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Public

Environmental and Social Data Sheet

Overview

Project Name:	KCM lead and zinc capacity expansion
Project Number:	2018-0781
Country:	Bulgaria
Project Description:	The project includes investments in a new lead refining plant and zinc electrolysis unit both replacing outdated units, and the upgrade of the zinc recycling unit resulting in lower production costs, better environmental performance, increased recycling rates of lead and zinc containing waste, and improved safety.
EIA required:	yes
Project included in Carbon Footprint Exercise[1]:	yes

(details for projects included are provided in section: “EIB Carbon Footprint Exercise”)

Environmental and Social Assessment

Environmental Assessment

The promoter has embarked on a long-term programme to change the company's profile from a pure concentrate processor to an integrated metallurgical plant. The project will support the promoter’s technological upgrade programme for the upcoming 4 years (2020-2023).

Through the implementation of the promoter’s proprietary technology, the plant is able to process both primary raw materials (concentrate from the mines) and different types of zinc and lead-containing wastes from both internal reverts as well as other lead and zinc containing wastes generated by other companies and industries in the EU.

Using this integrated approach, the promoter applies the principles of the circular economy by closing the material cycle of lead and zinc, to an extent that goes beyond current recycling rates of primary producers – promoter will be able to achieve 35% while EU peers are at about 10 to 15%. The project will enable the only zinc and lead smelter in the Balkan region to modernise and upgrade its production facility to both increase its capacity to treat lead and zinc containing wastes in a more efficient and effective way, while also substantially improving the productivity, environmental performance and safety of its operations. This fits perfectly with the EU strategy on building a credible circular economy by constantly increasing the share of secondary materials as opposed to primary feed, and the EU 2050 vision for the non-ferrous sector as an enabler for closed metals loops.

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

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The investments undertaken are in line with the decarbonisation pathway for the non-ferrous metals sector[2] as it:

- Increases the proportion of product which require less CO_2 for production: the use of more secondary input materials eliminates emissions related to the mining and concentration activities (equal to 30% of total life cycle CO_2 emissions) but also reduces the energy intensity of smelting and roasting process (+/- 30% less energy required for smelting secondary raw materials);
- Increases the energy efficiency: by implementing state-of-the-art technology the overall energy intensity (expressed as kWh/tonne of product produced) of the production decreases by 7%;
- Fuel switching: the projects enables the company to shift all burners from heavy fuel oil (high carbon fossil fuel) to natural gas (low carbon fuel) – decreasing the carbon intensity of its production by 10%.

The modernisation is expected to result in other resource efficiency and environmental improvements such as a substantial decrease in water consumption and release of fugitive emissions, the latter will substantially improve the working conditions of employees - expected to achieve well-beyond legal requirements.

The new units will be equipped with state-of-the-art technology in compliance with relevant EU regulations, i.e. compliance with the Best Available Techniques (BAT) emission limit values as laid down in the EU Directive 2010/75/EU on Industrial Emissions (integrated pollution prevention and control - IPPC) – a BAT compliance check is compulsory under Bulgarian environmental law.

The EIB will follow-up on the outcomes in terms of emissions (channeled and fugitive emissions) and recycling targets achieved by the project – this will be put as an undertaking in the contract. Furthermore, the EIB will request to follow-up on the promoter's environmental management plan and actions over the lifetime of the project.

The 'installations for the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes' falls under the Annex I of the EIA Directive 2014/52/EU as amended, and significant changes to these installations are very likely subject to a full environmental impact assessment (EIA). The company will prepare the requested EIA, and the receipt of this report in compliance with the EIB E&S standard will be a condition for disbursement.

The plant is located in an existing industrial zone, however close to a Natura 2000 site (about 4 km N-E of the industrial site). Therefore the compliance with Art. 6 (3) of the Habitat Directive will be check during the EIA procedure to reassure that the project will not have any adverse impact on the protected site and species. Following the EIA procedure, the company will acquire an updated IPPC Permit. The promoter will undertake to share the final and updated IPPC permit with the Bank.

EIB Carbon Footprint Exercise

Estimated annual emissions of the company's total lead and zinc production in a standard year of operation using the EIB GHG emission calculation methodology will amount to 510 ktonnes CO2e per year – this is however a rough estimate based on the initial design and expected consumption figures, and accounts the electricity consumption using the country

[2] A Low-carbon roadmap for Belgium - Industry sector – non-ferrous metals document, and Decarbonisation options for the Dutch Zinc Industry

grid factor. The promoter purchases renewable electricity. If this renewable electricity is accounted as zero, the total GHG emissions will amount to about 220 ktonnes CO_2e per year. Currently the promoter reports the total GHG emissions related the zinc and lead production capacity under the EU ETS, amounting to 205 ktonnes of CO_2 (data 2018) – under the EU ETS electricity consumption is not included[3].

Due to the use of energy efficient techniques, the carbon intensity of the lead and zinc metal produced reduces by 19%. Moreover, the project will result in an increased lead and zinc waste recycling/recovery capacity: substituting mined virgin lead/zinc concentrate by lead/zinc containing waste fractions. Using secondary (waste) materials instead of concentrate eliminates the mining and concentration related energy consumption and CO_2 emissions, resulting in a much lower carbon intensity of the final product[4].

However, the relative emissions are minor due to the capacity increase that is expected to be achieved after project implementation.

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, where applicable

KCM includes staff well-being as an integral part of its sustainable practices. The project will result in improved working conditions in the lead refining and zinc electrolysis unit: these units will be automated to the fullest extend so to eliminate heavy physical labour and protect the employees better from the hazardous processing environment by substantially reducing exposure to fugitive emissions e.g. sulphuric fumes in the electrowinning process.

Public Consultation and Stakeholder Engagement

The EIA procedure has not been launched yet. The promoter will be requested to report to the Bank on this process in a timely and transparent way – see undertakings summarised below.

The promoter is transparently publishing its permits, related monitoring data and compliance on its website.

Other Environmental and Social Aspects

The project will be implemented by a promoter with a longstanding track record in the lead-zinc industry. The promoter has demonstrated its capabilities to implement this type of project within budget and time through the previous technology upgrade done in 2010. In terms of environmental performance and ambitions to move towards a more environmentally sustainable zinc and lead production, the company was awarded the EBRD's Sustainability Award, E&S Best Practice category in 2016.

The company has a valid:

- ISO 9001:2015 Quality management systems certificate;
- OHSAS 18001:2007 Occupational health and safety management systems certificate;
- ISO 14001:2015 Environmental management systems certificate;

[3] Art 48 of the Commission Regulation (EU) No 601/2012

[4] https://www.mgg-recycling.com/wp-content/uploads/2013/06/BIR_CO2_report.pdf : the carbon intensity of secondary lead is reported to be half of that of primary lead, and the carbon intensity of secondary zinc is 30% lower than that of primary zinc.

The company is a SEVESO III site, with audited safety plans and procedures in place.

The company has effectively implemented a Health Management System in an effort to ensure good health for all employees. A major component of this system is the “Health For All” Program, which works to promote healthy lifestyle tactics. Employees are entitled to spend one working week every year in KCM’s Rehabilitation Center in the Rhodope Mountains to rejuvenate and participate in wellness activities.

Conclusions and Recommendations

Considering that the project contributes to the EU’s circular transition objectives, will be developed and implemented in compliance with the EU environmental (i.e. compliance with EIA, Habitat and BAT principles) and stimulates local and regional development, this project is acceptable for EIB financing in terms of environmental and social aspects.

The receipt of the respective EIA report and EIA decision will be a condition for disbursement. The EIA report will include, in particular, an assessment of cumulative effects of the whole project, including all components, on environment and on Natura 2000 site.

Furthermore, the EIB will follow-up on the outcomes in terms of emissions (channelled and fugitive emissions) and recycling targets achieved by the project as well as the EIA process – this will be put as an undertaking in the contract. The EIB will also follow-up on the promoter’s environmental management plan and other environmental actions taken by the promoter over the lifetime of the project.

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