

# Layers of possibilities



**Results of the Group  
for 2016**

*17 March 2017*

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# Introduction

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# Highlights of the year 2016 in the KGHM Polska Miedź S.A. Group

## Key events



Work on updating the strategy of KGHM Polska Miedź S.A. for the years 2017 - 2020



Start-up of the flash furnace at the Głogów I Copper Smelter and Refinery and achievement of 75% of target capacity



36 km of mine tunnels excavated in the Deep Głogów area and achievement of a 5% share by this area in total domestic extraction



Fall in the average annual prices of copper and molybdenum alongside improved economic and copper market sentiment in the fourth quarter



Dividend of PLN 300 million for 2015 and PLN 1.3 billion paid on the minerals extraction tax



Impairment testing on assets and a net write-off of PLN 5.3 billion on part of the international assets

# Summary of 2016 in the KGHM Polska Miedź S.A. Group

## Production, sales and finance



### Copper production and sales

- The lower production of electrolytic copper as compared to 2015 was mainly due to the shutdown at the Głogów I Copper Smelter and Refinery in Q3 and to the start of the new flash furnace in Q4.
- Stable production of copper in concentrate by KGHM Polska Miedź S.A. – the one-off sale in the second half offset the gap created by the lower production of electrolytic copper.
- Higher sales as compared to 2015 due to higher production by the Sierra Gorda mine.

- Sales revenue** – lower annual revenues due to a lower average copper price by over 600 USD/t (yoy). In Q4 2016, the copper price rose by nearly 400 USD/t yoy, leading to higher revenues, additionally supported by an increase in the USD/PLN exchange rate.
- EBITDA** – stable on a yearly basis, mainly thanks to continued cost discipline in KGHM Polska Miedź S.A. and higher EBITDA in the international assets – accrued impact from the increase in revenues in Q4.

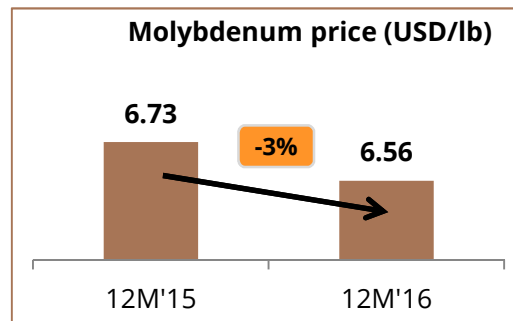
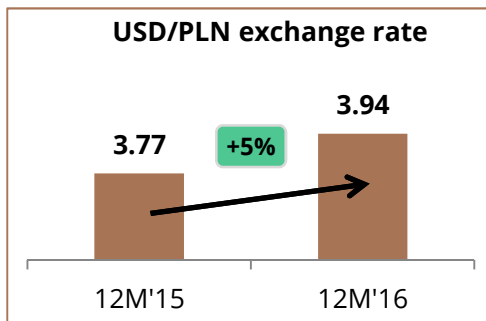
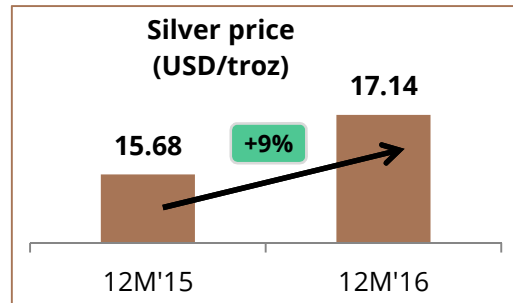
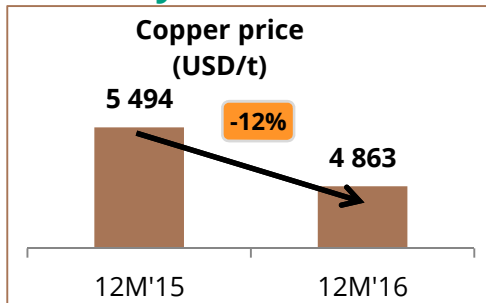
## Macroeconomic environment

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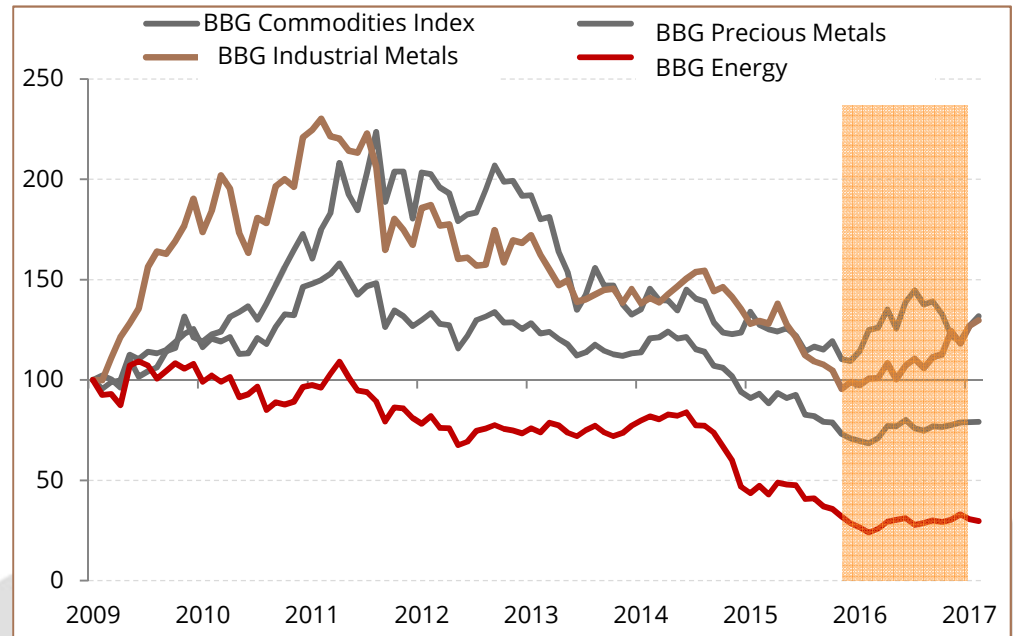
# Turning point on the commodities market – an end to the bear market in commodities, average copper price below 2015, but a significant rise in the fourth quarter.

A lower copper price alongside a weaker PLN; recovery on the silver market



Source: Thomson Reuters, KGHM Polska Miedź

Metals prices stand out well against the backdrop of the commodities market

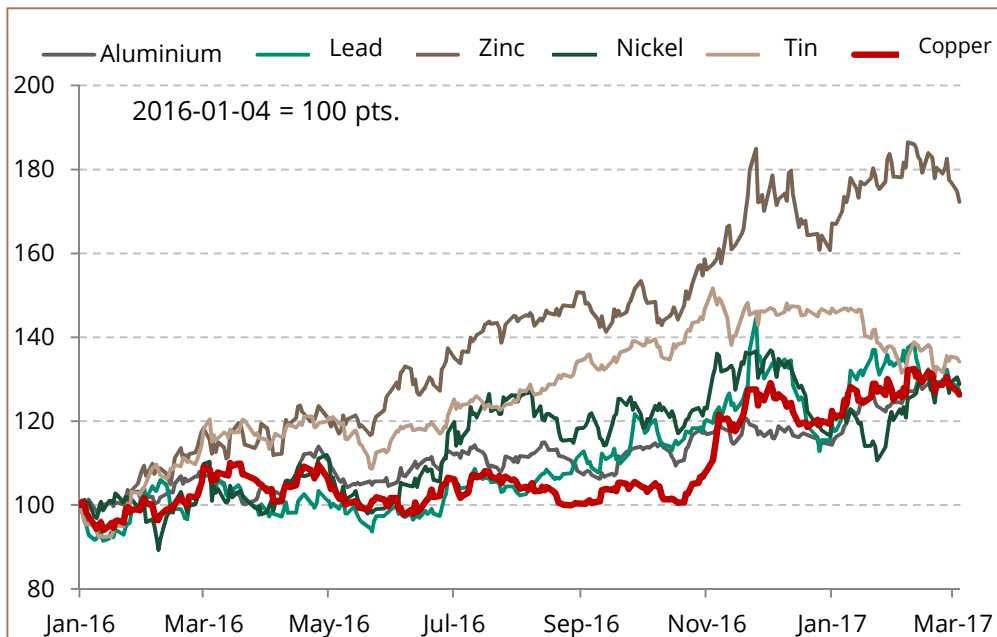


Source: Bloomberg, KGHM Polska Miedź

- Lower copper and molybdenum prices in 2016 were partially offset by weakening in local currencies versus the USD.
- Decisions by central banks, presidential elections in the USA and Brexit had a substantial impact on financial market participants. In times of uncertainty precious metals are favoured, and in 2016 these gained in value.
- Improved expectations regarding the global economy and the fundamental situation of selected commodities led to a more favourable view of the entire commodities market by investors, particularly in the second half of the year.

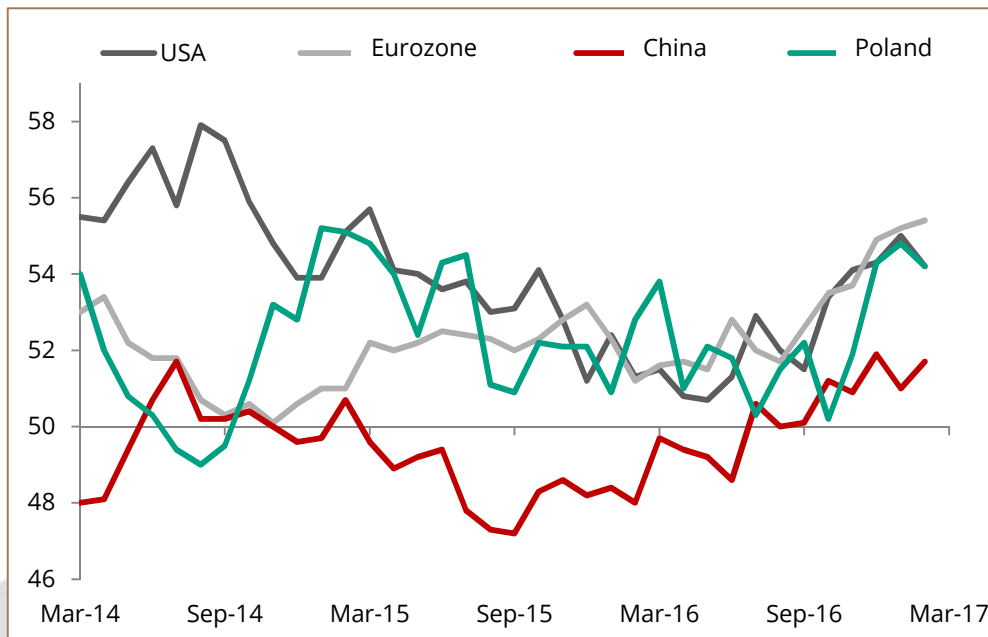
# Improved global economic outlook

## Visible improvement in copper market sentiment in the 4th quarter of 2016



Source: Bloomberg, KGHM Polska Miedź

## Industrial market indicators\* indicate economic expansion in the near term



Source: Bloomberg, KGHM Polska Miedź

- After a long period during which metals prices remained at low levels, their recovery has been mainly due to better demand sentiment in China and expected cutbacks in supply.
- Of importance for copper are the plans of the new American administration regarding reform and infrastructural investments.
- PMI indicators for individual global regions suggest that the positive economic tendencies will continue.



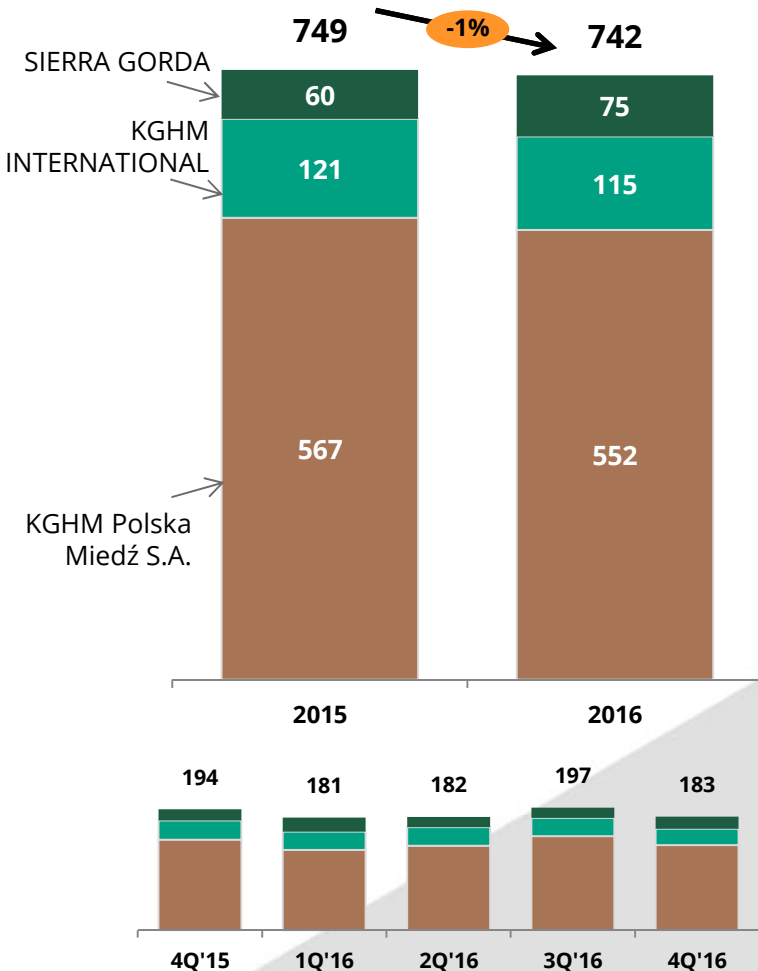


## Economic results of the KGHM Polska Miedź S.A. Group

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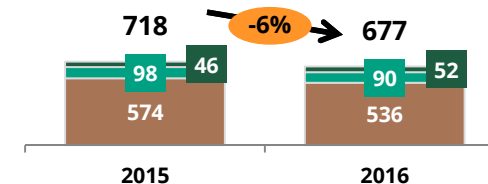
# Stable copper equivalent production by the Group despite shutdown at Głogów I due to change in technology

Production of copper equivalent from own concentrate (kt)

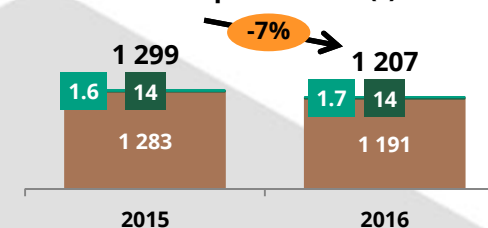


- The lower production of copper equivalent from own concentrates, payable copper and silver in KGHM Polska Miedź S.A. was due to the shutdown prior to starting up the flash furnace, while at the same time setting aside inventories of own copper concentrates.
- The significantly higher volume of precious metals (by 11%) as compared to 2015 is due to the higher processing of purchased concentrates rich in gold by KGHM Polska Miedź S.A.
- Molybdenum – the significant increase in the volume of molybdenum production is mainly due to the incomparability of reportable periods (production of this metal by Sierra Gorda was commenced in April 2015).

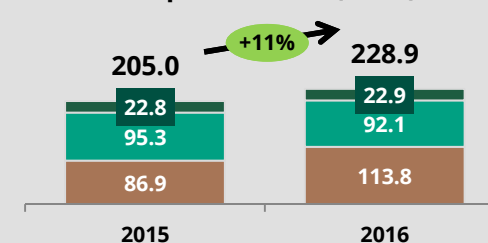
Payable copper production (kt)



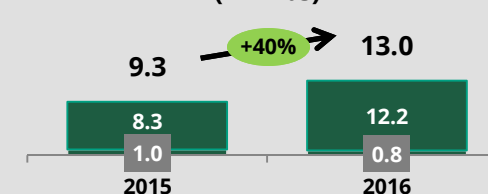
Silver production (t)



TPM production\* (koz t)



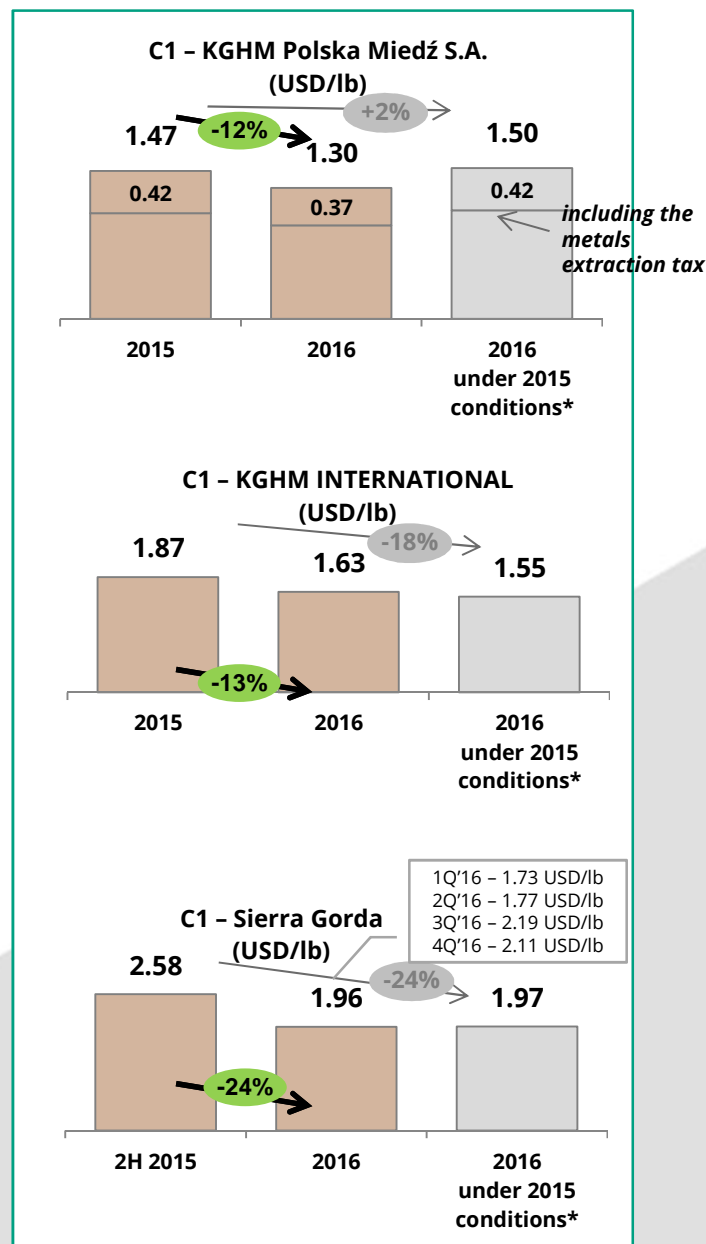
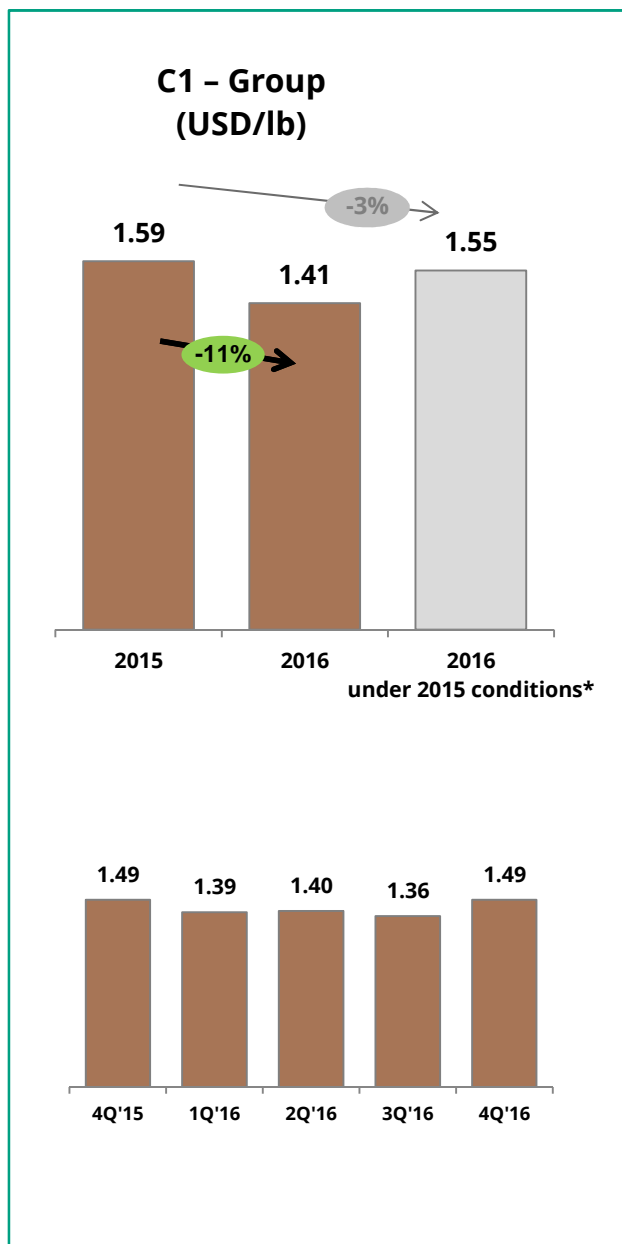
Molybdenum production (mn lbs)



Production data for the Sierra Gorda mine in 2015 is for 12 months for copper and precious metals, and the period from April to December for molybdenum

\* TPM – Total Precious Metals, comprising gold, platinum and palladium

# Decrease in C1 unit cost in the Group



- C1 cost in the Group in 2016 was lower by 11%, mainly due to an increase in the value of associated metals.

Under the metals prices and exchange rates of the same period of 2015, C1 cost would have been lower by 3%.

- The drop in C1 cash cost in KGHM Polska Miedź S.A. by 12% was mainly due to the weaker PLN as compared to the USD by 5% as well as to higher silver content in own concentrate by 4.6%.

Under the metals prices and USD exchange rates of 2015, C1 cost would have amounted to 1.50 USD/lb and would have been at a comparable level to the corresponding period of 2015.

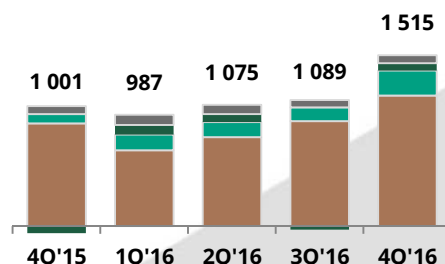
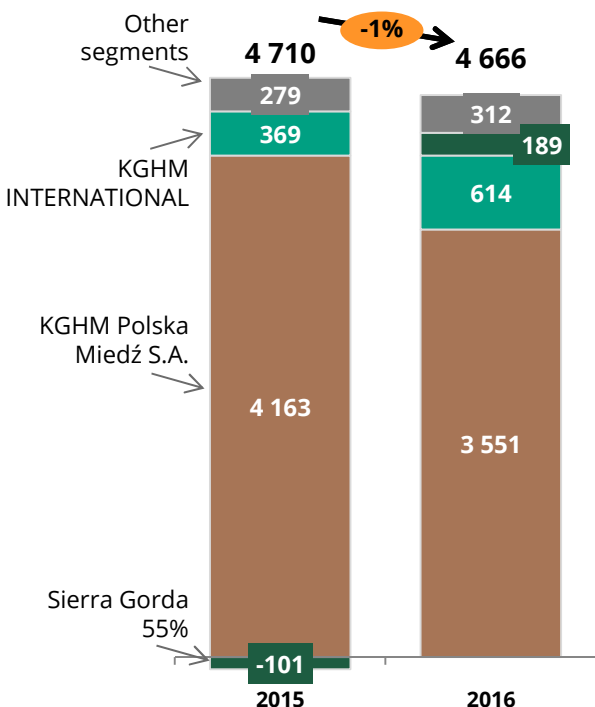
- The drop in C1 cost in KGHM INTERNATIONAL, despite the lower copper sales volume, was due to lower production costs achieved as a result of saving initiatives.

- The substantial drop in C1 cost in Sierra Gorda as compared to 2015 is due to the incomparability of periods (C1 cost in 2015 is presented for the period from the start of commercial production from July).

In the fourth quarter there was a slight drop in C1 cost as compared to the prior quarter, due to a higher copper sales volume and higher revenues from the sale of by-products, which decreases C1 cost.

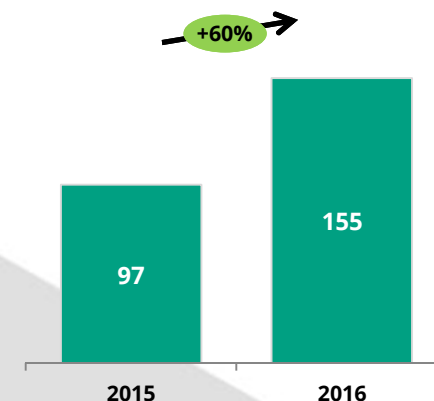
# Operating results of the Group

## Adjusted EBITDA \* (mn PLN)

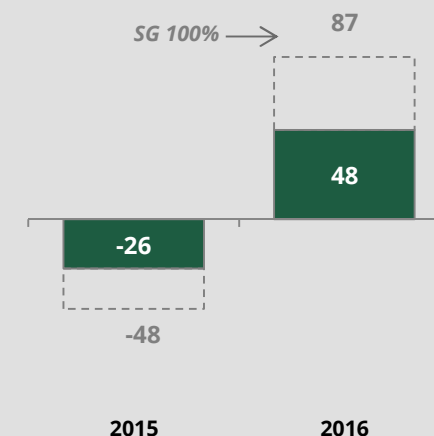


- The decrease in the Group's EBITDA by PLN 44 million was due to the lower result of KGHM Polska Miedź S.A., which was partially offset by the improved operating results of the international assets.
- KGHM Polska Miedź S.A.
  - The lower adjusted EBITDA by PLN 612 million (-15%) was mainly due to the lower sales volumes (due to the shutdown at Głogów I) and to lower copper prices, partially offset by the sale of copper concentrate and to the weakening of the PLN versus the USD which was favourable for the Company.
- KGHM International
  - EBITDA in the segment KGHM International in 2016 amounted to PLN 614 million (USD 155 million). The increase in USD terms by 60% as compared to the corresponding period in 2015 was the result of consistent cost discipline and to lower impairment of the value of copper inventories in the Carlota mine.
- Sierra Gorda (55%)
  - EBITDA for 2015 includes only the second half of 2016, as commercial production began at the end of the second quarter of 2015. In addition, in 2016 work continued on improving flotation parameters. As a result, copper recovery increased by 9% and molybdenum by 23%, which in turn increased EBITDA from a negative -PLN 101 million in 2015 to +PLN 189 million in 2016.

## Adjusted EBITDA in KGHM International (mn USD)



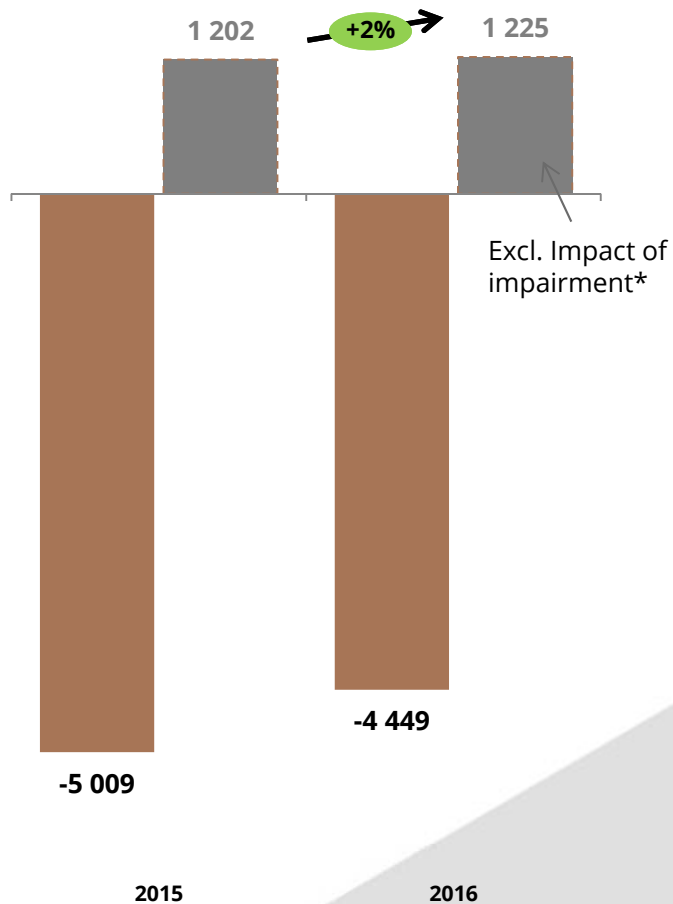
## Adjusted EBITDA in Sierra Gorda 55% (mn USD)



\* Adjusted EBITDA = EBITDA (profit/(loss) on sales + depreciation/amortisation) adjusted by impairment losses on non-current assets

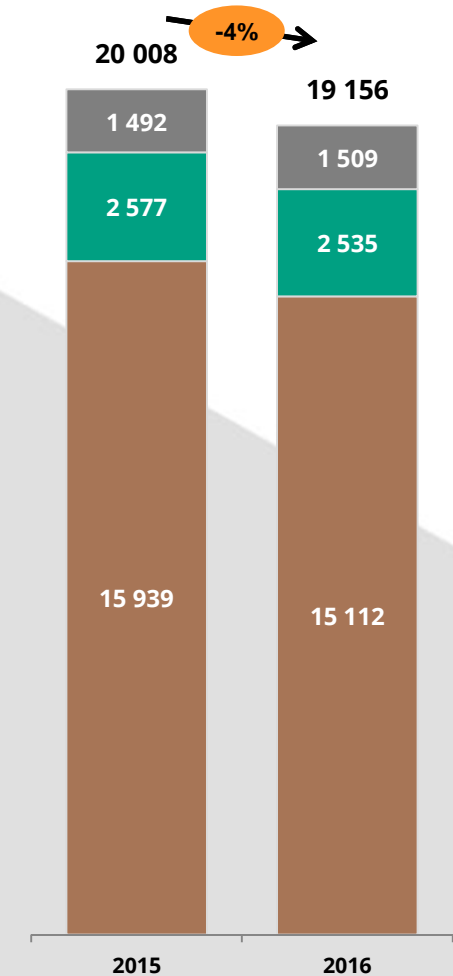
# Financial results of the Group

Profit for the period  
(mn PLN)



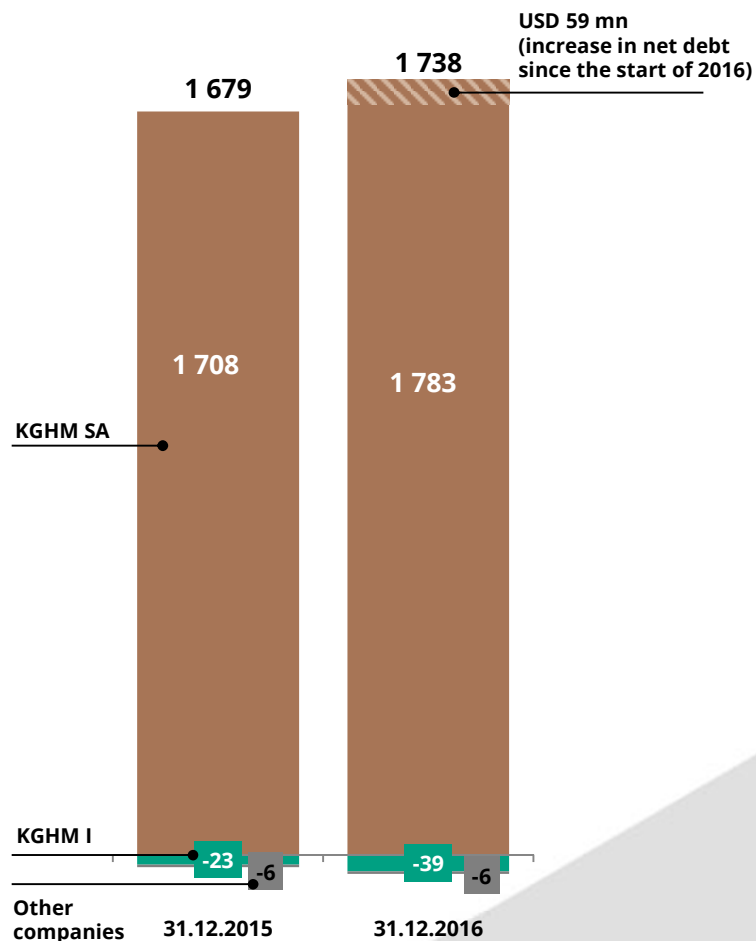
- Consolidated net result for 2016 of -PLN 4 449 million, mainly due to the impairment losses recognised on non-current assets of the Group in the total amount of PLN 5 674 million.
- After excluding the impact of impairment, the net result would have been PLN 1 225 million and in comparable conditions (after excluding impairment) would have been similar to the level of the prior year.
- Once again nearly 80% of the Group's sales revenue was generated by the segment KGHM Polska Miedź S.A.

Sales revenue  
(mn PLN)



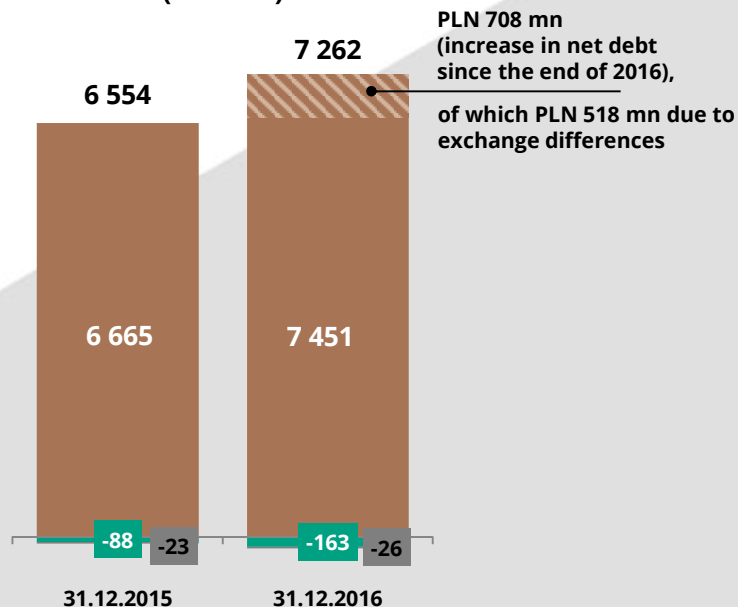
# Net debt of the KGHM Polska Miedź S.A. Group – as at end-December 2016

## KGHM Group net debt (mn USD)\*

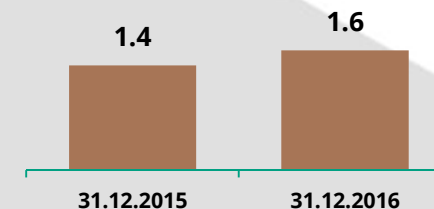


- In accordance with the financial strategy adopted by KGHM Polska Miedź S.A., the basic currency in which debt is incurred is the USD (natural hedging).
- The change in the level of debt in 2016 was mainly due to the following:
  - the minerals extraction tax,
  - financing for international development projects (mainly Sierra Gorda),
  - payment of the dividend, and
  - improved macroeconomic conditions and actions taken to reduce the level of debt.

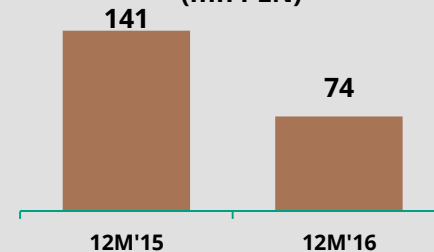
## KGHM Group net debt (mn PLN)



## Net Debt/EBITDA of the KGHM Group \*\*



## Interest on debt (mn PLN)

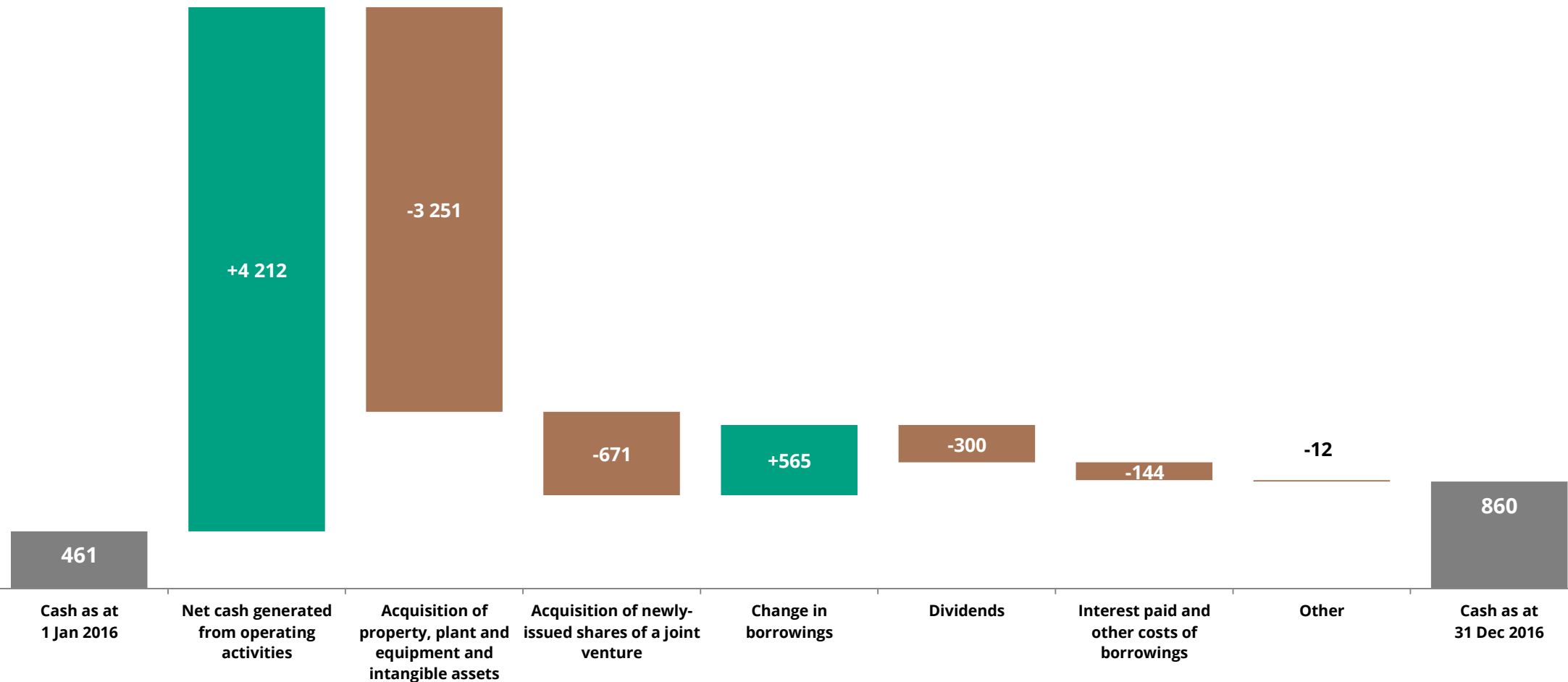


\* Net debt calculated as liabilities due to borrowings and financial leasing less free cash and cash equivalents as well as short-term investments with a maturity of up to 1 year; net debt in 2016 additionally decreased by restricted cash and cash equivalents

\*\* Adjusted EBITDA = EBITDA (profit/(loss) on sales + depreciation/amortisation) adjusted by impairment losses on non-current assets

# Cash generated from operating activities covered 96% of non-operating expenditures

*mn PLN*





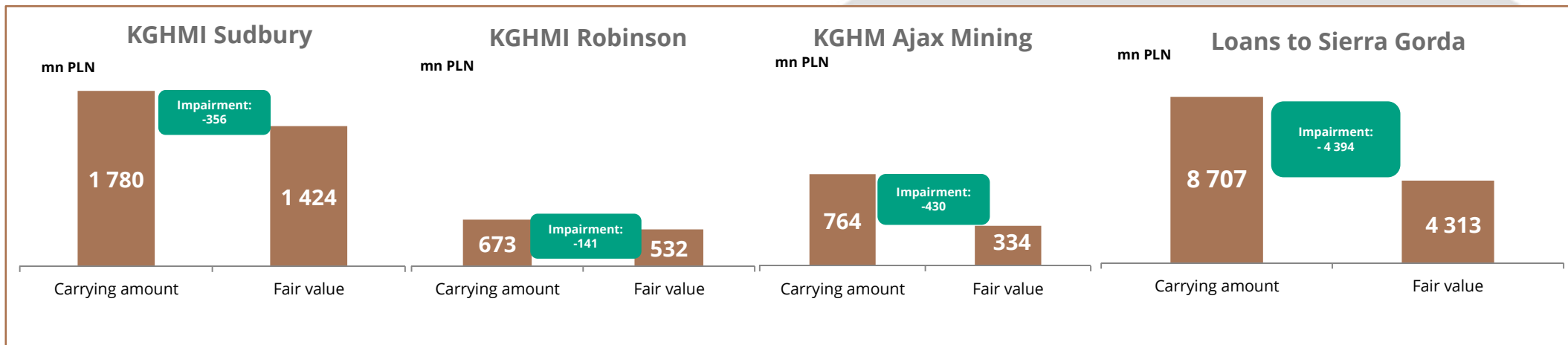
# Results of testing for the impairment of key international mining assets of the KGHM Polska Miedź S.A. Group

## Mining assets of KGHM International

- **Net impairment: PLN 927 mn (USD 222 mn)**
- The amount of the impairment is the difference between the carrying amount of the assets of KGHM International and their recoverable amount.

## Loans granted to Sierra Gorda

- **Net impairment: PLN 4 394 mn (USD 1 051 mn).**
- The amount of the impairment is the difference between the carrying amount of the loans granted to Sierra Gorda and their fair value.



## Summation

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# Main goals in 2017

1	<b>Strategy of the KGHM Group</b>	<ul style="list-style-type: none"> <li>Approval and publication of the Strategy for the years 2017-2021 – by the end of April 2017.</li> </ul>
2	<b>Production by KGHM Polska Miedź S.A.</b>	<ul style="list-style-type: none"> <li>Copper in concentrate 425 thousand tonnes</li> <li>Silver in concentrate 1 221 tonnes</li> <li>Electrolytic copper from own concentrate 401 thousand tonnes</li> <li>Electrolytic copper from purchased metal-bearing materials * 148 thousand tonnes</li> <li>Metallic silver 1 203 tonnes</li> </ul>
3	<b>Sales by KGHM Polska Miedź S.A.</b>	<ul style="list-style-type: none"> <li>Payable copper 536 thousand tonnes</li> <li>Payable silver 1 155 tonnes</li> </ul>
4	<b>C1 cost and investments by KGHM Polska Miedź S.A.</b>	<ul style="list-style-type: none"> <li>C1 cash cost of producing copper in concentrate 1.37 USD/lb</li> <li>Capital expenditures PLN 2 090 million</li> <li>Equity investments PLN 1 022 million</li> </ul>
5	<b>Liquidity</b>	<ul style="list-style-type: none"> <li>Maintain the Group's net debt to adjusted EBITDA ratio below 2.0x</li> </ul>

## Supplementary slides

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## Key international projects

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# Sierra Gorda



- Production of copper in concentrate in 2016 of approx. 94 thousand tonnes, including 25 thousand tonnes in Q4, with production of molybdenum in concentrate of approx. 22.1 million pounds, including 5.2 million pounds in Q4 (on a 100% basis).
- In 2016, Sierra Gorda, with the support of teams from the partners as well as external firms, engaged in actions aimed at improving the stability of the processing plant as well as at improving the quality and efficiency parameters of the processing plant achieved to date. The mine's long-term operating plan was also reviewed.
- In June 2016, Robert Wunder was appointed as General Manager of Sierra Gorda.
- In September 2016, Chile's Environmental Enforcement Agency (a.k.a. SMA) finally approved the compliance plan presented by Sierra Gorda S.C.M.
- Work was carried out on modernising the tailings storage facility, overseen by an international team of experts and professional engineering firms.

# Status of development projects advanced by KGHM in 2016

In 2016 independent consultants reviewed the technical and economic projects. In addition, based on updated pricing paths in KGHM, investment projects were valued as at 31 December 2016.

SG Oxide



- In 2016 analyses were conducted regarding alternative scenarios for developing the project.

Ajax



- In 2016 work continued on the process of obtaining an environmental permit and on building good relations with First nations as well as with the people of Kamloops.

Victoria



- In 2016 basic infrastructure was developed to ensure access to utilities (power, gas).



## Key domestic projects

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# Ore access program in KGHM's concessioned areas in Poland

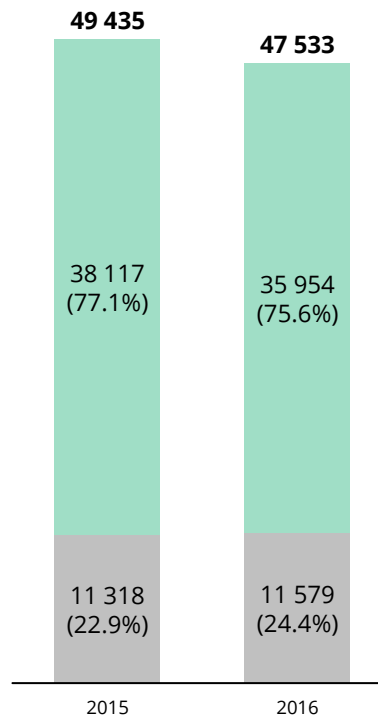
## Deep Głogów (GGP) area

### Work performed in 2016

#### Status of the Ore Access Program

- The sinking of the GG-1 (material-personnel transport and air input) shaft continues. At the end of 2016 **the shaft depth had reached 846.6 m across its full diameter** (of a target depth of 1 340 m and width of 7.5 m). In Q4 2016 the process of sealing up the shaft continued using tubing construction. Completion of construction of the shaft with infrastructure is planned at the end of 2021.
- Demand for cooled air reviewed, aimed at beginning preparatory work on designing and constructing the **centralised air cooling system at the GG-1 shaft**. This system ensures the supply of ice water to the mines at the level of 1300 m in a target amount of 30 MW.
- Work concluded on the **second stage of Constructing the Surface-based Cooling Station at the R XI shaft** with respect to the underground development of the centralized air cooling system. As a result of this work the amount of cooled air provided to the mine increased at the 1 200 m level from 15 MW to 25 MW.
- Preparatory work commenced on constructing the GG-2 shaft („Odra”)** with respect to obtaining a permit to build facilities needed to begin shaft sinking.
- Since 2006, under the OP Program **127 812 meters of tunnel** together with necessary technical infrastructure have been built.

#### Scope of development-preparatory tunneling completed (in meters)



In 2016, under the Ore Access Program the Rudna and Polkowice-Sieroszowice mines accounted for nearly **76% of the total amount of development-preparatory tunneling in the mines of KGHM**

Other development-preparatory tunneling carried out in all mines



Cooling tower and heat transfer building

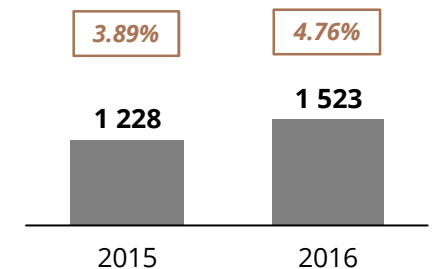


GG-1 shaft

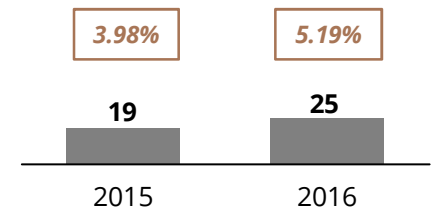
#### Share of production from Deep Głogów in total production in Poland

■ Production from GGP  
 % share by GGP

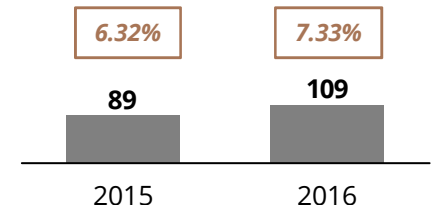
#### Ore extraction dry weight from GGP [kt]



#### Amount of Cu in ore [kt]



#### Amount of Ag in ore [k kg]



# Metallurgical Development in KGHM

## Construction of a Flash Furnace and associated infrastructure at Głogów I

### Work performed in 2016

#### Status of Pyrometallurgy Modernisation Program (PMP)

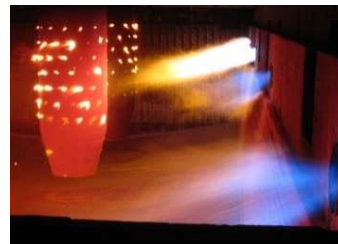
- In 2016 construction and assembly work continued related to completion of the investment.
- During the period 16 July 2016 – 15 October 2016, during the shutdown aimed at changing technology at the Głogów I smelter/refinery, all work necessary to prepare key elements of the production line for start-up was carried out:
  - **On the day the shutdown commenced, the last shaft furnace at Głogów I was extinguished** and the last matte copper was processed in the converter furnaces, thereby ending the production of crude copper by Głogów I with the old technology,
  - **On 15 October 2016 the first concentrate was fed to the Flash Furnace**, initiating the process of starting up the modernised Głogów I production line.
- Work continues on eliminating minor irregularities, optimising the settings of automated devices, security issues etc. Work continues which may be carried out alongside the work of the production line.

#### Efficiency parameters of the installation

- As at the end of 2016, since start-up the operation of the flash furnace **has been stable, with average daily capacity of 99 t/h, or 75% of target capacity.**
- Efficiency will be raised gradually to 100% together with start-up of the remaining elements of the new production line, including above all the concentrate roasting installation.
- In the first quarter of 2017 tests will be performed of guaranteed parameters for the main production line equipment.
- The modernised production line will enable smelting capacity of **1 050 thousand tonnes** of concentrate, dry weight.

#### Expected impact

- Will account for approx. 80% of copper production using the **best available and most cost-efficient technology.**
- **Elimination of environmental and cost-related risks for approx. 40% of pyrometallurgical production by the Głogów metallurgical complex:**
  - dust emissions lower by approx. 55%,
  - gas emissions lower by approx. 58%,
  - decrease in the amount of tailings to be stored.
- **Improved workplace safety.**
- Possibility to **intensify processing of imported chalcopirite concentrates.**



Electrical Furnace Settling Tank



Main Control System



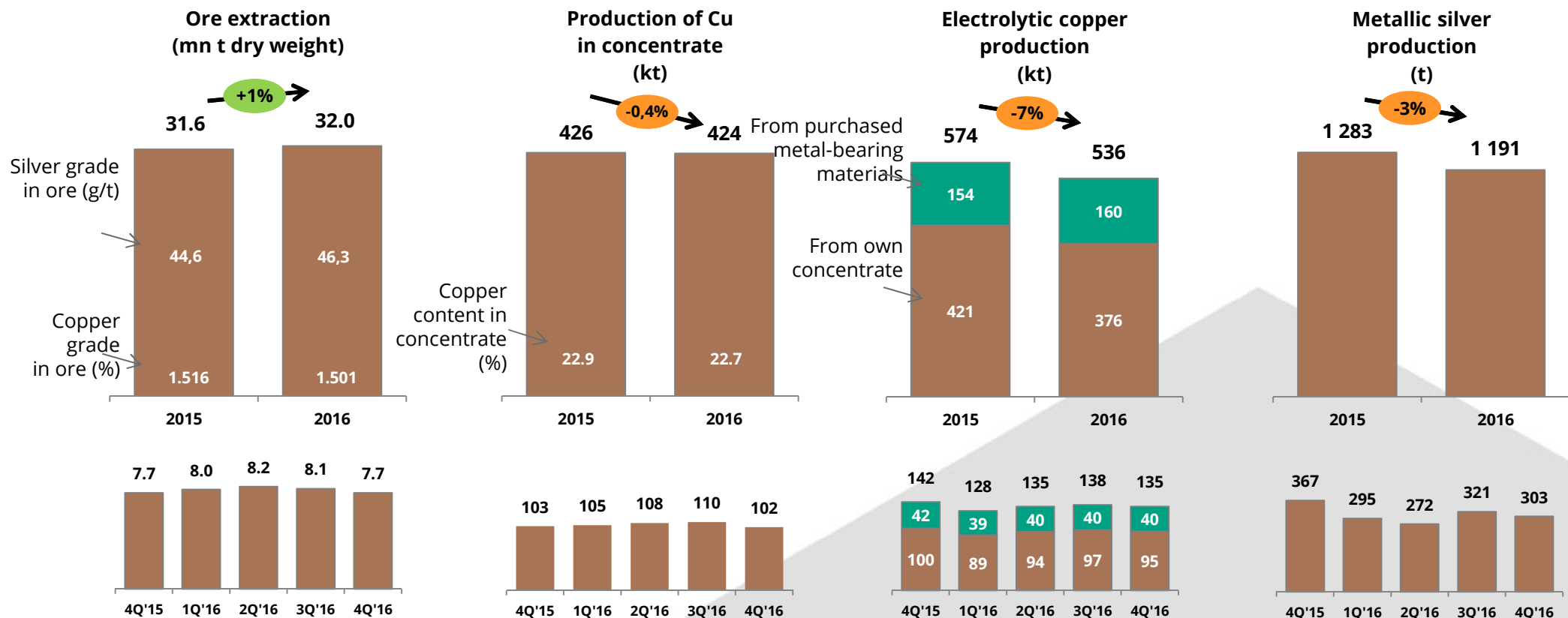
Copper outflow from the Flash Furnace



## Economic results of KGHM Polska Miedź S.A.

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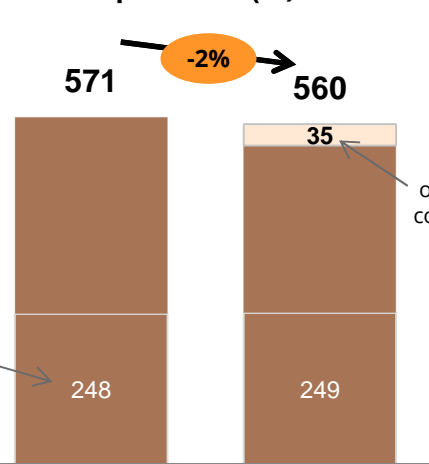
# Stable level of mine production



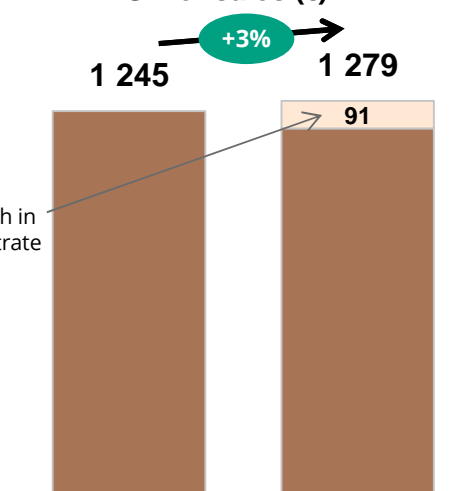
- Ore extraction was higher by 1.3% as compared to 2015.
- In 2016 there was a decrease (yoy) of copper grade in ore from 1.516% to 1.501%.
- The amount of copper in concentrate was lower than in 2015 due to lower Cu content in extracted ore.
- Electrolytic copper production was lower due to the three-month shutdown at the Głogów I smelter/refinery.
- The decrease in metallic silver production is a result of the decrease in electrolytic copper production.

# Revenues from sales in 2016

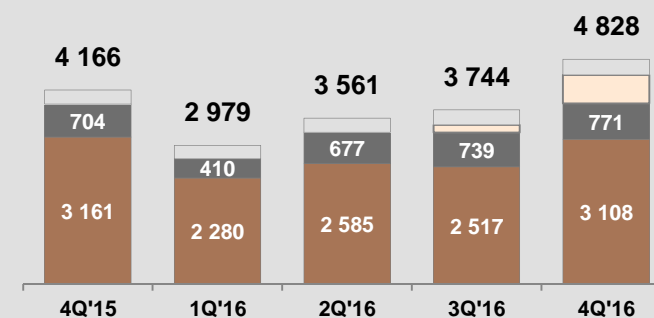
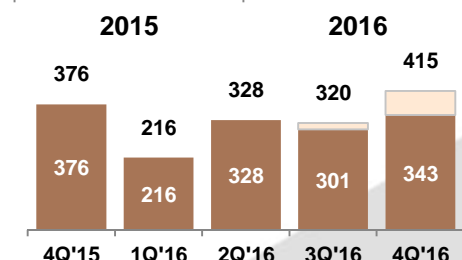
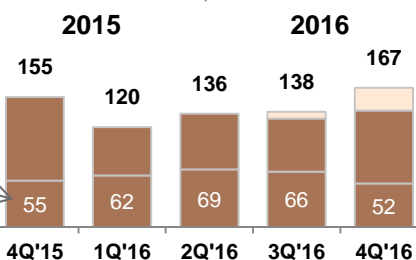
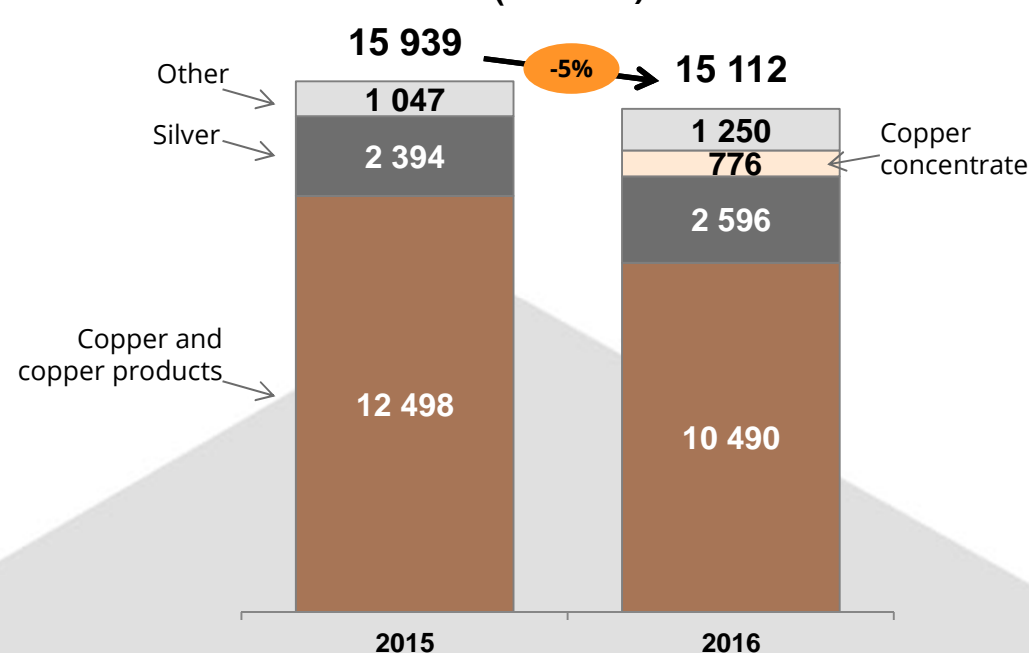
Sales of copper and copper products (kt)



Silver sales (t)



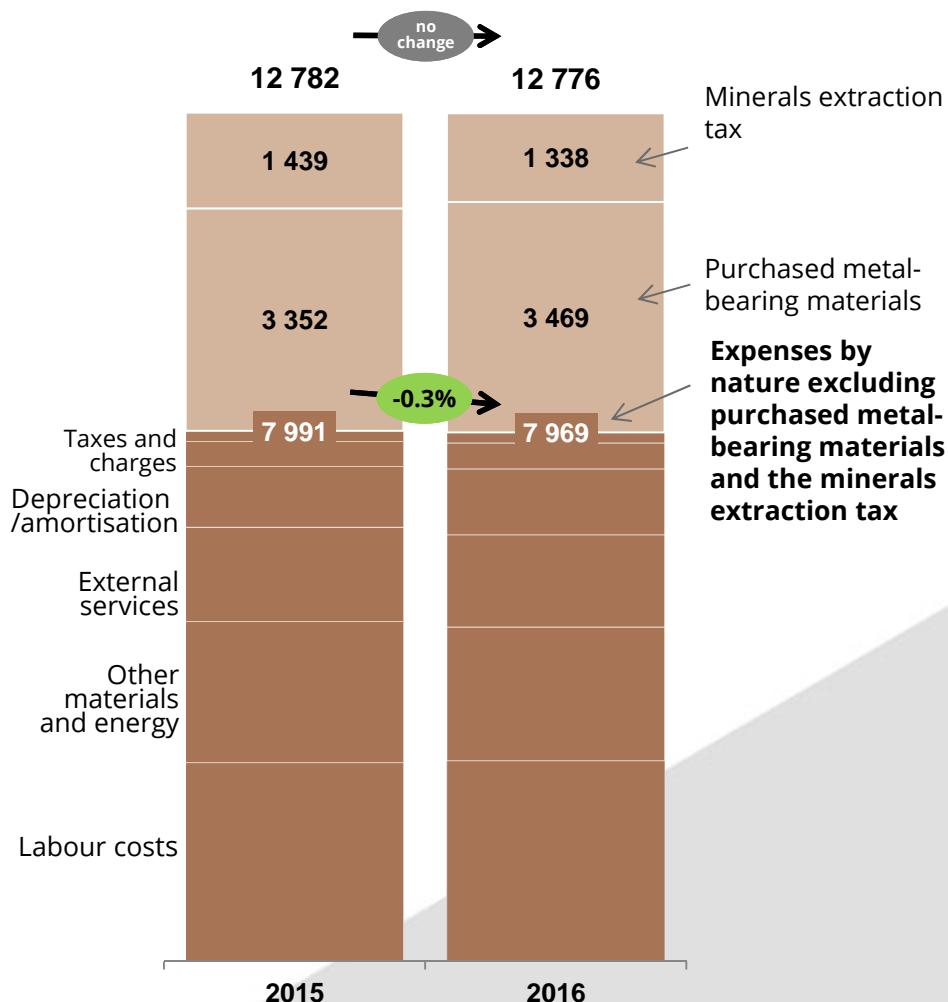
Sales revenue (mn PLN)



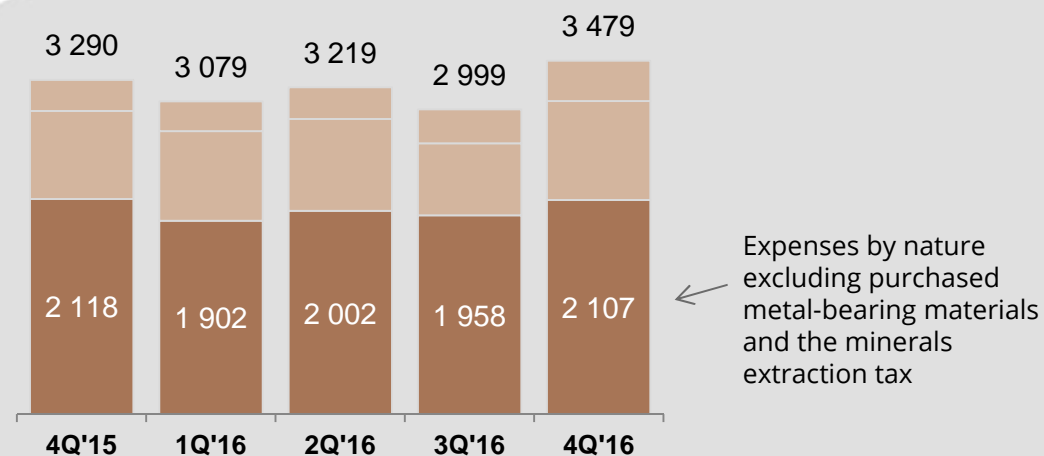
- Revenues from sales were lower than in 2015 by PLN 827 million, mainly due to :
  - changes in the price of Cu, Ag and Au (-PLN 794 million),
  - changes in the USD/PLN exchange rate (+PLN 624 million),
  - lower copper sales volume by 46.7 thousand tonnes (-PLN 985 million) and silver by 57 t (-PLN 107 million),
  - hedging of metals prices and the exchange rate (-PLN 479 million),
 alongside the favourable impact of:
  - a higher volume of gold sales by 839 kg (+PLN 118 million),
  - higher sales of other products and merchandise by +PLN 979 million (including +PLN 776 million from the sale of 168.6 thousand tonnes dry weight of copper concentrate in the second half of 2016).

# Cost discipline maintained

Expenses by nature  
(mn PLN)

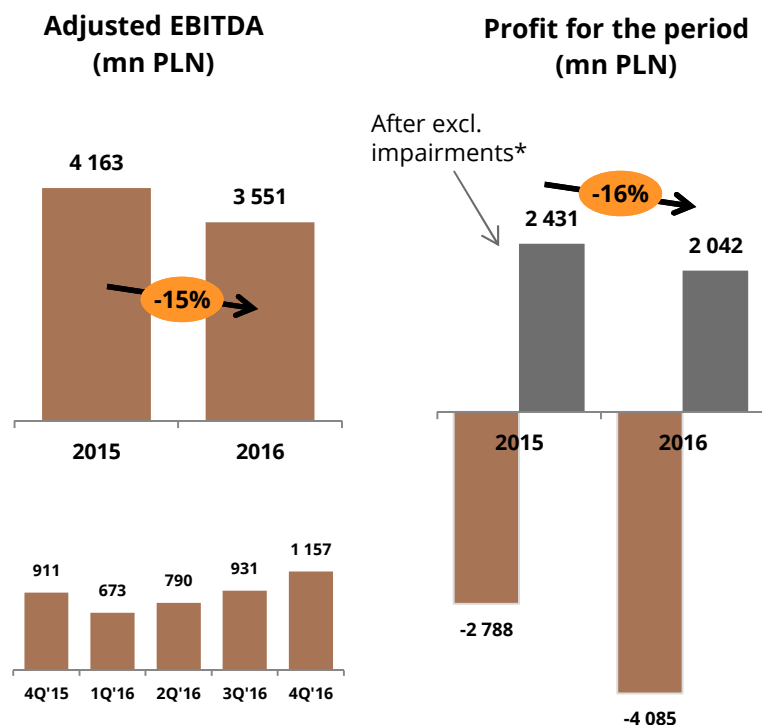


- Total expenses by nature as compared to 2015 were lower by PLN 6 million, due to a lower minerals extraction tax by PLN 101 million, alongside higher costs of consumed metal-bearing materials purchased by PLN 117 million (11 kt more copper consumed and a 3% lower purchase price).
- After excluding the cost of purchased metal-bearing materials and the minerals extraction tax, expenses by nature were lower by PLN 22 million, mainly with respect to the item costs of consumption of materials, fuel and energy (lower fuel and natural gas prices and lower consumption of materials used in production due to the shutdown at Głogów I), alongside higher costs of depreciation/amortisation (of investments carried out in 2016).

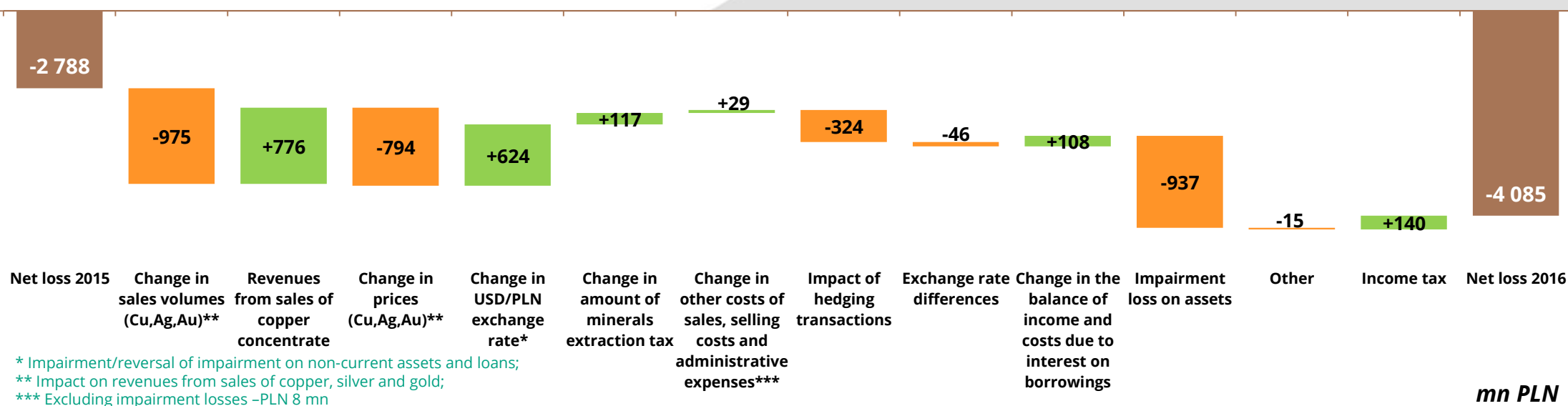




# Financial results in 2016



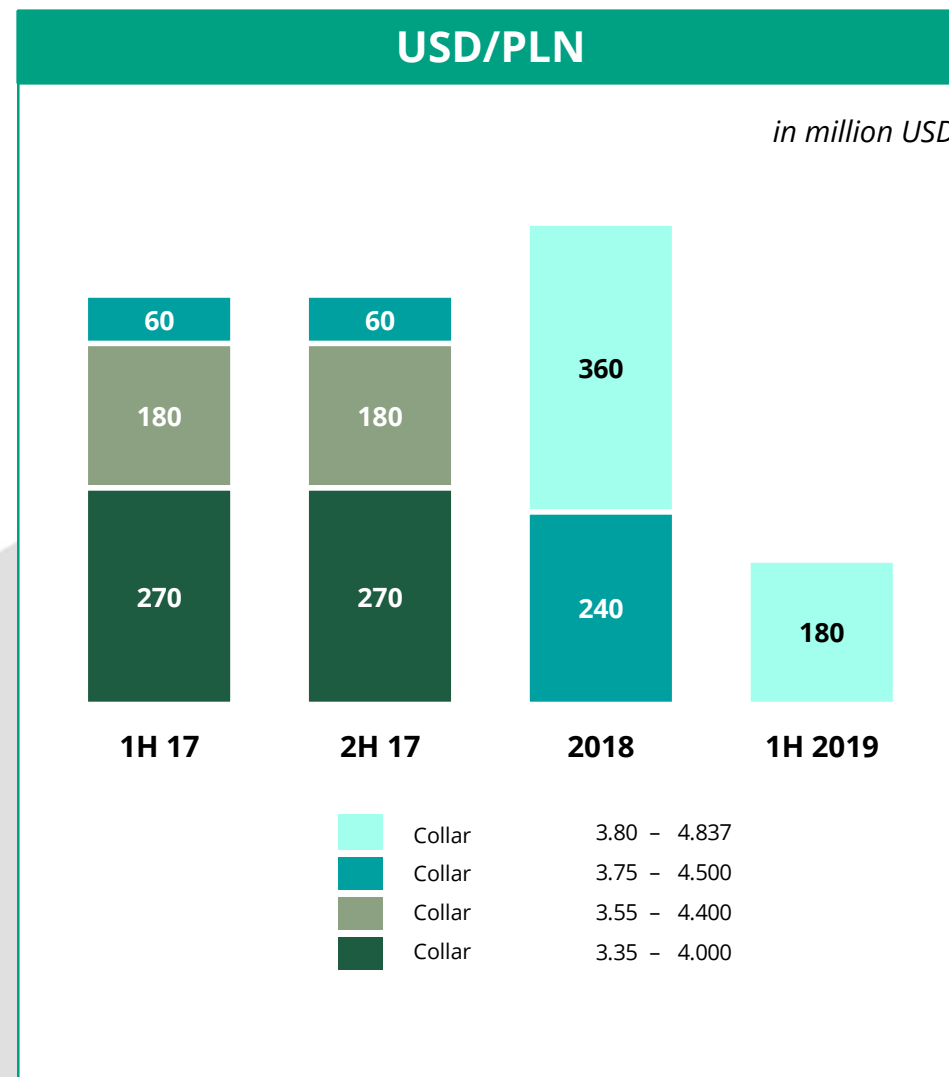
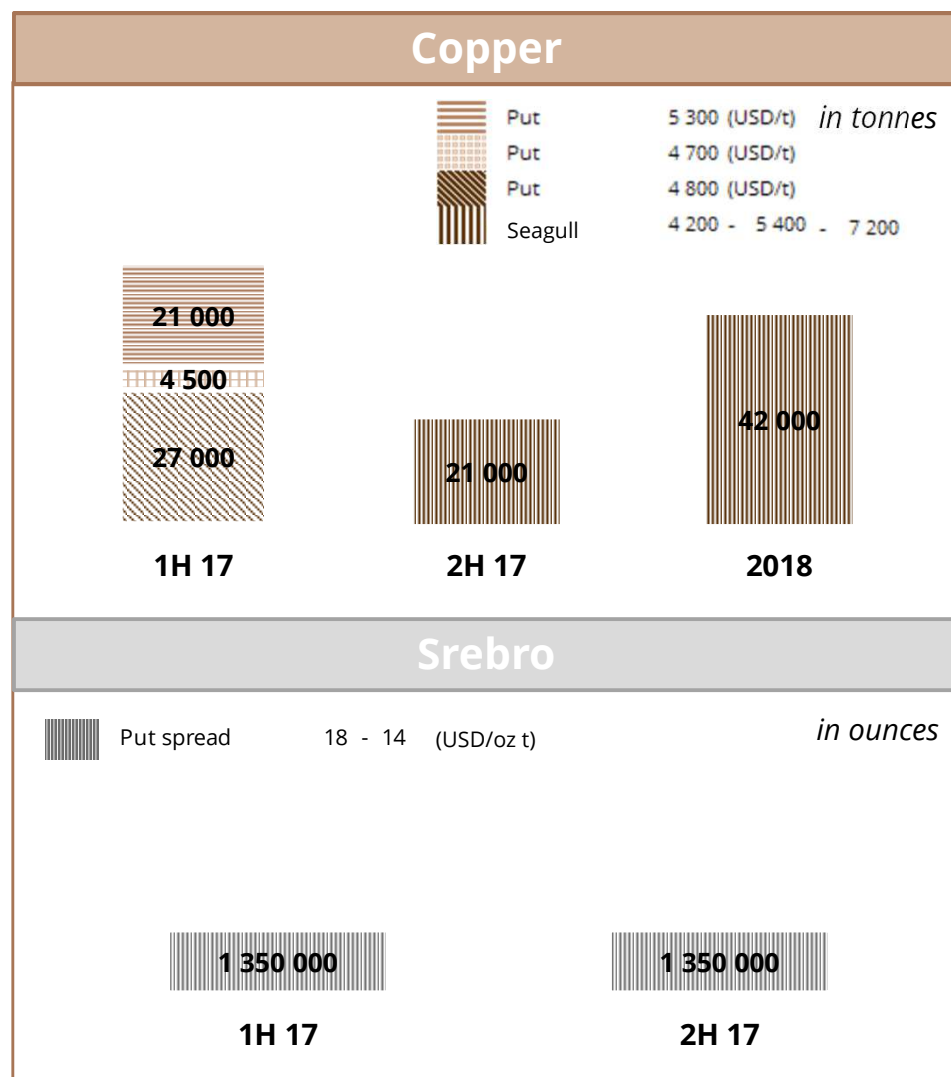
- The decrease in adjusted EBITDA by PLN 612 million (-15%) was mainly due to the lower sales volume (due to the shutdown at Głogów I) and to the deterioration in metals prices, partially offset by sales of copper concentrate and the favourable weakening of the PLN versus the USD.
- The higher net loss was mainly due to the higher amount of recognised impairments. The net financial result for 2016, after excluding the impact of impairment losses on non-current assets, showed a profit and was lower than the result for the prior year by PLN 390 million.



# The accrued result on derivatives achieved by KGHM Polska Miedź S.A. as at 31 December 2016 amounted to –PLN 56 million

## Market risk management – hedging position (as at 31 December 2016)

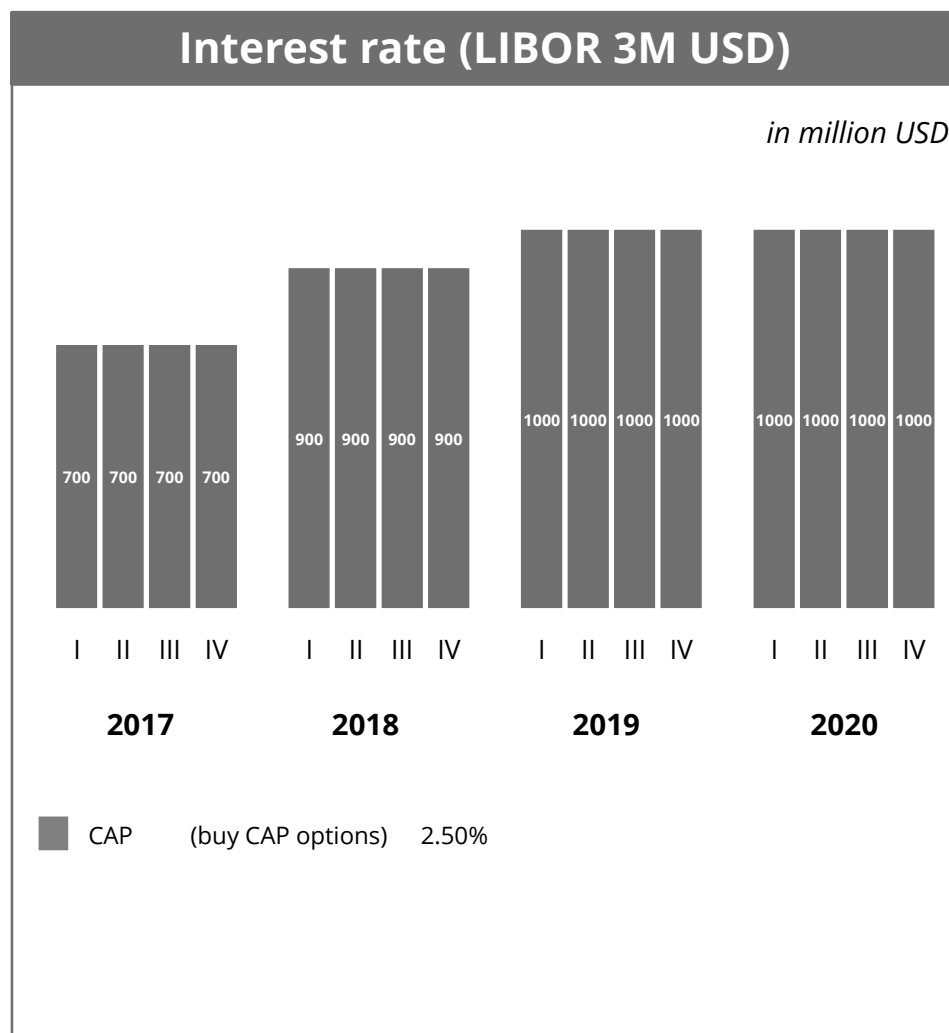
Position in derivatives on the metals and currencies markets



# The accrued result on derivatives achieved by KGHM Polska Miedź S.A. as at 31 December 2016 amounted to –PLN 56 million

## Market risk management – hedging position (as at 31 December 2016)

Position in derivatives on the interest rates markets



## Result on derivatives

- In the period January–December 2016, KGHM Polska Miedź S.A. recorded a result on derivatives in the amount of –PLN 56 million, of which:
  - PLN 3 million increased sales revenue (transactions settled in the January–December period),
  - PLN 59 million increased the result on other operating and finance activities (mainly a change in the measurement of open transactions as at 31 December, hedging the period to the end of 2020).
- The fair value of derivatives (MtM) in KGHM Polska Miedź S.A. as at 31 December 2016 amounted to –PLN 29 million.
- The revaluation reserve on cash flow hedging instruments as at 31 December 2016 amounted to –PLN 81 million.

## Impairments recognised on the assets of KGHM

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# Indications to conduct testing for the impairment of international mining assets

As a result of the review of technical and economic assumptions regarding the Group's key international mining assets there were changes to the parameters for these assets in terms of:

- mine life,
- metals production volume,
- assumed operating costs, and
- the level of capital expenditures during a mine's life,

which indicated the need to conduct testing of the carrying amounts of these assets, pursuant to IAS 36.

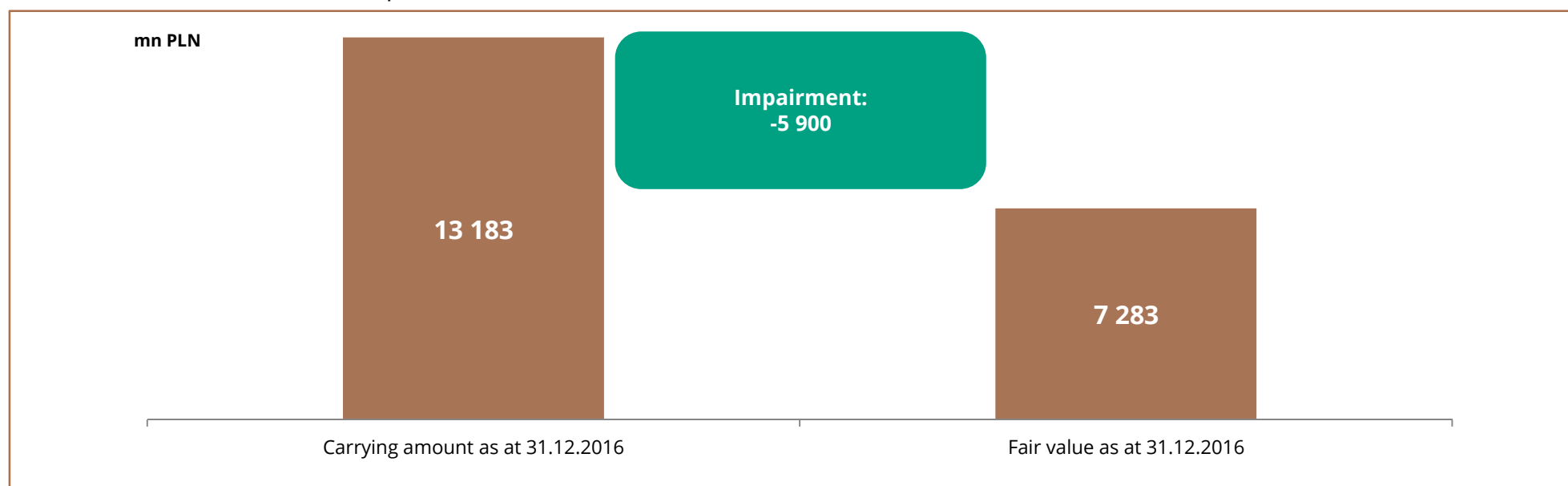


- The recoverable amount was set based on an analysis of the discounted cash flow generated by individual assets.
- The assumptions under which the tests were conducted included the most up-to-date forecasts of pricing paths for individual commodities, long-term assumptions as regards production volumes, verified investment plans and actions taken to improve efficiency.

# Results of the tests with respect to key international mining assets in the standalone financial statements of KGHM Polska Miedź S.A.

## Shares in Future 1 and loans granted to the KGHM International Group

- **Pre-tax impairment loss: PLN 5 900 million (USD 1 412 million).**
- The amount of the impairment was allocated first of all to the shares of KGHM Polska Miedź S.A. in Future 1 (PLN 4 770 million), while the remainder in the amount of PLN 1 130 million was recognised in the amount of loans granted to the KGHM International Group.



**The net impairment loss in respect of the international mining assets in the financial statements of KGHM Polska Miedź S.A. amounted to PLN 5 863 million and comprises impairment of the shares of Future 1 in the amount of PLN 4 770 million and of the loan granted to the KGHM International Group in the amount of PLN 1 098 million**

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