		



# Separate financial statemens

The accompanying condensed financial statements of KGHM Polska Miedź S.A. with its registered office in Lubin have been prepared by the Company's Management Board on the basis of the audited complete annual financial statements for 2016 prepared in accordance with the International Financial Reporting Standards adopted by the European Union. In order to fully understand the economic and financial situa-

tion of the Company and its financial results for the period from January 1, 2016 to December 31, 2016, you should read the complete financial statements of the Company, along with the audit opinion and report of the registered auditor on these financial statements (the full text of the financial statements is available on www.kghm.com).

# **AUDITOR'S OPINION**

# To the Shareholders and Supervisory Board of KGHM Polska Miedź S.A.

# Auditor's report

We have audited the attached financial statements of KGHM Polska Miedź S.A. with its registered office in Lubin, ul. Marii Skłodowskiej-Curie 48 (hereinafter: the "Company"), including statement of financial position prepared as at 31 December 2016, statement of profit or loss, statement of comprehensive income, statement of changes in equity, statement of cash flows for the financial year from 1 January 2016 to 31 December 2016 and notes comprising a summary of significant accounting policies and other explanatory information.

Responsibility of the Company's manager and those charged with governance for the financial statements

The Management Board of the Company is responsible for the preparation of the financial statements, based on properly kept accounting records, and their fair presentation in accordance with the International Accounting Standards, International Financial Reporting Standards, related interpretations published as European Commission regulations and applicable laws. It is also obliged to ensure internal control as it determines necessary for the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Under the Accounting Act of 29 September 1994 (Journal of Laws of 2016 item 1047 as amended), hereinafter referred to as the "Accounting Act" the Management Board of the Company and members of its Supervisory Board are obliged to ensure that the financial statements meet the requirements of the Accounting Act.

Auditor's responsibility

Our responsibility is to express an opinion on these financial statements based on our audit works.

We conducted our audit in accordance with Section 7 of the Accounting Act and the National Auditing Standards in line with the wording of the International Standards on Auditing adopted by Resolution No. 2783/52/2015 of the National Council of Statutory Auditors of 10 February 2015 as amended. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the Management Board of the Company are properly kept,

as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion on financial statements

In our opinion the attached financial statements:

give a true and fair view of the economic and financial position of the Company as at 31 December 2016 and its financial performance for the financial year from 1 January 2016 to 31 December 2016 in accordance with the International Accounting Standards, International Financial Reporting Standards, related interpretations published as European

Commission regulations and the adopted accounting principles (policies),

- have been prepared based on properly kept accounting books,
- comply, with respect to their form and content, with the applicable provisions of law and the articles of association of the Company.

The financial statements of the Company for the prior financial year ended 31 December 2015 were audited by another certified auditor who issued an opinion on those financial statements on 15 March 2016.

# Report on other legal and regulatory requirements

Opinion on the report on the activities

We do not express an opinion on the report on the activities.

It is the responsibility of the Management Board of the Company to prepare the report on the activities in accordance with the Accounting Act and other applicable laws. Moreover, the Management Board of the Company and members of the Supervisory Board are obliged to ensure that the financial statements and the report on the activities meet the requirements of the Accounting Act.

When auditing the financial statements we were obliged to examine the report on the activities and indicate whether the information contained therein complies with Article 49 of the Accounting Act and the Ordinance of the Minister of Finance of 19 February 2009 on current and periodic information published by issuers of securities and the rules of equal treatment of the information required by the laws of non-member states (Journal of Laws of 2014 item 133 as amended) and is consistent with underlying information disclosed in the attached financial statements. Additionally, it was our responsibility to indicate whether we have detected any material misstatement in the report on the activities based on our knowledge of the Company and its business environment obtained in the course of the audit.

In our opinion, the information contained in the report on the activities complies with Article 49 of the Accounting Act and the Ordinance of the Minister of Finance of 19 February 2009 on current and periodic information published by issuers of securities and the

rules of equal treatment of the information required by the laws of non-member states (Journal of Laws of 2014 item 133 as amended) and is consistent with underlying information disclosed in the attached financial statements. Moreover, based on our knowledge of the Company and its business environment obtained in the course of the audit, we have not detected any material misstatements in the report on the activities.

Statement of compliance with corporate governance principles

In relation to our audit of the financial statements, it was our responsibility to examine the Company's statement of compliance with corporate governance principles, which constitutes a separate part of the report on the activities. In our opinion, the Company's statement provides all information required by the secondary legislation issued under Article 60.2 of the Act on public offering, conditions governing the introduction of financial instruments to organized trading, and public companies of 29 July 2005 (Journal of Laws of 2016 item 1639 as amended) and regulations issued under Article 61 thereof. The information is compliant with the applicable laws and information presented in the financial statements.

Requirements of the Energy Law – regulatory financial information

Regulatory financial information presented in note 12.12, covering the statement of financial position and statement of profit or loss prepared separately for each type of business activity in the distribution of electricity, distribution of gas and gas trading, as well as the appropriate basis for the preparation of

this information and rules of allocation of assets, liabilities, costs and revenues for each of these activities has been prepared by the Management Board in order to meet the requirements of Article 44 of the Act dated 10 April 1997 of the Energy Law (Journal of Laws of 2012 item 1059 as amended – hereinafter referred to as "Energy Law") (the "Act"), including assurance of equal treatment of customers and the elimination of cross-subsidization between those activities.

The scope of the regulatory financial information has been determined in the Act. Our audit did not include the assessment of the adequacy of the information required by the Act from the point of view of preparing the regulatory financial information, including the assurance of equal treatment of customers and the elimination of cross-subsidization between those activities.

In our opinion, the Company's regulatory financial information has been prepared, in all material respects, in accordance with the basis of preparation specified in note 12.12 and meets the requirements of Article 44.2 of the Act.

### Adrian Karaś

Key certified auditor conducting the audit No. 12194

On behalf of Deloitte Polska Spółka z ograniczoną odpowiedzialnością Sp. k. – entity authorized to audit financial statements entered under number 73 on the list kept by the National Council of Statutory Auditors:

Adrian Karaś – Vice-President of the Management Board of Deloitte Polska Sp. z o.o. – which is the General Partner of Deloitte Polska Spółka z ograniczoną odpowiedzialnością Sp. k.

Warsaw, 15 March 2017

# Statement of profit or loss

	MU	JSD	M PLN	
	2016*	2015**	2016	2015
Sales revenue	\$3,615	\$4,087	15,112	15,939
Cost of sales	(\$2,782)	(\$3,028)	(11,630)	(11,809)
Gross profit	\$833	\$1,059	3,482	4,130
Selling costs and administrative expenses	(\$212)	(\$217)	(887)	(846)
Profit on sales	\$621	\$842	2,595	3,284
Other operating income/(costs)	(\$1,299)	(\$1,298)	(5,429)	(5,064)
Finance costs	(\$129)	(\$41)	(541)	(158)
Loss before income tax	(\$807)	(\$497)	(3,375)	(1,938)
Income tax expense	(\$170)	(\$218)	(710)	(850)
LOSS FOR THE PERIOD	(\$977)	(\$715)	(4,085)	(2,788)
Weighted average number of ordinary shares (million)	\$200	\$200	200	200
Basic/diluted earnings per share (in PLN)	(\$4.89)	(\$3.57)	(20.42)	(13.94)

# Statement of comprehensive income

	M USD		M PLN	
	2016*	2015**	2016	2015
Loss for the period	(\$977)	(\$715)	(4,085)	(2,788)
Measurement of hedging instruments net of the tax effect	(\$32)	(\$93)	(134)	(362)
Measurement of available-for-sale financial assets net of the tax effect	\$10	(\$27)	41	(107)
Other comprehensive income which will be reclassified to profit or loss	(\$22)	(\$120)	(93)	(469)
Actuarial gains net of the tax effect	\$24	\$15	99	59
Other comprehensive income, which will not be reclassified to profit or loss	\$24	\$15	99	59
Total other comprehensive net income	\$1	(\$105)	6	( 410)
Total comprehensive income	(\$976)	(\$820)	(4,079)	(3,198)

<sup>\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 30.12.2016: 1 USD/4.18 PLN. They were not audited by Independent Registered Auditor

<sup>\*\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 31.12.2015; 1 USD/3.90 PLN. They were not audited by Independent Registered Auditor

# Statement of cash flows

	М	USD	M PLN	
	2016*	2015**	2016	2015
CASH FLOW FROM OPERATI	NG ACTIVITIES			
Loss before income tax	(\$807)	(\$497)	(3,375)	(1,938)
Depreciation/amortisation recognised in profit or loss	\$229	\$224	956	875
Interest and other costs of borrowings	\$31	\$22	128	85
Impairment losses on non-current assets	\$1,483	\$1,352	6,197	5,272
Other adjustments to profit before income tax	(\$46)	(\$110)	(193)	(430)
Exclusions of income and costs, total	\$1,696	\$1,488	7,088	5,802
Income tax paid	(\$112)	(\$226)	(468)	(880)
Changes in working capital	\$84	\$76	352	295
Net cash generated from operating activities	\$861	\$841	3,597	3,279
CASH FLOW FROM INVESTI	NG ACTIVITIES			
Expenditures on mining and metallurgical assets	(\$618)	(\$626)	(2,585)	(2,442)
Expenditures on other property, plant and equipment and intangible assets	(\$5)	(\$10)	(19)	(39)
· Loans granted	(\$200)	(\$1,088)	(834)	(4,245)
· Other expenses	(\$20)	(\$50)	(85)	(196)
Total expenses	(\$843)	(\$1,775)	(3,523)	(6,922)
Proceeds	\$8	\$13	33	50
Net cash used in investing activities	(\$835)	(\$1,762)	(3,490)	(6,872)
CASH FLOW FROM FINANCII	NG ACTIVITIES			
· Proceeds from borrowings	\$765	\$1,271	3,198	4,956
· Other proceeds	\$2	-	8	-
Total proceeds	\$767	\$1,271	3,206	4,956
· Repayments of borrowings	(\$622)	(\$96)	(2,601)	(375)
· Dividends paid	(\$72)	(\$205)	(300)	(800)
· Interest paid and other costs of borrowings	(\$28)	(\$19)	(119)	(75)
· Other payments	-	(\$6)	-	(23)
Total expenses	(\$722)	(\$326)	(3,020)	(1,273)
Net cash generated from financing activities	\$44	\$944	186	3,683

Exchange gains/(losses) on cash and cash equivalents  Cash and cash equivalents at end of the period	\$7	(\$4)	31	(17)
Cash and cash equivalents at beginning of the period	\$38	\$22	158	85
Total net cash flow	\$70	\$23	293	90

<sup>\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 30.12.2016; 1 USD/4.18 PLN. They were not audited by Independent Registered Auditor

# Statement of financial position

	M USD		M PLN	
	2016*	2015**	2016	2015
ASSETS				
Mining and metallurgical property, plant and equipment	\$3,440	\$3,294	14,379	12,845
Mining and metallurgical intangible assets	\$121	\$139	507	541
Mining and metallurgical property, plant and equipment and intangible assets	\$3,561	\$3,432	14,886	13,386
Other property, plant and equipment	\$18	\$60	77	233
Other intangible assets	\$6	\$6	24	24
Other property, plant and equipment and intangible assets	\$24	\$66	101	257
Investments in subsidiaries and joint ventures	\$479	\$1,758	2,002	6,858
· Loans granted	\$1,749	\$1,731	7,310	6,750
· Derivatives	\$57	\$30	237	117
Other financial instruments measured at fair value	\$138	\$148	576	579
Other financial assets	\$77	\$75	320	291
Financial instruments, total	\$2,020	\$1,984	8,443	7,737
Other non-financial assets	\$5	\$7	22	27
Deferred tax assets	\$33	\$36	140	141
Non-current assets	\$6,123	\$7,284	25,594	28,406
Inventories	\$652	\$667	2,726	2,601
Trade receivables	\$162	\$256	676	1,000
Tax assets	\$45	\$106	188	412

<sup>\*\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 31.12.2015: 1 USD/3.90 PLN. They were not audited by Independent Registered Auditor

Derivatives	\$17	\$2	72	6
Other assets	\$87	\$138	362	537
Cash and cash equivalents	\$115	\$41	482	158
Current assets	\$1,078	\$1,209	4,506	4,714
	\$7,201	\$8,492	30,100	33,120
EQUITY AND LIABI	ILITIES			1
Share capital	\$478	\$513	2,000	2,000
Other reserves from measurement of financial instruments	(\$47)	(\$26)	(196)	(103)
Accumulated other comprehensive income	(\$58)	(\$88)	(243)	(342)
Retained earnings	\$3,430	\$4,801	14,339	18,724
Equity	\$3,804	\$5,200	15,900	20,279
· Borrowings	\$1,537	\$1,211	6,423	4,724
· Derivatives	\$36	\$41	149	158
· Employee benefits liabilities	\$403	\$462	1,683	1,803
Provisions for decommissioning costs of mines and other technological facilities	\$182	\$224	761	873
Other liabilities	\$55	\$51	229	198
Non-current liabilities	\$2,212	\$1,989	9,245	7,756
· Borrowings	\$361	\$538	1,509	2,098
· Derivatives	\$45	\$12	189	48
· Trade payables	\$328	\$338	1,372	1,318
· Employee benefits liabilities	\$150	\$148	628	577
• Tax liabilities	\$152	\$115	636	450
· Other liabilities	\$149	\$152	621	594
Current liabilities	\$1,185	\$1,304	4,955	5,085
Non-current and current liabilities	\$3,397	\$3,293	14,200	12,841
	\$7,201	\$8,492	30,100	33,120

<sup>\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 30.12.2016: 1 USD/4.18 PLN. They were not audited by Independent Registered Audit

<sup>\*\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 31.12.2015: 1 USD/3.90 PLN. They were not audited by Independent Registered Auditor

# The condensed consolidated financial statements of the KGHM Group

The accompanying condensed consolidated financial statements of the KGHM Polska Miedź S.A. Group with its registered office in Lubin have been prepared by the Company's Management Board on the basis of the audited complete annual consolidated financial statements for 2016 prepared in accordance with the International Financial Reporting Standards adopted by the European Union. In order to fully understand

the economic and financial situation of the KGHM Polska Miedź S.A. Group and its financial results for the period from January 1, 2016 to December 31, 2016, you should read the complete consolidated financial statements of the Group, along with the audit opinion and report of the registered auditor on these financial statements (the full text of the financial statements is available on www.kghm.com).

# **AUDITOR'S OPINION**

# To the Shareholders and Supervisory Board of KGHM Polska Miedź S.A.

# Auditor's report

We have audited the attached consolidated financial statements of the KGHM Polska Miedź S.A. Capital Group (hereinafter: the "Capital Group"), for which KGHM Polska Miedź S.A. (hereinafter: the "Parent") with its registered office in Lubin, at ul. Marii Skłodowskiej-Curie 48 is the Parent. These consolidated financial statements include: the consolidated statement of financial position prepared as at 31 December 2016, consolidated statement of profit or loss, consolidated statement of comprehensive income, consolidated statement of cash flows and consolidated statement of changes in equity for the financial year from 1 January 2016 to 31 December 2016 and notes.

Responsibility of the Company's manager and those charged with governance for the financial statements

The Management Board of the Parent is responsible for the preparation of the consolidated financial statements, based on properly kept accounting records, and their fair presentation in accordance with the International Accounting Standards, International Financial Reporting Standards, related interpretations published as European Commission regulations and applicable laws. It is also obliged to ensure internal control as it determines necessary for the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Under the Accounting Act of 29 September 1994 (Journal of Laws of 2016 item 1047 as amended),

hereinafter referred to as the "Accounting Act" the Management Board of the Parent and members of its Supervisory Board are obliged to ensure that the consolidated financial statements meet the requirements of the Accounting Act.

# Auditor's responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit works.

We conducted our audit in accordance with Section 7 of the Accounting Act and the National Auditing Standards in line with the wording of the International Standards on Auditing adopted by Resolution No. 2783/52/2015 of the National Council of Statutory Auditors of 10 February 2015 as amended. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Parent's preparation and fair presentation of the con-

solidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Parent's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by Management Board of Parent, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion on consolidated financial statements

In our opinion the attached consolidated financial statements:

 give a true and fair view of the economic and financial position of the Capital Group as at 31 December 2016 and its financial performance for the financial year from 1 January 2016 to 31 December 2016 in accordance with the International Accounting Standards, International Financial Reporting Standards, related

- interpretations published as European Commission regulations and the adopted accounting principles (policies) of the Parent,
- comply, with respect to their form and content, with the provisions of law applicable to the Capital Group and the articles of association of the Parent.

The consolidated financial statements for the prior financial year ended 31 December 2015 were audited by another certified auditor who issued an opinion on those consolidated financial statements on 15 March 2016.

# Report on other legal and regulatory requirements

Opinion on the report on the activities

We do not express an opinion on the report on the activities of the Capital Group.

It is the responsibility of the Management Board of the Parent to prepare the report on the activities of the Capital Group in accordance with the Accounting Act and other applicable laws. Moreover, the Management Board of the Parent and members of the Supervisory Board are obliged to ensure that the financial statements and the report on the activities meet the requirements of the Accounting Act.

When auditing the consolidated financial statements we were obliged to examine the report on the activities and indicate whether the information contained therein complies with Article 49 of the Accounting Act and the Ordinance of the Minister of Finance of 19 February 2009 on current and periodic information published by issuers of securities and the rules of equal treatment of the information required by the laws of non-member states (Journal of Laws of 2014 item 133 as amended) and is consistent with underlying information disclosed in the attached financial statements. Additionally, it was our responsibility to indicate whether we have detected any material misstatement in the report on the activities based on our knowledge of the

Capital Group and its business environment obtained in the course of the audit.

In our opinion, the information contained in the report on the activities of the Capital Group complies with Article 49 of the Accounting Act and the Ordinance of the Minister of Finance of 19 February 2009 on current and periodic information published by issuers of securities and the rules of equal treatment of the information required by the laws of non-member states (Journal of Laws of 2014 item 133 as amended) and is consistent with underlying information disclosed in the attached financial statements. Moreover, based on our knowledge of the Capital Group and its business environment obtained in the course of the audit, we have not detected any material misstatements in the report on the activities.

Statement of compliance with corporate governance principles

In relation to our audit of the consolidated financial statements, it was our responsibility to examine the Parent's statement of compliance with corporate governance principles, which constitutes a separate part of the report on the activities of the Capital Group. In our opinion, the Parent's statement provides all information required by the secondary legislation issued

under Article 60.2 of the Act on public offering, conditions governing the introduction of financial instruments to organized trading, and public companies of 29 July 2005 (Journal of Laws of 2016 item 1639 as amended) and regulations issued under Article 61 thereof. The information is compliant with the applicable laws and information presented in the consolidated financial statements.

# Adrian Karaś

# Key certified auditor conducting the audit No. 12194

On behalf of Deloitte Polska Spółka z ograniczoną odpowiedzialnością Sp. k. – entity authorized to audit financial statements entered under number 73 on the list kept by the National Council of Statutory Auditors:

Adrian Karaś – Vice-President of the Management Board of Deloitte Polska Sp. z o.o. – which is the General Partner of Deloitte Polska Spółka z ograniczoną odpowiedzialnością Sp. k.

Warsaw, 15 March 2017

# Consolidated statement of profit or loss

	MU	JSD	M PLN	
	2016*	2015**	2016	2015
Sales revenue	\$4,583	\$5,130	19,156	20,008
Cost of sales	(\$3,646)	(\$4,656)	(15,242)	(18,159)
Gross profit	\$936	\$474	3,914	1,849
Selling costs and administrative expenses	(\$328)	(\$344)	(1,370)	(1,343)
Profit on sales	\$609	\$130	2,544	506
Share of losses of joint ventures accounted for using the equity method	(\$287)	(\$1,143)	(1,200)	(4,457)
Impairment loss on interest in a joint venture	-	(\$172)	-	( 671)
Allowance for impairment of loans granted to joint ventures	(\$1,051)	-	(4,394)	-
· Interest on loans granted to joint ventures	\$151	\$119	633	466
Profit or loss on involvement in joint ventures	(\$1,187)	(\$1,195)	(4,961)	(4,662)
Other operating income/(costs)	(\$192)	(\$169)	(802)	(660)
Finance income and (costs)	(\$139)	(\$78)	(582)	(306)
Loss before income tax	(\$909)	(\$1,313)	(3,801)	(5,122)
Income tax expense	(\$155)	\$29	( 648)	113
LOSS FOR THE PERIOD	(\$1,064)	(\$1,284)	(4,449)	(5,009)
Loss for the period attributable to:				
Shareholders of the Parent Entity	(\$1,046)	(\$1,285)	(4,371)	(5,012)
Non-controlling interest	(\$19)	\$1	(78)	3
Weighted average number of ordinary shares (million)	200	200	200	200
Basic/diluted earnings per share (in PLN)	(\$5.23)	(\$6.43)	(21.86)	(25.06)

<sup>\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 30.12.2016: 1 USD/4.18 PLN. They were not audited by Independent Registered Auditor

<sup>\*\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 31.12.2015: 1 USD/3.90 PLN. They were not audited by Independent Registered Auditor

# Consolidated statement of comprehensive income

	M USD		M PLN	
	2016*	2015**	2016	2015
Loss for the period	(\$1,064)	(\$1,284)	(4,449)	(5,009)
Measurement of hedging instruments net of the tax effect	(\$32)	(\$93)	(134)	(362)
Measurement of available-for-sale financial assets net of the tax effect	\$4	(\$20)	15	(79)
Exchange differences from translation of foreign operations statements	\$64	\$274	268	1,070
Other comprehensive income (net of the tax effect), which will be reclassified to profit or loss	\$36	161	149	629
Actuarial gains net of the tax effect	\$22	\$15	90	57
Other comprehensive income which will not be reclassified to profit or loss	\$22	\$15	90	57
Total other comprehensive net income	\$57	\$176	239	686
TOTAL COMPREHENSIVE INCOME	(\$1,007)	(\$1,108)	(4,210)	(4,323)
Total comprehensive income attributable to:				
· Shareholders of the Parent Company	(\$991)	(\$1,109)	(4,142)	(4,326)
Non-controlling interests	(\$16)	\$1	(68)	3

<sup>\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 30.12.2016: 1 USD/4.18 PLN. They were not audited by Independent Registered Auditor

# Consolidated statement of cash flows

	M USD		M PLN	
	2016*	2015**	2016	2015
CASH FLOW FROM OPERATING ACTIVITIES				
Loss before tax	(\$909)	(\$1,313)	(3,801)	(5,122)
Depreciation/amortisation recognised in profit or loss	\$406	\$498	1,698	1,943
Share of losses of joint ventures accounted for using the equity method	\$287	\$1,143	1,200	4,457
Impairment loss on interest in a joint venture	-	\$172	-	671
Allowance for impairment of loans granted to joint ventures	\$1,051	-	4,394	-

<sup>\*\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 31.12.2015: 1 USD/3.90 PLN. They were not audited by Independent Registered Auditor

Interest on loans granted to joint ventures	(\$151)	(\$119)	(633)	(466)
Interest and other costs of borrowings	\$36	\$52	152	201
Other impairment losses/(reversal) of impairment loss on non- current assets	\$367	\$762	1,532	2,970
Other adjustments to profit before income tax	(\$49)	(\$34)	(205)	(132)
Exclusions of income and costs, total	\$1,947	\$2,473	8,138	9,644
Income tax paid	(\$108)	(\$237)	(451)	(925)
Changes in working capital	\$78	\$145	326	566
Net cash generated from operating activities	\$1,008	\$1,067	4,212	4,163
CASH FLOW FROM INVESTING	G ACTIVITIES			
Expenditures on mining and metallurgical assets	(\$725)	(\$911)	(3,032)	(3,553)
Expenditures on other property, plant and equipment and intangible assets	(\$52)	(\$99)	(219)	(386)
Acquisition of newly-issued shares of joint ventures	(\$161)	(\$238)	(671)	(928)
· Other expenses	(\$17)	(\$29)	(72)	(114)
Total expenses	(\$956)	(\$1,277)	(3,994)	(4,981)
Proceeds	\$11	\$19	46	75
Net cash used in investing activities	\$944	(\$1,258)	(3,948)	(4,906)
CASH FLOW FROM FINANCIN	G ACTIVITIES			
Proceeds from borrowings	\$781	\$1,279	3,266	4,988
Other proceeds	\$5	\$8	21	33
Total proceeds	\$786	\$1,287	3,287	5,021
Repayments of borrowings	(\$646)	(\$794)	(2,701)	(3,096)
Dividends paid to shareholders of the Parent Entity	(\$72)	(\$205)	(300)	(800)
Interest paid and other costs of borrowings	(\$34)	(\$59)	(144)	(232)
• Other	(\$2)	(\$7)	(9)	(29)
Total expenses	(\$755)	(\$1,066)	(3,154)	(4,157)
Net cash generated from financing activities	\$32	\$222	133	864
Total net cash flows	\$95	\$31	397	121

Cash and cash equivalents at end of the period	\$206	\$118	860	461
Exchange gains/(losses) on cash and cash equivalents	\$0.5	(\$35)	2	(135)
Cash and cash equivalents at beginning of the period	\$110	\$122	461	475

<sup>\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 30.12.2016; 1 USD/4.18 PLN. They were not audited by Independent Registered Auditor

# Consolidated statement of financial position

	M USD		MF	PLN
	2016*	2015**	2016	2015
ASSETS				
Mining and metallurgical property, plant and equipment	\$3,640	\$3,660	15,217	14,273
Mining and metallurgical intangible assets	\$592	\$803	2,474	3,130
Mining and metallurgical property, plant and equipment and intangible assets	\$4,232	\$4,462	17,691	17,403
Other property, plant and equipment	\$620	\$680	2,591	2,653
Other intangible assets	\$50	\$62	208	241
Other property, plant and equipment and intangible assets	\$670	\$742	2,799	2,894
Joint ventures accounted for using the equity method	\$6	\$144	27	562
· Loans granted to joint ventures	\$1,032	\$1,924	4,313	7,504
Total involvement in joint ventures	\$1,038	\$2,068	4,340	8,066
• Derivatives	\$57	\$30	237	117
Other financial instruments measured at fair value	\$138	\$148	577	579
Other financial assets	\$222	\$188	930	735
Financial instruments, total	\$417	\$367	1,744	1,431
· Deferred tax assets	\$122	\$143	511	557
· Other assets	\$28	\$25	117	97
Non-current assets	\$6,508	\$7,807	27,202	30,448
Inventories	\$837	\$867	3,497	3,382
Trade receivables	\$309	\$395	1,292	1,541
Tax assets	\$64	\$139	267	542

<sup>\*\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 31.12.2015: 1 USD/3.90 PLN. They were not audited by Independent Registered Auditor

Derivatives	\$17	\$2	72	7
Other assets	\$60	\$98	252	383
Cash and cash equivalents	\$206	\$118	860	461
Current assets	\$1,493	\$1,619	6,240	6,316
	\$8,000	\$9,427	33,442	36,764
EQUITY AND LIABILITIE	ES			
· Share capital	\$478	\$513	2,000	2,000
Other reserves from measurement of financial instruments	(\$44)	(\$16)	(183)	(64)
Accumulated other comprehensive income	\$205	\$479	855	1,868
· Retained earnings	\$3,134	\$4,207	13,100	16,407
Equity attributable to shareholders of the Parent Entity	\$3,773	\$5,182	15,772	20,211
Equity attributable to non-controlling interest	\$33	\$52	139	203
Equity	\$3,806	\$5,234	15,911	20,414
· Borrowings	\$1,564	\$1,249	6,539	4,870
· Derivatives	\$61	\$41	256	159
· Employee benefits liabilities	\$445	\$507	1,860	1,979
Provisions for decommissioning costs of mines and other facilities	\$356	\$376	1,487	1,466
Deferred tax liabilities	\$135	\$183	563	714
· Other liabilities	\$230	\$247	960	965
Non-current liabilities	\$2,791	\$2,603	11,665	10,153
· Borrowings	\$373	\$550	1,559	2,145
· Derivatives	\$51	\$12	215	48
· Trade payables	\$343	\$364	1,433	1,418
· Employee benefits liabilities	\$188	\$195	787	760
· Tax liabilities	\$188	\$195	786	762
· Other liabilities	\$260	\$273	1,086	1,064
Current liabilities	\$1,403	\$1,589	5,866	6,197
Non-current and current liabilities	\$4,194	\$4,192	17,531	16,350
	\$8,000	\$9,427	33,442	36,764

<sup>\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 30.12.2016: 1 USD/4.18 PLN. They were not audited by Independent Registered Auditor

<sup>\*\*</sup> The USD amounts are calculated using the Polish National Bank exchange rate at 31.12.2015: 1 USD/3.90 PLN. They were not audited by Independent Registered Auditor

# Non-financial external reports



# Additional GRI indicators

We included GRI G4 indicators in sections I–VII in order to present our results in the area of social responsibility. Below we present the indicators that complement the content presented in previous sections.

# Total number of employees by employment contract, gender and region (if the Company operates abroad)

Total number of ampleyees	2016		2015	
Total number of employees	Women	Men	Women	Men
Gender	1,300	16,963	1,325	16,901
Full-time	1,294	16,956	1,321	16,886
Part-time	6	7	4	15

Number of appleuses and as wellers	20	116	2015	
Number of employees and co-workers	Women	Men	Women	Men
Specified period	70	1,419	68	1,276
Unspecified period	1,230	15,544	1,257	15,625
Employed under service contracts	24	172	32	181
Employed under specific task contracts	0	1	0	1
Employed under apprenticeship contracts	16	29	24	46

Source: KGHM

# The total monetary value of financial assistance received by the organization during the reporting period (KGHM Polska Miedź S.A.)

Total monetary value of financial assistance received by the organization from the government during the reporting period, including, as a minimum:	2016 PLN	
Subsidies	PLN 444,607	The DISIRE, IntMet projects are carried out as part of the EU Framework Program Horizon 2010

Source: KGHM

Total number and rates of new employee hires and employee turnover by age group, gender and region

1	Total number of employees (head	Number of employees		Number of new employee hires		Rate of new employee hires	
	count) by gender:	2016	2015	2016	2015	2016	2015
1	Women	1,300	1,325	63	53	4.85%	4.00%
2	Men	16,963	16,901	898	821	5.29%	4.86%
Total		18,263	18,226	961	874	5.26%	4.80%

2	Total number of employees	Number of new employee hires by age group		Rate of new employee hires	
	(head count) by age group:	2016	2015	2016	2015
1	<30	593	530	22.15%	22.22%
2	30-50	337	315	2.84%	2.56%
3	>50	31	29	0.83%	0.82%

3	Total number of employee	Number of employee turnover		Rate of employee turnover	
3	turnover (head count) by:	2016	2015	2016	2015
1	Women	88	56	6.77%	4.23%
2	Men	832	643	4.90%	4.52%
Total		920	820	5.04%	4.50%

4	Total number of employee turnover (head count) by	given age groun		Rate of emplo	oyee turnover
	age group:	2016	2015	2016	2015
1	<30	64	69	2.39%	2.89%
2	30-50	409	314	3.45%	2.55%
3	>50	447	437	12.01%	12.34%

Source: KGHM

# KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M.

Permanent	Total number of employees	Total number of new employee hires	Total number of employee turnover
Ajax	13	0	-17
Carlota	43	2	-9
Corporate	52	9	-23
DMC - Mining Services	285	106	-203
Exploration	25	0	-14
Franke	427	13	-81
RHUSA	7	0	-2
Robinson	501	41	-97
Wendover Bulk Transhipment	8	2	-2
Sierra Gorda	0	0	0
Sudbury	290	15	-55
SUM total	1,651	188	-503

Contractors	Total number of employees	Total number of new employee hires	Total number of employee turnover
Ajax	4	1	0
Carlota	1	0	0
Corporate	1	2	-1
DMC - Mining Services	1	0	-1
Exploration	0	0	0
Franke	0	0	0
RHUSA	0	0	0
Robinson	0	0	0
Wendover Bulk Transhipment	0	0	0
Sierra Gorda	0	0	0
Sudbury	2	1	-2
SUM total	9	4	0

# Return to work and retention rates after parental leave, by gender

Return to work and retention rates after		2016		2015	
NO.	parental leave, by gender	Women	Men	Women	Men
1	Number of employees that took parental leave:	69	701	73	745
2	Number of employees who returned to work after parental leave ended	36	732	38	732
3	Number of employees who returned to work after parental leave ended who were still employed twelve months after their return to work	2	731	3	731
4	Return to work rate	100%	100%	100%	100%

Source: KGHM

Total monetary value of financial and in-kind political contributions made directly and indirectly by the organization by country.

# KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M.

		2016	2015	
Indirect political contributions	CAD	2 000	27 000	Participation in annual fund raising for the liberal party

Source: KGHM

# KGHM INTERNATIONAL LTD. AND SIERRA GORDA S.C.M.

In 2016, fines amounting to USD 38,542 were imposed on the following mines: Carlota, Franke and Robinson. This is a significant decrease compared with 2015, when the combined amount of fines imposed on all KGHM INTERNATIONAL LTD. mines was USD 165,739.

Source: KGHM

# Direct and indirect energy consumption within the organization

# KGHM Polska Miedź S.A.

Total fuel consumption from non-renewable sources (own or purchased) in	Values (GJ)	Values (GJ)
joules or multiples, including fuel types used	2016	2015
Coal	2,602,503.00	3,632,848.00
Natural gas	6,256,951.00	5,936,325.00
Heating oil	296,290.00	146,027.00
Diesel oil	1,391,380.00	1,292,689.00
Total consumption	10,547,124.00	11,007,889.00
Total consumption of own or purchased electricity and heating consumption,	Values (GJ)	Values (GJ)
in joules or multiples	2016	2015
Heating (including: steam, hot water, cooling)	2,649,719.00	2,161,902.00
Energy consumption	2,649,719.00	2,161,902.00
Energy consumption	2,049,719.00	2,101,302.00
Energy Consumption	2,049,719.00	2,101,302.00
	Values (GJ)	Values (GJ)
Total sales of electricity, heating, cooling and steam in joules or multiples		

Ī	Total energy consumption by the organization, according to formula	14,075,043.00	13,079,104.00

117,739.00

905,252.00

Source: KGHM

Sales

# KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M.

Total final consumption from the required accuracy (our as purchased) in	Values (GJ)	Values (GJ)
Total fuel consumption from non-renewable sources (own or purchased) in joules or multiples, including fuel types used	2016	2015
Natural gas	80,976	120,099
Petrol	21,187	18,297
Diesel oil	4,039,370	4,503,698
Propane	19,189	20,259
Total consumption	4,160,723	4,662,353

Total consumption of own or purchased electricity and heating consumption, in	Values (GJ)	Values (GJ)
joules or multiples	2016	2015
Electricity	3,579,658	3,774,863
Total energy consumption by the organization	7,740,380	8,437,216

Foorgy intensity	Values	
Energy intensity	2016	2015
Energy intensity ratio (GJ/ tonne of processed copper ore)	0,164	0,242
Energy intensity ratio (GJ/ tonne of processed material)	0,049	0,047

Source: KGHM

# Energy consumption

# KGHM Polska Miedź S.A.

No.	Initiatives aimed at reduction of energy consumption	The amount of reductions in energy consumption of specific initiatives  2016  2015	
Redesigning and streamlining processes  Initiative/project 1		64,279	59,162

Initiative/project 2	Redesigning and streamlining processes  – Upgrading or modernizing equipment  – Changes in the habits and behavior of employees  – Changes in systems /procedure	44,148	44,148
Initiative/project 3	Redesigning and streamlining processes  - Upgrading or modernizing equipment  - Changes in the habits and behavior of employees  - Changes in systems /procedure	1,525	1,525
Total		109,952	104,835

Source: KGHM

# Direct greenhouse gas (GHG) emissions

# KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M.

		2016	2015
CO <sub>2</sub> eq	tonne	324,840	365,792

# Greenhouse gas (GHG) emissions intensity

# KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M.

	2016	2015
Kg/ tonne of processed copper ore (CO <sub>2</sub> eq)	6.87	10.47
Kg/ tonne of processed material (CO <sub>2</sub> eq)	2.06	2.05

# Emission of NOx, SOx, and other significant air emissions

# KGHM Polska Miedź S.A.

NOx, SOx, and other significant air emissions	Emissions of compounds (in mg/m³)	
NOX, SOX, and other significant air emissions	2016	2015
NOx	1,488	1,327
SOx	3,207	4,605
Dust (PM)	104	138

# Total water discharge by quality and destination.

# KGHM Polska Miedź S.A.

Destination	Volume (in m³)	
Destination	2016	2015
To ground water	230,000	240,000
To surface water (lakes, rivers etc.)	20,196,489	18,306,831
To utilities	8,499,124	7,906,556
Total water discharge	28,925,613	26,453,387

Transfers and months and	Volume (in m³)	
Treatment method	2016	2015
By the organization	20,196,489	18,546,831
By water treatment plant	8,499,124	7,906,556
Total volume of treated water discharge	28,695,613	26,453,387

# KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M.

Destination	Volume (in m³)	
Destination	2016	2015
Untreated water discharged to the natural environment	540,232	1,318,459
Treated water discharged to the natural environment	14,948	49,554
Water discharged to an external utility	634,417	586,300
Total water discharge	1,189,597	1,954,313

Source: KGHM

# Total weight of waste by type and disposal method.

# KGHM Polska Miedź S.A.

	Waste weight in 2016 [Mg]		Waste weight in 2015 [Mg]	
Total weight of hazardous and non-hazardous waste by disposal method	Non- hazardous waste	Hazardous waste	Non- hazardous waste	Hazardous waste
Recovery (including energy recovery)	20,343,010	69,105	20,100,623	139,430
Land filling	10,768,354	42,959	11,016,255	94,562
TOTAL	31,111,364	112,064	31,116,878	233,992

We also consider the fact that our operations are located in areas of high biodiversity value, such as protected areas and natural monuments. In the area of KGHM Polska Miedź S.A.'s operations, the most important of these include the Oak Alley natural monument in Nowy Dwór (the Polkowice mining area), the Uroczysko Orbiszów and Buczyna Jakubowska protected areas (the Sieroszowice deposit area), three protected land-

scape areas: Guzicki Potok, Trzebcz and Grodowiec, as well as 45 natural monuments located in the Lubin-Małomice mining area.

As far as KGHM INTERNATIONAL LTD. is concerned, none of the mines are located in a protected area or area of high biodiversity value.

The total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.

# KGHM Polska Miedź S.A.

The operations of the KGHM Polska Miedź S.A. branches do not have a material adverse effect on valuable

species or natural areas, including those covered by the Natura 2000 program.

# KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M.

NIO	No. Level of extinction risk	Species identified in the area affected by the organization	
NO.		2016	2015
1	Critically endangered	1	1
2	Endangered	6	5
3	Vulnerable	5	6
4	Near threatened	5	4
5	Least concern	194	20

# Amount of land (owned or leased, and managed for production activities or extractive use) disturbed or rehabilitated

# KGHM Polska Miedź S.A.

No.		Amount (ha)
INO.		2016
1	Total land disturbed and not yet rehabilitated (A: opening balance);	6,697.96 ha
2	Total amount of land newly disturbed within the reporting period (B);	17.12 ha
3	Total amount of land newly rehabilitated within the reporting period to the agreed end use (C);	0
4	Total land disturbed and not yet rehabilitated (D= closing balance).	6,715.09 ha

# KGHM INTERNATIONAL LTD. i Sierra Gorda S.C.M.

No.		Amount (ha)	
INO.		2016	2015
1	Total land	48,617	49,108
2	Total land disturbed before 2016	7,222	6,868
3	Total land disturbed in 2016	56	10
4	Total land rehabilitated prior to 2016	49	39

Source: KGHM

Total amounts of overburden, rock, tailings, and sludges and their associated risks

# KGHM INTERNATIONAL LTD. and Sierra Gorda S.C.M.

Total amounts of overburden, rock, tailings, and sludges (Mt)	2016	2015
Overburden	0	0
Non-mineralized rock	163	194
Leached material	4	5
Tailings	50	45
Deposits	0	0

Source: KGHM

# Glossary of terms

Barren Rock	Rock which accompanies the extraction of mineral ore and, due to its lack of minerals in sufficient quantities, is not considered as economically useful.
BAT	Best Available Technique, as defined in Directive 96/61/EC, means the most effective and advanced stage in the developments of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevend and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole.
C1 Cost	Cash cost of production of copper concentrate, which among its other uses, is used to analyze the company's competitive position in the industry, expressed in USD /lb.
Converter (blister) copper	A semi-product of the converter process.
Copper cathodes	The basic form of electrolytically-refined, the product of electrolytic copper refining.
Copper equivalent	Total volume of production of all metals translated into copper based on market prices.
Copper from purchased copper-bearing materials	Copper obtained from purchased copper-bearing materials (concentrates, scrap, blister).
Copper from own concentrates	Copper obtained from the company's own mine production.
Copper wire rod	Drawn copper rod, usually with a diameter of 6-12 mm, universally used as a starting material in the cable industry.
Deposit	Natural collection of minerals in the earth, arising as a result of various geological processes.
EBITDA	Earnings before interest, Taxes, Depreciation and Amortization.
Electrolytic copper	The product of electrolytic copper refining.
Electrolytic copper refining technology	A process involving the electrolytic refining of metal, in this case copper. The periodic removal of portions of the electrolite is required to maintain the level of contaminates at an acceptable level, which is a deciding factor in the quality of electrlytically-refined copper. The contaminated eletrolyte and slimes are used as the raw material in the recovery of some of the metals accompanying the copper, such as silver, gold, selenium and nickel.
Electrorefining	The process of electrolising dissoluble anodes which are produced from refinable alloys. During this process, which takes places under specially-designed conditions, refined metal collects on a starter sheet, while other elements remain in the electrolite in solid or liquid form.
Ethanethiol	An organic chemical compound, which may occur in the form of gas or clear liquid with a distinct odor. It is used to warn mine employees against hazards – in the event of danger it is intentionally released into the ventilation system.
Flotation (ore-processing)	A stage in the process of breaking down ore into fragments of varying composition of useful elements which exploits differences in the degree of wettability of individual mineral grains. Wellwetted minerals fall to the bottom of the flotation tank, while the poorly-wetted grains (those whose wettability decreases due to the action of so-called collecting agents, e.g. xanthates) collect at the surface of the froth created from froth-inducing agents.
Flotation tailings	Waste remaining after the ore processing process; can be utilised or stored.

Hazadrous waste	Waste that poses substantial or potential threats to public health or the environment.
нм	Copper smelter
ISO	International Organization for Standarization
LIFTR	Lost-time injury frequency rate – number of accidents per million worked hours.
Mining production	The amount of products from the phase of a mine.
Muck	Rock removed from a mine face. Contain both ore and barren rock.
Net Debt	Liabilities due to loans less cash and cash equivalents.
Non-hazardous waste	Waste that doesn't pose substantial or potential threats to public health or the environment.
OFE rod	Oxygen-free copper wire rod produced at the Cedynia wire rod plant using UPCAST technology
Ore	The naturally occuring material from which a mineral or minerals of economic value can be extracted profitably or to satisfy social or political objectives.
Open-pit	Open area (hole) left after the excavation of soil, rock and ore from the surface of the earth.
ouow	The Tailings Storage Facility
Payable copper	Copper to be paid for which is contained in solid products.
Pillar (mining)	An unremoved mass of rock in an underground mine used to support the ceiling against collapse.
PM10	Tiny particles in the air of a size less that or equal to 10 microns diameter (10 microns is equal to one hundreth part of a milimetre).
Refined production	Final products of a refining phase.
Silver smelting and electrolytic refining technology	Comprised of: batch preparation (the mixture of batch elements followed by dryling); the smelting of Dore metal and the casting of anodes (melting of the batch in Kaldo furnace to remove slag or gasify impurities followed by casting of the product [99% silver] into anodes); silver electrorefining (forming into cathodes containing a min. 99.99% Ag); melting in an electric induction furnace and the casting of refined silver into commercial form (billets or granules).
Stench gas	A gas containing Ethyl Mercaptan (Ethanethiol), a colorless organic liquid that has a strong color, is used to signal an emergency to the personnel that are underground by injecting it into the mine ventilation system.
TPM	Precious metals (gold, platinum, palladum)
Troy ounce (oz t)	A unit of measure mainly used in English-speaking countries. The troy ounce (abbreviated as oz t) is universally used in jewellery and precious metals commerce.  1 troy ounce equals 31.1035 grams.
ZWR	Ore Enrichment Plants

# Abbreviations and units used in the document

kg	kilogram (1000 grams)
t	metric tonne (1000 kilograms)
kt	thousand metric tonnes (1000 t)
ths	thousand
М	million
g/t	grams per tonne
SX-EW	Solvent Extraction Electrowinning (technology used to produce copper cathodes)
m a.s.l.	meters above sea level
m	meter
km	kilometer (1000 meters)
m²	square meter
USD	United States Dollar

Cu	copper
Au	gold
Ag	silver
Pt	platinum
Pd	palladium
Ni	nickel
Мо	molybdenum
MoS <sup>2</sup>	molybdenum disulfide
lb	pund (unit of weight)
oz t	troy ounce (unit of weight)
CIM	Canadian Institute of Mining, Metalurgy and Petroleum
M&I	Measured and indicated mineral resources



# Contact

# Correspondence should be addressed to the headquarters of the Company

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