Luxembourg, 27.10.2017

Environmental and Social Data Sheet

Overview

Project Name:	HeidelbergCement RDI and Energy Efficiency
Project Number:	2016-1004
Country:	Germany and Italy
Project Description:	Investments in RDI related to cement products and production technologies in 2017-2020 as well as modernization of one cement production plant in Schelklingen, Germany.

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 project comprises two components:

a) Investments in research and development (RDI)

These will be carried out in existing promoter's facilities mainly in Heidelberg, Germany and Bergamo, Italy, addressing the development of new cement qualities, alternative cementitious materials and the optimisation of production processes. This includes activities with the goal to reduce CO2 emissions. This type of activities is not mentioned in the EIA Directive; therefore they do not require an EIA according to the Directive 2014/52/EU amending the Directive 2011/92/EU.

Although residual impacts might remain from production processes which still add to the overall environmental load, the expected new products, process improvements and technical solutions from these RDI activities and their implementation are expected to bring positive environmental results, in particular in terms of increased lifetime of applications, raw material and energy efficiency and lower CO2 emissions in both production processes and applications.

b) Investments in a clinker plant modernisation

The modernisation comprises the replacement of two outdated clinker plants by one modern plant comprising essentially the raw feed milling, fuel preparation and feed

[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.

systems, preheater and calciner, kiln, clinker cooler, filters and NOx abatement, power and utilities supply and related infrastructure. The overall clinker production capacity remains stable with 1000 t/d so that downstream parts of the cement works, product traffic etc. do not change and do not need to be taken into environmental consideration.

- **Compliance with applicable Environmental Legislation**

The project is a significant modification of an existing facility included in Annex I of the EIA directive 2014/52/EU amending the Directive 2011/92/EU and therefore any modification is subject to a screening according to Annex II. The project has been screened-in by the local competent authorities and a full EIA has been established. With regard to construction and operating features and emissions, the project falls under the IED directive 2010/75/EU and more specifically under the stipulations of decision 2013/163/EU transposing BAT measures relevant for the cement industry into EU law.
According to German law, such significant modification of an existing facility requires a modification approval (Aenderungsgenehmigung) according to Bundesimmissions-schutzgesetz, BImSchG, § 16 (1). The relevant maximum emission values applicable to the project derive from the 17. BImSchV (BundesImmissionsSchutzVerordnung – Verordnung über die Verbrennung und Mitverbrennung von Abfällen) of 2.5.2013.

- **Environmental Impacts**

The project site is certified according to ISO 14001 Environmental System. The project will adhere to best available techniques (BAT) as identified by the EC. The new clinker plant is expected to have the following main environmental impacts compared to the old plant configuration:

  - A considerable reduction of the thermal energy required for the same amount of clinker produced. This leads to an overall reduction of the amount of fuels required and consequently to a reduction of CO2 emissions. This is even more relevant as the plant forms part of the EU ETS trading system.
  - Due to the advanced combustion systems for the kiln and the calciner, a higher amount of secondary fuels can be used. It is expected that this will reach and meet some 90% of heat requirements. As a consequence, this leads to a ca. 80% reduction of the primary fuel used, i.e. lignite dust, compared to the plant configuration before modernisation.
  - Main secondary fuels to be used will be specific manufacturing waste, general manufacturing and municipal waste and used tyres.
  - The increased use of secondary fuels will contribute to make use of otherwise discarded waste.
  - The high amount and type of secondary fuels foreseen comprise a large amount of biogenic carbon not leading to and counting as CO2 emissions and thus reducing overall CO2 emissions even further.
  - A significant reduction of NOx, NH3 and dust emissions and to a lesser extent a reduction of SO2 emissions compared to the plant configuration before modernisation.
  - These emission reductions are achieved by high capacity and high efficiency hose filters for dust capturing and a he-SNCR (high efficiency selective non-catalytic reduction) equipment for NOx abatement and at the same time resulting NH3 reduction.
  - A considerable reduction of the electricity used in the clinker plant.

- **Biodiversity**: Biodiversity or nature conservation issues are not touched upon as the project and ensuing activities will be carried out within the borders of existing industrial facilities.

- **Corporate governance**: The promoter has clear structures regards to corporate governance, sustainability, environmental and social issues and practices corporate social responsibility. He engages with his stakeholders and publishes regularly a sustainability report:

  http://www.heidelbergcement.com/system/files_force/assets/document/3e/74/heidelbergcement-nachhaltigkeitsbericht-2016.pdf?download=1

- **Energy efficiency**: Respective parts of the project count as climate change mitigation.

EIB Carbon Footprint Exercise

Only CO2 emissions of the clinker plant have been taken into consideration for this carbon footprint exercise.
Absolute emissions: After project implementation, the estimated CO2 emissions of the clinker plant will amount to 763 kt/a (standard year of operation), based on the following parameters: an annual clinker production of 1 Mt/a, 750 kg CO2/t clinker based on the estimated average fuel mix, consumption of 24 kWh/t clinker and the German electricity grid factor.
Baseline: due to the fact that one of clinker lines of the site has already been stopped and dismantled and also the remaining line with an operating age of 45 years reaching its economically useful end of life and requiring substantial investment to keep up with future environmental legislation and hence not being representative for a comparison of emissions in the long run, the plant configuration before the modernisation has not been considered to be an adequate baseline. Instead, the average values of all German clinker lines in 2015 have been taken as the baseline to compare with the new plant. The only assumption made were a similar biogenic carbon content in secondary fuels as for the mix contemplated for this project and a specific electricity consumption of 28 kWh/t clinker for the average clinker plant. Such baseline assumptions lead to emissions of 826 kt CO2/a.
Based on the Bank's carbon footprint exercise methodology it is estimated that the modernisation project of the clinker plant will result in emissions savings of 63 kt CO2/a or 7.6%.
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.

Public Consultation and Stakeholder Engagement

A public consultation (Informationsforum) has been carried out in the frame of the EIA on 17.2.2015 in Schelklingen where over 50 questions and comments have been addressed with a satisfactory outcome. Interaction with the public and the public administration is taking place on a constant basis.

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Conclusions and Recommendations

The RDI part of the project is not considered to do any environmental harm.
The modernisation project site operates in compliance with the ISO 14001 environmental management system. As a large EU corporate, the company is also required to apply an energy efficiency management system. The modernisation part of the project adheres to BAT according to the rules of decision 2013/163/EU for the cement industry. The project will increase energy efficiency and result in a significant reduction of GHG and other pollutant emissions, such as dust, NOx and NH3. In particular, the project will not lead to additional negative environmental, nature conservation and social impacts compared to the situation before the project.
The project is therefore considered acceptable for EIB financing in E&S terms.