

Environmental and Social Data Sheet

Overview

Project Name: KGHM Modernisation Programme
 Project Number: 2013-0326
 Country: Poland
 Project Description: Investments for the modernisation and environmental optimisation of smelters and extension of tailings pond enabling copper mine production of the company beyond 2016.

EIA required: YES

The EIA of one part of the project (tailings pond extension) is under preparation. Provision of a copy of this EIA including NTS satisfactory to the Bank will be a condition for the first disbursement on this project component. EIAs for the other project components have been prepared, or are not required.

Project included in Carbon Footprint Exercise¹: YES

(details are provided in section: "EIB Carbon Footprint Exercise")

Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

The company is well managed with regard to environmental and social issues. It has policies, procedures and plans in place ensuring continued improvements. All metallurgical facilities are externally certified under ISO 9001, 14001 and OHSAS 18001 certified. The Żelazny Most tailings facility is externally certified under ISO 14001 and 18001.

The project is expected to have the following main environmental and social consequences:

- *Reduction of emissions*, in particular with regard to dust, heavy metals and SO₂, mainly due to the change in smelting furnace technology from shaft to flash furnace;
- *Increase in recycling copper scrap* due to a dedicated scrap smelter;
- *Reduction of the CO₂ footprint* of the company due to the smelting technology changes and the increased smelting of copper scraps;
- *Increased recovery of by-products* as a consequence of the changed furnace technology;
- *Increased landscape use* due to the expansion of the tailings pond area, required to enable production beyond 2016;
- *Reduction of effluents*, mainly from the tailings pond due the change to paste technology;
- *Safeguarding the employment* by the company beyond 2016/2017.

EIA process: Three of the four project components (i.e. the Głogów I smelter rebuild, the conversion of the Legnica smelter and the extension of the tailings pond) fall under Annex I of the Directive 2011/92/EU, thus requiring a formal EIA. Two of these 3 EIA's have been established and approved by the competent authorities; the EIA report for the tailings pond component is expected to be fully finished by late 2014. Provision of a copy of this EIA, that is satisfactory to the Bank, will be a condition for the first disbursement on this project component. The fourth component (Głogów II smelter upgrade) comprises elements falling under annex II, for which the competent authorities decided that it was not necessary to conduct an EIA.

¹ Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100,000 tons CO₂e/year absolute (gross) or 20,000 tons CO₂e/year relative (net) – both increases and savings.

In conclusion, the overall project will not result in significant additional negative environmental and social impacts compared to the current situation. To the contrary, it is expected to bring all the metallurgical divisions of KGHM Poland in line with Best Available Techniques (BAT) and to substantially reduce emissions and effluents.

The project has therefore been categorized as a “Project with medium residual impacts, and moderate risks” and is considered acceptable for Bank financing.

Environmental and Social Assessment

Environmental Assessment

- **Description**

The purpose of the project is to replace, modernise, optimise and extend the existing smelting and tailings facilities so to bring all metallurgical divisions of KGHM Poland in line with BAT and enable continuation of its activities beyond 2016.

- **Compliance with applicable environmental legislation**

- **European Union**

- **Environmental Impact Assessment** (Directive 2011/92/EU)

Three of the four project components (Głogów I smelter rebuild, conversion of Legnica smelter and the extension of the tailings pond) fall under Annex I of the Directive 2011/92/EU, thus requiring a formal EIA. Two of these 3 EIA's have been established and approved by the competent authorities; the EIA reports for the tailings pond component are expected to be fully finished by late 2014, and final approval is expected by end of 2015. The fourth component (Głogów II smelter upgrade) comprises elements falling under annex II (modernisation of the sulphuric acid plant, the waste heat boiler, power station and of auxiliary installations). The competent authorities decided that it was not necessary to conduct an EIA (“given the nature of the project, its local and expected effect, the proposed measures mitigating any potential negative environmental impact, an environmental impact assessment is not mandatory”). This appears acceptable to the EIB.

- **Industrial Emissions Directive** (Directive 2010/75/EU)

KGHM holds the required Integrated Permits for the production of copper at Głogów, for copper and lead production at Legnica, for the recovery of sulphuric acid at Głogów and Legnica and for the operation of the tailings management facility at Żelazny Most – which incorporates the requirements of the Seveso Directive 2012/18/EC, the EU Mine Waste Directive 2006/21/EC and the provisions introduced by the Industrial Emissions Directive ensuring the application of BAT.

In accordance with the Polish Environmental Protection Act, these Integrated Permits will be revised after completion of the respective works.

- **Poland**

As mentioned above, KGHM holds all the required Integrated Permits (IPPC) for all facilities related to the project. The IPPC permit in Poland replaces the following 'component' permits: a permit for gas and dust emission into the atmosphere, a water permit for discharging wastewater to water or land, a permit for waste production, and a water permit for water consumption.

As part of the Polish Environmental Protection Act in Poland, KGHM pays environmental fees based on the quantity and quality of emissions, effluents and waste disposal. The largest part of fees is related to the discharge of excess water from the Żelazny Most tailings pond. While these fees amount to several millions of Euros, they decrease constantly which reflects on-going environmental improvements and will further decrease with the project in a significant manner.

- **Environmental impacts**

- ***Air emissions, effluents and waste***

The individual parts of this project will reduce emissions further, as follows:

- The Głogów I smelter rebuild will use direct-to-blister flash technology which is best of class and which allows for an efficient treatment of off-gases. Dust, heavy metals in dust and SO₂ concentrations will meet BAT standards and are well below those of the former shaft furnace installation.
- The modernisation of components of the Głogów II smelter will lead to a capacity increase, but the overall emissions will not increase due to improved processes.
- The conversion of the Legnica smelter into a scrap smelter includes the construction of new up-to-date TSL (totally submerged lance) and shaft furnaces, resulting in emissions which practically do not contain SO₂ due to the absence of sulphide concentrate in the feed.
- Whereas the EIA for the tailings pond extension has not been concluded, it can be assumed that dust taken up by wind will remain an issue. Using a water spray curtain and reducing the dry sandy area of the tailings pond by grass seeding and application of a bitumen based emulsion cover will continue to limit dust generation and distribution. Dust will be further reduced by application of paste technology which will limit active space requirements.

The overall effluent and waste storage situation is not expected to materially change following the project implementation, and will be operated under the same environmental conditions. The extension of the tailings pond is accompanied by a change-over to the paste technology which will deposit the tailings in a more condensed way.

- ***Energy***

The smelter parts of the project will significantly contribute to reduce external energy supply by increasing the use of the roaster and smelter off-gases in the process and for electricity generation, by applying modern, less energy consuming technology (Głogów I) and by switching over to scrap smelting (Legnica) which is inherently less energy consuming.

- ***Biodiversity and land-use change***

The tailings pond component will affect a relatively small forestry area, with the largest part (ca. 75%) being pine tree plantations with little 'biodiversity' value. The site visit to the tailings pond area confirmed the non-critical condition of the affected area for the tailings pond extension. However, details on the respective effect and the potential compensation measures are being assessed in the EIA which is not yet available (condition for first disbursement for this component).

EIB Carbon Footprint Exercise

The annual CO₂ emissions of the project – with only the smelter components of the project having an impact on CO₂ emissions - in a future standard year of operation are estimated at about 1,168 kt CO₂/a, which constitute the project's absolute emissions. This figure assumes a production of 620,000 t/a of copper and takes into account the expected specific emissions and power consumption after project implementation.

The baseline scenario represents a realistic and credible scenario that delivers the same output as expected in the proposed project with comparable quantity (i.e. copper production of 620 kt/a), quality and geographical area. The emissions are based on the assumption that the existing smelters will continue to operate under the current performance and emission levels for a limited number of years and will then be substituted by state-of-the-art smelters. This leads to baseline emissions of 1,447 kt CO₂/a. The relative emissions are therefore estimated at about -279 kt CO₂/a (saving).

For the annual accounting purposes of the EIB Carbon Footprint, the project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of project cost.

Social Assessment

- **Employment**

While the project will contribute to ensure the sustainability of company's plants and installations - contributing to the preservation of the overall employment - it is expected to result in a net reduction of employment in Głogów I and Legnica. The promoter which fully recognizes its responsibility towards the region in which it operates and the regional authorities are well aware of the social dimension and sensitivity of this reduction, exacerbated by the low level of alternative employment in the region. This reduction is therefore not expected to entail dismissals, but natural departures and deployment to other parts of the company. On the other hand it is, however, foreseen to reduce new employment for the forthcoming years.

- **Occupational health and Safety**

The monitoring of both tailings pond and smelters falls within the scope of KGHM's Environmental Management System (EMS) and Occupational and Safety Management System (OHSMS), both externally certified under ISO 14001 and 18001 respectively.

Public consultation

The public consultation on the EIAs as conducted for the project did not show any major issues linked to the individual parts of the project. However, the EIA and environmental authorisation for the Żelazny Tailings Pond is still ongoing, and is made a condition for disbursement on this project component.

Component	Review by Authorities	Public consultation	Environmental Authorisation
Legnica	28.02.2013	19.03.2013, with no comments submitted	granted on 12.06.2013
Głogów I	28.12.2010	18.01.2011, with no comments submitted;	granted on 19.04.2011
Tailings pond	<i>All reports expected to be finalised by end 2014 for review</i>		<i>Full approval expected by end 2015</i>

KGHM publishes periodically a report on its Corporate Social Responsibility activities on its website (www.kghm.pl).

Other Environmental and Social Aspects

- **Company policy and external certification**

All metallurgical divisions of KGHM operate in accordance with an externally certified integrated management system that encompasses quality management and environmental and occupational health and safety management, in accordance with the requirements of ISO 9001 and 14001. A safety and hygiene at work system also operates in the Legnica and Głogów smelters and complies with the requirements of OHSAS 18001. The Żelazny Most tailings management facility is managed under the provisions of a separate environmental and occupational health and safety management system, certified under 14001 and 18001 respectively.

- **General air emissions, effluents, waste**

Historically, emissions of dust, sulphur dioxide, lead and other heavy metals from the smelters and dust blown from the tailings pond have been a significant issue for human health, both in the workplace and in the surrounding communities. However, major programmes of emission reduction have successively been implemented leading to a drastic reduction in overall emissions.

Excess supernatant water from the Żelazny Most tailings pond is and will continue to be discharged directly to the Odra River if the total suspended solids are less than 35 mg/l. Otherwise it is treated in a dedicated water treatment plant, prior to discharge. The discharge rate is carefully managed to ensure adequate dilution of the relatively high salinity water.

Water treatment plants at the three smelters have progressively been upgraded over the last decades so that the concentration of heavy metals, chlorides and suspended solids in the discharge meet stringent EU and national standards in line with the requirements of the Integrated Environmental Permits.

Most of the solid waste generated from the smelters is being sold and reused. The rest and in particular the tailings from the ore processing plants are centrally stocked.

- **Energy**

As a major energy consumer, KGHM has invested heavily in energy efficiency in recent years, reducing its energy consumption by 42% since 1980 (peak levels). KGHM's endeavours in this respect are ongoing.

- **Current employment and youth employment**

In 2012, similarly to the previous years, KGHM Polska Miedź S.A. employed 18 567 FTEs with an average of about 600 to 800 newly admitted employees per year.

In 2012, KGHM launched a trainee programme (Young Talent Program) in order to attract science and engineering university graduates. This programme is quite successful. Trainees are regularly rotating, carrying out ambitious projects on their assigned posts. Respective first permanent employment offers have already been made.

- **Occupational safety**

Most fatalities and serious accidents are associated with the underground operations and are often a consequence of rock bursts. The trend in recorded accidents and fatalities is one of steady improvement. This is to a large extent due to a consequently applied Occupational Health and Safety Management System (OHSMS) which incorporates risk identification, assessment and analysis; risk management; continuous staff training; loss evaluation, and actual and potential accident recording and investigation.

KGHM also maintains a small, but dedicated and internationally reputed Emergency Rescue Unit (ERU), supplemented as required by additional trained employees. The ERU comprises three units: two units specialize in fire-fighting and incidents involving hazardous chemicals, while the third specializes in underground rescue.

- **Safety of installations**

For stability reasons, tailings ponds in general must be properly conceived, operated and maintained. The Żelazny Most tailings pond can be considered as safe in this respects. From conception, it is followed-up by a team of national and international experts regarding hydro-engineering aspects and stability management. The facility is operated in a conservative manner regards tailings and water management. The dam itself is constantly monitored for seismological movements on its total length of 14 km.

- **Community support/Corporate Social Responsibility (CSR)**

In 2003, KGHM established the Polish Copper Foundation as a vehicle for the coordinated management of all charitable activities. The initiative stemmed from the active social policy of KGHM which, since the beginning of the copper industry in Lower Silesia, has supported numerous local, regional and national projects in the areas of community support, health care, sports, arts and environment. A particular focus is on child health care.