

## Environmental and Social Data Sheet

### Overview

Project Name: **ITALCEMENTI REZZATO ENERGY EFFICIENCY**  
 Project Number: 2011-0472  
 Country: ITALY  
 Project Description: Modernisation of an existing cement plant with the replacement of two old production lines by a new dry line for the production of grey clinker, aiming at significant reductions of pollutant atmospheric emissions (SO<sub>2</sub> and NO<sub>x</sub>) and noise, energy efficiency improvements and reductions of the specific CO<sub>2</sub> emissions of the site.

EIA required: No

Project included in Carbon Footprint Exercise<sup>1</sup>: Yes

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

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

The project falls under Annex II of the EU Directive 2011/92/EU. The competent authority (Region of Lombardia) screened out the project in March 2011 (decree n. 1197). An updated Integrated Environmental Authorization (AIA) was granted by the Province of Brescia in June 2011. The communes of Rezzato and Mazzano, granted the construction permit in November 2011.

The main objectives of the project are productivity and environmental improvements; the project is expected to significantly reduce the pollutant emissions of the plant -Sulphur Dioxide (SO<sub>2</sub>) will be reduced by close to 80%, Nitrogen Oxides (NO<sub>x</sub>) by more than 60% and dust by about 40%. Although the resulting environmental improvements are significant, given the fact that the operation of the plant will contribute to the overall environmental load, the project is considered as acceptable with minor negative residual impact.

### Environmental and Social Assessment

#### Environmental Assessment

As the project falls under Annex II of the EU Directive 2011/92/EU, the company submitted to the competent regional authorities (Regione di Lombardia) in April 2010 an Environmental Impact Study (Verifica di Assoggettabilità) prepared by an independent consultant. The competent authority screened out the project in March 2011 (DECRETO n. 1197 of the 04/03/2011), however making certain recommendations and mainly requiring (a) to update - taking now in consideration the requirements imposed by the modernisation project, the Integrated Environmental Authorization (Autorizzazione Integrata Ambientale) which defines the limits of environmental parameters and the relevant control measures, and (b) to implement the related decisions that were under negotiations with the communes of Rezzato and Mazzano.

The updated Integrated Environmental Authorization (AIA) was granted by the Province of Brescia in June 2011. In October 2011, Italcementi, the commune of Mazzano and the

<sup>1</sup> 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 CO<sub>2</sub>e/year absolute (gross) or 20 000 tons CO<sub>2</sub>e/year relative (net) – both increases and savings.

commune of Rezzato signed a protocol of understanding (Protocollo di Intesa) which set environmental requirements beyond the ones required in the AIA and which are binding to the company. It should be noted as an example that while the updated AIA foresees a reduction of NO<sub>x</sub> emissions from 335 kg/hour to 200 kg/hour (a reduction of some 40%), the agreements with the communes require a reduction to 124 Kg/hour (62.9%). Failure to comply with the agreed requirements gives the right to the communes to impose production level limitations.

In addition to the environmental limits, the protocol also includes Environmental Compensations of the order of EUR 5 000 000 to each of the two communes towards a programme of interventions of public interest, along with a number of environmental-related investments such as refurbishment of buildings, construction of cycle path etc.

The modernisation project foresees the implementation of a new grey cement production line which will replace two existing ones. The main project components include the substitution of the two existing long kilns for grey clinker production with a new kiln with a 5-stage suspension preheater; the creation of a heat recovery system from the clinker cooler exhaust air; the installation of a de-dusting system and the installation of a NO<sub>x</sub> abatement system with an SNCR and a high dust SCR system<sup>2</sup>. The project components will be compliant with Best Available Technology, and in certain cases (NO<sub>x</sub> reduction and de-dusting system) will be based on highly innovative solutions. The new line has been designed with provisions to burn in the future alternative fuels.

The project will bring about significant environmental improvements. Along the reduction of emissions, it will also reduce the water supply by some 10%<sup>3</sup> and specific CO<sub>2</sub> emissions (per ton of clinker) will be reduced by 9%<sup>4</sup>. In addition, on the clinker line the heat specific consumption (per kg of clinker) will be reduced by 20%, electrical specific consumption by about 17% and fuel consumption by about 25%. Finally, the specific consumption of raw materials (per ton of clinker) will be reduced by about 8%.

The objective to limit the NO<sub>x</sub> emissions at 200 mg/Nm<sup>3</sup> represents a drastic improvement to Italy's best performing site in this domain, whose NO<sub>x</sub> emissions today stand at about 500 mg/Nm<sup>3</sup>.

## **EIB Carbon Footprint Exercise**

The estimated annual emissions of the project in a standard year of operation are estimated at about 0.9m tons of CO<sub>2</sub> (0.8m tons direct and 0.1m tons indirect). These figures assume the production of 1.0 m tons of clinker and about 1.3 m tons of cement per year, which represents the capacity of the site after the project. Also the calculation takes in account the specific emissions and specific power consumption figures after the project is implemented.

The baseline scenario makes the following assumptions: 0.8 m tons of clinker would be produced by the Rezzato plant at its current capacity and under today's energy and emission characteristics. The remaining 0.2 m tons of clinker would be produced at neighbouring plants that belong to the company, also under their current energy and emission characteristics. The estimated annual baseline emissions in a standard year of operation are estimated at about 1.0m tons of CO<sub>2</sub> (0.9m tons direct and 0.1m tons indirect). The relative emissions (difference between the project and the baseline situation) are estimated at about -90k tons of CO<sub>2</sub> (reduction).

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<sup>2</sup> Selective Non-Catalytic Reduction (SNCR) and Selective Catalytic Reduction (SCR) systems.

<sup>3</sup> The specific water consumption i.e the consumption per ton of grey clinker, is rather more substantial, however this figure includes the unchanged consumption in the white clinker line and the capacity increase of the grey clinker line.

<sup>4</sup> While the specific energy consumption and CO<sub>2</sub> emissions are rather important, the absolute values are to a certain extent offset due the moderate increase of production capacity in the grey clinker line (from 0.8m to 1.0m tClinker/year), result of the productivity improvement aspects of the project.

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 the project cost.

### **Public Consultation and Stakeholder Engagement, where required**

Although the project has not required an EIA, the two communes where the plant is located have been heavily involved through negotiations that lasted a number of years and have to a large extent driven the requirements of the project.

### **Other Environmental and Social Aspects**

The Italcementi group (the Group) formalised its commitment to sustainability in 2000 by joining the World Business Council for Sustainable Development (WBCSD) and the Cement Sustainability Initiative (CSI). All the Group subsidiaries are part of the existing Regional Networks of WBCSD which provide a platform for companies to share knowledge, experience and best practices, and to advocate business positions on these issues in a variety of forums, working with governments, non-governmental and intergovernmental organisations.

Additionally in 2010, the Group formally adhered to the United Nations Global Compact (UNGC), the strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption.

In 2004, the Rezzato plant obtained its 14001 Environmental Management Systems certification while about 90% of all the promoter's production sites also hold this Environmental Management Systems certification.

Some of the environmental areas that the Group reports on include the CO<sub>2</sub> absolute and specific gross emissions; dust, SO<sub>2</sub> and NO<sub>x</sub> emissions; % of kilns equipped with Continuous Emissions Monitoring systems (CEMs); % of alternative raw materials; % of alternative fuels; % of quarries providing materials having a rehabilitation plan; and % of clinker production facilities certified to ISO 14001 and are environmentally audited at least once every 4 year.

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