

# CSI & ADDITIONAL KEY PERFORMANCE INDICATORS 2016

June 2017



LafargeHolcim

Indicator	2016 performance
<b>Climate protection</b>	
Total CO2 emissions - gross (million tonnes)	145
Total CO2 emissions - net (million tonnes)	140
Specific CO2 emissions - gross (kg / tonne cementitious material)	603
Specific CO2 emissions - net (kg / tonne cementitious material)	583
Total Scope 2 emissions (million tonnes)	11
Total Scope 3 emissions (million tonnes)	34
<b>Responsible use of fuels and raw materials</b>	
Specific heat consumption of clinker production (MJ/tonne clinker)	3'540
Alternative fuel rate (incl. Biomass) (%)	15
Biomass fuel rate (%)	5
Alternative raw materials rate (%)	11
Clinker / cement ratio (%)	72
Alternative raw materials contained in concrete (%)	16
Alternative raw materials contained in asphalt (%)	13.5
<b>Employee health and safety</b>	
Number of fatalities (directly employed)	3
Number of fatalities per 10,000 directly employed <sup>[Note 1]</sup>	0.15
Number of fatalities (indirectly employed)	44
Number of fatalities (third party)	39
Number of lost time injuries (directly employed)	231
Total Number of lost time injuries <sup>[Note 2]</sup>	464
Lost time injuries per 1 million manhours (directly employed)	1.03
<b>Emissions reductions</b>	
Overall coverage rate: percentage (%) of clinker produced with monitoring of all pollutants mentioned in the CSI emissions guidelines	61
Coverage rate continuous measurement: percentage (%) of clinker produced with continuous monitoring of main pollutants: dust, NOx, SOx	80
Dust - absolute emissions (tonnes / year)	13'199
Dust - specific emissions (grams / tonne clinker)	78
Dust - coverage rate (%)	96
NOx - absolute emissions (tonnes / year)	234'644
NOx - specific emissions (grams / tonne clinker)	1'385

<sup>1</sup> Calculated for clinker and cement production

<sup>2</sup> Includes employees and contractor onsite

NOx - coverage rate (%)	96
SO2 - absolute emissions (tonnes / year)	46'915
SO2 - specific emissions (grams / tonne clinker)	277
SO2 - coverage rate (%)	95
VOC/THC - absolute emissions (tonnes / year)	7'569
VOC/THC - specific emissions (grams / tonne clinker)	45
VOC/THC - coverage rate (%)	70
PCDD/F - absolute emissions (g / year)	4.5
PCDD/F - specific emissions (ng / tonne clinker)	26
PCDD/F - coverage rate (%)	73
Hg - absolute emissions (t / year)	2
Hg - specific emissions (mg / tonne clinker)	11
Hg - coverage rate (%)	71
HM1 - absolute emissions (t / year) <sup>[Note 3]</sup>	2
HM1 - specific emissions (mg / tonne clinker)	13
HM1 - coverage rate (%)	72
HM2** - absolute emissions (t / year) <sup>[Note 4]</sup>	155
HM2 - specific emissions (mg / tonne clinker)	1
HM2 - coverage rate (%)	73
<b>Local impacts on land and communities</b>	
Percentage (%) of sites with quarry rehabilitation plans in place	85
Percentage (%) of sites with community engagement plans in place in cement operations	66
<b>Biodiversity KPIs</b>	
Number of quarries within, containing, or adjacent to areas designated for their high biodiversity value	323
Percentage (%) of quarries with high biodiversity value where biodiversity management plans are actively implemented	81
<b>Environmental expenses</b>	
Environmental capital expenditures (million CHF)	340
Environmental operational expenditures (million CHF)	119

<sup>3</sup> HM1: Sum of Cd and Tl

<sup>4</sup> HM2: Sum of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V