

# Non-financial performance: Environmental

Acknowledging our environmental responsibilities creates value for our business, our customers and the communities in which we operate.

## Gross direct specific CO<sub>2</sub> emissions\*

**711.4kg/t<sub>Product</sub>**

(2014: 676.3kg/t<sub>Product</sub>  
2015 Group target: 628.0kg/t<sub>Product</sub>)

## Specific dust emissions\*

**36.5g/t<sub>Clinker</sub>**

(2014: 37.3g/t<sub>Clinker</sub>  
2015 Group target: 95.0g/t<sub>Clinker</sub>)

## Specific NO<sub>x</sub> emissions\*

**1,705.0g/t<sub>Clinker</sub>**

(2014: 1,612.1g/t<sub>Clinker</sub>  
2015 Group target: 1,670.0g/t<sub>Clinker</sub>)

## Specific SO<sub>x</sub> emissions\*

**211.2g/t<sub>Clinker</sub>**

(2014: 273.8g/t<sub>Clinker</sub>  
2015 Group Target: 240.0g/t<sub>Clinker</sub>)

## Electrical energy consumption at Group cement and grinding plants and attached quarries

**1,600GWh**

(2014: 1,481GWh)

## Emissions: A key priority

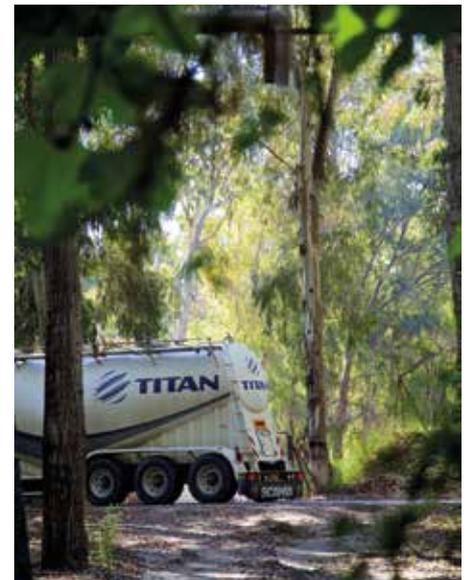
We address our carbon emissions in line with the Kyoto Protocol (using 1990 as the base year for CO<sub>2</sub> emissions) and report the CO<sub>2</sub> emissions from our cement plants in line with CSI guidelines. Total direct carbon emissions from our cement plants in 2015 were 10.5 million metric tons, which increased by 1.0 million metric tons, or about 10.5%, compared to 2014. This increase is due to the increase of our clinker production and to the gradual shift from gas to solid fuels in Egypt, as mandated by the government. Improving our footprint measured by our specific emissions is a key priority for the Group.

All TITAN Group facilities have monitoring and recording equipment for all main pollutants, in accordance with local environmental legislation and our WBCSD/CSI commitments.

## Fuel, raw materials and energy use

Extensive investments are under way in Egypt, always with relevant environmental impact assessment studies, to support the change of main fuel used both in Beni Suef and Alexandria cement plants.

The reduction, re-use and recycling of raw materials, energy and waste are key elements of the Group's environmental policy. We recover raw materials and by-products of the production process with specialized equipment. These are then processed and re-used.



## Environmental expenditure (million euros)



\*Specific CO<sub>2</sub> and air emissions are based on 2009 equity

**Externally recycled waste material**

**294,000** metric tons

(2014: 353,600 metric tons)

**Specific water consumption\***

(lt/tCement)



**Water recycling and re-use core to our business**

Our business uses a significant amount of water, particularly in our manufacturing plants. Effective water management to reduce our water consumption and the sustainable use of natural water resources overall is therefore an important environmental goal.

Water recycling and re-use are embedded in our operations: 92% of our cement plants and 80% of our aggregates sites that use water in their production process, operate water recycling systems, reducing their need for fresh water.

**Percentage of alternative fuels in the total fuel mix\***

**7.0%** Thermal basis

(2014: 6.9%<sup>Thermal basis</sup>  
2017 Group target: 10.0%<sup>Thermal basis</sup>)

**Thermal energy consumption at Group cement production plants and attached quarries**

**43,965TJ**

(2014: 39,506TJ)

**Recycling waste**

The waste materials/by-products produced by our process are fully recycled internally in the process. We outsource the management of maintenance-related waste materials through licensed waste management companies.

**Biodiversity and land management**

We appreciate that the extraction of raw materials for the production of cement and aggregates can have an impact on local biodiversity and ecosystems. Rehabilitation plans are implemented at our quarry sites in order to mitigate adverse impacts, or even have a positive effect on biodiversity where this is possible. The percentage of sites that operate under a biodiversity management plan (BMP) has increased to 75%, following the completion of biodiversity studies and the development of BMPs for three additional quarries in Greece in 2015.



Patras cement plant, Greece

\*Specific water consumption and alternative fuels percentage values are based on 2009 equity