

Water and wastewaters management system in KGHM Polish Copper

Brussels 16 May, 2011



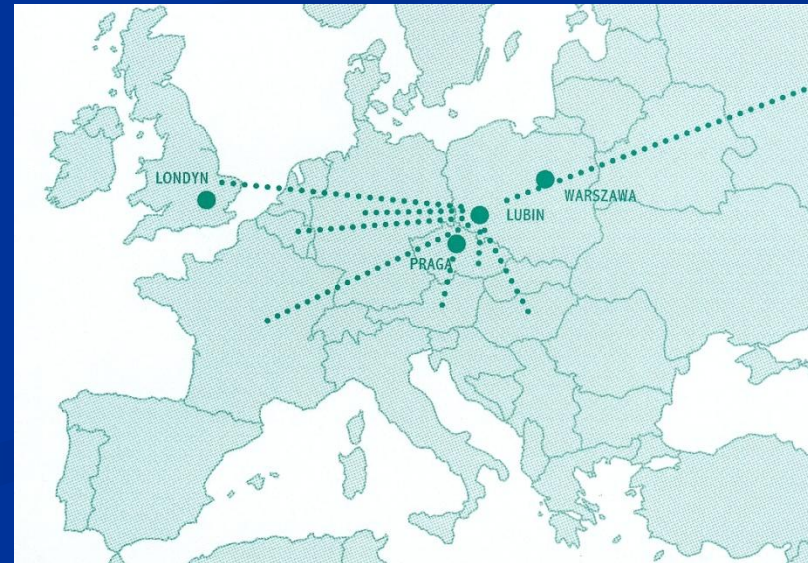
KGHM is the 9th-largest producer of **copper** and the 3rd-largest producer of **silver** in the world

Production in the 2009:

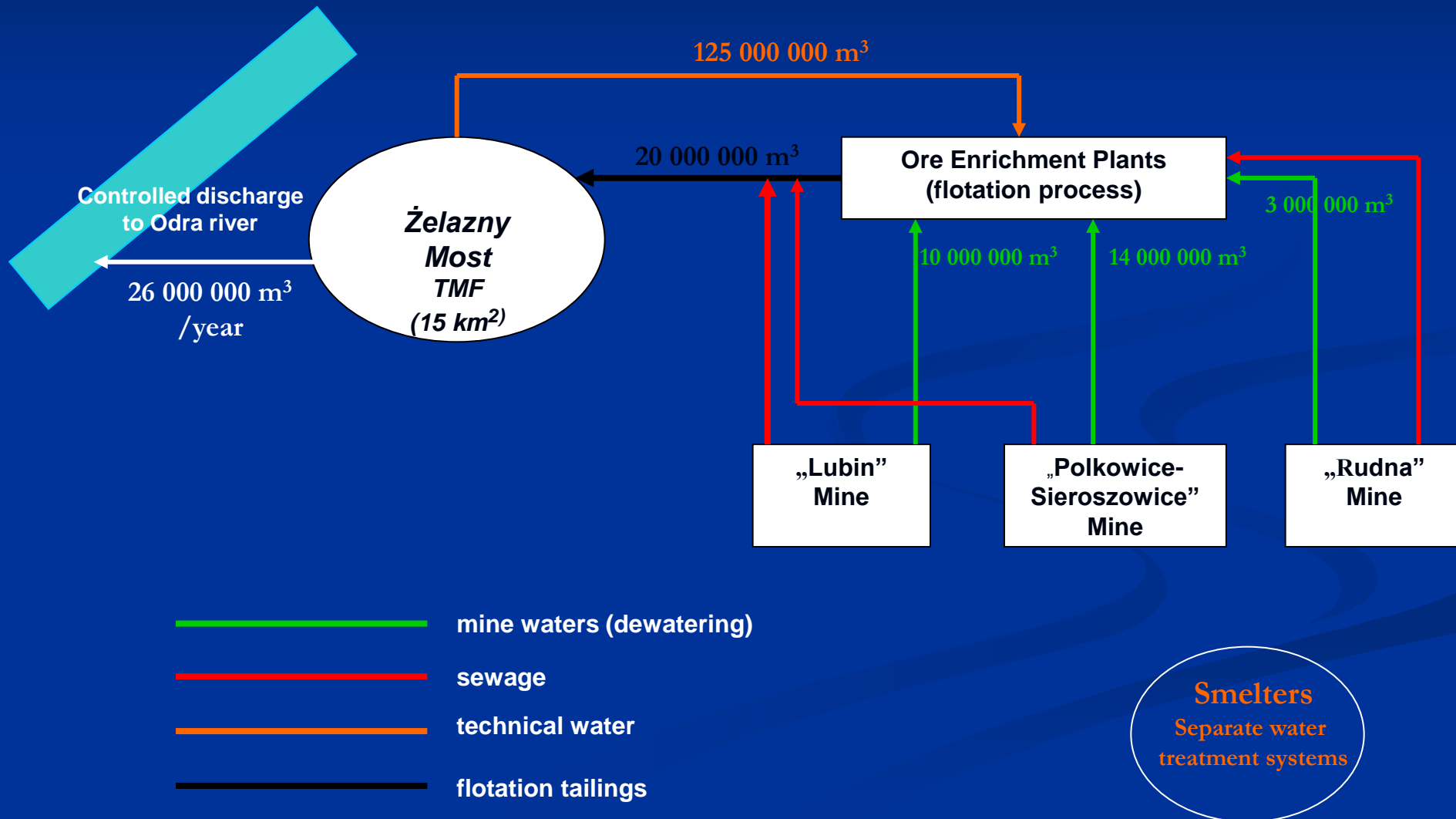
- **502,3** thousand tonnes of electrolytic copper;
- **1203** tonnes of silver.

Location:

- south-west of Poland at Lower Silesia Province
- Head Office in Lubin
- Divisions:
 - 3 Mines
 - 3 Concentrators
 - 3 Smelters (inc. Wire Rod plant)
- Located within Legnica-Głogów Copper District



Water and wastewaters management from Mining Divisions, Ore Enrichment Plants and TMF Żelazny Most (main water stream)



Average volumes and parameters of mine water from KGHM Mine

| MINE | Volumes of mine water [m ³] | Main constituents: | | |
|----------------------------|--|--|---|---|
| | | Dissolved mineral Matter [mg/dm ³] | Chlorides Cl ⁻ [mg/dm ³] | Sulphides SO ₄ ²⁻ [mg/dm ³] |
| LUBIN | 10 000 000 | 3 128 | 567 | 1 333 |
| POLKOWICE -SIEROSZOWICE | 14 000 000 | 13 900 | 6 600 | 1 900 |
| RUDNA | 3 000 000 | 373 138 | 210 458 | 6 967 |
| TOTAL annually | 27 000 000 | | | |

Main water issues:

- Volumes of waters discharged to natural watercourses
- Quality of discharged waters (preclarified in TMF Želazny Most), 'high salinity' results on:
 - Quality of natural waters
 - Blocking other possibilities of water usage
 - Others

